

SOVEREIGN DEFENCE & AEROSPACE MADE IN NSW

INDO PACIFIC 2022, SYDNEY
PROSPECTUS



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FOREWORD

NSW is a strong and proud supporter of the Australian Defence Force (ADF) and Defence is a priority industry for the NSW Government. Home to over 25% of the ADF, NSW hosts the largest number of Defence establishments and supports well over 43% of Australia's defence industry operating locations that collectively contribute over \$10 billion to the Gross State Product.

NSW is Australia's largest and most diverse economy. When it comes to technology and innovation, the State is recognised as a leader in advanced manufacturing, systems engineering, cybersecurity, aerospace and space programs. NSW also boasts well-established R&D infrastructure in partnership with our universities and research organisations, leading the nation in the future of quantum, robotics, autonomous systems and artificial intelligence.

The companies featured in this Prospectus serve to showcase the significant complexity, depth and breadth of capabilities across the NSW defence and aerospace industry supply chain. NSW is confident in its position to lead and support the national defence and aerospace ecosystem.

The next decade and beyond present exciting opportunities for defence and adjacent industries. Find out more about NSW's defence and aerospace-related capabilities and how we can collaborate by visiting our website investment.nsw.gov.au/defence-and-aerospace.

The Honourable Stuart Ayres

Minister for Enterprise, Investment and Trade

Minister for Tourism and Sport

Minister for Western Sydney



WELCOME MESSAGE

The NSW Government is committed to building a business environment that is conducive to economic growth and social prosperity. The NSW Industry Development Framework (the Framework), launched in February 2022, details how the NSW Government – working in partnership with the private sector, research institutions and other levels of government – will support the growth of priority industries.

The NSW Government vision is for increased prosperity through sustained economic growth by creating:

- More and better jobs – creating opportunities and improving the quality of jobs by ensuring workforce skills develop and adjust readily to changing demands in the labour market.
- Globally competitive industries – industries that capture the global market share and grow their markets.
- A resilient economy – an economy with a diverse industrial base and adaptable workforce that has greater capacity to respond to economic shocks and recover rapidly by reallocating resources to capture new growth opportunities.

The Framework identifies defence and aerospace as an emerging industry that generates significant positive spillover benefits for the broader economy and people of NSW, aligning with the unprecedented investment by the Department of Defence to 2030.

Indo Pacific 2022 is one platform for NSW defence and aerospace businesses to showcase the competitive sovereign local capabilities that exist in our backyard. Connect with the NSW Government team and explore how working together, we can make opportunities happen.

Amy Brown

Secretary for Department of Enterprise, Investment and Trade
CEO of Investment NSW



NSW DEFENCE AND AEROSPACE CAPABILITIES

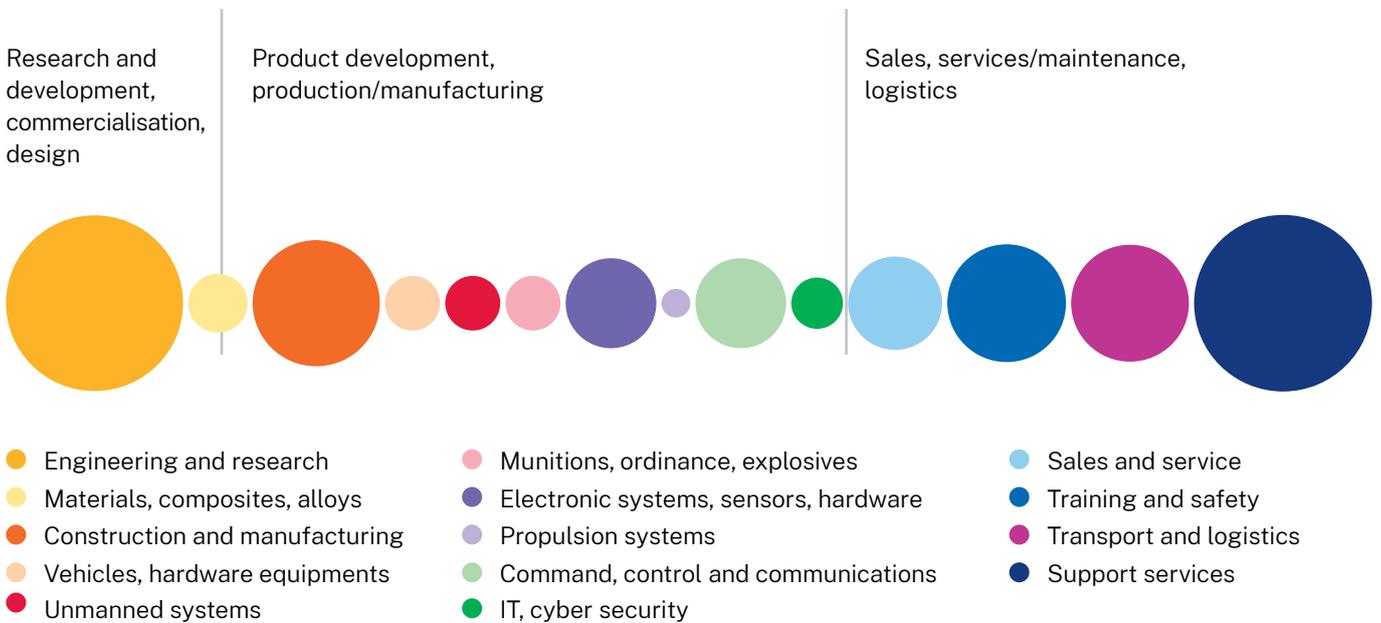
Defence

NSW’s strong industrial base underpins our defence capability. The defence sector is supported by a deep and complex industrial base with capabilities in materials research, industrial design, information and communication technology, and complex systems integration. NSW offers these capabilities, positioning it well to meet current and future workforce skills needs.

The industrial base underpinning the NSW defence sector in NSW includes highly innovative, competitive and world-leading manufacturers that are using state-of-the-art technology and highly skilled staff. These manufacturers are vital to the diversity and strength of the Australian economy. Overall, manufacturers in NSW produce almost 30% of the country’s total output in the sector, generating around A\$30.18 billion annually and accounting for one-third of manufacturing jobs.

NSW enjoys a very robust capability across the entire defence industry value chain.

Relative strengths of industry capability



Space

The Australian Government launched the Australian Space Agency in 2018 with the goal of tripling the national space economy to A\$12 billion by 2030 and developing 12,000 additional highly skilled jobs. With the largest proportion of Australia's space industry based in NSW, the state is well placed, economically, politically and geographically, to maximise the benefits to businesses from this new space era.

NSW boasts the Nation's broadest and strongest space capability and is the only state that can deliver capability across every element of the space industry and the entire value chain:

- space systems
- launch activities and support services
- ground systems
- space-enabled services and applications
- space activity support services
- space-related research and development
- space education and training
- space-related associations and public information activities.

In particular the state's strengths relate to high-tech instrumentation, ground station infrastructure, smart payloads development, space and intra-space communications, and commercialisation of space data.



THE AUSTRALIAN DEFENCE AND AEROSPACE INDUSTRY IN NSW



Defence expenditure in NSW exceeds \$12.5b annually



NSW is home to over 80 defence facilities, including 21 defence bases and training areas



NSW accounts for 29% of Australia's \$2 billion aircraft manufacturing and repair services exports



Space industries and agencies in NSW generate up to 75% of Australia's space-related revenue generation



NSW is Australia's leader for space innovation and entrepreneurship, with 38% of all Australian space startups based in the state



41% of all Australian space businesses are based in NSW



NSW is a leader in cybersecurity, producing 58% of the country's ICT services exports



NSW has the majority of the nation's leading tertiary and research institutions



NSW employs the highest number of defence industry skilled workers, with over 65,000 direct or indirect jobs



50% of Australia's space export revenue is generated in NSW



NSW is a leader in space education and training, with 31% of Australian university departments active in space

OUR DEFENCE AND AEROSPACE ECOSYSTEM

Established and new capabilities

New South Wales is home to a highly innovative and technically sophisticated defence and aerospace sector. It is connected to advanced manufacturing, cyber security and space coupled with established transport, logistics and infrastructure systems.

Guided Weapons and Explosive Ordnance (GWEO)

NSW has the existing manufacturing and sustainment base to support the acceleration of the GWEO. NSW is already home to the majority of Australia's capabilities in this sector and is making investments to support enhancing this sovereign capability.

The NSW Government fully supports the existing Defence presence in New South Wales, including the strategic importance of Orchard Hills, Garden Island and other establishments.

Additionally, it remains committed to expansion of that defence presence through placement of new assets, facilities and units. It has the industrial strength and the logistical connections to support Australian defence force expansion.

Land capabilities

NSW has a long history in the land defence domain.

- The Lithgow Small Arms factory has been manufacturing military weapons – including the latest ADF small arms – for well over 100 years.
- Mulwala factory in Regional NSW produces high quality propellants and ordnance.
- Australian Target Systems in Albury are a leading manufacturer of moving targets systems.
- Milspec makes power systems and vehicle parts various military and fighting vehicles.
- Bisalloy works in close collaboration with BlueScope Steel and the Defence Science and Technology (DST) Group to manufacture a range of defence and ballistic grades of steel.
- In terms of Army basing, major establishments in the state include Blamey Barracks, Wagga Wagga, home of the Army Recruit Training Centre (ARTC). Soldiers have trained at the site, which has had various unit names, since 1942.
- Major army establishments are also located at Holsworthy in the Liverpool area of Sydney and at Singleton in the Hunter Valley. Victoria Barracks in the heart of Sydney is the home of Army's Headquarters Forces Command.

Maritime capabilities

- NSW is the major supporter of the Defence maritime sector. For over 100 years, NSW has made extensive contributions to the Defence maritime sector capability and this should always be celebrated. Notably, Sydney and the South Coast have been home to many of the Royal Australian Navy's assets, and continue to proudly support these through industry, workforce and innovation. The economic footprint of the Defence sector in NSW includes both direct and indirect components.
- Major defence industry players including Thales, Sonartech Atlas, Rolls-Royce Australia, Forgacs Marine and defence are co-located here in NSW, providing critical support to the Navy.
- A significant maritime industry exists in NSW, including Garden Island Defence Precinct in Sydney. Garden Island is the homeport for Navy's major fleet units on the East Coast and includes the Captain Cook Graving Dock, a major maintenance asset. NSW businesses participate fully in the maritime sustainment sector, providing services such as ship repair and refurbishment. The Navy's presence in and around Sydney Harbour is a highly complex network of interlinked facilities.
- NSW businesses supply major components such as cranes, navigation systems, sonar, electronic warfare equipment and steering components as well sustainment support to both Navy and civilian clients.

Space capabilities

NSW has the broadest and strongest space capability in Australia and is the only state that boasts capability across every sector of the space industry and value chain:

- 63% of space legal services
- 60% of satellite broadcast companies
- 50% of space financial services
- 49% of Australia's satellite communications sector
- 46% of satellite equipment suppliers
- 40% of ground station company owners/operators
- 35% of satellite communication companies
- 30% of satellite equipment manufacturers
- around 30% of Australian staff involved in space activities
- 26% of space technical support and business consultancy services
- the headquarters of six of the eight satellite operators in Australia.

REGIONS AND PRECINCTS

NSW encourages growth in the defence and aerospace industry in its regions and precincts.



NORTH COAST

The North Coast has developed a strong manufacturing base which operates across defence and marine applications.

Emerging creative and digital businesses have capitalised on the region's education and ICT investments to grow within a supportive and highly liveable environment.

The region's significant expanse of National and State parks and popular pristine beaches underpin a thriving tourism industry. As one of the fastest growing populations in NSW, the North Coast has a reputation for an enhanced quality of life, equidistant to Brisbane and Sydney.

Key Capabilities

The North Coast Region, including the towns of Yamba, Port Macquarie and Taree, has numerous defence industry capabilities, including small vessel design and manufacturing; maritime sustainment and disposals; and the design, manufacturing and support of specialist defence products, anchored Birdon, an internationally recognised Defence SME.

Birdon is a diversified global group of companies providing whole of life solutions to the maritime, military and resource sectors.

Birdon is proudly wholly Australian owned and headquartered in Port Macquarie NSW. Founded in 1977, the Birdon group of companies now employs approximately 400 personnel across the world, with operations throughout Australia, in the United States of America, Europe and Asia. The company is dedicated to industry leadership across each of its business divisions: marine, engineering, dredging, disposals and shipping.

The group's capabilities include design and development, engineering and fabrication, repair and refit, asset management, shipping, and disposal. Birdon is a regular supplier to the Australian and US defence industry, having designed and manufactured marine craft, completed numerous dockings and refits of Naval vessels, provided in-service support for Naval assets, and asset disposals including ex-HMAS Canberra, Sydney and Darwin, Freemantle Class Patrol Boats and F111-A fighter jets. Birdon also has strong working relationships with clients in the commercial sector and is currently working on the delivery of new ferries for Sydney Harbour.

Birdon is regularly recognised as a Top 20 Defence SME and is one of only two Australian companies to contract directly to the US Army. Birdon offers value for our customers through our innovative people, organisational agility and operational excellence. Our vision is to be Australia's preferred maritime, dredging and disposals service provider and a leading Australian shipyard operator.

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HUNTER

The Hunter is the largest economy in Regional NSW contributing over A\$34.7 billion to the NSW economy.

The Hunter has a diverse economy with strengths across advanced manufacturing, aerospace, defence, tourism and mining.

With its increasing focus on the knowledge economy, a dynamic start-up sector has developed. NSW government investment in infrastructure and the rollout of Australia's most sophisticated 'Internet of Things' platform across the Newcastle CBD facilitates future expansion.

The Hunter combines an innovative economic and business environment with a high standard of living and proximity to Sydney. The University of Newcastle (a global top 350 university) provides access to a diverse talent pool and industrial research connections.

Key capabilities

Williamstown, located 20 minutes from Newcastle, is home to Newcastle Airport and RAAF Base Williamstown. RAAF Base Williamstown is Australia's primary defence Fighter Base and home to the country's new fleet of F-35 Joint Strike Fighters.

Local capabilities include:

- Home to fleet of F-35
- Existing airport and RAAF airbase which provides direct access to runways, maintenance and support services – unique to area and difficult to replicate
- Airport Access
- Strong Defence network within the Williamstown area – from airbase, training facilities, sustainment services
- Primes already exist in the area with major projects currently being completed. Large and long running projects within Defence with a desire to increase local content. Supporting jobs and activity across supply chain in various sectors
- Strong and established security in the area
- Opportunity for Defence related companies to collaborate with related businesses
- High level of technical skills around Defence exists in area
- The Hunter has an existing skilled workforce to support defence, aerospace and advanced manufacturing
- Anchor tenants and Defence Primes such as RAAF, BAE Systems, Boeing Defence Australia, Lockheed Martin, Northrop Grumman, Raytheon and Thales.

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Current and future developments

Williamstown is fast becoming a world-leading innovation hub for defence and aerospace and is home to some of the world's largest defence primes including BAE Systems, Boeing, Lockheed Martin and Raytheon.

The Williamstown Special Activation Precinct has been identified by the NSW Government as a precinct that will create the defence and aerospace hub, boost the local economy and generate thousands of new jobs for the region. It will bring together specialised large scale international prime contractors, small and medium enterprises, and research and development institutions to create jobs and attract talent into the region.

Uniquely co-located with RAAF Base Williamstown and Newcastle Airport is Australia's newest defence and aerospace precinct, Astra Aerolab. A one-of-a-kind precinct, enhancing Australia's ability to deliver world class sustainment and manufacturing capability to the Defence sector.

The Astra Aerolab ecosystem will boost businesses ability to access this globally significant defence network. A pre-eminent space for innovation and excellence, Astra Aerolab is a place where industries and people can connect, collaborate and experience a strong sense of community. A place where the world's best talent meets a unique combination of advanced technology, airport connectivity and outstanding lifestyle.

Other opportunities include:

- Development of advanced manufacturing in the area
- Training facilities to support the defence & aerospace network
- Job opportunities from the expansion of Primes and SMEs in Williamstown
- Code E runway upgrade.

TECH CENTRAL

In the heart of Sydney, the brightest minds come together to solve our society's great challenges and create the technologies that will power the future.

Tech Central brings together six neighbourhoods in Sydney which are already home to some of Australia's most exciting startups and innovative institutions. It is a place where people can come together to innovate, disrupt, collaborate, exchange ideas, and explore new markets

Key capabilities

- Three world-class universities
- A world-leading research hospital
- Over 100 research institutes and centres of excellence.
- Tech giants. Frontier startups. Ambitious students. Pioneering academics. Creatives. Executives. Developers. Scientists
- Home to the brightest minds and most innovative institutions
- Anchored by the best-connected transport interchange in the country, Tech Central's unique geographic footprint allows the resources and ingenuity of universities, hospitals, startups, scaleups, research institutes and globally-successful firms to collide.

Current and future developments

Tech Central is already home to free thinkers, creative spirits and problem solvers who challenge convention. It embodies innovation – social, cultural, intellectual and economic. Diverse and inclusive communities are core to Tech Central's strength, identity and ethos.

With the NSW Government providing affordable spaces to researchers, innovators, startups and entrepreneurs to incubate, test and scale their ideas –and with the sector anchored by Atlassian's future Australian HQ – Tech Central will become the recognised home of industries breaking new ground.

By 2023, the NSW Government will have catalysed this innovation ecosystem – Tech Central – connecting organisations to create a globally renowned community that pulses with inspiration and draws top tech talent from across the world to do their best work.

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ILLAWARRA-SHOALHAVEN

The Illawarra-Shoalhaven is a region transformed. Traditionally known for its world-class steel making and coal mining industries, the region's economy is today driven by the advanced manufacturing, ICT and professional services and defence sectors.

The region's significant defence presence is anchored by the Australian naval aviation at HMAS Albatross and the Albatross Aviation Technology Park (AATP). Global prime contractors have established themselves at the AATP to service both HMAS Albatross and the national defence sector.

The region is well connected to domestic and international markets through a high quality broadband network, road and rail connections into Sydney and other markets on Australia's east coast, and NSW's third largest port at Port Kembla and the Illawarra Regional Airport.

Key capabilities

Illawarra

- Armoured steel plates
- High-end welding and engineering
- Advanced fabrication
- Blasting and metal preparation
- Electrical isolators and enclosures
- Specialist protective coatings
- Ruggedised medical computing devices and communication systems
- Gearbox manufacturing
- Engineering design
- On-site services
- Project management services.

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Shoalhaven

- Accredited Aircraft Maintenance Engineer Training
- Advanced Manufacturing
- Anti-Submarine Warfare - Training & Testing
- Armour and exotic material processing
- Avionics test and repair
- AIR9000 Phase 8 – Sustainment
- Deployable infrastructure – Build and Maintain
- Electronic Warfare - Testing & Validation
- Humanitarian Assistance & Disaster Relief – Training
- Jet Air Support
- Joint Adversarial Training and Testing Services (JATTS)
- Joint Airborne Rescue Services (JARS)
- Medical Support and Retrieval
- Project SEA129-5 – Maritime Tactical Unmanned Aerial System (MTUAS)
- Provision of Aerial Target Services from Aircraft
- Proximity to Jervis Bay & Naval Eastern Exercise Area
- Search and Rescue
- University of Wollongong – Industry 4.0 Hub research, training and industry partnerships.

Current and future developments

The Illawarra/Shoalhaven region provides a world class innovation ecosystem for international businesses to create a presence to drive Defence industry collaboration and partnerships.

- Albatross Aviation Technology Park (AATP) is designed specifically to support defence and aviation industries. The 35-hectare estate adjoins the airfield of HMAS Albatross and is connected by taxiways to the base.
- Wollongong is an hour south from Sydney and its international Airport.
- Close proximity to defence facilities, including Garden Island , HMAS Albatross and HMAS Creswell.
- Port Kembla a deep - water port, provides businesses based in Wollongong with access to global markets and is situated five kilometres south of the Wollongong CBD.
- Leading Defence research and development organisations established by or in partnership with the University of Wollongong (UOW) . DMTC , Smart Infrastructure Facility the Steel Research Hub and the UOW Institute of Cybersecurity and Cryptology.
- Illawarra Innovation Industry Network (i3 net) is an organisation that has an array of manufacturers, engineering service providers and industrial suppliers.

SOUTH JERRABOMBERRA

Poplars Innovation Precinct is located at South Jerrabomberra within the NSW Government's Regional Job Precinct and is the focus of economic development for the Queanbeyan Palerang Regional Council.

The site is well positioned within the Capital Region being located immediately adjacent to the Australian Capital Territory and the Canberra International airport is an easy 15min drive.

Key capabilities

- Access to a large, educated workforce (Canberra population of 452,000)
- 15 minutes from an international airport for export
- Direct access to key logistics and freight options (road, rail)
- Competitive land costs – with buy or lease options. All lots within the Innovation Precinct are tailored to the requirements of investors with a minimum lot size of 4,000m²
- Ability to tailor to incoming tenants – greenfield site
- Onsite Innovation Hub, partnering with University of NSW and University of Canberra
- Large data centre in Stage One
- Proximity to multiple research institutions - Universities, TAFEs and Colleges
- Close to national decision makers (15 mins from CBD Canberra)
- The advantage of being one of four Regional Jobs Precincts that attracts additional government support including accelerated planning assistance and infrastructure support.
- \$30 million government investment for key infrastructure to supercharge site
- Access to the Intra-governmental Communications Network - provides an unmetered and cost-effective telecommunication services to 67 Australian Government agencies, across 3,000 fibre links
- \$35 million electricity upgrade currently underway for the Jerrabomberra area
- A supportive and motivated local approval authority (Council) and
- 1500 new residential blocks being built in South Jerrabomberra.

Current and future developments

Stage One and part of Stage two are under contract and includes:

- A large-scale data centre
- Several Defence industry clients
- UNSW's Hypersonics Research Facility
- Purpose built innovation hub – incubator/start-up/co-working space
- Cyber Security capability.

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WESTERN SYDNEY

Key capabilities

Western Sydney has an established defence presence and strong capability with a number of Australian Defence Force bases, personnel, and facilities located across the region including:

- Royal Australian Air Force Base Richmond
- Royal Australian Air Force Base Glenbrook
- Liverpool Military Area, with significant army presence at Holsworthy and Moorebank
- Defence Establishment Orchard Hills.

The prime contractors co-located in these bases and facilities are supported by Australia's deepest supply chain of specialist SMEs in defence and adjacent industries located across Western Sydney, Australia's high tech industrial heartland.

This existing defence presence will soon be augmented by the Bradfield City Centre – Australia's new hub for sovereign capability in defence, space and aerospace.

The Bradfield City Centre is located in Australia's premier corridor for defence capability extending from Williamstown in the north, through Western Sydney and south to Nowra, the Shoalhaven and Capital regions.

The Bradfield City Centre will incorporate a national security quarter that will strengthen NSW's existing defence sector ecosystem, complementing established and growing capabilities in greater Sydney and across the region.

In addition, the NSW Government is progressing key investments in Western Sydney that will make it strategically attractive for an increased Defence and defence industry presence.

Current and future developments

Advanced Manufacturing Research Facility – opening in late 2023

NSW Government is establishing an Advanced Manufacturing Research Facility (AMRF) to support industry innovation, collaboration and growth across Western Sydney. The AMRF will be a shared use facility with cutting edge capability in advanced fabrication, including additive, composites, subtractive and automated manufacturing technologies as well as microelectronics focused on advanced packaging and assembly. This cornerstone investment by the NSW Government will support the growth of Bradfield as Australia's new hub for sovereign industrial capability while providing unprecedented opportunities to increase domestic content in the defence supply chain by leveraging Sydney's unparalleled industrial capability.

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New Education and Training Model (NETM)

The NETM is a new model of tertiary education aimed at helping advanced industries access skilled labour \$37.4 million has been committed to the program over five years to provide more than 7,000 courses for almost 3,000 students.

Contact us

The NSW Government is keen to harness these investments to support capability development in the defence sector. Contact us on details on the left if you wish to discuss how these initiatives can support your firm to obtain competitive advantage while delivering on Australia's defence priorities.

RIVERINA-MURRAY

Located in Southern NSW, the Riverina Murray is one of Australia's main food producing regions and a leader in advanced manufacturing with a significant defence capability and agribusiness industry. The region is well-connected to domestic and international markets and is on main transport networks linking Brisbane, Melbourne and Sydney.

With strong tertiary educational centres, the Riverina Murray is well placed to meet the future demand for skilled staff and to support students to complete their education in region.

Key capabilities

Capabilities

- military training
- guided weapons and explosive ordnance
- propellant and explosive manufacturing, and munitions disposal
- specialist contract engineering
- helicopter maintenance and component overhaul
- targetry system design and manufacturing
- alternators and portable power solutions, and armored vehicle kits.

Primes in the region include Thales in Mulwala and BAE Systems at the RAAF Base Wagga.

Strengths

- diverse range of advanced manufacturing and construction capabilities
- highly skilled workforce
- large regional centres with two business activation precincts – the Wagga Wagga Special Activation Precinct and the Albury Regional Jobs Precinct
- Strong digital connectivity
- National freight corridors connect the region to ports and international airports in Sydney, Melbourne and Canberra, and several intermodal freight hubs in the region
- remote large open spaces ideal for developments in UAV and space testing facilities
- lower cost of living than metro centres including economical industrial and commercial land and
- thriving localised supply chains.

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Current and future developments

The Riverina Murray region is home to:

- RAAF Base Wagga – the major ground training base for RAAF
- Blamey Barracks Kapooka – the Army Recruit Training centre
- Latchford Barracks and Gaza Ridge Barracks North East Victoria – the Army Logistic Training Centre.

The Riverina Defence Redevelopment Program will see the large-scale redevelopment of three key Defence Training Bases located in the Riverina Murray. The approximately \$1.1B seven-year program will see the construction of infrastructure and facilities at RAAF Base Wagga, Blamey Barracks (Kapooka) in Wagga, and the Albury Wodonga Military Area.

Our core purpose is Engineering Success for Sovereign Capability, and it is at the heart of everything we do.

Our mission is to future proof Defence and Australian Industry by providing our customers with the best people, IP and technology solutions to solve their complex, high impact problems and unlock their latent capability.

ADROITA is a Defence Engineering, professional services and business strategy consultancy driven by the purpose of Engineering Success for Sovereign Capability.

Established in 2016, ADROITA has a track record of providing expert advice to Defence and SMEs across our service lines, supporting four areas:

1. Professional Services for Defence
2. Maritime Combat Systems Integration and Technical Services
3. ADROITA Advisory – providing strategy advice to Australian SMEs
4. ADROITA AI (Artificial Intelligence) and Decision Support, supporting our customers with complex decision support.

This is possible because we are Adroit – being skillful and quick in the way we think and move. You can trust us to be curious about possibilities, exploring innovative solutions to solve your complex problems.

ADROITA's objective at INDO-PAC is twofold: to promote our Engineering consulting services to CASG, Major Service Providers and Primes; and promote our advisory services to Australian SMEs seeking to enter or grow in the Defence sector.

Key capabilities

ADROITA is an approved supplier on the Defence Support Services Panel, and partners with Major Service Provider Panel members to bring engineering expertise to Defence.

Services

- Specialist Defence Engineering Services: Weapons, Integration, Maritime, C5ISREW
- Program, Product and Project Management
- Test and Evaluation
- Simulation and Modelling
- Transition Management
- Project Risk and Issues Management
- Systems and Software Engineering
- Commercial Services
- Contract Management and Contract Performance.



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Advisory

- Strategic Business Advice for Australian SMEs
- A track record in supporting our clients to win Defence work

Current and future developments

Defence consultant of the year

Sarah Pavillard, CEO ADROITA, was recognised at the Australian Defence Industry Awards as Consultant of the Year for her work on the \$10 billion Destroyer Assurance program.

Eurybia Consortium

In November 2021, ADROITA formed and led a consortium of Sovereign Australian SMEs with a spread of capabilities that contribute to Underwater Surveillance Systems. The first step is to contribute to the DST Community Advisory Group.

Partnership with Bectech

In February 2022 ADROITA signed a MoU with BecTech - an American Maritime Engineering Consultancy. The partnership is already delivering results with the companies currently working together to plan a technical trial for the Navy.

Future

New Business Lines

In 2022 ADROITA is establishing new business lines:

- ADROITA AI and Decision Support
- ADROITA maritime combat systems integration and technical services

Partnerships

One of ADROITA's key values is Partnering for Success. Building on our existing partnerships, ADROITA seeks to identify potential partners to deliver sovereign capability for the Royal Australian Navy.

ADVANCED NAVIGATION

Advanced Navigation develops industry-leading navigation and robotics and is a world leader in AI-based navigation solutions and robotics. We develop inertial navigation and robotics solutions from the ground up with a long-standing history of building bespoke hardware and software for our customers.

Expert engineers specialise in developing low SWaP-C (Size, Weight and Power, Cost) solutions in inertial navigation, Global Navigation Satellite System (GNSS), underwater acoustic navigation, and robotics using artificial intelligence. Trusted by the world's most innovative companies, including NASA, Airbus, BAE Systems, Boeing, General Motors, and Thales.

The objective of participation at Indo-Pacific

Showcase navigation and robotics capabilities and partner with defence contractors to support their overall mission.

Key capabilities

- manufactures high-performance and highly reliable inertial navigation systems for the defence industry - used by 9 of the top 10 defence contractors in the world.
- Powered by proprietary AI fusion neural network, solutions are not only more accurate than competing products relying on the traditional Kalman filter, but achieve a lower SWaP-C of up to 40% for Boreas, our latest FOG GNSS/INS.

Current and future developments

Advanced Navigation is currently working on its next generation of MEMS and FOG INS solutions, aiming for ever-lower SWaP-C and greater performance.

In 2022, Advanced Navigation is launching its first subsea robotics solution with autonomous capabilities, Hydrus. It has successfully completed defence-related testing missions for a prominent defence contractor, showcasing unique abilities that no other AUV can achieve in this space.



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Providing special missions aviation support for Australian and allied defence forces

Air Affairs Australia Pty Ltd (Air Affairs) is a highly capable and innovative special mission aviation and engineering-based company that specialises in providing equipment and services to Defence Forces, Major Government Departments and Multinational Companies.

Air Affairs is purpose built to best align with corporate governance, service delivery performance and regulatory frameworks. The Company focus is on the provision of specialised Government services and the Company organisation is indicative of this requirement.

Air Affairs has extensive design and manufacturing capabilities and is the Original Equipment Manufacturer (OEM) for several products used for special mission operations. These capabilities also support Maintenance and Repair activities, again meeting Defence and Industry requirements.

Objective of participation at Indo-Pacific

To expand current Phoenix Unmanned Aerial Target and aircraft Special Mission Operations and look to grow overseas Defence customers.

Key capabilities

Original Equipment Manufacturer for:

- MTR-101 Reeling Machine
- Phoenix Jet Target Drone
- Own and operate a fleet of special mission Learjet 35/36/60, Kingair B200T and Gulfstream GIV aircraft conducting ISR and Special Mission operations.

Capabilities

- Aircraft Maintenance
- Manufacturing
- Welding
- Operations of airborne multi-spectral thematic mapping scanners.
- Service centre for Breeze Eastern helicopter rescue hoists.
- Medical Retrieval.

Current and future developments

Air Affairs Australia are looking to expand Australian operations to support global customers and work alongside international Defence and civilian agencies to provide world class unmanned aerial targeting and aircraft special mission operations.



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THE AUSTRALIAN INFORMATION SECURITY ASSOCIATION (AISA)

AISA is a nationally recognised not-for-profit organisation and charity, that champions the development of a robust information security sector by building the capacity of professionals in Australia and advancing the cyber security and safety of the Australian public as well as businesses and governments in Australia.

Established in 1999, AISA is the recognised authority on information security in Australia with a membership of over 8000 individuals and corporate partners. AISA caters to all domains of the industry with a focus on providing leadership for the development, promotion, and improvement of our profession including areas of advocacy, diversity, education, and organisational excellence.

AISA delivers the NSW Cyber Hub Industry Partnership Program for NSW government. As part of this Program, AISA will assist in upskilling NSW cyber-SMEs to become “Defence Ready”, showcase NSW cyber capabilities and connect NSW cyber-SMEs to the Defence sector.

Objective of participation at Indo-Pacific

To promote NSW Cyber capabilities relevant to the Defence sector and provide business linkages for Defence clients.

Key capabilities

- advocates and supports the growth of the cyber security sector. It plays a key connection role through its diverse range of membership and broad sectoral coverage.
- produces publications and conducts research to inform the industry and industrial clients.
- runs significant large-scale events that offer networking platforms that bring together industries, government and academia to strengthen cyber security defence.
- offers professional development for its members, including mentoring and other services to upskill the workforce in cyber security.

Current and future developments

AISA delivers several initiatives in Australia, including the annual Australian Cyber Conference in Canberra and in Melbourne, publications, white papers, responses to Government. In 2022, AISA secured the operation of the NSW Cyber Hub Industry Partnership Program designed to help NSW cyber security businesses upskill and win contracts.

AISA internationally facilitates connections with businesses and works with Austrade on a number of events.



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Investment NSW

NSW Cyber Hub:

[www.business.nsw.gov.](http://www.business.nsw.gov.au/industry-sectors/)

[au/industry-sectors/](http://www.business.nsw.gov.au/industry-sectors/)

[industry-opportunities/](http://www.business.nsw.gov.au/industry-sectors/)

[cyber-security](http://www.business.nsw.gov.au/industry-sectors/)

AUSTRALIA'S NUCLEAR AND SCIENCE TECHNOLOGY ORGANISATION (ANSTO)

As the operator of Australia's only nuclear reactor, we address key scientific questions in the nuclear fuel cycle and are Australia's knowledge centre for current and emerging nuclear technologies. In addition to this, ANSTO owns and operates key landmark research infrastructure critical to Australia's global competitiveness in materials engineering, nanotechnology, and medicine.

ANSTO is committed to maintaining and developing the skills and knowledge necessary to bring the full benefit of these capabilities to Australia. This is done through partnerships that expand Australia's capacity for knowledge creation and technology engagement, reflecting the Federal Government's Innovation Priorities.

Objective of participation at Indo-Pacific

ANSTO seeks to build and strengthen our industry connections focussed on supporting and growing our commercial partnerships.

Key capabilities

To find solutions ANSTO operates much of Australia's landmark infrastructure including one of the world's most modern nuclear research reactors, OPAL; a comprehensive suite of neutron beam instruments at the Australian Centre for Neutron Scattering; the Australian Synchrotron; and the Centre for Accelerator Science.

- Expertise in nuclear fuel cycle and associated technologies
- Nuclear stewardship, security, and safety - advice and training
- Radiation services and nuclear waste management services
- Environmental radiation monitoring and detection including the CORIS360 imaging system
- Materials development and optimisation: assisted by rapid micron-scale mapping of structure and composition of metal alloys, composites, and ceramics
- Engineering process development: including in-situ residual stress, thermo-mechanical properties, and dimensional tolerance measurement
- Structural analysis and assessment: computational modelling for design review
- Engineering for critical components in extreme/unusual conditions supported by materials testing and simulation (welding, cladding, coating, and root cause analysis)
- Manufacturing techniques for advanced materials such as advanced piezoelectric materials (SONAR applications) or Hot Isostatic Pressing (HIP) to strengthen 3D printed components
- Radiation hardness testing of electronic components and systems for aerospace applications and complex operational environments.

Our facilities provide tools that can help solve materials-based problems when more conventional testing techniques are not enough.



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Current and future developments

- Space – radiation testing
- Optimisation of Level 2 (TID) and LEVEL 3 (SEE) electronics testing
- Development of Level 2.5 testing for SEE-like effects on intact circuits
- Development of Extended Low Dose-Rate Sensitivity (ELDRS) electronic testing and long-term life-science testing on plant and animal systems
- Defence – additive manufacture
- Optimisation of high throughput testing of structural integrity and microstructure mapping
- Development of real-time in-situ monitoring of microstructure of critical components under dynamic loads.

Through partnership and performance Ampcontrol innovates to deliver globally beneficial integrated electrical, electronic and control solutions to improve safety and efficiency.

Australia's largest privately-owned electrical engineering company leading advanced global manufacturing of award-winning innovations, products, solutions and service to the resources, infrastructure, and energy sectors.

From humble beginnings founded by four friends in a small shed in Newcastle in 1968, Ampcontrol has grown to over 850 employees across 30 operations worldwide. With locations including New South Wales, Queensland, Victoria, South Australia, Western Australia, Hong Kong, Singapore and Mongolia, Ampcontrol is truly a global operating energy organisation.

From ideation through development and manufacturing, service and repair we engineer and service complex electrical infrastructure solutions, with a focus on whole of life optimisation.

Objective of participation at Indo-Pacific

Knowledgeable and experienced with highly regulated industries, Ampcontrol is positioned to successfully transfer our expertly engineered product and service offerings to the defence sector through collaboration and partnering with both Tier one and Primes.

Key capabilities

Communications, control and connectivity

·Communications, monitoring and control systems provide safe, reliable data integrity in hazardous and non-hazardous environments. We specialise in intercoms, broadcast messaging phones, plug and play fibre optic systems (H3RO), and integrated monitoring and control systems.

Environment management

·Comprehensive range of NATA accredited ambient air static and continuous monitoring methods and climatic monitoring services suitable for a range of power generation and heavy industry applications. Services include ambient air monitoring, meteorological stations air, water, soil and noise monitoring water monitoring, soil sampling.

Power quality

Design, install and support a wide range of power quality solutions including low voltage (LV) and medium voltage (MV) power factor correction, voltage optimisation, harmonic filtering and capacitor installations.

Integrated solutions for complex environments

Complete, integrated, end-to-end automated control systems and system integration services, including complex electrical and electronic system integration, Information and operational technology, Networking architecture design, MES and software solutions, Electrical instrumentation solutions, PLC, telemetry and SCADA solutions, Industrial Internet of Things (IIoT) integration, Web based interface monitoring and Real time and historical event reporting.



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Asset management, service and maintenance

Service and maintenance for complete onsite and after sales support including field service, overhauls and upgrades, design, auditing, testing and analysis, cable relocation, repair, maintenance and reticulation, equipment maintenance, system integration, labour support, training and hire services.

Transformers and Power reticulation

Specialist transformer designers and manufacturers. Our quality designs cover dry and oil type transformers providing ongoing support with onsite service, testing, repair and overhaul.

Research and development

Innovative product development solutions in electrical and electronic engineering offering unique access to experienced research and development personnel. Combining contemporary and fundamental knowledge with extensive expertise in a range of fields including electrical, mechanical and mechatronic engineering, offering product proof of concept experimentation, prototyping, pilot builds and pre-commercialisation activities, along with scientific consultancy and technical engineering.

Current and future developments

SAPS

Ampcontrol entered into a joint venture with Australia's leading Stand-Alone Power Systems (SAPS) utility, Horizon Power, to form Boundary Power with the intent to set a new benchmark in Australia in the design, construction, deployment, and operations of SAPS solutions. Our suite of SAPS solutions includes the Nano SAPS, which is ideal for smaller power loads, the Solar Cube SAPS a quick deployment solution, and the R-Series SAPS, a scalable solution designed to power large loads that is enabling utilities to permanently remove poles and wires from their networks.

Remote Water Treatment Plant

The Gilghi remote water unit uses advance filtering technology and is a breakthrough water solution, that is off-grid and powered by solar. With a range of configurations and a plug and play commissioning process, the Gilghi is a simple solution to a variety of applications

Hydrogen

In 2021 Ampcontrol unveiled the world's first domestic hydrogen battery capable of storing enough electricity to power the average Australian home for two days. A collaborative partnership between Ampcontrol and Australian start-up LAVO successfully produced a domestic hydrogen battery that pioneers the next generation of green energy storage for commercial and residential use.

Battery Electric Vehicles (BEV)

DriftEx is a fully certified BEV man transporter for use on underground coal mines. Designed and manufactured from a base of an existing Driftrunner vehicle which is overhauled replacing diesel motor with a battery-electric upgrade. DriftEx is designed and developed to support industry movement to cleaner sites, reducing exposure to diesel particulates/known carcinogens.

AUSTEST LABORATORIES

Austest laboratories is an independent testing and certification company assisting manufacturers, importers, and exporters in gaining access to local and international markets. Established in 1991 Austest is the only full-service laboratory in Australia and New Zealand providing comprehensive accredited EMC, Electrical Safety, Telecommunications and Environmental test services. Fully accredited MIL-STD Testing includes Environmental product and component standards ranging from vibration and shock, drop, temperature and humidity, UV, Ingress Protection for Dust, Water and corrosion, altitude, and pressure, through to Electrical safety and EMC radio frequency interference emissions (40GHz) and susceptibility (up to 200V per metre to 18GHz).

Objective of participation at Indo-Pacific

To connect with local, national, and international manufacturers and defence prime contractors and identify any future industry testing requirements whilst promoting the accredited defence testing capabilities of Austest.

Key capabilities

- Comprehensive range of defence testing services with the largest commercially available electrodynamic vibration and shock capability in Australia as well as temperature, humidity, altitude, pressure, salt-fog and solar test chambers.
- Accredited for major defence standards such as MIL-STD-461, MIL-STD-810, MIL-STD-167, MIL-STD-202, DEF STAN 00-35 and RTCA DO-160 along with testing capabilities for accelerated aging, UV-A and UV-B radiation, solar radiation and salt (corrosive) atmospheres.
- EMC testing capacity offers emissions, immunity & wireless test capabilities encompassing the majority of global product and industry standards. Testing capability areas include radiofrequency emissions & immunity, surges, transient burst & electrostatic discharge, short-range device (wireless) spurious emissions testing, on-site surveys, EMC pre-compliance testing, antenna radiation pattern measurement as well as consulting services.

Current and future developments

Continually investing in equipment and expertise to ensure we meet customer and the regulatory requirements.



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With a mission to be a supplier of choice in safely providing complex engineering services, products and equipment to Departments of Defence and the wider engineering market in the Oceania region

Baker & Provan is a family-owned, Australian engineering company established by two ex-service men, Arthur Baker and Don Provan in 1946. The company has grown to provide substantial manufacturing and on-site service capability including mechanical design, manufacturing and on-site services to Defence and industry in fitting, fabrication and machining including onsite servicing of mechanical and hydraulic equipment for the Royal Australian Navy (RAN). Baker & Provan entered the Defence market in 1989 with the design of the slewing arm davits for the Anzac class frigates and continues to provide through-life support as an OEM.

Objective of participation at Indo-Pacific

Baker & Provan is seeking to grow its presence in the Australian Naval and Defence space, as a trusted supplier to the Australian Defence Force (ADF) with strong mechanical and hydraulic manufacturing and servicing capabilities across Australia.

Key capabilities

- Over 30 years' experience having designed, manufactured, serviced and tested a range of RAN mechanical equipment including boat cranes, davits, winches, capstans, doors, hatches and fin stabilisers. We have key relationships with a range of equipment OEMs and provide site-based services to the RAN at Garden Island and Waterhen, NSW and Henderson, WA.
- Large workshop in Western Sydney equipped with 18 small to very large CNC machines and large fabrication and fitting areas, employing 80 people dedicated to providing quality engineering solutions.
- Accredited to ISO 9001 (quality), ISO 45001 (safety) AS/NZS ISO 3834.2 (fusion welding), DISP entry level (Level 1 in process), Lloyds Approved Supplier for servicing rescue boats and NATA approved to ISO/IEC 17020 Type C for the inspection of lifting equipment.

Current and future developments

Baker & Provan are expanding their role as a Defence manufacturer and service provider seeking to support Defence primes in manufacturing for Australian Defence projects as well as partner with larger international Defence providers for local support and service requirements. Baker & Provan is currently providing davits to the NZ Navy and is well positioned to support a range of international suppliers for components required under the SEA 5000 and LAND 400 Phase 3 programmes.

BAKER & PROVAN

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Proud Defence partners delivering capability together for over 100 years

One of Asia Pacific's largest independent advisory, design and engineering consultancies, with 3,500 professionals spread across 20 offices offering a range of professional services to support the full capability lifecycle.

Beca Pty Ltd is an Australian, employee-owned multi-disciplinary company with a proud history of delivering professional services in project management, engineering, planning, architecture, advisory and other technical disciplines. With an integrated team of 500+ professionals across Australia, including more than 40 Australian Navy, Army and Air Force veterans in our Defence & National Security business. (100/100)

Objective of participation at Indo-Pacific

Reinforcing our position as a leading service provider to the Royal Australian Navy and Capability Acquisition and Sustainment Group, whilst showcasing our capability and forging new relationships.

Key capabilities

Beca services include:

- Technical Compliance Assurance and Audit
- Engineering Operation and Maintenance
- Data Management/Assurance (Digital)
- Integrated Logistic Support
- Program/Project Management
- Systems Engineering

An employee-owned model drives continued performance, combining skills and insights with those of clients, using the power of partnerships to think, design and develop creative solutions together.

Current and future developments

What Beca can do for you:

Insight

- Data capture
- Data analytics
- Simulation and modelling
- Supply chain analysis
- Market research



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Technology services

- Requirements management
- Acquisition support
- Systems integration
- Systems development
- Security and resilience

Investment decision support

- Business case development
- Due diligence
- Capital programme optimisation
- Master planning
- Concept engineering
- Enterprise risk management

Organisational support

- Maintenance management
- Maintenance services
- Operations management
- Systems support
- Operations improvement
- Information management

Transformation services

- Project readiness reviews
- Organisation design
- Process improvement
- Organisational change
- Engineering design
- Program delivery

Our commitment to quality

The Beca Group of companies has a continuous record of certification to International Standard for quality management ISO 9001 since 1994 (NZ) and 1995 (AU). Certification is confirmed through regular audits by JAS-ANZ accredited auditors.

‘With a mission to deliver digital awareness that enables confident decisions.’

BlueCats is a 100% Australian owned software and technology SME headquartered in Sydney.

With expertise in Real Time Location Solutions (RTLS), such as asset and people tracking as well as software solutions that digitise manual and complex workflows.

BlueCats has been working closely with the Royal Australian Navy since 2020 on the digitisation of manual administration of electrical and mechanical isolations. The result is OneTag™.

OneTag™ is a Digital Isolation Management Solution (DIMS) that has been specifically designed for Naval maintenance activities.

BlueCats is excited to play a part in making Naval maintenance as safe and efficient as possible.

Objective of participation at Indo-Pacific

BlueCats is looking to connect with Defence Forces and companies who can benefit from a safer, more compliant, and faster way to optimise workflows and manage maintenance activities across asset classes.

Key capabilities

- Australian owned SME
- Agile and responsive development teams
- Collaborative stakeholder engagement early in the discovery process
- Intimate understanding of Defence requirements
- ISO27001 & DISP

Current and future developments

BlueCats has been working closely with the Royal Australian Navy since 2020 on the digitisation of manual administration of electrical and mechanical isolations. The result is OneTag™.

OneTag™ is a Digital Isolation Management Solution (DIMS) that has been specifically designed for Naval maintenance activities.

OneTag™ is an efficient, and engaging way for Navy crew and contractors to plan and manage the isolation process as it relates to maintenance and repair activities on Naval vessels.



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OneTag™ benefits

- eliminates the manual administrative burden on crew and contractors prior, during and post a maintenance activity
- immediate positive impact crew wellbeing
- provides real time visibility of the status of a ship's systems at any stage during maintenance
- enables continuous improvement and knowledge transfer
 - is platform and contractor agnostic
 - facilitates dynamic configuration management on each vessel
- enforces Naval policy, every time an isolation is performed.

BlueCats believes OneTag™ can have an immediate and positive impact wherever large scale maintenance activities are undertaken.

DEFENCE INNOVATION NETWORK (DIN)

Helping businesses to be more competitive and innovative on a global scale by improving the translation of research into defence products and services developed in NSW.

The Defence Innovation Network is a university-led initiative of the NSW Government and the Defence Science and Technology Group to enhance NSW Defence industry capability through collaboration between industry and universities.

Since its establishment in 2017, DIN has attracted over 100 projects representing more than \$90 million in cutting edge defence related R&D investment to NSW, leading to already commercialised new capabilities and near-to-market next generation innovations. The DIN's recent successes include the \$1.5 million investment to develop world first quantum sensing prototypes and \$1.5 million investment to deliver breakthrough technology in Cyber, Remote Undersea Surveillance and Space.

Objective of participation at Indo-Pacific

DIN's objective is to create new opportunities for NSW researchers and defence companies, build new connections with major defence primes, the Australian Defence Force and defence organisations in allied nations including the United States and United Kingdom.

Key capabilities

- Quantum sensing and positioning navigation and timing (PNT)
- Cyber
- Remote undersea surveillance
- Space
- Information warfare
- Robotics, artificial intelligence and machine learning
- Advanced manufacturing and materials
- Chemical biological radiological and nuclear (CBRN)
- Human performance

Current and future developments

DIN is currently collaborating with the United States Military (& Australian) research agencies involving:

- Quantum science technologies (PNT and secure communications)
- AI robotic coordinated autonomous teams
- Neuromorphic sensor technologies (space, ground and undersea)
- Advanced materials (including drone disruptive camouflage)



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Detect. Assess. Defeat.

DroneShield is a provider of artificial intelligence multi-mission protection. DroneShield's primary product focus is the delivery of turn-key solutions to detect, identify and defeat unauthorized drones using proprietary multi-sensor technology, real-time alerts, digital evidence collection and soft-kill disruption of radio communications.

DroneShield's core competencies are centred on the dominance of the radio frequency (RF) spectrum, leveraging complementary technologies such as Artificial Intelligence (AI), electro-optics and radar, and delivery of military-grade products and solutions at the accelerated pace demanded by rapid advances in related threats and technologies.

DroneShield's products have proven themselves globally with commercial, governmental, and defence customers.

Objective of participation at Indo-Pacific

Meet with end-users, integrators to discuss specific counter-drone and electronic warfare requirements.

Key capabilities

- Accelerated product design and delivery
- Modular system architecture and design
- Antenna design and engineering
- Artificial intelligence (focussed on RF and electro-optical data)
- Software defined radio and RF system-on-a-chip platforms
- Signal of interest (Sol) identification and classification
- RF jamming
- RF direction-finding expertise
- Multi-sensor fusion
- Command and control software systems
- Edge computing and sensing
- MIL-spec industrial design
- Operational safety
- Regulatory compliance
- Product and system penetration testing



DRONESHIELD

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Current and future developments

Current products include:

- Body-worn and man-portable drone detection and defeat
- Vehicle-mounted drone detection and defeat
- Turn-key fixed-site drone detection and defeat systems
- Artificial intelligence-based sensor-fusion (radar, camera, RF, acoustic)
- Artificial intelligence-based signal identification and classification

Future products include:

- Multi-domain smart-jamming solutions

ELYSIUM

With a mission to be a trusted advisor that provides innovative solutions to produce enduring value for clients.

Elysium works to design and realise major transformation projects that deliver enduring value. Providing expert support in the delivery of strategic procurement projects and programs, the design and establishment of effective organisation structures and systems, and in the delivery of strategic communications and stakeholder management.

As a trusted advisor to clients and delivering tangible improvements to their business outcomes through programs and projects.

Their specialist consultants have a range of deep technical skills as well as specific agency or industry sector experience that combine to enable successful resolutions to address the most challenging of reform issues.

Objective of participation at Indo-Pacific

To support existing clients and improve awareness of Elysium EPL within the broader Defence and Maritime sector.

Key capabilities

Elysium EPL is proud to deliver expert capabilities within their workforce which are critical to projects and businesses succeeding including:

- Design thinking and strategy development
- Organisational design
- Strategic procurement and commercial management
- Strategic communications and stakeholder engagement
- Information analysis for sensitive service management
- Engineering and asset management
- Collaborative working
- Education and training
- Project management

Current and future developments

Currently Elysium EPL is involved in designing and implementation major transformation programs within Maritime domain and Sensitive services, both in Government and Industry. They intend to continue to be a trusted advisor to existing clients and work with new clients to deliver enduring solutions.



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On a mission to create and deliver innovative, customised communication solutions. With a vision to empower people to feel safe and connected.

For over 60 years, GME has been an industry leader in the RF communication technology space where they are the only Australian manufacturer of UHF CB Radios and Emergency Beacon products. Located in Sydney's western suburbs, operating from purpose-built headquarters, employing over 180 staff. This state-of-the-art facility houses research and development (R&D), engineering, quality assurance, manufacturing, warehousing, sales and marketing, finance and technical service functions. Priding themselves on engineering and manufacturing high quality, market-leading products to suit the specific requirements of customers. Today GME proudly remains a family-owned private company and is proudly 100% Australian.

Objective of participation at Indo-Pacific

Establish connections with Defence companies with the aim to maximise AIC when pursuing Defence opportunities by GME's Zone 4 electronics manufacturing capability.

Key capabilities

- Scalable on-site sovereign manufacturing capability.
- Targeting Zone 4 High Assurance product manufacturing by mid-2022.
- Offers OEMs significantly higher sovereign capability.
- Full design, 'Build to print', R&D and test capabilities.
- New investment in surface mount technology (SMT) manufacturing equipment
- Defence industry security program (DISP) member
- High employee retention rate
- Significant facility expansion capacity
- Accredited Australian trusted trader
- ISO 9001-2015 manufacturing process accreditation AS/NZS

Current and future developments

Zone 4 electronics manufacturing within Australia –partnering with international organisations to successfully manufacture for a higher content of AIC. Also, able to undertake a technology transfer to support a sovereign approach. GME's Zone 4 upgrade will enable electronics manufacturing to be done at a secure high assurance level.



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Accurate digitisation and fast advanced manufacturing of complex, light-weight products.

GoProto is an Australia-based additive manufacturing, 3D scanning, tooling and prototyping service provider. Maximise productivity with state-of-the-art 3D scanning to accurately digitise assets, people, equipment, vessels, aircraft and locations for training simulation, quality inspections, performance analyses, re-engineering, and digital twin development. Scale local manufacturing of polymer, rubber and metal products by utilising industrial 3D printers and low volume production processes for speed to market and sovereign industrial capability.

Objective of participation at Indo-Pacific

To connect, win work and collaborate with maritime original equipment manufacturers, engineering companies specialising in through life support and in-service sustainment of maritime platforms, including asset management, ship repair, and training solutions.

Key capabilities

1. Comprehensive range of 3D scanning and photogrammetry capabilities suitable for digitising applications including small engine components, pumps, people to wireless scanning onboard ships, vehicles, plants, and worksites.
2. Digitised assets in formats suitable for quality inspections, performance analyses, scan to manufacture, training simulation and works planning.
3. Widest range of additively manufactured materials including MJF PA12 suitable for IP66/IP67 applications, Shore 65A Hardness rubber elastomers, high temperature UL94 V) rated flame-retardant with >150 °C Heat deflection temperature, and aerospace approved flame-retardant FAR25.853 nylon.

Current and future developments

Part of the team involved in annual maintenance period of HMAS Choules Capability Assurance Programme, where planned maintenance tasks, scheduled corrective maintenance tasks, urgent defects, and engineering changes were carried out to ensure HMAS Choules is seaworthy.



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Delivering engineering expertise to the Australian Maritime Industry.

Founded in 1852 and celebrating 170 years of business - Halliday Engineering has a long and proud history of providing a range of engineering, metal fabrication, machining and technical fitting services to the Sydney based maritime industry.

Providing design, procure, fabricate and repair plant and marine assets for the defence, shipping, mining and power generation sectors locally, interstate and overseas.

Objective of participation at Indo-Pacific

Further strengthening status of trusted specialist supplier and make the appropriate connections with industry primes, partners, and clients, allowing us to mobilise more broadly into the Defence supply chain.

Key capabilities

- Over 60 dedicated employees, including Engineers, Project Managers, Fitters, Boilermakers, Welders and Machinists
- CLASS Approved Qualifications and Welders in Carbon Steels / Stainless Steels / Aluminium and CuNi
- ISO 9001 | ISO 14001 | ISO 45001 certified with Lloyds Register
- DISP Accredited (EL)
- Supported by 1200 sqm machine and fabrication shop located within 5 minutes of Sydney CBD
- Innovative manufacturing equipment including Robotic Welder / NC Plasma Table / Laser Alignment Technologies
- Investing in our future Australian workforce by training 6 Apprentice Tradespeople and 5 Undergraduate Engineers

Current and future developments

Halliday Engineering recently invested in Robotic Welding Technology. The machine demonstrates a highly refined, keyhole variation of TIG/GTAW developed by the Australian Government's Commonwealth Science and Industrial Research Organisation (CSIRO). The machine improves quality and productivity while providing a flexible robust solution which easily qualifies under ASME and other codes.

Halliday Engineering are adapting this technology to develop Classification Society approved weld procedures that will further enhance Defence Capabilities and services offered to the marine industry. More specifically, using this technology to further develop manufacturing capabilities in welding Marine Grade Hull Plate and Pipework.



Luke Halliday

Managing Director

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HUNTER DEFENCE

Representing the Defence SME community within the Hunter Region and north to the Queensland border.

Hunter Defence is a collaborative task force focused on demonstrating the capability of established Hunter defence industry suppliers to government and primes, as well as upskilling local SMEs to become 'Defence ready'. Hunter Defence's role includes demonstrating Hunter Region Supply Chain Capability to the Capability Acquisition and Sustainment Group (CASG), the Office of Defence Industry Support (ODIS), and Defence primes. This is done by understanding what defence capabilities are generated regionally, aligning local industry capabilities and capacities with upcoming opportunities, and encouraging small and medium enterprises (SMEs) within the region to form advanced defence capability groupings and synergising broader product offerings by closer collaboration.

Objective of participation at Indo-Pacific

Hunter Defence's participation in Indo Pacific is to demonstrate the value proposition of the regional industrial capability in the maritime domain and to provide guidance to SMEs of the opportunity to partner with major defence primes and contract opportunities.

Key capabilities

- Systems, products and services for the design, manufacture, and operation of assets with primary use in a water based (river or sea) environment including:
 - World class simulation systems development
 - Battlespace management and sensor design and support
 - Armour plating systems
 - High end composite development.
 - Auxiliary systems
 - Combat systems
 - Communications and surveillance
 - Hull structure
 - Naval vessel control
 - Outfit and furnishings
 - Propulsion plant
 - Ship assembly and support services



Tim Owen AM JP

Chair Hunter Defence
Task Force

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HYDRAULIC CONTROLS

Delivering innovative, high-quality fluid power systems for the Defence industry for over 50 years.

Our bank of hydraulics knowledge is incredibly deep and rich and is forged by decades of practical engineering experience in design, manufacture and systems integration.

Our highly skilled team is immersed in hydraulics every day. We understand and adhere to professional compliance standards while considering the practical operation, maintenance and safety aspects that will exceed expectations.

Objective of participation at Indo-Pacific

To showcase our strength and capability as a professional full service Australian manufacturer of hydraulic systems who can work with Defence Original Equipment Manufacturer's (OEMs) to provide hydraulic systems that operate throughout air, sea and land equipment allowing the OEMs to concentrate on the technology that they know best whilst knowing they are being supported by a trusted professional in the niche area of hydraulics.

Key capabilities

Central to our overall capability in delivering the full range of fluid power, motion control and precision engineering services, are our specialized engineering resources of high-tech equipment, design and development facilities and dedicated service support equipment that includes hydraulic system design, prototype development and testing, local manufacture and installation facilities, servicing and repair and upgrades of existing machinery.

Together our extensive engineering expertise and specialized resource facilities are major contributors to our overall broad-based capability, and the industry-wide respect we receive for engineering excellence.

- Design and CNC machining capability
- Design Software Packages
- SolidWorks CAD software
- MD Tools manifold design software
- Keycreator
- Viso
- CNC machine capacity



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Our strong skill base of engineering, technical, trade, and sales specialists include:

- Mechanical Engineers
- Fluid Power Systems Engineers
- Electronic Engineers
- CAD Designers
- Technical Salespeople
- 8 x 3 axis vertical machining centres
- 4 axis milling machine

Our latest machine is a high-speed, thermally-stable horizontal machining centre that offers quick acceleration, short tool changes and high power to improve productivity.

- Spindle Speed 15,000min⁻¹ (26kW)
- Tool Storage 260 tool magazine
- Outfitted with a 20K rpm spindle and runs with a 6-pallet system.

Current and future developments

Current projects include a hydraulic system for the Winburndale dam which involves engineering a hydraulic system to operate the dam emergency flood gates that are located 500m from the control room. We are also currently manufacturing various hydraulic systems for mining OEMS including Komatsu, Caterpillar and Sandvik.

In addition, we are currently designing hydraulic power units for the food processing, waste management and offshore oil refinery industries.

In the future, we are aiming to collaborate with Hanwha defence to manufacture the manifolds for the upcoming fleet of vehicles.

INVEST WOLLONGONG

Where business thrives with a highly skilled workforce and continual supply of university graduates, substantial infrastructure and a supportive business environment, Wollongong is a city that encourages business success.

Invest Wollongong is a partnership between the NSW Government, Wollongong City Council, and the University of Wollongong. Focused on attracting new business to the city, Invest Wollongong partners work together to assist businesses and investors interested in Wollongong.

Objective of participation at Indo-Pacific

Invest Wollongong seeks to promote the regions local Defence Industry capabilities , attract new investment and capabilities to the region and introduce local businesses to Defence supply chain opportunities.

Current and future developments

Refer to page 11 under Regions & Precincts.



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SHOALHAVEN DEFENCE INDUSTRY GROUP

Mission:

- To promote local industry capabilities at key industry briefings and trade shows/expositions.
- To expand the capabilities, connectivity and skills of the Defence sector in the Shoalhaven.
- To advocate on behalf of the Shoalhaven Defence industry to all levels of government.

Company summary

Shoalhaven Defence Industry Group (SDIG) is an alliance between the local defence industry, Shoalhaven City Council, the NSW Government, and the Shoalhaven Business Chamber. SD&IG promotes and supports the defence industry capabilities of the Shoalhaven to attract business, investment, and jobs. Renowned as Australia's centre for naval aviation, the Shoalhaven also has an extensive base of support businesses offering capabilities across joint domains in land, sea and air.

SDIG provides local defence and defence-related ecosystems with access to:

- an expert network of business, government and NGO's bringing local knowledge and a collaborative approach to the growth of the defence industry.
- SD&IG members including defence primes Boeing, BAE Systems, Lockheed Martin Sikorsky and Raytheon. SME members including Air Affairs, Global Defence Solutions, Opstar, Mellori, Partech Systems, Schiebel Pacific and SMETEC Services. Primes such as Northrop Grumman, Rheinmetall, SAAB and Thales are actively engaged with SD&IG and its members.
- an active relationship with the Office for Defence Industry Support (ODIS) and connects its members with ODIS advisory and facilitation services, grants and events.

Objective of participation at Indo-Pacific

SD&IG will promote the Defence Industry capabilities of the Shoalhaven to attract business, investment and jobs to the region and introduce SD&IG members to supply chain opportunities.

Current and future developments

Refer to page 11 under Regions and Precincts.



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IPS AUSTRALIA

Rotating equipment service provider offering engineering capabilities to ensure the availability and reliability of rotating machinery.

IPS Australia is an independent service provider representing several original equipment manufacturers (OEM), providing the highest quality of professional sales and service to a wide range of customers, specifically for high-speed rotating equipment such as turbo compressors, steam turbines, reciprocating compressors, pumps and more.

Rotating equipment is the heartbeat of any process. Wherever there's a manufacturing process, typically at some stage of the process, rotating equipment is used. Providing crucial support for that equipment IPS operates to prevent production loss, ensuring reliability and availability of those machines.

Objective of participation at Indo-Pacific

Connect with primes and SMEs who operate in Defence that would benefit from the services IPS offers.

Key capabilities

- overhauling
- inspections
- dynamic balancing
- reverse engineering
- laser alignment
- new installations
- troubleshooting and fault finding
- testing and commissioning
- condition monitoring
- project management.

Current and future developments

Looking to partner with a Defence organisation as part of their asset maintenance planning to ensure the availability and reliability of their critical equipment.



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Providing quality services to customers which promotes their respect and repeat business while remaining both profitable and competitive in markets.

Established in 1989, I S Systems is an electrical engineering, systems integration and manufacturing company specialising in the application of controls, variable speed drives, energy generation and distribution, power converters and system analysis.

Accreditations held include:

- ISO9001:2015 Quality Assurance
- ISO14001:2015 Environmental
- ISO45001 Health & Safety and AS/NZS4801:2001.
- Accreditations in progress include ISO27001 Information Security and DISP (Level 2).

ISS is an experienced Defence contractor, currently undertaking the platform systems upgrade on the ANZAC Frigate fleet (BAE Systems/WAMA) and the manufacturing equipment for the Arafura class OPVs (L3Harris). Other Defence customers include Defence (Navy), Thales, NSM.

Objective of participation at Indo-Pacific

Further engagement with Defence Primes seeking to expand the scope of activities, including the development and application of new technologies supporting hypersonic weapons, radar systems and field deployment power systems.

Key capabilities

- Experience delivering Defence projects and business experience with Navy and primes.
- Demonstrated capability to develop and deliver unique electrical solutions for complex engineering problems.
- A fully integrated document management system (SharePoint DMS) with workflow and eSafe secure document tracking.
- Facilities include a secure office with Zone 4 accredited construction, Type 1A security system and a secure area for integrated system tests.
- Large workshops with high power electrical shop supply (LV 600a) and 5t & 10t OHCs.



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Current and future developments

MVDC activities

I S Systems has been researching and developing Medium Voltage DC (MVDC) systems for electrical power distribution networks. This activity also includes high energy capacity MVDC super (or ultra-capacitor) banks for short term energy storage with very high current capabilities.

The research has focused on MVDC energy aggregation and distribution using a series connected network architecture. The series connection offers advantages for energy an MVDC distribution network. When the series network is configured as controlled current scheme, the system fault current is limited to the operating current. The network equipment is therefore not required to be rated for excess current or high fault levels. In addition, the individual elements in the network may be Low Voltage (LV) rated due to the sharing of the system voltage. The element and system costs are very low compared to an equivalent parallel bus system

Defence applications

The energy and power demands on Naval ships are increasing due to the introduction of more electrical equipment and higher power devices (e.g., radar and weapons).

The series connected network architecture is suitable for Naval ship and Army field deployment applications. The equipment size and cost are significantly reduced applications include launching hypersonic weapon transporters (e.g., linear accelerators).

In Navy applications the electrical energy sources may be distributed throughout the ship (DGEs, batteries). Energy can be aggregated through a single cable (wire) loop for delivery the system loads and short-term energy storage systems. The cable conductor size is typically 30% to 40% of the equivalent AC cable. The networks can be configured for redundancy and protection to manage battle damage situations.

In Army field deployment applications, the electrical energy sources may be distributed DGEs, solar PV, wind and batteries. The loads (field services, command sites, communications systems, radar sites) may also be distributed. The electrical power distribution networks may be configured for redundancy and protection to manage battle damage situations. The deployment advantages include longer runs of cable per cable drum, no AC synchronising, no high fault system levels plus variable frequency & voltage power generation. The isolation and switching devices are all LV.

JAMES WALKER AUSTRALIA

Offering a complete portfolio of critical sealing technology for the defence industry

James Walker is a dynamic global manufacturing organisation that supplies a vast range of high performance fluid sealing products and associated knowledge-based services to complex defence environments.

Objective of participation at Indo-Pacific

To be recognised as a strategic partner, to the defence industry providing critical sealing solutions to defence primes and related sub-contractors.

Key capabilities

Capabilities

- Manufacturers of high performance fluid sealing products
- Formulation & compounding of high performance elastomers
- Precision machining of exotic alloys
- Moulding and extrusion of components
- Design, production, testing, manufacturing & final assembly
- In-house applications engineers & technical support
- In-house validation and verification

Competitive discriminators

- In-house engineering and supply chain reduces the reliance on external suppliers
- Capabilities from individual components through to finished tested assemblies
- Complex project management and control for DIFOT and costs
- ISO Certified Systems and Processes for traceability from sourcing, compounding to production
- Turnkey Service for configuration management with Risk Prevention and Control disciplines
- Local service centres to respond to clients unplanned downtime and maintenance requirements

James Walker.

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Regional Manager

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Current and future developments

Reputation built on quality and reliability. Safeguarding and sustaining operational track record positions James Walker for the next generation manufacturing, service, and support applications in defence environments.

Experience and agility mitigate clients' supply chain security risks to achieve Australian defence fundamental input to capability goals drawing together from international defence and critical asset infrastructure experience.

Certifications Accreditations Associations

- ISO 45001:2018 OH & S Management System
- ISO 14001:2015 Environmental Management System
- ISO 9001:2015 Quality Management System
- API, ANSI, NATO, and NATA Laboratory Standards
- UK HQ Cyber Essentials Plus Certification
- Local Australian DISP Accreditation in progress
- CDIC - Capability Improvement Grant recipient

Promote the overwhelming advantages of composite structures and transfer agile manufacturing expertise derived from the racing yacht industry to a wide range of industries with cost effectiveness, high quality, precision, and innovation in materials, design, testing, prototyping, and custom work.

Whether it's building the world's fastest racing yachts, the Deepsea Challenger submersible to explore the Mariana Trench, a specialised component for a Formula One racing team, or developing solutions for scientists and defence organisations, McConaghy has a proven track record of delivering complex and high-performance composite projects.

McConaghy boats was founded by John McConaghy in 1967, building high performance dinghies. As the company's reputation grew, so did McConaghy's research and development into pre-impregnated (pre-preg) composite techniques earning them a reputation as the best in the business and making the McConaghy name synonymous with light, strong and reliable laminated structures.

Objective of participation at Indo-Pacific

McConaghy looks forward to connecting with prime contractors and their network and assist them with furthering local sovereign capability for manufacturing of large-scale composite structures in NSW and Australia.

Key capabilities

McConaghy have been researching, testing and perfecting the techniques and processes required to build high strength durable and lightest possible composite structures for over 50 years.

- Skilled composite specialist team of unmatched passion and commitment
- Racing Yacht DNA
- 30m x 8m x 4.5m computer-controlled pre-preg oven
- Expertise with large scale pre-preg structure manufacture.
- Envious track record and Quality Management system equivalent to ISO 9001:2015
- Experience with complete range of composites materials and manufacturing techniques
- Experience with wide spectrum of industries
- Through-life support via repairs, maintenance and upgrades of our products.

Current and future developments

Actively seeking partnerships to expand our excellence in design and craftsmanship of light and strong composite structures into the following areas of development:

- Defence
- Space industry
- Transportation
- Automation and industry 4.0

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Mellori Solutions sees a world where the safety and wellbeing of others is a priority and continually improved through innovation and meaningful solutions.

Mellori Solutions, Australian owned, provides sovereign electronic warfare (EW) testing, training and engineering services to the Australian Defence Force (ADF). Dedicated, experienced EW engineers provide critical skills supporting defence intelligence and EW sensors and operations across the ADF tri-service environment.

Mellori delivers EW training solutions to support individual and collective training. Training solutions are immersive, collaborative, and future-proofed to adapt across the continual changes experienced when working in and across the Electro-Magnetic spectrum.

Mellori brings a highly strategic real-world feel to EW training design and delivery helping Australia's EW practitioners build skills and confidence when operating across this demanding environment.

Objective of participation at Indo-Pacific

Mellori's objective at Indo-Pacific 2022 is to ensure our team's high end sovereign EW capabilities and services are well understood by the Australian and international audience attending the event.

Key Capabilities

- Specialise in testing, evaluation and validation of Radio Frequency (RF) and Electro-Optical (EO) sensors in service with the Australian Defence Force.
- Testing – services range from controlled environment EW library testing to range-based library validation and sensor accuracy testing.
- Key services include ensuring the installed performance of EW sensors on ADF platforms is of the highest standard.
- Training – technicians and script writers ensure frontline EW practitioners can perform to the best of their ability through the building of high-end EW skills and knowledge transfer. This ensures ADF personnel can confidently operate in and across the Electro-Magnetic Spectrum.
- Talent – an engineering team who provide sovereign innovation solutions to support best practice in ADF EW operations. Striving to build the EW engineering talent of the future, imparting engineering know how and helping to build a world leading EW industrial base in Australia.



mellori
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Current and future developments

Classroom and Field Training Simulator Solution – Mellori Solutions was selected to provide a suite of electronic warfare (EW) training simulation tools that provide a robust and practical training capability to Australian Army EW practitioners. Having arrived in country during December 2021, training on the equipment will commence during 2022.

ADF EW Installed Performance Testing – The Mellori Team work closely with the ADF to support and provide through-air EW testing and training services for activities across Australia. Our engineering services have also been employed by the ADF to enhance existing EW testing equipment to extend the operating frequencies and future proof the in-service test and evaluation systems.

Mellori Automated Rapid Emitter Analysis (MAREA) – Designed by the Mellori Engineering Team, MAREA is an Artificial Intelligence and Machine Learning software-based solution which aids defence in the rapid processing and automated characterisation of large volumes of Radio Frequency mission data. It provides ADF personnel with an opportunity to extract meaningful information from the EM spectrum and to ensure informed decision making.

The Mellori EW T&E Crows Companion – To be launched during 2022, the Mellori EW T&E Crows Companion is an informative guide to Radio Frequency (RF) and Electro-Optical system testing, evaluation and validation. The quick-reference guide provides ADF engineers and EW operators with a wealth of quickly accessible information in an easy-to-digest and engaging way.

The guide provides a set of condensed instructions on how to use an in-service EW test and evaluation product to conduct flight line testing of sensors, creation of complex emitter profiles and how to guides to effectively test the installed performance of an EW sensor on an ADF platform.

MicroTau solves human problems with nature's surfaces, focusing on drag reducing surfaces for maritime and aviation applications with increased fuel efficiency and capability enhancing effects.

MicroTau is an advanced materials and manufacturing business specialising in the production of drag-reducing 'riblet' microstructure surfaces for aviation and maritime applications. The drag-reducing effect of riblets allows for increased fuel efficiency of aircraft and maritime vessels, which can reduce fuel burn and carbon emissions by 4%. In aircraft, the product can also enable increases in range, endurance, and payload capacity. MicroTau invented a riblet manufacturing process that delivers custom riblet designs for greater savings, can rapidly iterate, and is highly scalable.

Objective of participation at Indo-Pacific

Seeking to collaborate with manufacturers and operators of maritime platforms that can benefit from increased fuel efficiency and anti-fouling capability, with a view to conducting product testing and integration for enhanced mission capability.

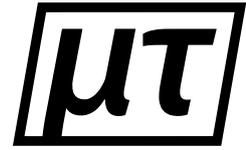
Key capabilities

- Patented DCM (Direct Contactless Microfabrication) technology is a scalable solution for custom riblet production. Inspired by computer chip manufacturing, DCM uses light to print drag-reducing riblets out of Ultraviolet (UV) curable coatings used in industries including aerospace, marine and wind.
- By printing with light riblet designs can be optimised to meet any flow conditions and achieve greater savings.
- Printing with light also means rapid prototyping for new applications with near-zero retooling costs.
- Aviation riblet film reduces skin friction drag of aircraft, resulting in up to 3% fuel savings when applied to wings only and 4% across the whole aircraft.
- Maritime riblet film reduces skin friction drag of marine vessels, resulting in up to 5% fuel savings when applied to the hull, and reduces biofouling with similar efficacy to competing antifoul paints.
- Team composed of experts in photolithography, physics, mechanical engineering, materials chemistry, nanotechnology, and microfabrication.

Current and future developments

Looking to secure partnerships with any manufacturers or operators of marine vessels for in-service small-area testing, followed by large-area testing beginning in 2023.

Recently completed the first flight test of our aviation riblet film, which demonstrated efficiency gains of approximately 2%, and aim to conduct further flight testing soon. MicroTau are also looking to secure a launch customer in the unregulated aviation market for this product.



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THE NAVAL SHIPBUILDING COLLEGE (NSC)

Integral partner of key education and industry providers to deliver Australia's naval shipbuilding and sustainment workforce.

NSC works closely with government, industry, and education and training providers to ensure Australia's Naval Shipbuilding Enterprise has the skilled workforce required to build and maintain the Royal Australian Navy's submarines and ships.

The NSC is an Australian Government Initiative, managed by KHA Defence Solutions, a joint venture between international powerhouse Kellogg Brown & Root Pty Ltd (KBR) and Huntington Ingalls Industries (HII) – America's largest military shipbuilding company and a provider of professional services to partners in government and industry.

Objective of participation at Indo-Pacific

Showcase the JobsPortal and workforce planning opportunities with Small to Medium Enterprises (SMEs) and local industry to support resourcing and talent attraction.

Key capabilities

- supporting the development of a skilled Australian workforce to build and maintain the Australian Defence Force's submarines and ships.
- works with industry primes and system integrators to collate and understand workforce demand and supply data in order to develop solutions to address gaps in the naval shipbuilding enterprise workforce.
- Works closely with industry and academia partners, the NSC is developing solutions to ensure the industry has the right people, with the right skills to fill the thousands of jobs being created by the Enterprise.
- access to detailed information to help understand the supply and talent available across Australia. The NSC uses this information on local adjacent industries, employment, education, training and demographics to understand the overall challenges and opportunities that exist to attract a future naval shipbuilding workforce.
- national workforce register allows job seekers at varying career stages to register their interest in joining the Enterprise, while also providing access to the JobsPortal where they can view hundreds of roles advertised by prime organisations and SMEs within the Enterprise.
- The JobsPortal was developed by the NSC in collaboration with industry to help broaden industry's sourcing channels and foster career enablement for candidates on the NSC's national Workforce Register.

Current and future developments

The NSC is providing greater support to the Australian SME community, helping to build their future workforce capabilities. In turn, the NSC will continue to support Australian job seekers, connecting them with the SMEs and prime organisations looking for people with specialised skills and knowledge required to build and maintain Australia's Naval Fleet.



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Autonomous ocean surveillance

Ocius Technology (formerly Solar Sailor Holdings) is an Australian public unlisted company founded in 2000 and located on the Randwick Campus University of NSW (UNSW).

Ocius initially built hybrid electric, solar and wind powered ferries. In 2013, following enquiries from the USA for a 'platform that could go to sea forever', who pivoted to developing Uncrewed Surface Vessels (USVs) under 5 progressive Australian Defence demonstration contracts.

Ocius' engineering focus is to develop persistent USVs with maximum performance and with minimum logistics.

Ocius' business focus is to develop capabilities with our partners here in Australia and then market to the world.

Objective of participation at Indo-Pacific

Ocius would like to meet partners who realise an opportunity to conduct some missions or deploy some sensors and payloads via multiple small autonomous persistent USVs, thereby increasing availability and reducing risk and cost.

Key capabilities

- Ocius is an agile marine robotics company 100% owned and based in Australia designing and building both hardware and software

Bluebottle USVs uniquely can:

- Operate unescorted autonomously in Australia's EEZ certified by AMSA
- Operate using three (3) forms of renewable energy = solar + wind + wave
- Operate without fossil fuels and associated logistics
- Operate in adverse strong currents & eddies e.g., East Australia and Leeuwin
- Operate & patrol around reefs, shoals & islands e.g., Timor Sea and Indian Ocean
- Operate from ports with large tidal ranges e.g., Port Darwin and Broome
- Operate in Doldrums with no wind or waves e.g., Timor Sea
- Operate in storms & adverse headwinds by lowering & securing the solar sail
- Lower solar sail for tactical range advantage
- Detect, classify & communicate LIVE via radar, cameras + hi bandwidth satellite
- Carry 300kg partner payload
- Power 150W to partner payload 24/7 for months with 8 hours sun per day
- Lower and recover sensors, modems, and Thales thin line arrays to varying depths
- Transport overland via RTA approved trailer & standard SUV



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- Deploy from a crewed vessel as small as 28m and 200 tonnes e.g., RV Whale Song
- Launch and recover from a standard municipal council boat ramp
- Operate in intelligent networks with a 'human on the loop' nearby or anywhere in the world

Current and future developments

Ocius is currently working with:

- Australian Border Force operating a squad of 4 Bluebottle USVs off Rowley Shoals ex Broome.
- Navy RAS AI and TASDCRC to develop a robotic solution for deployment and recovery of any AUV/UUVs from any platform in high sea states.
- An overseas science organisation to develop a hydrography and oceanographic Bluebottle to survey an area of the NW Pacific
- Thales Australia to develop a unique Australian ASW USV capability
- L3Harris IMSA to develop Bluebottle USVs as communications gateways
- Defence Science Technology Group on collaborative, multi-vehicle maritime autonomous vehicle operations
- Aiming to partner with international partners in:
 - Sensor and payload deployment 'over the horizon' applications
 - Maritime border and fisheries surveillance
 - Integrated Undersea Surveillance
 - Mine Counter Measures
 - Communications gateways

RON ALLUM DEEPSEA SERVICES (RADS)

With a vision to extend the operating range, effectiveness and cost efficiency of Defence and scientific efforts through the deployment of tailored underwater systems and vehicles capable of working at any depth.

Ron Allum Deepsea Services (RADS) is a 100% Australian company that provides underwater systems that operate at any ocean depth. In-house teams blend mechanical, electronic and software designs to manufacture vehicles and components tailored to meet client's needs, tasking and operating environment.

RADS also provides regular hydrostatic testing of high value parts for Royal Australian Navy vessels including Collins-class submarines and scientific instruments for high level scientific groups in Australia and the United States of America.

Objective of participation at Indo-Pacific

Seeking to:

- expand the market for RADS technologies, particularly through global exports
- explore opportunities to provide support for overseas primes working in Australia.

Key capabilities

RADS provide proven in-house solutions for vehicle floatation, chassis, power, and propulsion. Unique sub-sea solutions include:

- design, build and test of tailored autonomous underwater vehicles
- structural floatation materials
- fibre-optic, electrical and mechanical terminations/connections, and penetrations
- energy supply and distribution
- buoyancy engines
- thrusters, motors, balanced piston pumps and gear arrangements.

RADS own the IP for power and propulsion solutions.

RADS facility includes five test pressure vessels which are available to test materials, equipment, electrical and electronic systems for deep sea and other pressure applications.

Offering:

- fast turn-around service for hydrostatic testing
- automated test regimes (including cyclic testing) to client requirements.

In addition, hydrostatically tested items can be strain gauged and logged against pressure and time and all test pressure vessels can be fitted with various electrical and fibre optic penetrators to function test client pressure housings or pressure tolerant assemblies that require qualification at pressure. Custom penetrations can also be designed to meet client needs.

RON ALLUM
DEEPSEA SERVICES

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Current and future developments

RADS recent projects include the design, build and testing of:

- Deep Ray - an autonomous underwater glider for the Australian Department of Defence
- an autonomous surface to seafloor water column profiler for the University of Hawaii. This project was a collaboration between University of Hawaii, RADS and Rockland Scientific, Canada. The profiler is now in deep sea trials off Hawaii
- 6,000M rated electrical optical and mechanical (EOM) cable terminations for the Australian Antarctic Division's new icebreaker RV Nuyina.
- 6,000M rated EOM cable terminations for Australia's Commonwealth Scientific and Industrial Research Organisation's research vessels.

RADS are seeking to integrate technologies more broadly into Defence maritime platforms in Australia and overseas.

Helping customers achieve their mission by collaborating with them to rapidly realise the full potential of innovative technologies and superior consulting services.

SiNAB is a leading Australian SME supplying products and professional services to the Defence and Aerospace industries. SiNAB meets real-world Defence & Aerospace challenges by turning contemporary and emerging technologies into deployable products. With the vision, people, resources, and the network of talented partners to span the full product lifecycle (Concept > Design > Development > Deployment > Improvement).

Objective of participation at Indo-Pacific

Showcasing the Phoenix JTAC Training System (PJTS). The PJTS enables aircraft to emulate the Digitally Aided Close Air Support (DACAS) capabilities of operational aircraft such as the F/A-18A/B without requiring aircraft modifications.

The PJTS includes:

- SiNAB Pod: EO/IR/Laser sensor, mission computer and air to ground comms (V/UHF, LK-16, Mesh Radio)
- SiNAB Cockpit: Tablet HMI for sensor operations
- SiNAB Stores: BDU-33 training ordinance carriage/release system
- SiNAB Ground: Enables operation from the ground (UAS mode)

Key capabilities

- ISO 9001:2015 + AS9100D certified organisation.
- member of the Australian Defence Industry Security Program (DISP).
- value innovation, agility, collaboration, and integrity.
- foster Australian Sovereign capability through investment in people and collaboration with great academic institutions such as the University of Sydney.

Current and future developments

The PJTS has been developed with the support of the Australian Defence Innovation Hub (DIH). The modular design of the SiNAB Pod makes it readily adaptable for alternate payloads and missions



SINAB

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STELLA ENGINEERING PTY LIMITED (STELLA)

Mastering complex challenges while producing at an elite level in terms of quality, speed and attention to detail.

Stella Engineering Pty Limited, Stella is a privately owned engineering company located on the NSW, Central Coast. Founded in 2006 by the current owner Michael Woodcock.

Stella is a pre-eminent leader in design and manufacture of precision machined components and assemblies servicing high profile clients across Australia. Our expansive capability in precision engineering extends from design and development to prototyping, validation, manufacture, specialized coatings, and assembly.

Stella operates an ISO 9001, state of the art CNC manufacturing facility, chemical conversion coatings, and its own APAS certified painting facility. We also have a dedicated assembly and electromechanical testing facilities to accommodate special requirements.

Currently engaged with SAI Global for AS9100D certification.

Objective of participation at Indo-Pacific

To make new connections with defence industry prime manufacturers and win new business.

Key capabilities

CNC Machining, fabrication, test, and assembly of precision mechanical components.

- Over 30 years' experience in global automotive, mining, and defence manufacturing, quality systems, design, analysis, and product validation.
- State of the art CNC machining and coating facilities with full inhouse process control.
- Agile production facility with short run batch control to accommodate changing customer priorities and requirements.
- Ability to provide full turnkey products and assemblies using Stella's R&D, design, manufacture, and validation resources.

Current and future developments

Currently producing mechanical weapon positioning systems, heavy duty vehicle axles, suspension, and brake systems. Also, military grade heat sinks and electronics enclosures.



stellaengineering

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SYDNEY CITY MARINE (SCM)

A multi-purpose marine precinct, offering vessel service and maintenance to refits and rebuilds by applying our full spectrum of skills and expertise to every marine project to meet and exceed client expectations.

Sydney City Marine (SCM) is a fully ADF compliant, purpose-built, secure 24-hour all-weather shipyard and marina on a 24,000m² waterfront site located in the heart of the Rozelle Bay Maritime Precinct.

Servicing customers from the east-coast of Australia including the broader region and strategically located directly beneath the Anzac Bridge, enabling ease of access and convenience to vessels transiting from HMAS Waterhen, Fleet Base East and HMAS Penguin.

Objective of participation at Indo-Pacific

Increase Sydney City Marine's market exposure across all maritime environments and further enlighten key stakeholders and future clients of our expanding capabilities and successes.

Key capabilities

SCM has the capabilities and the market knowledge necessary for government and defence projects with a proven track record of industry-leading commitment to quality, compliance, achieving client budget forecasts and project deadlines as confirmed by the following ADF credentials:

- Authorised DEF(AUST) 5000 Volume 2, Part 20: Slipping and Docking as assessed by Naval Technical Bureau (NTB) under the authority of Maritime Systems Division – (09 June 2020)
- Chief of Navy – Certificate of Appreciation for outstanding contribution to the capability of the RAN through the maintenance of RAN support craft – (03 Feb 2022)
- Authorised Key Divisional Supplier (KDS) as assessed by the Maritime Systems Division for achieving the required Quality Management Performance Benchmark – (02 Aug 2019)
- uniquely positioned in the Rozelle Marine Precinct with capacity to safely dock vessels up to 800 tonnes on our purpose-built synchro-lift, further backed up by a 100-tonne lift capacity sling lift and 60-tonne certified slipway for smaller craft.

Key strengths include:

- 45-metre-long climate controlled high-tech paint shed with sophisticated airflow and filtration systems for all preservation works,
- Secure gates and fencing surrounding the entire perimeter of SCM's facilities with controlled card access only,
- 27,000m² of Sydney harbour waterfront property with all the available services as required,
- Fully equipped offices for use by key clients as required,



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- Project management team including engineering, marine fitting, shipwrights, preservation, marine electrics and electronics specialist tradespeople on site either as tenants or full-time staff.

Sydney City Marine is a fully certified Australian Defence Force vessel repair and maintenance facility that has the capabilities to provide the complete range of maritime services to clients and provide supplementary support to assets home ported at both Fleet Base East, HMAS Waterhen and HMAS Penguin as and when required.

Current and future developments

Sydney City Marine is currently in contract with Serco Defence to continue providing repair and maintenance services to their fleet of RAN support craft under the new contract iteration known as the Defence Marine Support Services (DMSS) Program Service Package 1.

Sydney City Marine is also under contract with Naval Ship Management (NSM) to provide similar services to the RAN's 12 Landing Helicopter Dock Landing Craft (LLCs). NSM project staff are also co-located at Sydney City Marine enabling both companies to work harmoniously in support of these RAN assets.

Sydney City Marine continues to work closely with the ADF on a range of future projects that will firmly position our company as one of the premier maritime repair and maintenance facilities in the Sydney Basin.

Aiming to skill the workforce for the future through high quality, personalised education and training.

The leading provider of training in Australia with more than 400,000 learners enrolled into nationally recognised training each year. With market leading modern facilities, TAFE NSW provides our customers with pre-eminent corporate and/or industry training, equipping businesses with qualified, job-ready employees.

With an experienced team of expert trainers well networked and actively participating in industry and professional development.

As Australia's largest education provider, TAFE NSW is proud to support INDO-PACIFIC 2022 by offering quality education and training via a suite of courses relevant to the forecasted job demands and future of the Royal Australian Navy and Defence Primes.

From short courses to full qualifications including Certificates II, III, IV, Diplomas, Advanced Diplomas and Degrees, these courses have been selected as the most appropriate based on an extensive training needs analysis conducted across more than 200 roles. With modern, market leading facilities, TAFE NSW offers Defence Personnel quality training, ensuring the upskilling of existing RAN employees.

TAFE NSW stands apart as the market leading industry trainer. As a public provider, reviewing and refining processes to deliver industry best practice standards by:

- providing a state-wide service
- offering a broad choice of training
- providing inclusive services
- delivering skills critical to the NSW economy
- leading quality, innovation and customer focus in service delivery
- operating as a sustainable business; and
- being an employer of choice.

Now and into the future, TAFE NSW will continue to deliver skills that help Defence Personnel, support vibrant communities, and drive a strong economy.

For over 130 years, TAFE NSW has not only upskilled the workforce to ensure the people of New South Wales and Australia prosper, they have developed a diverse range of high quality, customised, market leading and applied training and learning resources by industry sector.



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Extensive experience and a strong commercial track record ensure that learners can have confidence in Tafe's ability to respond to their unique needs and deliver training that:

- represents value for money
- will present innovative solutions; and
- provides high quality tailored and contextualised training; and
- to businesses, industry and community needs.

Objective of participation at Indo-Pacific

To engage with the Royal Australian Navy and Defence Primes by offering quality education and training via a suite of courses relevant to the forecasted job demands.

Key capabilities

- Providing relevant and innovative benefits to add value to services. Offering a range of extensive support services from career counselling, employability skills training, study support, personalised learning solutions, flexible training options through to specialised support services such as Aboriginal Support, Disability Programs, and Literacy and Numeracy Support.
- Upon enrolment with TAFE NSW, each individual participants' needs will be assessed to determine the level of support required (if any) to assist them to successfully complete their studies. As an example, ATO participants will have access to a variety of student support services across our locations and online. These include:
 - Access to industry trainers – through Australian Skills Quality Authority (ASQA) regulation, TAFE NSW guarantee industry current trainers
 - Library Services – statewide library network of more than 100 libraries, provides students with 24/7 access throughout Australia to the latest digital eResources, including eBooks, eJournals, eVideos, standards and more, as well as additional access to LinkedIn Suite of online learning resources
 - Accessibility and Disability Services – providing a range of accessibility and disability support services to assist students with the various facets of their enrolment and learning
 - Personal Counselling – all ATO personal will be able to utilise free and confidential Counselling and Career Development Services with personal support to assist them to succeed in their studies, as well as other legal, health, or financial service referrals; and
 - Learning Support – TAFE NSW understands the importance of learning support and provides valuable learner support at our 'drop-in' or flexible learning centres. This is offered in small groups or one-on-one, as well as the access to online support.

Current and future developments

TAFE NSW plays a vital role in delivering the skills to drive a strong economy, foster sustainable communities and help individuals, businesses and industries adapt and thrive. A valued and longstanding reputation for quality training to meet the changing skill needs of the economy from carpenters to digital animators. To meet the shifts in the skill needs of the economy, support adaptable careers and the changed expectations of students and employers, TAFE NSW is modernising its services and infrastructure.

Their asset portfolio no longer aligns with expectations, nor is it economically sustainable. Building on the adaptability and creativity that is part of the heritage, building a TAFE NSW for the future with a fresh plan for facilities and infrastructure. With the aim to transform the way training is delivered with next generation learning environments that are adaptable, industry standard and digitally enabled, providing better services for students to get the skills and jobs they want and making training more accessible, convenient, and relevant. This plan is focused on students and the most effective and efficient use of TAFE NSW's capital investment to support growing skill needs, the NSW economy, jobs and improving productivity.

THE WHISKEY PROJECT

Australian veteran owned business, building operator-focused watercraft that provide optimal performance and protection for those who risk their lives in the maritime environment.

A trusted and proven Australian maritime organisation whose businesses have a collective 90 years' experience spanning the end-to-end design, manufacturing, maintenance, and sustainment of high-performance watercraft for International Defence, Public Safety and Maritime Search and Rescue markets.

The Whiskey Project watercraft are the product of collaboration between experienced military operators and world class maritime engineers, architects and innovators, to provide the advantage in contemporary maritime missions.

Objective of participation at Indo-Pacific

As an existing supplier to government and Defence agencies across watercraft design, manufacturing and innovation projects, this will be a great opportunity for The Whiskey Project Group to network and promote its capabilities to decision makers around the world.

Key capabilities

- Securing the future of Australia as a global leader in fit-for-purpose specialist watercraft design and sovereign manufacturing capability.
- Operational experience as end users shapes the innovation of future-fit watercraft for today's specialist maritime operator.
- 40 years of manufacturing watercraft with resilience and reliability as a proven Australian maritime manufacturer.
- Naval design and engineering organisation is trusted by federal and state governments and their agencies, and commercial operators around the globe.

Hands-on experience of contemporary maritime engagements plays a vital role in fit-for-purpose design innovation, just as design and manufacturing self-reliance is vital for end-to-end Sovereignty. The Whiskey Project Group is all these things, and all these things provide the end user with a competitive advantage.



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Current and future developments

Whilst the Whiskey Project Group continues to deliver its globally renowned and trusted Naiad watercraft to state and federal government maritime professionals, they recently released the Whiskey Multi Mission Reconnaissance Craft (Whiskey MMRC) which is the most meaningful innovation in combatant craft for decades. The Whiskey MMRC provides organic littoral manoeuvre from the sea to support surveillance, collections, target acquisition, battlespace shaping and reconnaissance, whilst reducing its signature from adversary sensors. It extends the operational reach of commanders and facilitates multi-domain collaborative operations whilst providing a mission configurable platform compatible with Air / Rotary wing and Navy ships.

As a proven and trusted maritime technology provider the Whiskey Project Group continues to evolve its capability offering to reflect the future needs of its customer base through meaningful innovation such as performance and safety, autonomous systems, machine learning, artificial intelligence, naval architecture and design and remain open to representing culturally aligned companies who have disruptive technology that offers an advantage to the contemporary maritime professional.

THOMAS GLOBAL SYSTEMS

Delivering solutions with a competitive edge for effective defence missions, Thomas Global Systems is a 100% Australian-owned specialist in the design, production, and support of trusted, innovative, and highly engineered electronics.

Thomas Global Systems is a recognised leader in the design, manufacture, integration and support of complex electronic systems and sub-systems for demanding applications across military land, sea, and airborne environments. Drawing on a pedigree in high-technology hardware and software-intensive systems, they have built a reputation that reflects innovative and dependable solutions and strong consistent investment in key research areas.

Their products and solutions are used in confidence on platforms around the world, ranging from armoured vehicles to advanced aircraft, helping our customers to maintain decision superiority and optimal effectiveness.

Thomas Global operates high technology R&D, advanced manufacturing, and support facilities in Sydney, Australia and Irvine, California.

Objective of participation at Indo-Pacific

Thomas Global Systems' goal is to consolidate their position as a partner of choice for Land simulation and training solutions with the opening of a brand-new production in Sydney's Olympic Park precinct.

Key capabilities

- Submarine and surface ship electronics
- Armoured vehicle training and simulation systems
- Armoured vehicle electronics
- Flight deck avionics
- High-integrity engineering services
- Rapid Prototyping and Manufacturing
- Maintenance Repair and Overhaul (MRO) services.



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Current and future developments

Current

Key Defence Force Program Partner in Delivering Sovereign Capability for:

- SEA: High integrity hardware and software systems solutions for submarines and surface ships
 - Collins Submarines
 - Anzac Frigate
- LAND: Specialist electronics and training systems for armoured vehicles
 - AAV
 - Boxer CRV
 - Bushmaster
 - Hawkei
 - M1Abrams
 - M2 Bradley
 - TOW Missile
- AIR: Flight displays and specialist avionics for commercial and military aircraft
 - B757/767/737
 - Dash 8, ATR42/72, Saab 340/2000
 - CRJ Series
 - F/A-18

Future

- Nuclear Attack Class Submarines
- Land 400 Phase 3 - Infantry Fighting Vehicles

Leading supplier of innovative high value add solutions delivering high performance and low cost of ownership through life.

For over 130 years Varley has been a leading supplier of innovative solutions with unsurpassed engineering and manufacturing in Australia.

Varley's participation in the Defence industry space spans across 35 years in acquisition and sustainment of Defence contracts covering land, air, and sea projects, achieving global recognition.

With a highly skilled and diverse workforce Varley provide Quality Certified Turnkey Solutions through Engineering Design & Development, Manufacturing, Systems Integration, Qualification Testing and Through Life Support, including Specialised Vehicles & Trailers, Aircraft Ground Support and Test Equipment (GS&TE), Containerised Mission and Support System Solutions, Marine Gangways & Access Platforms, Lightweight Watercraft and Specialised Storage and Transport Solutions.

Objective of participation at Indo-Pacific

To establish, connect and strengthen the Varley Group and Varley Defence Brands in the Defence industry as Prime Contractor, obtain business leads and build industry relationships and partnerships.

Key capabilities

- Project management
- Product design and development
- Light, medium, and heavy metal fabrication
- Precision machining and sheet-metal routing, cutting, and folding
- Vehicle body building and fit-out
- Abrasive blasting and painting
- Integrated logistic support
- Verification and validation
- Maintenance, repair, overhaul, and upgrade.

Current and future developments

Varley has diversified its business through national and international acquisitions, joint ventures, and strategic partnerships with leading Defence Technology Companies. This strategic approach has enabled the company to stay in touch with emerging and leading-edge technologies such as information technology, electric vehicles, cyber security, and maritime capability. The recent acquisition of Norship not only adds to the capability and footprint of the Varley Group but also strengthens Varley business portfolio further enabling the company to adapt to market changes and opportunities.



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See what matters using the world's fastest Computer Vision AI. Xailient is a Computer Vision company specializing in putting incredibly accurate AI onto impossibly small Edge devices.

With the ability to build the world's smallest and fastest object detector to fit on extremely tiny devices running on exceptionally low power. Specializing in TinyML computer vision for Edge devices, Xailient uses its patented technology to radically improve efficiency compared to other available solutions. The result is accurate, real-time computer vision that's cost-effective. Xailient's commercial technology includes AI for object detection and face recognition and has been used by Sony and Palantir to address low-power Computer Vision challenges.

Objective of participation at Indo-Pacific

Xailient is seeking partners to combine our commercial Computer Vision AI technology with advanced autonomous and uncrewed systems and advanced space applications.

Key capabilities

Xailient's headline capability is optimising computer vision AI to accurately run on tiny devices using <1 watt of power.

- **Smart motion detection.** Many systems continuously monitor a field of view. Smart Motion Detection uses AI to look for personnel, vehicles, etc. and ignores background motion or the motion of the camera. Smart Motion Detection can trigger alerts or be used to activate systems out of a 'standby' mode, and, optionally, send an image or video clip along with the alert.
- **Object recognition.** Face Recognition technology is computer vision AI that allows for the identification of specific individuals in real-time video sensors.
- **Tiny Edge embedded.** Xailient's patented Detectum technology is the world's most efficient AI for Computer Vision. Xailient puts the maximum intelligence into environments with the least size, weight, and power constraints.

Current and future developments

Edge AI turns sensors into self-contained smart sensors. Xailient is seeking hardware and solution partners to embed our AI software.

System capabilities are enhanced with real-time visual analysis-based alerting or autonomy capabilities. Xailient's unique efficiency advantages mean systems as small as a weapon scope or night vision goggles can have embedded AI while maintaining battery life.

Edge AI-enabled ISR systems are resilient against congested or contested networks. FOB perimeter cameras can provide self-contained 'smart motion detection' to maximize security and minimize false alarms without being vulnerable to network attacks.

Xailient is partnering with system providers to bring our proven commercial technology to Defence.



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