the Chamber

COMPLEX WEAPONS EXPERTISE

MBDA stands ready to cooperate on Australian guided weapons ambitions

THOUGHT LEADERSHIP

Andrew Cridland Chief Executive Officer Babcock Australia & New Zealand

IN CONVERSATION WITH

Craig Lockhart Chief Executive, BAE Systems Australia

INDUSTRY INSIGHTS

Newton shares the key to delivering more capability for every defence dollar

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Table of Contents

Welcome to this special Defence edition of the Chamber's magazine

It is my great pleasure to welcome you to this year's Defence Magazine — a publication that continues to grow in relevance for our Members as the defence relationship between Australia and the United Kingdom deepens.

The Chamber has seen a substantial rise in engagement from defence-focused organisations across both nations, with growing Membership from the sector. We have expanded our own defence activity to meet this demand—strengthening our platforms for collaboration, policy insight, and industry connection, particularly through our annual Australian British Defence Catalyst.

2025 marked series of important events in our shared defence story. In March, we welcomed a new British High Commissioner to Australia, Her Excellency Dame Sarah MacIntosh DCMG. Dame Sarah brings an exceptional and distinguished career in strategic intelligence and defence to this role, previously serving as Deputy National Security Adviser and the UK Prime Minister's Adviser on Foreign Affairs. Her appointment, coupled with that of The Rt Hon. the Lord Spellar as UK Trade Envoy to Australia, underscores the UK Government's commitment to the AUKUS partnership and the deepening defence and security cooperation between Australia and the United Kingdom.

In May, we were honoured to host the UK Minister of State for Defence Procurement and Industry, whose visit further reinforced the commitment to strengthening capability, resilience, and industry partnerships. Then, the arrival of the Carrier Strike Group in the region — led by HMS Prince of Wales and taking a central role in Exercise Talisman Sabre — was another powerful demonstration of the UK's Indo-Pacific engagement. Several of our Members were invited to inspect the Carrier when it berthed in Darwin, where it notably hosted all four AUKMIN Ministers!

Following our Defence Catalyst and DSEI 2025 in London, we also witnessed historic AUKUS-related agreements signed across international and interstate borders. The Western Australian Government signed Memorandums of Understanding (MoU) with both BAE Systems and Rolls-Royce, with Minister for Defence Minister Paul Papalia CSC MLA taking part in our Catalyst. Premier Peter Malinauskas also signed an MoU with Rolls-Royce, supporting South Australia's preparations for the AUKUS submarine programme.

More recently—and on home soil—the Indo-Pacific International Maritime Exposition in Sydney showcased the breadth of expertise, innovation, and commitment across Australia's national defence capability. Many of our UK primes, Principal Sponsors, and Members exhibited. The event also spurred a number of announcements, including a new steel supply agreement for the Hunter Class Frigates at Osborne Naval Shipyard between BAE Systems and BlueScope Distribution; a skills, technology, and supply chain AUKUS agreement between Rolls-Royce and the Victorian Government; and an MoU between H&B Defence and the Victorian Government aimed at driving supply chain enhancement and workforce growth.

The Chamber will continue to build on these announcements and the outstanding work of our Members. We warmly invite all Members to engage with our defence programme and participate in the range of events we will be hosting next year.

Kind regards,

Andrew Low
National Chairman
Australian British Chamber of Commerce

The Chamber's Head of Marketing, Olivia Scullard, sat down with BAE Systems Australia CEO, Craig Lockhart, to chat all things defence, leadership, AUKUS Pillar I, innovation and productivity.

In conversation with

Craig Lockhart

In the last 12 months, we've had visits from the most senior levels of defence in the UK Government, the UK Carier Strike Group in the region and a new AUKUS agreement signed between our two countries.

Is this a step change in UK commitment, and what does it mean for our bilateral relationship?

Since the Hunter Class Frigate programme (Hunter), the UK's engagement with Australia has remained consistently strong, marked by frequent visits from all levels and sectors of government. I see Hunter as a pivotal moment in our bilateral relationship – it signalled a shift toward deeper collaboration between industry and government, particularly in driving defence exports. This momentum began under the Boris Johnson government, where the Prime Minister set an ambitious target for the UK to drive economic prosperity through international partnerships. As a Eurosceptic, he looked to countries like Spain and France, where government-backed industries play a major role in international exports and aimed to position the UK in a similar way on the world stage.

So, rather than a sudden step change, the UK's approach since Hunter really reflects a sustained and visible commitment to its relationship with Australia and to stability in the Indo-Pacific. It's also about reinforcing the UK's leadership within the Five Eyes alliance during a time of geopolitical uncertainty.

The UK has always been a global maritime leader, with a vested interest in upholding maritime trade rules as a reflection of democratic values. And that commitment isn't just about the UK, it serves everyone's interests by protecting sea lanes, ensuring economic stability, and safeguarding freedom of navigation. The UK continues to be one of the most vocal advocates in this space and sees its strategic partnership with Australia as a key to maintain that leadership role.

You've led defence programmes across continents. What does Australia need to do now to bolster its place as a more sustainable, sovereign defence manufacturer for the Indo-Pacific?

It's something I speak about often, and I like to reference South Australian Premier Peter Malinauskas. He's what you might call 'a student of complex economics,' and as the leader of a state rich in mineral resources, he understands Australia's position in global markets.

Our deposits, while substantive, offer short-term revenue; once they're extracted, they're gone, and we only earn from them once. That's why both he and I are strong advocates for establishing a robust advanced manufacturing base here in Australia, and I think COVID really highlighted the urgency of this.

To a certain extent, we realised we could no longer rely on traditional supply lines – they weren't as reliable as we thought, they were more expensive, and increasingly unpredictable. And global conflict has shown that supply chains do get disrupted from time to time.

Now more important than ever – given that we are at the cusp of delivering nation-building programmes such as continuous naval shipbuilding, surface combatants, or indeed, AUKUS – speed to capability becomes a determining factor in any strategic power play. But that capability needs to be resilient to global economic trends. That's what makes us stronger as a nation.

Within the next decade, we can firmly establish ourselves as a leading naval shipbuilder, and beyond that, we can use this momentum to accelerate and propel secondary and tertiary income streams by investing in advanced manufacturing right here in Australia.

Craig Lockhart and Peter Malinauskas MP, Premier of South Australia, Minister for Defence and Space Industries at the Chamber's Defence Reception in Adelaide, May 2025

Craig Lockhart speaking at the Chamber's Australian British Defence Catalyst 2025.

Affordability, Production, *Innovation.*

We're learning to become a new technology leader and bringing back the manufacturing we offshored in the 1990s. We're starting to assure ourselves that we can control our own destiny with a greater degree of predictability. In saying that – and I can't miss the opportunity here – we must address the rising labour costs, and we must do it head-on. These costs need to remain affordable if we're to benefit from the advanced manufacturing jobs we aim to create – not just to support domestic supply lines, but also as a potential source of export revenue. We can only do that if countries wish to buy the products that we have, at an affordable price. Or we need to invest more heavily in technology that makes us not as labour dependent. We're in an enviable position to capitalise on the investments that we've made – such as those in shipbuilding – but we've got to convert it into making things. Germany and the European nations are big because they make lots of cars, electronics and consumables. Australia must use its investment in nation-building programmes to generate those secondary incomes.

Ticky Fullerton, Craig Lockhart, Vice Admiral Sir Chris Gardner KBE, Her Excellency Dame Sarah MacIntosh DCMG, British High Commissioner to Australia, and Peter Malinauskas MP, Premier of South Australia, Minister for Defence and Space Industries at the Chamber's Defence Reception in Adelaide, May 2025

What keeps you up at night when thinking about Australia's defence readiness?

When the public narrative is centred on affordability, it's easy to lose sight of readiness. Defence spending at 2.5% or 3.5% of GDP is scrutinised, and the conversation often turns to "what do we get for it?" That real sense of purchasing power is under pressure, and defence programmes here are frequently met with a negative narrative. It's easy to forget to plan for readiness but it's critical.

Security of supply lines and trusted allies become paramount when the economics of conflict prevail. That's why I'd like to see deeper collaboration and integration between the ADF, as the ones who exercise that capability, and industry, as the ones who supply it. We need to be sitting around the table during this pre-preparedness phase, which is right now, as we work out how to do more with less. We need to ask: What do we accelerate? What do we slow down? What do we stop altogether? And what do we do differently? How effective are we, really, at working together to respond to a range of scenarios – whether humanitarian, conflict, instability, or crisis? We need to be better prepared.

Too often, traditional thinking around government procurement rules and probity becomes a reason not to act. But collaboration is a way to mitigate risk. We could start scenario-modelling how we can work more closely and effectively together.

And then there's green labour. Over the past two to three years, BAE Systems Australia has built a new shipyard, installed new equipment, regenerated supply lines, and exported a design model inherited from the UK. Now we're about to do it all over again with AUKUS. Nearly half of my workforce has been with the company for less than three years. A large portion of that group are early-career hires, which is a fantastic success story, but also a risk. Most people are unfamiliar with defence environments, complex systems, robotics. I have a chronic unease about their wellbeing and safety. I want everyone to come to work and go home as safe as they arrived. I want them to be mentally fit and supported in managing the distractions of home life.

As CEO of BAE Systems Australia, safety is a constant concern because we do big, complex things in environments that are not risk-free. That places a responsibility on me and my fellow executives to continually ask: Are we doing enough? Are we training the right way? Are we educating and providing the right learning environments? Are we visible as leaders? That will remain a chronic unease of mine forever.

Is that collaboration you mentioned where you see development of local supply chains in Australia, particularly on AUKUS Pillar 1?

Yeah, because often, Olivia, we wait until we're already in a crisis before we do this kind of thinking. There's a great phrase we've been using a lot lately about fixing the roof whilst the sun shines. Right now, we're able to do exactly that.

Our major programs are relatively stable. We've built strong relationships with the ADF. And we're all facing the same geopolitical uncertainty, trying to navigate it as best we can. That shared challenge has brought us closer together, and I suppose what I'm saying is, let's capitalise on that. Let's focus on the things that matter – speed to capability, scenario planning, and clarity of roles and responsibilities – so that if we do need to fall back on those plans, we're not scrambling. We know who does what, and we can set aside the usual layers of governance and bureaucracy.

Too often, we're focused on satisfying the National Audit Office or Senate Estimates as if those are the outcomes. But they're not. The real outcomes are speed, capability, and delivering for the armed forces, the very people who keep us safe.

Coming back to you Craig, what first drew you to a career in naval engineering and defence? Was there a moment or influence that set you on this path?

I was quite influenced as a teenager watching the Falklands conflict unfold in 1982. It was live on TV, and we saw the mobilisation of a huge naval task force — it was a national effort to send it to the South Atlantic. You saw the Argentinian Air Force being highly effective against naval platforms, with several Royal Navy ships lost. Ultimately, it was a combination of ground, air, and naval efforts that shifted the outcome, culminating in a decisive intervention by a nuclear submarine.

That moment had a profound impact on me. It was probably one of the biggest shaping influences in my life. I successfully applied to the Royal Air Force and was accepted. But in the time between completing all the tests and waiting for my enrolment date, I had about eight months and like many people, I hedged my bets and applied to the Ministry of Defence and was accepted.

During those eight months at the MOD, they quickly carved out a career path for me. They said, "We'd like you to go back to school, do some further study, and ultimately focus on nuclear engineering at the Naval College." That sparked a genuine excitement in me, and I chose to stay with that path rather than return to the Air Force.

I was sent to the Royal Naval College in Greenwich, where I studied nuclear reactor design and physics – subjects I'd loved at school. It all just clicked. Since then, I've held 23 different roles in defence over the past 40 years, and I've loved every minute of it. I've never applied for a job. I've had incredible mentors across industry and the armed forces. Were all the roles easy? No. They were challenging, but that was part of the excitement.

There was a deep sense of loyalty to a cause. This was nation-building work. These were big, complex projects, even before the rise of robotics and AI, it was thrilling to be part of it. While I didn't end up having a military career, I was essentially doing the same work but as a civilian. I've spent time at sea on nuclear submarines, on ships, and working closely with the Air Force. It gave me the opportunity to do meaningful work, meet extraordinary people, and travel the world. That sense of supporting the Armed Forces while contributing to something truly nation-building has stayed with me.

Today, the career glide path defence can offer young people is extraordinary. We're one of the few industries - certainly in Australia, and arguably globally - that says come and join BAE Systems and we'll manage your career all the way through to retirement. Where else can you find that? And along the way, you get to do some truly exciting, impactful work.

Is that opportunity to further your studies and contribute to nation building the key to attract and retain the next generation of skilled workers - especially in engineering and shipbuilding?

> **"Were all the roles easy? No. They were challenging, but that was part of the excitement."**

Oh, absolutely. I think it's just as relevant today as it was to me back in the late '80s. Firstly, we could do a better job of showcasing what we do. Defence still carries a sense of secrecy, especially in shipbuilding, it's still got the 1950s or '60s image, with heavy hammers and welding sparks. But that's no longer the reality.

We're a leading technology business. We use advanced simulation; we collaborate with the military on war gaming and apply AI not just to internal business processes but to the execute some of the most complex platforms in the world. We're ideally positioned to appeal to the Gen Z PlayStation and Xbox generation because we're one of the fastest-moving development sectors globally.

With uncrewed and autonomous systems, we offer 20- to 40-year careers with global footprints. We can virtually guarantee a role within an enterprise or nation-building project. We're connected to top universities, TAFEs, and colleges in the world, and we work alongside some of the coolest people – fast jet pilots, submariners, intelligence and cyber and space. We do some of the coolest work out there. I still think it's the best job in the world, maybe second only to being a Formula One driver, but that's just personal bias.

Continued on page 32.

Delivering more capability for every defence dollar

Australia's 2024 National Defence Strategy commits AU $765 billion[1] by 2033-34. Nuclear-powered submarines, frigates, landing craft, long-range missiles and major infrastructure upgrades will lift annual defence spend to AU $100 billion[2] over a decade.

The success of this investment will be judged not by intent but by tangible outcomes: how quickly investment translates into warfighting effect.

Below are three levers we've found consistently move the dial. Applied together, performance typically improves by 20-40%, delivering five days' work in less than four.

Eliminate The Invisible Wait

Australia's labour productivity curve, flat since 2016, has been in negative territory since 2022[3], with defence lagging manufacturers in other sectors[4]. At Newton, our work in shipyards, manufacturing plants and aircraft hangars has shown us that every unproductive hour erodes capability, and that blame often ends up with the shop floor while the real constraints sit upstream.

Across domains, we see the same pattern: productivity stalls when work is released before it's ready. Often 40% of design elements change after build begins. Drawings slip and parts are held up, leaving the operational workforce missing what they need to be successful. Typically, only 30-40% of paid hours are spent 'on the tools'. Hiring more people creates a larger queue.

At Newton, to break this negative spiral, we focus on operational discipline through a "plan, enable, execute" cycle that we have deployed on a range of major projects. Plan tasks in the right sequence, enable them by ensuring all prerequisites like materials, drawings, and permissions are ready, and only then, execute without interruption.

Embedding the 'plan, enable, execute' logic in the project's digital backbone is essential. Most organisations already own the systems; the gap is user adoption. Digital work-packs sequenced to the plan connect the shop floor's reality with the top floor's reporting.

This approach allows skilled workers to spend their time adding value, not waiting or re-working. A 30% improvement in enablement typically improves shop floor productivity by 20%[5].

Eliminating system friction releases capacity faster and more effectively than increasing headcount. Being able to get on with the job improves workforce morale.

What are the secrets to success in delivering the world's most complex defence programs? Newton shares its lessons learned from more than two decades of hands-on experience.

Managers Matter

While managers outnumber leaders in every organisation, many more books are published on leadership than on management. Defence programs promote brilliant engineers and skilled technicians into supervisory roles without showing them first how to run a team.

Coaching first-line managers delivers direct performance benefits. In one program, we delivered practical coaching focused on setting clear team goals and supporting individuals by removing blockers. Across a 400-strong engineering team, efficiency improved by 50%, technical drawing output doubled and quality rose, all resulting in tens of millions of dollars in costs savings for our client.

Energising Enterprises that Deliver

No organisation delivers mega-programs alone. They are won and lost at the seams between partners. Left unchecked, they splinter into silos, each optimising its own KPI while the master schedule flashes red.

We encourage leaders to treat the operating model as a living design. Function-led or project-led? Centralised or devolved? The answers will change over a multi-decade program. Roles need to be realigned with decision rights and data flows, enabling everyone to be anchored to a single, trusted view of performance. Without this, assumptions build up over time, and the resulting institutional 'facts' can be very different from reality.

We applied this approach in a guided-weapons enterprise, stitching data across forces, primes and suppliers into one availability model of the stockpile. The technology was the easy part; earning confidence in the numbers was not. Once trust was built, blame gave way to action: asset availability rose 26%, and the customer avoided hundreds of millions of dollars in extra spend.

Scale Across Alliances

Australia, the UK and their partners will share design responsibility, industrial capacity and sustainment risk for decades to come. Continuous improvement must cross national and corporate borders, powered by common data and shared measures of success.

Getting the aforementioned factors right routinely delivers 20% to 40% more output from the same head count and budget, which can mean the difference between meeting the mission and arriving late with too little.

At Newton, we back these methods with more than our reputation: we put 100% of our fees at risk against delivery of measurable improvement. If you're looking to turn strategic intent into real world performance, we're ready to help.

[1]2024 National Defence Strategy
[2]2024 Integrated Investment Program
[3]2023/24 Estimates of Industry Multifactor Productivity, Australian Bureau of Statistics
[4]Newton experience across comparable manufacturing sectors
[5]Newton demonstrated benchmarks from previous build projects across maritime and aerospace

Andrew Cridland

Chief Executive Officer Babcock Australia & New Zealand

The AUKUS trilateral agreement is one of the most significant partnerships of our generation. When it comes to delivering any ambitious agenda, there are always challenges.

Arguably one of the biggest challenges we face as an industry is how Australia builds a skilled nuclear workforce fast enough to ensure we are ready at the right time to deliver on AUKUS. Mobilising SMEs to support global opportunities at pace is another challenge that industry, Governments and academia must address as a priority.

Babcock is proud to play a significant role in the Defence enterprise in both Australia and the UK. We are a trusted guardian of national security, counted upon to protect lives and maintain our lines of defence.

Backed by decades of experience across the globe, Babcock is Australasia's premier maritime sustainment company, a leader in High Frequency Communications Systems and Australia's leading helicopter emergency services provider.

We are a proven and trusted leader in submarine sustainment, nuclear safety and stewardship, playing a crucial role in the UK, US and Australia's submarine programs today.

In the UK, Babcock has supported the Continuous At Sea Deterrent for more than 50 years. Our nuclear-capable workforce and supply chain enables us to sustain the entirety of the UK's submarine fleet, including delivering through-life support and life extension of the Vanguard, Trafalgar and Astute classes. We also manage two of the UK's three naval bases (HMNB Clyde and HMNB Devonport) and we are there at the end of the submarine lifecycle too.

Currently, Babcock is supporting the Defence Nuclear Enterprise's Submarine Dismantling Project which will see demonstrator submarine, Swiftsure, become the first decommissioned Royal Navy submarine to be dismantled by the end of 2026, establishing a unique and world-first methodology to disposal.

It is no secret the nation needs to build a skilled AUKUS workforce – and quickly. Key challenges include the speed at which nuclear skills can be developed and how Australia mobilises volumes of people to get the suitable experience required to support the AUKUS enterprise. To support this challenge, Babcock is working in partnership with Governments across Australia through key local initiatives like the Shipbuilding Employment Pathways pilot, a four-year program designed to recruit apprentices into trades critical to the delivery of nuclear-powered submarines and the construction and sustainment of major surface vessels.

We are also involved with the Defence Industry Pathways Program, a 12-month traineeship that combines TAFE-based education with ongoing work placements at companies like Babcock.

In addition, we are working with academic partners including the University of Adelaide, Curtin University and the University of NSW to support preparing a skilled workforce to deliver on AUKUS. Skilling up the nuclear workforce is a big focus of Babcock in the UK. With the largest nuclear qualified workforce in the UK, Babcock launched the Babcock Skills Academy in 2023, to rapidly build the future workforce needed to deliver critical national security capabilities.

Last year, Babcock signed the UK Nuclear Skills Charter - a collaborative commitment to delivering the 10-year Nuclear Skills Plan. Also in 2024, as part of the Babcock Skills Academy, Babcock opened its inaugural Babcock Engineering and Nuclear Skills building at City College Plymouth – a modern facility that will enhance the UK's growing workforce capability in nuclear programmes by continuing to build a pipeline of talent, while upskilling the existing workforce on the complex skills required to perform deep nuclear submarine maintenance.

Like the critical workforce, mobilising Australian industry is another priority.

Babcock is investing heavily in uplifting the Australian industrial base, finding SMEs opportunities through the Global Supply Chain Program. We are bringing the best of Australian industry to our customers in an integrated way, while also growing the capability of Australian industry.

Our investment is helping ensure Australian SMEs are becoming increasingly more innovative, resilient and competitive at a time when developing the sovereign defence industrial base has never been more important.

The opportunity to support the delivery of the nation's inaugural nuclear-powered submarines is the chance of a lifetime for Australian SMEs and the next generation. Creating a resilient and robust supply chain and strong nuclear-ready workforce is critical to delivering this mission.

From Data-Rich to Decision-Ready

Unlocking Latent Value in Defence Fleets

Joshua Rodgers and Mike Kalms are Partners and Defence & National Security Leads at KordaMentha. They advise government and industry clients on optimising defence capability, delivering data-driven programs, and supporting the development and deployment of complex technologies across Australia's defence sector.

Australia finds itself in a precarious defence posture: it is investing heavily in new capability (nuclear submarines, drones, hypersonics), yet much of its ability to 'fight tonight' rests on "ageing and increasingly fragile" platforms – many being pushed beyond their expected life. The risk is that without disciplined optimisation, readiness will in the short term degrade, costs will balloon, and strategic readiness will reduce – the opposite of our strategic aim.

But this challenge is also an opportunity. Australia's defence assets - from Collins-class submarines to C-130 airlifters and Bushmaster armoured vehicles - are awash with sensor and performance data. Though much of it remains unexploited, trapped in legacy systems, disconnected databases and rigid commercial constructs. Defence's Digital Engineering Strategy 2024 highlights that "vast operational and maintenance datasets" are accessible, but are "fragmented, underutilised and poorly governed".

The Chamber's 2025 Australian British Defence Catalyst reinforced that this is not only an Australian problem. It is shared by our AUKUS partners. Could this be an issue on which we respond together?

The problem: deferred maintenance, opaque data = high cost failures

Many Australian Defence Force (ADF) platforms carry decades of accumulated wear, obsolescence, and risk buffers. Maintenance is often reactive or conservative: parts pulled forward, life-of-type extension, or replacement before true failure. Meanwhile, enormous volumes of condition monitoring, telemetry, sensor logs, and (paid for) operational usage data – which can inform these processes - go unused or siloed. We have more data than ever, but less clarity on how to safely squeeze more performance and longevity.

The real opportunity for reform lies in data-driven and predictive capabilities. Prognostic Health Monitoring and Condition Based Maintenance improve availability, reduce downtime and unforeseen failures. Planned Maintenance Optimisation reduces costs, maintenance times and usage of spare parts – and can alleviate pressure on ageing supply chains. When combined with digital workflows these approaches create a more dynamic system to support our military assets – one where issues are anticipated, proactive interventions taken, and less time is spent discovering and responding to emerging failures. Targeted use of Artificial Intelligence takes this even further – increasing automation and removing administrative bottlenecks that create “dead time”.

Without analytics-driven optimisation, you add cost, reduce availability, and accelerate degradation. The danger is that when conflict demands surge readiness, you have no slack left.

British High Commissioner, Her Excellency Dame Sarah MacIntosh DCMG, meets personnel from the Royal Australian Navy, ASC, at HMAS Stirling in Western Australia for a scheduled Submarine Maintenance Period (SMP)

Turning data into readiness advantage

As Joshua Rodgers observes: "The biggest readiness gains lie not in what we buy next, but how we operate what we already own — harnessing data, optimising usage, and extending availability life-cycles safely." He goes on to say that treating platforms as performance assets (not simply liabilities) can "ensure late-model systems are strategic buffers while next-gen platforms come online". Pragmatically, that requires a "digital twin" mindset: feed condition-monitoring, sensor telemetry, logistics and usage data into live models that forecast subsystem wear-out, guide maintenance timing, and permit dynamic adjustments to mission-profiles that maximise availability while controlling risk. Commercial aviation, energy production and mining already do this; defence needs to catch up.

The need has been recognised: Plan Galileo emphasises the need for through-life asset management for the Royal Australian Navy, the Defence Industry Development Strategy calls out the importance of maintenance program optimisation, and the emerging Integrated Product Support strategy has a greater life-cycle management focus that aligns with better practices adopted by key allies. The policy environment is there, but practical steps need to be taken at the project level.

Bridging to the future while safeguarding the present

By adopting this sustainment-and-data-driven mindset, Australia gains three strategic advantages:

- Readiness resilience: higher availability of in-service platforms, shorter downtime, greater surge capacity.
- Cost efficiency: fewer unplanned outages, more rational spares stocks, longer life-cycles, helping manage constrained fiscal envelopes.
- Capability buffer: instrumented legacy fleets enable a credible asset base while future platforms ramp up, reducing capability gaps.

Mike Kalms comments: "In a time when acquisition schedules are stretched and strategic urgency is rising, the best way to mitigate near-term risk is by wringing more performance from what is already in service."

He adds that industry, primes and defence ideally must align on common data standards, open architectures and supply-chain transparency if this is to succeed.

What can be done now

The change is not trivial, but not insurmountable. Challenges include data integration (legacy systems, proprietary vendors), epistemic uncertainty (how reliable are the models?), cultural resistance (defence engineers used to "safe conservative modes"), and security/cyber risk (live predictive systems must be hardened).

However, recent investments in Defence ICT and case studies like the Navy Platform Telemetry Analysis System provide a strong foundation for practical next steps:

- Map critical platforms and subsystems where sensor/usage data exists but is under-used.
- Establish cross-functional teams (defence, industry, analytics) to build repeatable, scalable and secure data mining; model development; and maintenance-optimisation processes.
- Rationalise data-governance, interoperability standards and cyber/hardening requirements.
- Prioritise quick wins (e.g., engine-health monitoring, vibration analytics) to build momentum and trust.
- Scale across portfolios and embed into acquisition-to-sustainment life-cycle frameworks.

What this means for AUKUS

Ageing fleets are also impacting operational availability and straining supply chains for our allied partners. The challenge of undervalued data is not unique to Australia. The United Kingdom and the United States are already advancing Condition-Based Maintenance plus (CBM+), Prognostic Health Management (PHM) systems, and AI-enabled autonomy to improve sustainment and readiness.

AUKUS can become a vehicle to co-invest in "digital twin" programmes. Rather than undertake this work in isolation it can be used to pool efforts on algorithms, data models, and standards which avoid duplication, increase consistency and interoperability, and accelerate benefits realisation across the alliance. The operation of common systems can be informed by a common baseline of predictive capability.

Australia's defence posture cannot wait decades for new capability to arrive - readiness must be ensured today. By focusing both on the "new" but also on the "now", we create strategic depth. The transformation does not lie solely in giant platform purchases, but in the smarter stewardship of assets, data and industrial processes. For industry and defence leaders, this is the frontier: not only what we will buy next, but how we will operate what we already own, better, longer, and more resiliently.

About the Authors

Joshua and Mike are Partners, and Defence and National Security leads at Australian firm KordaMentha. Each with a long pedigree in Defence, supporting government and industry, they have personally delivered data-driven optimisation programs and supported the development and delivery of complex technologies into the sector.

Mike was the inaugural General Manager of Rapid Prototyping Development and Evaluation (RPDE) for Defence and CEO of QinetQ Australia. Joshua is a member of the NATO Science and Technology Organisation, supporting ally advancement of Digital Twins for Prognostic Health Management.

Digital agility: accelerating the early phases of complex infrastructure delivery

AtkinsRéalis' John McGlynn describes how digital technologies and an iterative approach to scheduling will be key to delivering the AUKUS program to deadline.

With Australian project teams currently establishing business functions and task preparations for the AUKUS nuclear-powered submarine fleet, the countdown is on for the submarines' entry into service in the early 2040s. While 15-20 years may seem a long time away, the complexities of submarine platform and infrastructure design and build will demand high levels of daily productivity to meet AUKUS entry into service dates.

To meet demanding timescales and achieve success, the organisations developing AUKUS across Australia, the UK and US, will need to 'left-shift' key activities, accelerating the early phases of critical infrastructure essential for the programme. These left-shift activities include master planning, concept design phases, and securing timely approvals from a broad set of key stakeholders, regulators and end users. Key to enabling this left-shift will be digitisation: using digital tools, systems and workflows from the program's outset, and combining this with an iterative approach to delivery of the design phase.

Infrastructure in beta

Today, the use of digital tools in the delivery of complex infrastructure is a given, whether it's simulation and modelling software, digital twins, or artificial intelligence-driven scheduling. By enabling faster, data-driven decision-making, and improving communication and coordination, they help reduce uncertainty and enable quicker, more transparent delivery. At the master planning and concept stage, visualisations and simulations can support key stakeholders to easily understand planning and operational layouts. For example, we used simulation to help stakeholders at a global airport hub understand the impact of implementing new security technologies, allowing them to predict and quantify the effects upon their operations. This not only enabled the client to select the combination of processes and technologies that would meet their goals but also gave them confidence in the decisions being made. During the design and construction of infrastructure required to support nuclear-powered submarines, visualisation of build sequences can help detect and avoid clashes, improving contractor coordination and reducing rework. The standards for Building Information Modelling (BIM) today routinely include 4D (time), and 5D (cost), and can include an assessment of embodied and operational carbon, integrating environmental performance assessment into the design process. Our case study below describes these tools in action.

Iterative design

An iterative approach to master planning and concept design embraces a cyclical process of exploration, testing, feedback, and refinement. Rather than pursuing a linear path from concept to final design, this method allows design teams to develop and evolve ideas in response to stakeholder feedback, site data, digital simulations, and performance analysis. Early concepts are treated as hypotheses, developed through a structured set of programme sprints, then tested and revised against project objectives (such as functionality, sustainability, and cost). Each iteration builds upon the last, gradually improving both the robustness and adaptability of the design.

In the context of master planning, this iterative process enables design and approval teams to address the complexities of scale, phasing, infrastructure integration, operational efficiency and long-term flexibility. Digital tools, such as parametric modelling, GIS integration, and scenario simulation, play a key role in allowing planners to rapidly generate and compare multiple design alternatives. Ultimately, iteration fosters a more informed, data-rich, and adaptive design outcome that is better aligned to meet current needs and future uncertainty.

Case study: Immersive gaming engine drives accelerated delivery

AtkinsRéalis achieved an immersive visualisation of a major infrastructure project for a Middle East client by combining our design, engineering, data and project control models with the Unreal Engine, an advanced, real-time 3D visualisation platform primarily used for computer games.

Unreal Engine provides photorealistic real-time renders and immersive walk throughs, allowing stakeholders an accurate visualisation of master planning and concept design data. Cost baselines, schedule risks, and embodied carbon metrics were mapped directly onto the geometry of building components, while embedded AI enabled users to interrogate data and gain insights, empowering them to make informed decisions.

The scale and ambition of complex defence programmes require tight control of environmental and financial performance. This approach enables the cascading effects of design and engineering changes to be displayed using dashboards and a score card so stakeholders can understand trade-offs. By using immersive visualisations in the early phases of design, stakeholder engagement improved, decision making was faster, and the time originally allocated for the Master Planning phase of this major infrastructure project was halved.

An industrial imperative

The defence industry has an important role to play in supporting national security, and programs such as AUKUS. It must bring forward digital solutions that enable faster product and infrastructure design; offer simulation and visualisation tools that speed up planning, design and regulatory approval times; and use digital twins to align design, delivery and operations from the outset.

AUKUS is an evolving program: by evaluating and deploying new technologies at pace, the submarine fleet and its infrastructure can continue to evolve and adapt to meet changing operational demands within an ever-changing world.

Q&A with

Alex Walsh

Acting Chief Executive Officer ASC

The AUKUS nuclear-powered submarine enterprise is one of the greatest ever industrial undertakings Australia has embarked upon. How did ASC end up here?

For 40 years, ASC has been at the heart of Australia's submarine capability, building and sustaining the Collins Class fleet of six submarines – the backbone of our nation's naval Capability.

In this time, ASC has established a highly-skilled Australian workforce, a trusted supply chain network, and delivered enduring sovereign capability for the Royal Australian Navy. It's this legacy that led ASC to be selected as the Australian Government's Sovereign Submarine Partner – which means we will sustain and jointly build, along with BAE Systems, conventionally armed, nuclear-powered submarines in Australia, for Australia.

Australia faces a tight labour market, particularly when it comes to highly-skilled roles. Can you tell us how you are approaching that – how will you compete for talent?

There's no doubt - growing a skilled workforce will be one of the greatest challenges in delivering the nuclear-powered submarine program. That's not just ASC – that's across the enterprise.

ASC is focused on building a highly skilled workforce of approximately 6,500 full-time roles over the next 13 years. This is a significant undertaking, but one we are already making strong progress toward. Over the past year, we've seen a substantial uplift in permanent employees, with recruitment momentum continuing to build as the enterprise scales.

Many of the new jobs will be highly-skilled trade roles, engineers, technicians, and scientists. We will also need project managers, schedulers, safety and quality specialists, supply chain and procurement professionals, cyber security experts and systems integrators. As the program scales, there will be significant opportunities across support functions too, from People and Culture and finance through to communications, IT, and legal. Relying on standard pathways and traditional approaches is unlikely to meet the challenge, which is why ASC is taking a collaborative, long-term approach to addressing the skills challenge posed by AUKUS.

Building the workforce for the future requires partnerships with numerous organisations, including schools, universities, technical colleges, and training providers. Federal Government initiatives are already creating a pipeline of future engineers, trades, and technical specialists. At the same time, ASC's graduate, apprentice, and early careers programs are giving young Australians practical pathways into this once-in-a-generation national enterprise.

Working closely with the South Australian and Western Australian Governments, ASC is also contributing to a broader skills environment that includes new apprenticeship programs, cadetships, and internships designed to prepare workers for the scale and complexity of nuclear-powered submarine construction.

How will ASC work with our US and UK partners to upskill Australians in the specialised skills required for nuclear-powered submarines?

ASC has a strong base of nuclear expertise within our workforce. However, knowledge sharing with our US and UK counterparts is central to building Australia's sovereign nuclear submarine capability.

We are already learning directly from the expertise of BAE Systems in Barrow-in-Furness, where the UK's nuclear-powered submarines are designed and built. The knowledge and skills that BAE has honed over decades are invaluable to Australia as we prepare to build and sustain our own fleet.

Similarly, our partnership with the US Navy at Pearl Harbor provides hands-on opportunities to observe and learn sustainment practices on nuclear-powered submarines in service. These exchanges allow ASC employees to gain practical experience, while also forging long-term relationships with colleagues who have been operating in this field for generations.

Australia doesn't have a nuclear-powered submarine capability, while the UK and US have both sustained one for decades. Does this rule out Australian businesses from taking part in the enterprise?

Not at all. Over the past four decades, ASC has established a trusted supplier network, and many of these businesses are well placed to undertake the necessary uplift to be qualified for the nuclear-powered submarine program.

We are already supporting Australian businesses to undertake the qualification process for the US Virginia Class submarine construction program. Down the track, we will support qualification of businesses for the US Virginia Class submarine sustainment program too.

The challenge for some Australian businesses right now isn't a lack of expertise, it's more about scale and meeting rigorous global defence standards. But this is where ASC can help. We have successfully sustained the Collins Class fleet to world-class benchmarks for decades, and can support businesses with certifications, quality assurance, security compliance, and other processes to compete in a highly competitive global supply chain.

What types of businesses can contribute to the submarine supply chain?

Everything from advanced manufacturing, machining, precision engineering, additive manufacturing and welding; to complex systems integration, software, cyber security and logistics – any Australian business with the know-how and the ability to meet rigorous standards has the potential to join the nuclear-powered submarine enterprise.

Claire Wilcock

Chief Executive Officer
Westlakes Recruit

Claire, what led you to found Westlakes Recruit, and how did your early career shape your vision for the company?

I founded Westlakes Recruit in 2011 after seeking a balance between motherhood and my insatiable entrepreneurial spirit. Having grown up within the community surrounding one of Europe's largest nuclear sites, I've always felt deeply connected to the industry and the people who power it. That environment shaped my understanding of the value of skilled, passionate individuals and inspired me to build a business that connects those people with opportunities to make a real difference.

Now, more than a decade on, my husband Mark and I run the company together. We've helped thousands of people design, build, commission, and operate nuclear facilities across the UK. I'm incredibly proud that Westlakes Recruit continues to reflect the same principles it was founded on - community, balance, and a shared commitment to excellence in the nuclear sector.

What is recruiting for the nuclear and defence sectors like today?

Recruiting for the nuclear and defence sectors today comes with unique challenges—navigating strict regulations, addressing specialist skill shortages, and managing long, complex project lifecycles. It also presents exciting opportunities. With major projects on the horizon, such as new nuclear power stations, advanced small modular reactors, and critical defence programmes, there's a genuine opportunity to shape the future of clean energy and national security. At Westlakes Recruit, we connect talented individuals - including graduates, career changers, and highly skilled specialists - with projects that truly make a difference. Through our Nuclear Community Network, we provide connections across the industry, sharing insights, opportunities, and support to help professionals thrive in these vital sectors. It's about building a community around roles that are not only technically demanding but also essential for the country's energy transition and defence capabilities.

How do you ensure that Westlakes Recruit stays ahead in such a highly specialised and regulated industry?

We stay ahead by combining deep sector expertise with innovative recruitment strategies. From building strong networks to investing in technology and talent pipelines, we ensure our team understands the industry inside-out and can adapt quickly to changing demands.

As a woman leading in a traditionally male-dominated field, what progress have you seen in gender diversity within nuclear and STEM?

There's been real progress in gender diversity within nuclear and STEM—initiatives like Women in Nuclear UK have made a tangible impact. We're seeing more women in engineering, leadership, and technical roles, but there's still work to be done.

What advice would you give to young women considering careers in nuclear, engineering, or defence?

Our advice to young women would be: don't be intimidated by the sector's reputation. Nuclear and defence need diverse perspectives, and there are so many career paths beyond what people might initially imagine. Seek mentors, keep learning, and don't be afraid to take up space in the industry.

How do your personal values influence the culture and direction of Westlakes Recruit?

Our values - collaboration, integrity, and commitment - shape everything at Westlakes Recruit. We foster a culture where our team feels empowered, clients feel supported, and candidates know we genuinely care about their careers.

Can you share a moment or project that you feel best represents the impact your work has had on the industry or community?

One highlight has been supporting the UK's major nuclear new build and decommissioning projects. Knowing our work directly contributes to cleaner energy, national security, and local jobs is incredibly rewarding.

What trends or innovations in the nuclear sector are you most excited about over the next 5–10 years?

We're excited about innovations in small modular reactors (SMRs), fusion energy, and advanced digital tools for nuclear projects. These will transform the sector over the next decade, creating demand for new skills and opportunities.

What's next for Westlakes Recruit—and for each of you personally—in your mission to support the nuclear and defence workforce?

For Westlakes Recruit, the future is about growth - supporting even more clients across nuclear, defence, and clean energy while expanding our international reach. Personally, we're passionate about continuing to champion diversity, innovation, and workforce development as the industry evolves.

MBDA stands ready to cooperate on Australian guided weapons ambitions

Australia is embarking on an ambitious transformation of its defence capabilities, with the government investing billions to acquire and manufacture guided weapons and forge strategic partnerships at home and abroad. Collaborations like the Australia-UK Ministerial Consultations (AUKMIN) and enterprise partnerships with leading defence industry companies underscore this drive for greater security and sovereign capability.

One company distinguishing itself through significant investment and a growing presence in Australia is MBDA. Known globally for its expertise in complex weapons, MBDA leverages a unique approach, offering integrated solutions and deep experience as a trusted partner for over 90 armed forces worldwide, including a key UK arm among its domestic customers.

MBDA is not a new name in Australia, having historically provided advanced guided weapons capabilities like ASRAAM to the RAAF's Classic Hornets. What sets MBDA apart is its intent to draw on its longstanding "collaboration DNA"—a model of partnership and knowledge-sharing—to help the Australian Government establish its own strategic autonomy in guided weapons.

Tom Tizard, MBDA's General Manager in Australia, expands upon this point, "Australia is diversifying its sources of supply, strengthening its partnerships, establishing local manufacturing, and collaborating with companies in order to better enable sovereign aspirations. This is collaboration writ large in both the military and the industrial sectors. Collaborating means making the most of each other's skills and capabilities; it means using each other's supply chains. It means accepting each other's standards and processes, and the ability to handle sensitive information. It means doing all these things properly. This kind of collaboration is in MBDA's DNA. It is how MBDA was founded as a business, and it is how we operate today. You can see examples of it across our domestic customers in the UK, France, Germany and Italy. You can see it in our work in Poland, India, and South Korea, and we are re-energising our next chapter of that journey in Australia."

The company has been very active in Australia over the last year. Present at major defence exhibitions, including Avalon and Land Forces, and scheduled for the Indo-Pacific International Maritime Exposition before 2025 ends. MBDA stands apart by actively sharing and co-developing knowledge and IP, which has driven over fifty engagements with Australian suppliers across the industry ecosystem and led to meaningful collaborations. Tom adds, "We have found world-class Australian capabilities now connected to our global supply chain, helping us better manage our own supply risk. Importantly, over 50% of our Australian investment is in R&D. Our priority is creating long-term, enduring value for Australia, not quick returns."

Brigadier Don Roach AM, Defence and Industry Engagement Lead, Queensland Government; Tom Tizard, General Manager - Australia, MBDA, and Rear Admiral Lee Goddard CSC, at the Chamber's UK-Australia Defence Reception in June 2025

The AUKMIN announcement of a commitment to explore guided weapons collaboration between the UK and Australia will help MBDA. Over a decade ago, MBDA initiated a long-term partnership with the UK Government to manage and develop its complex weapons requirements. The Portfolio Management Agreement clearly demonstrates how a transformed industrial/Government relationship can deliver sovereign capabilities that better serve both the warfighter and the taxpayer. As a result, they renewed the partnership in 2024.

Tom notes that Australia's journey, as articulated in the Australian GWEO Plan, shows similarities to MBDA's experience in the UK. Sovereignty is developed gradually through partnerships with allies and industry, requiring investment of time, money, technology, skills, infrastructure, and robust supply chains. A capable, sovereign manufacturing base means more than just assembly. The return is sovereign capabilities tailored to national needs and independent control for upgrades, forming a strong deterrent. This approach has been effective in the UK and is one MBDA stands ready to support in Australia.

When MBDA says it stands ready, it confirms understanding that true partnership extends beyond simply selling imported solutions. MBDA's unique approach involves co-developing sovereign capabilities, increasing skilled job opportunities, unlocking economic benefits through exports, nurturing long-term international collaborations, and advancing technology by stimulating research and IP development.

Tom concludes, "I am very excited about our future in Australia. I look forward to expanding our presence and delivering on customer and industry ambitions, now and into the future. It is imperative that we work together. By sharing technology and know-how, we can better enable sovereign capabilities that improve the collective safety and resilience of the free world, especially in the Pacific region."

Rethinking Defence Industry collaboration in a rapidly changing world

Mark Sjolander is the Founder and Managing Director of Indo Pacific Strategy Group (IPSG). IPSG advises defence industry clients on geopolitical risk and business strategies to support market entry across the Indo Pacific and AUKUS partner countries.

The global geostrategic environment is deteriorating at an unprecedented pace, as highlighted by Andrew Shearer during October at Senate Estimates. The post-war order—once a foundation for trade, investment, and security—is now under threat from rising great power competition, technological disruption, and the erosion of international norms. Governments are adapting, but progress remains uneven and, in some areas, frustratingly slow.

AUKUS, the trilateral defence technology partnership between Australia, the United Kingdom, and the United States, is a positive step toward strengthening collective security and technological integration. However, the second pillar of AUKUS (Pillar 2), which focuses on advanced capabilities such as quantum technologies, artificial intelligence, and undersea warfare, remains ill-defined. Many across industry have called for a sharper focus and prioritisation of Pillar 2 activities, with the aim of establishing dedicated program offices and clearer pathways for industry engagement. Greater clarity is expected soon, on the back of the AUKUS review in the US which will help shape new opportunities for collaboration and innovation.

Australia and the UK share similar defence force structures and capability priorities, making them natural partners in this evolving landscape. As both countries invest in greater defence spending, it is essential to rethink how defence industries operate. The vulnerabilities exposed by recent conflicts—most notably in Ukraine—demonstrate that efficiency cannot come at the expense of resilience. The just-in-time approach to defence capability, while cost-effective in peacetime, has proven inadequate in high-intensity conflicts where rapid surges in production and supply are required.

A transformative lesson from Ukraine is the emergence of the defence industry as a “sixth domain” of warfare. Private sector companies have played a decisive role in supporting military operations, from providing cybersecurity and communications to rapidly developing and deploying new technologies such as drones and satellite internet.

The speed of adaptation and innovation—measured in hours rather than months—has been critical to Ukraine’s resilience and operational effectiveness. This model of direct partnership between industry and warfighters should inspire defence industry across Australia and the UK to deepen their own collaboration.

Recent bilateral initiatives, such as the partnership between the UK’s Modular Weapons Testbed and Australia’s SHARKTOOTH program, exemplify the benefits of joint development and modular, adaptable technologies. These efforts reduce costs, accelerate deployment, and enhance interoperability, while also strengthening sovereign industrial bases.

To seize these opportunities, both countries must:

- invest in manufacturing capacity for critical defence consumables and munitions, reducing reliance on fragile global supply chains
- foster creative approaches to workforce development, leveraging skills across borders without undermining national capability needs
- encourage public-private partnerships that enable rapid prototyping, field testing, and iterative improvement of new technologies
- ensure that policy frameworks and export controls are updated to facilitate, not hinder, collaboration and technology transfer.

Australia and the UK cannot afford to wait for the next crisis to transform their defence industries. By learning from recent conflicts and embracing a new model of partnership, they can build a more resilient, innovative, and effective defence ecosystem—one that is ready to meet the challenges of an increasingly uncertain world.

Ben James

Chief Executive Officer
NIOA Australia and New Zealand

Contemporary security threats require a more holistic, integrated, "joined up" approach between allies and partners.

Illegal invasions of sovereign countries, grey zone and malign influence operations, transnational threats, including cross-border drug and human trafficking, are challenging and disrupting our global norms.

The effort to build and deliver this holistic and integrated approach to best support the men and women of our armed forces requires commitment and investment – investment in resilient industrial bases and a commitment to ensure industry has the demand signals to invest in the equipment and infrastructure needed to accelerate capability delivery.

Investment priorities in both the United Kingdom and Australia have already been identified. The UK's 2025 Strategic Defence Review (SDR) earmarked GBP$1.5billion to invest in the establishment of an "always on" pipeline for munitions. This includes the significant commitment to build at least six new energetics and munitions factories in the UK, part of a wider GBP 6b investment in munitions uplift.

Similarly, Australia's 2024 Integrated Investment Program (IIP) outlined a commitment of $16–$21b over the decade, prioritising the development of a sovereign ability to produce, maintain, repair and overhaul selected weapons and the acquisition of weapons and munitions to help ensure sustained operations in a time of conflict.

The NIOA Group brings deep experience from its operation of half of the Government-Owned, Commercially-Operated (GOCO) munitions facility in Benalla, Victoria, the management of key weapons and munitions programs for the Australian Defence Force (ADF) and the ownership of key defence manufacturing operations in the United States and Australia that can be applied to support UK initiatives.[i]

The joint venture Rheinmetall NIOA Munitions factory in Maryborough, Queensland manufactures 155mm artillery shells

NIOA produces key munitions for the ADF at the Australian Government-owned Contractor-operated facility in Benalla, Victoria

A key outcome from national investments of this magnitude is to ensure the achievement of a wider economic benefit, often referred to in the UK as "social value".

For example, the NIOA Group, in conjunction with the Tennessee State Government, is investing USD$76.4m in a 170-acre Manufacturing and Technology Campus (MTC), a state-of-the-art facility adjacent to Barrett's current home in Murfreesboro, Tennessee. The new facility will redefine excellence in weapon systems manufacturing while delivering jobs growth for the region, doubling the Barrett workforce over the next five years.

The MTC will be capable of designing, developing, manufacturing, testing, sustaining and distributing advanced military weapons and specialist ammunition natures for global weapons programs.

There is much to be gained from greater collaboration between Australia and the UK in how we can accelerate key weapons and munitions modernisation and replacement programs; often referred to as co-development, co-production and co-sustainment.

For the past five-years, NIOA has worked in partnership with the Australian Department of Defence in a unique, commercial partnership to assess, solicit, acquire, integrate, introduce into service and sustain a range of weapon systems under the LAND 300 Program. This program has revealed many lessons for the Department, for NIOA and other industry partners on how government agencies and industry can best collaborate to deliver step-change enhancements to a wide range of weapon systems. LAND 300 remains an exemplar for how Government and industry can work together to deliver rapid capability improvements.

NIOA's management of key ammunition programs also brings significant lessons for wider collaboration with the UK. In addition to the deep technical, program management and commercial experience gained from over a decade of munitions supply and manufacture arrangements in Australia, longer term visibility of munitions orders has allowed the NIOA Group to invest in production facilities, both at the Benalla facility and in the privately held, joint venture 155mm artillery forge in Maryborough, Queensland.

These lessons and experience can be equally applied in the UK, as the Ministry of Defence seeks to increase its munitions holdings and production capacity.

Contemporary security challenges demand greater collaboration and cooperation if like-minded countries are to prevail – the NIOA Group brings substantial experience and global capacity in supporting Australia and the UK in addressing these challenges.

[i]The NIOA Group operates the joint venture Rheinmetall NIOA Munitions (RNM) 155mm artillery forge in Maryborough, Queensland and owns Barrett Firearms in Murfreesboro, Tennessee.

Mellori Solutions unveils Blue Jay Horizon: navigating the next wave of EW Sensor Assurance

Mellori Solutions, an Alkath Group company, unveiled Blue Jay Horizon - a containerised, marinised electromagnetic warfare (EW) test and evaluation system that redefines how Defence forces around the world can assure the performance of EW sensors and train their command teams.

Developed and built by a team of veterans, EW specialists, and engineers in regional New South Wales, Blue Jay Horizon made its public debut on 5 November 2025 at the Indo Pacific International Maritime Exposition 2025 in Sydney.

Blue Jay Horizon delivers through-air electromagnetic (EM) stimulation of radar and communication receivers, allowing crews to test, train, and learn in the EM spectrum under maritime conditions, in real time and around the clock.

Training in the True Tempo of Modern Conflict

Today's battlespace is defined by rapid, contested activity across the EM spectrum. Adding Blue Jay Horizon to the test and training mix enhances the tempo and accuracy of exercises, introducing greater realism through simultaneous threat simulations. Command teams can experience the complexity and chaos of the modern-day EM spectrum.

Unlike aircraft-based training, which is limited by mission duration and reduced capability at night, Blue Jay Horizon can operate 24/7, enabling continuous, high-tempo EM training and assurance across the land, sea, and air domains.

"Command teams need to experience what the spectrum feels like - not just study it," said Phil Guy, Managing Director of Mellori Solutions. "Blue Jay Horizon lets crews train in realistic, congested conditions, understanding how their systems behave and how to control the spectrum under pressure."

Operators and engineers can see instantly whether an exercise unfolded as planned, accelerating learning cycles and helping crews adapt faster when things don't go to script.

Engineered for the Elements

Housed in a specialised 10-foot ISO-certified secure container with a retractable roof that shields sensitive electronics from hostile environments when not in use, and allows rapid deployment of the payload systems during operation, Blue Jay Horizon can be deployed on fixed ranges, shore sites, or naval vessels (fully operable up to Sea State 4 and stowable to Sea State 6).

Inside, a software-defined RF architecture drives wideband generation of RF signals from 20 MHz to 40 GHz, providing the adaptability to replicate dynamic, real-world signal scenarios.

> “This capability shows what happens when subject-matter experts have the opportunity to turn operational insight into a realised, deployable capability.”

Adapting at the Edge

The conflict in Ukraine has shown that the EM spectrum is now vulnerable and volatile, and static threat libraries are quickly becoming obsolete. “In this era, agility in the spectrum is everything,” says Phil Guy. “Blue Jay Horizon gives command teams a safe, realistic environment to build confidence in how they operate and control the EM spectrum - before they’re tested in operational theatres.”

Sovereign Capability, Global Relevance

Built in regional Australia, Blue Jay Horizon strengthens Australia’s sovereign EW and training capability while offering partners an affordable, deployable, and future-ready system.

“This capability shows what happens when subject-matter experts have the opportunity to turn operational insight into a realised, deployable capability,” says Phil Guy. “It’s about testing, training, and adapting faster than potential adversaries.”

A New Horizon for EW Assurance and Training

The launch of Blue Jay Horizon marks the next step in the development and growth of Mellori’s suite of specialised EW test and evaluation products and further augments and supports the delivery of deployable, real-time electromagnetic test and training capabilities systems to our growing customer base.

As the Blue Jay product line evolves, Mellori continues to deliver solutions that shorten the path from concept to combat-ready capability - ensuring command teams are not just aware of the spectrum, but in control of it.

In conversation with Craig Lockhart continued...

Australia is investing heavily in naval capability... Is there major industrial transformation in our shipyards that is needed to ensure we deliver on time and on sovereign soil, with commercial technology?

Yes, I believe it is needed and let me qualify that by saying when I look at Osborne South and what we've been provided, it's clear we have one of the most advanced shipyards in the world. We've been able to shape and influence that facility, which is powered by digital design and enabled by a fully digital workplace. Data is collected automatically, start-up routines are now managed through handhelds and digital screens, and we're using the latest robotics to deliver greater certainty and precision. We're just beginning to see the return on that investment in the quality of shipbuilding coming out of Osborne South. The digital twin model developed by our systems engineering team here is now helping shape Osborne North Shipyard, where we'll build the nuclear submarines. I'm confident that within the next decade, Australian naval shipbuilding will be a global leader in both design and build.

We'll continue investing in new technologies – many of which are commercially applied today but will be adapted for naval maritime use. We're now doing laser outfitting, and if we want to position ourselves as a global exporter of this capability, it must come with a desire to keep our cost base down, invest in SMEs, and bring more manufacturing back onshore.

That requires bold investment decisions from government to meet the ambition of what started as a programme to build nine frigates, to position ourselves among the best naval platform builders in the world, competing with Korea and Japan on productivity and technology return. It takes courageous decisions, and I'm genuinely excited by what Peter Malinauskas is trying to achieve in South Australia.

It's backed by a strong federal vision. More than anything, it's about organising ourselves to meet our own ambition. We've set a bold optimal pathway under AUKUS Pillar One, and many people get frightened by the sheer acceleration when you target about those target dates at the same time as building a new nuclear enterprise, which is known for moving at a glacial pace. But I believe we can bring non-traditional thinking to that challenge in an environment where stability is a welcomed value now.

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What role will that non-traditional approach play in the autonomous systems in Australia's defence landscape?

Autonomous systems will play an increasingly significant role in our defence and warfighting capabilities going forward.The technology already exists to make many systems uncrewed, but we often choose not to use it due to concerns around social licence. Take commercial aviation: modern aircraft are largely flown by computers, yet we still place pilots in the cockpit to reassure passengers that someone is in control when the system is.

At BAE Systems Australia, we're developing a sixth-generation fighter jet in collaboration with Italy and Japan. It will be the stealthiest, most autonomously operated, AI-enabled system in the world. Many of its components will operate independently or in coordination with other systems.

We provide the vehicle management system and intelligence for Ghost Bat – the loyal wingman that flies alongside F-35s and will eventually fly with GCAP. We use AI extensively across our internal systems to accelerate decision-making.

Autonomous systems are already embedded across our business – from underwater vehicles like HELM, which is an extra-large UUV that recently completed a two-week autonomous patrol in the North Atlantic, to trade-fighting vehicles like Atlas and M113s, which can perform missions without putting humans in harm's way. We're also developing unmanned aerial vehicles like STRIX, now being considered as a loyal wingman for the UK Apache helicopter.

Our future is autonomous. Whether it's maritime, land, air, or space – autonomy is already part of our future. The question now is how fast we move and what level of risk we're willing to accept in terms of control and responsibility.

Governments around the world are actively debating the boundaries of AI – what it should and shouldn't be allowed to do. But ultimately, it's about harnessing productivity and smarter decision-making, based on information that humans have created in the first place. This is a live debate, and I can assure you that BAE Systems is a world leader in autonomous systems. It's only going to grow faster and more significantly than where we are today.

With 23 jobs under your belt, you'd have come across many different leadership styles. And you've led at the highest levels in both UK and Australian defence primes. How do you define effective leadership in an environment where geopolitical, technical, and industrial factors are constantly shifting?

I think every leader grapples with that question, constantly. There have always been two schools of thought on leadership, and personally, I've been influenced by a wide range of people with very different styles. Some I found myself questioning and wondering why I followed them, especially when their behaviours didn't always align with my values. But there was often something intangible, something inspirational that drew people in. It was admiration, even if you couldn't quite put your finger on why.

"I can assure you that BAE Systems is a world leader in autonomous systems. It's only going to grow faster and more significantly than where we are today."

I've been fortunate to have many mentors who created a safe space for me to take risks and fail forward. They gave me the confidence to try, and to understand that it was better to try and fail than to not try at all.

For me, leadership is about harnessing the power of your people in a collegiate, collaborative fashion that produces outcomes that are understood and owned without instruction. That's the kind of leadership I aspire to. In the last decade, especially in defence, we've had to become more comfortable with ambiguity and uncertainty. At the same time, we're dealing with rapidly advancing technology that's pushing us to think differently. We're entering a new era of leadership – one that demands readiness for alternative manufacturing techniques and a return to sovereign capability.

At BAE Systems, we invest heavily in foundational leadership training for emerging leaders. I believe that must be grounded in real-world experience working alongside other cultures and learning through exposure. I've had that opportunity: two tours in the US, two in Australia, one in Europe, and many across England, and for a Scot, that felt like international travel! But those experiences shaped me and gave me something to draw on as a leader.

We talk about this with our younger employees at BAE Systems Australia, you must believe in what we do. That we're making the nation safer. That we're protecting democratic freedoms and the values we hold dear. If you don't believe that, I'm not sure you could show up at BAE Systems and do the job that's asked of you. We provide governments with the right to deploy diplomacy – and when diplomacy fails, the right to defend ourselves. We work hard to be a trusted partner to our defence customers. That means understanding what they need from us, being there in good times and bad, and always acting with professionalism and purpose.

At the heart of it, leadership today means operating in the grey. There's no longer black-and-white certainty. Leaders must make decisions based on experience, context, and the strength of their support networks. They need to trust their judgement, validate it through strong relationships, and have the confidence to act with a strong moral code.
More than ever, leaders must project confidence. People need to know where we're going, how we'll get there, and that we're willing to serve the collective good, not just individual interests.

I was raised in a strong Scottish socialist household where you rolled up your sleeves, worked hard, played hard, and lived by a solid moral compass. That's still in me. Work hard, do right by people, and they'll do right by you. I don't walk past something if I think I can help. That's just part of who I am. It's all part of my lived experience. I don't think there'll ever be Craig Lockhart handbook on leadership with my name on it but I'm always happy to share what I've learned if it helps someone else.

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