

# 2023-03-21 Tuesday Boats

The snap attack

<https://twitter.com/i/status/1636408843990372352>

## Navy's new uncrewed BlueBottles add sting to national defence

18 March 2023 | [Andrew McLaughlin](#)

A BlueBottle USV sails on Jervis Bay during Autonomous Warrior 2018. Photo: ADF.

The Royal Australian Navy has taken delivery of the first two of five Ocius BlueBottle Uncrewed Surface Vessels (USV) as it seeks to expand its fleet of uncrewed capabilities. Of course any serious Navy would have bought at least 40 (ie pluck a number game commences: about maybe AUD40m and pay 'em 3 mill a year for 1 swarm or 8 for 4 (to keep the heat on Defence to learn how to use concurrent & co-ordinated swarms) to sustain and operate them to provide concurrent swarms in 4 places (to nicely match that the Bluebottle is a colony of 4 zooids working to a common aim) and a hot spare swarm -so the users can learn to benefits of a swarm and co-ordinated swarms. In my dreams - Nonsense you say well how many Tomahawks that you may never use did the ADF just ask for at USD 895m roughly AUD 1.3Bill (220 is the answer) of course that might put us in the hole behind Japan who wants to buy 500 in FY2023. PS you may never get them either -seeing the USN are not buying ANY this FY - not bad for a nation saying it is posturing up for a s'fight -they'll just do the old Brit thing and say sorry we'll have those ones you Ossies and Japanese bought. Ask Ronnie about F-18 spares availability during GW1.

Navy ordered the vessels after Ocius successfully demonstrated the BlueBottle at the Autonomous Warrior Operational Experimentation activity at HMAS Creswell on Jervis Bay in 2018 and again in 2022. Or in fighting terms the period in which we were in a shooting war with Japan back in the 40s - yep ....you want the go-to guys at Defence Call us on 1-800-AGILITY. When no one answers; don't hold your breath waiting for us to return your call.

Autonomous Warrior 2018 was a demonstration designed to examine the potential of robotic, autonomous and uninhabited systems in support of Defence operations in coastal environments. It combined an exhibition, trials and exercising in-service systems.

The 2022 iteration expanded the concept to an overarching theme of Remote and Autonomous Systems and Artificial Intelligence (RAS-AI). It provided Australian and international military and industry partners opportunities to demonstrate innovations in autonomous and uncrewed systems and related technologies for use in the maritime and littoral domains, including operations in complex, congested and contested environments.

The 18-foot-long BlueBottle is powered by a unique combination of solar, wind and wave energy. Australian designed and developed, the vessel conducts long-endurance reconnaissance missions or acts as a communications relay platform.

The vessel's battery is recharged by solar panels on the hard sail, and when deployed, the sail's intelligent programming allows it to react autonomously to the sea, sun and wind conditions. When not required, it can be stowed flat on the vessel's deck.

A unique rudder-flipper steers, guides and powers the BlueBottle, generating forward thrust from the pitching of the vessel in the ocean waves – the bigger the waves, the more thrust can be generated.

“As a trading nation, surrounded by oceans, a sustained maritime security presence is essential for assuring our national economy,” Minister for Defence Industry Pat Conroy said in a 6 March release. “Autonomous capabilities and innovative technologies, such as the Ocius BlueBottle Uncrewed Surface Vessels, will assist our Navy in supporting Australian interests.

“Powered by the wind, waves and the sun, the Ocius BlueBottle can autonomously monitor designated areas for extended lengths of time.”

Assistant Minister for Defence, Matt Thistlethwaite said Uncrewed Surface Vessels provided the Navy with a platform for continuous experimentation, including support to other autonomous surface and sub-surface systems. The remaining three Ocius BlueBottle USVs are expected to be delivered by July 2023.

The delivery of the BlueBottles follows the December 2022 launch of an Australian-designed Extra-Large Autonomous Underwater Vehicle (XLAUV) which is being jointly developed by the Navy, the Defence Science and Technology (DST) Group and Anduril Australia.

Named ‘Ghost Shark’, the XLAUV’s collaborative development was made possible by the Next Generation Technologies Fund, and Defence scientists, Navy personnel and Anduril robotics specialists led by the company’s chief technology officer, Dr Shane Arnott. They are currently working together under a co-funded arrangement to produce three prototypes of the XLAUV.

While Australia’s XLAUVs are in development, a US-made Anduril Dive-LD autonomous submarine will act as a testbed vehicle for the various systems and concept developments.

The former head of Navy capability, Rear Admiral Peter Quinn said the stealthy, multi-role vessels, typically between 10 and 30 metres long, represented a new undersea warfare capability. “They have the capacity to remain at sea undetected for very long periods, carry various military payloads and cover very long distances,” he said at the December launch.

“The vessels will provide militaries with a persistent option for the delivery of underwater effects in high-risk environments, complementing our existing crewed ships and submarines, as well as other future uncrewed surface vessels.”

Chief Defence scientist Professor Tanya Monro said the project was an example of Defence's innovation system in action. "By Defence Science and Technology Group collaborating with our industry, we are able to co-develop critical capability that meets our specific needs much faster," she said.

If Navy adopts the XLAUV, [don't forget Andural call that 1-800-AGILITY number for sitreps on adoption plans ha](#) it will work in conjunction with crewed submarines and surface vessels by providing underwater reconnaissance and mine clearing, particularly when transiting through island chains and littoral regions. [Now I was just reading about some wonderful in-service Mine clearance system that appears to take 3 hours per mine to sort - so we are buying the sleek SSNs to go like a bat out of hell to get to op areas and then asking them to do it through island chains and littorals -but that's not really an issue is it?..... if they have to loiter for hours to days to weeks on end waiting for the XLAUV to clear a path they lose their speed and stealth by default; and the skimmers can just do same on the roof waiting for the ASMs to arrive and/or swarms from the nearby brown bits to overpower them. And if they go up early enough to prevent the camp followers waiting -that is known in the trade as telegraphing the punch. They don't even qualify as thought bubbles do they?](#)

March 14, 2023

## The evolution of the UK's SSNR into the SSN-AUKUS

<https://www.naval-technology.com/features/the-evolution-of-the-uks-ssnr-into-the-ssn-aukus/>

The UK's SSNR will become the SSN-AUKUS, delivering a nuclear-powered attack submarine to the Royal Navy and Royal Australian Navy from the late-2030s.

With Australia beginning to build up its own nuclear-powered attack submarine (SSN) capability as part of the AUKUS security triad, national governments in Washington, London, and Canberra have tied themselves to the joint development and fielding of an entirely new class of attack submarine – [the SSN-AUKUS](#). [Trying to work out how it affects the US, other than being in the box seat in a more luxurious chair paid for by the Ossies](#)

Announcing the move to develop the SSN-AUKUS on 13 March at a press conference at San Diego Naval Base, [political leaders of the US, UK, and Australia](#) revealed the scale of the decision that saw Canberra cancel its plan to acquire conventional diesel-electric submarines in 2021 from France and opt for the Anglo-US partnership.

Before the SSN-AUKUS, Australia will acquire an initial fleet of [three US Virginia-class SSNs from the US](#), delivered in the early 2030s. In addition, a subsequent option of two further *Virginia*-class SSNs will be available, potentially providing the Royal Australian Navy with a fleet of five nuclear-powered attack submarines.

The acquisition and use of the *Virginia*'s will enable Australia to develop competencies in the operation of nuclear-powered platforms, which in the expanses of the western Pacific Ocean are better suited

than conventionally powered alternatives, such as the Barracuda class originally agreed to be developed with France.

However, it is in the historic development of the SSN-AUKUS, effectively an evolution of the UK's SSNR (Submersible Ship Nuclear Replacement) concept planned to replace the *Astute*-class SSNs currently being introduced into UK Royal Navy service, that the greatest shift can be seen. Never before has a nuclear-powered submarine been developed for simultaneous use by two navies and countries tens of thousands of miles apart and responsible for vastly different areas of operations.

## SSNR becomes the SSN-AUKUS

Announced in 2021 with the beginning of work to replace the Royal Navy's *Astute* class even before all seven planned boats were delivered into service, [the UK committed £85m each to BAE Systems and Rolls Royce](#) to "start thinking" about the kinds of capabilities that the new SSNR class could wield.

[BAE Systems'](#) Barrow-in-Furness site in Cumbria, England, is the home of UK submarine manufacturing, and currently responsible for the build and delivery of the remaining *Astute*-class SSNs and the [new \*Dreadnought\* nuclear-powered ballistic missile submarines \(SSBN\)](#), with the latter type fielding the country's nuclear deterrent.

Rolls Royce meanwhile builds the pressurised water reactors (PWR) used by UK submarines, meaning that the boats once under way never need to resurface during operations, their only limiting factor being the stores required to sustain the crew. The *Astute* class uses the PWR2, while the *Dreadnought* class will feature the under-development PWR3 power source.

With announcements that the SSN-AUKUS will become the largest attack submarines ever fielded by the UK Royal Navy, it is possible that the PW3 or a derivative could be used for the new joint UK-Australia SSN. Currently, a submerged *Astute* class displaces around 7,600t, compared to the approximate 10,000t of the latest [Block V Virginia class](#).

Additionally, the SSNR was thought to be being designed with the consideration to contain an internal vertical launch system (VLS) from which to fire cruise missiles and other munitions. Given that UK SSNs do not use a VLS, instead firing all munitions (including cruise missiles) via forward-facing launch tubes, it is almost certain that the US would assist in the integration of such systems into the SSNR, now the rebranded SSN-AUKUS.

The UK and US are already collaborating on VLS technology, with the UK *Dreadnought*-class SSBNs to use the same system as being developed for the US Navy's Columbia-class SSBNs and designed specifically to accommodate nuclear-tipped ballistic missiles.

The SSN-AUKUS could also make use of sharply angled conning towers, well as the X-form tail configuration of the *Dreadnought* class. Given the integrated VLS, the SSN-AUKUS could embark cruise missiles such as the Tomahawk for land or surface strike, with the latest Block IV iterations further upgraded in the years ahead. Torpedoes could be the UK's newest variant of the reliable Spearfish heavyweight munition, or alternatively invest into a future US Navy design.

Sensors are likely to focus on what is being developed for the newest *Astute* batch and *Dreadnought* class, potentially leaning heavily on European companies such as [Thales](#), with passive sonar flank arrays likely, as well as a towed array sonar.

## Manufacture and timelines

Manufacture of the SSN-AUKUS will take place initially in the UK, with London and the US helping Australia develop its own indigenous manufacturing capability, possibly around Perth in the west of the country. Capacity at the UK's military boatyard is tight, with little excess without additional investment in hard infrastructure and workforce.

Five *Astute* boats [are currently in UK service](#), with the newest, HMS *Anson*, joining *Astute*, *Ambush*, *Artful*, and *Audacious* in mid-2022. A further two boats are under construction (*Agamemnon* and *Agincourt*), with each boat costing between £1.3-1.6bn and expected to service for at least 25 years with the Royal Navy. Final deliveries are planned by 2026.

HMS *Astute* itself has already been in service over a decade having commissioned in 2010, indicating that it will exceed the 25-year service life if the first of the planned AUKUS SSNs is delivered according to the current timeline, expected to be in the "late-2030s", revealed on 13 March.

Manufacture of the *Astute*-class boats has each taken between nine and 11 years, entering service every 2-4 years. Extrapolating these dates, manufacture of the SSN-AUKUS to meet the UK delivery timeline, and the "early-2040s" date for the delivery of Australia's first SSN-AUKUS as it begins to replace the *Virginia* class bought from the US, would begin in the late-2020s at Barrow-in-Furness and a couple of years afterwards in Australia.

A late-2020s timeline for the laying down of the first UK AUKUS SSN tallies with the ending of the *Astute* builds. Steel was cut for the third *Dreadnought* boat in February 2023, with a planned period of around 15 years between the start of manufacture and commissioning into Royal Navy service.

## Undersea warfare capability should surface in DSR

From Defence connect

17 March 2023

By: Air Vice-Marshal (Ret') Peter Nicholson

Aha a fighter pilot talking about USW. The first fighter pilot I talked to about USW has been a source of great advice with a clinical, you could say 'Bruis(er)ing', thought process on the subject for nearly 40 years. And Nicho is a TP. I like my test pilots, they know how to establish boundaries of the op envelope and write rules to stay alive by. And they WILL take the time to talk to mere mortals about such things - if you sense that flip of a bird cast in your direction SM Dagggers it's real! He is focusing on MW but, as I always say, where MW goes ASW should have an eye on it.

Opinion: Economic coercion, cyber attacks, aggressive behaviour in international waters, incursions into national air spaces, and other assertive actions have revealed China as a clear and present threat, writes defence industry consultant Air Vice-Marshal (Ret'd) Peter Nicholson.

The government has recognised this and commissioned the Defence Strategic Review (DSR) to identify issues that must be addressed to deal with a significantly changed strategic environment. The DSR report has been delivered to government and is expected to be released in the next week or so. However, some of the recommendations have already been revealed, key among them the need for a manifest offensive capability, called “impactful projection” by the Minister for Defence. This changes Australia’s previous defensive and reactive strategic posture to one that supports the deterrence of threats and an ability to deal with them should deterrence fail. A credible offensive strike capability will extend across all domains of warfare of air, land, sea (both surface and underwater), cyber, and possibly even space.

The second area that will likely be addressed in the DSR is air and missile defence. The People’s Liberation Army (PLA) does not have the power projection capability to threaten Australia from the Chinese mainland, and this is why the bases and deployed PLA forces in the South China Sea and the South Pacific are important. However, China does have the capability to threaten Australia from the mainland using ballistic missiles and is developing the capability to launch ballistic missiles from submerged submarines. So, in addition to traditional air defence, Australia needs a ballistic missile defence capability.

Undersea warfare is a third area that has received insufficient attention in the past and should be addressed in the DSR. The deterrent effect of submarines has long been understood by Australian governments and defence planners, and this capability will be substantially enhanced by the planned acquisition of nuclear-powered submarines to replace the present Collins Class boats. Like most complex weapons systems, submarines have both an offensive and a defensive role but the deterrent effect comes from the offensive and counterforce aspects of the capability.

The defensive component of undersea warfare is critically important for Australia as a trading nation to protect our sea lines of communication (SLOC). Australian trade is particularly vulnerable to disruption by an aggressor state because of our extensive coastline and the wide dispersion of our ports. However, our underwater defensive capability has been neglected and, in particular, our Mine Counter Measures (MCM) capability needs a substantial upgrading.

The recent announcement of a \$1 billion smart sea mines acquisition highlights the importance the government places on the Navy’s mine warfare capability.

Mine Counter Measures and the associated underwater Military Survey have benefited by the application of several advanced technologies that support unmanned and autonomous operations to detect, locate, identify, and neutralise modern mines that could be deployed by an adversary to restrict access to our ports. This third generation MCM allows a mother ship to stand-off and deploy a variety of unmanned and autonomous surface and underwater vehicles to clear the minefield and establish a safe path for manned vessels.

The selection of who will supply the next generation MCM capability for the Royal Australian Navy under Project SEA 1905 draws together several very topical issues.

First, autonomous systems generate an asymmetric military power proposition, demonstrated at present by the innovative employment of remotely operated and autonomous drones by Ukrainian forces facing a large and powerful aggressor. Small, relatively cheap, off-the-shelf drones are defeating large, expensive enemy assets. A similar approach using unmanned and autonomous systems by Australia would compensate for our small population and large area of interest. As the Chief of Air Force recently observed, autonomous system can create the force mass that otherwise Australia lacks. Australia is not alone in this trend, with the US Navy planning to create a world-first fleet of 100 drones. The recent US Navy Exercise Digital Horizon held in the Persian Gulf trialled unmanned and autonomous vehicles and is a clear demonstration that the world's military is moving towards these systems.

Second, the history of defence acquisitions has been primarily limited to a relatively small handful of overseas-originated defence primes. This reflects a lack of appetite for risk and a preference for familiarity that ignores that the best solution may not always be offered by the same defence primes every time. However, it is important to note that often Australia does not have the sovereign capability to acquire and sustain our nation's rapidly evolving operational requirements. Local companies can accelerate their development of expertise through appropriate IP sharing from experienced international defence partners.

Third, Defence must buy the best systems available. Both the Minister for Defence and his Minister for Defence Industry colleague have observed that a "counterproductive obsession" with local content quotas for acquisitions must not prevent Defence purchasing the best equipment for the ADF. The French company Exail, short-listed for SEA 1905, has over 90 years of defence pedigree and offers a world-leading, operationally proven third generation MCM system capability that Australia currently lacks. Exail has a proven record of sharing its intellectual property and is focused on working closely with Australian companies like UGL, Acacia Systems, Mission Systems, Australian research institutions and universities, and others, to develop a genuine sovereign capability. Most importantly, the third-generation solution offered by Exail is off-the-shelf and can be rapidly put into service.

Fourth, SEA 1905 provides an additional opportunity for a reset of Australian-French relations. After the recent visit by the Minister for Defence and the Minister for Foreign Affairs and Trade for the two-plus-two meetings with their French counterparts, they announced a joint 155mm ammunition production program. This was a diplomatically strategic announcement to highlight the positive reset in bilateral relations following cancellation of the French submarine contract. Another substantial French contract announcement won on merits would go a great way towards cementing the improved reset relations.

As the government deliberates on the Defence Strategic Review, the acquisition of unmanned and autonomous undersea robots is a key area. With the acquisition of smart sea mines, the government is making strides in the right direction, and with the SEA 1905 tender, the outdated Mine Counter Measures game is being taken into the 21st century. Exail is well-positioned to help Australia achieve its goal of having an autonomous robot capability in the defence sector, while also ensuring a balance between local content and IP transfer from world-leading companies that provide real capability needed for the Royal Australian Navy and Australia.

*Peter Nicholson is a retired Air Vice-Marshal who has served as the Air Commander Australia and as the Head of Strategic Plans and Policy in the Department of Defence in a 32-year career in the RAAF. He is a director of the strategic consulting company AadiDefence Pty Ltd and is assisting Exail to transfer advanced undersea warfare capability to the RAN.*

# New submarines – dreams and nightmares

March 16, 2023

From the ANI

By Tom Lewis\*

The announcement of the route we will take to acquire nuclear submarines is good only in parts. Down the road a decade or so it will be the stuff of nightmares

It starts off with a pleasant vision – three of the best subs in the world, the USA's Virginia class, partly crewed by the US Navy. You know; if I had to pick what might possibly be the best sub in the world I might be tempted to pick the one the Virginia Block V is chasing: the Yasen-M. I'll leave the latest PLAN boat off the table because I know not enough about it - BUT if it is anything like their latest DDGs - it will be pretty nice. Stealth and speed are involved but Complete the Mission is always more fun when you are loaded to the gunwales with bullets and zoom zooms; and THAT is the Yasen-M: 40 bullets and 32 zoom zooms- and more subtly 10 tubes V 4 in the Virginias for the bullets. that sort of capitalises the I in immense firepower in the SS(N) world -boomers are in a different class for IMMENSE.

So what we are really getting in the Viginias Block I to Block IV is a boat driven by the Cold War Peace Dividend with a consequent lot of issues as recorded by the GAO and the US justice system as well as what you can see with the naked eye that can go real fast for a real long time. THAT is what the submariners want - the rest is all dressing, because of two things:

1. The submariners can't define the differences in them or won't; most likely because that would bring value for money into the arena when they say 'awesome'. Questions like what bit of stealth in which part of your mission profile is the game winner or changer or how a boat with 4 tubes has more immense firepower than one with 6, 8 or 10 in a one one one punch up are the questions we'll never get answered.

2. Nothing in the drive it like you stole it and the surrounding window dressing makes my job as a hunter any harder than it might already be - and most of that hardness is due to the ineptitude of ASW thinking and doctrine from detection to ultimate denial (you won't be around to do that again stuff) - take the shackles off that and life becomes like that little dial on your toaster that lets you burn the bread to your heart's content just by extending the time you can apply the heat. And when it comes to ASW heat the temperature scale used should always be F.

Now all of that; regardless of good boat or bad boat, will be easy because ANY boat acquired under FMS really doesn't involve the marvellous destructive involvement of the procurement professionals beyond a mechanical process. So we'll get something that the submariners can drive around like bat out of hell having fun exercising against the occidentals and ignoring any thing that non-occidentals might pull to spoil their day - pretty much repeating the game play of the past 30 odd years. When things like Distant Thunder come up to threaten their existence they just bad mouth it in a corner like they did in the 90s when the ASW world was suffering its own Cold War Peace Dividend issues and too self involved to fight back - eg anyone remember the P-7?



We will then start acquiring a new-design submarine as well, building them in South Australia. All of this will take years to happen, with most of the submarine fleet not arriving until the mid-2030s.

This visionary dream will become a nightmarish situation.

Most of the stuff in the remaining paragraphs must be stuff the Dolphin 22 crowd publish in the brochures -so I'll let them through to the keeper. Except for the sarky blue comment to the brochure writers you may as well cut to the last paragraph.

Nuclear submarines are a great idea. They can stay underwater for months, denying any potential enemy the ability to know where they are, thus forcing him to stop moving their troop-carrying invaders, or escort them extensively with anti-submarine warships. (A diesel-electric boat like the Collins has to almost surface regularly, to acquire air to run the diesels to recharge the batteries.)

Getting the Virginias are another good idea. They are the best hunter-killer submarines around, a proven design which works well. Acquiring them gradually with a lease/dual-manning idea is sensible.

One of the bad aspects of the program though is its pace, or rather its lack of it. Apparently, the production lines are full in the USA, so an Australian financial contribution will be made to speed it up or enlarge it. But even this won't see new vessels for us until several years have passed.

So part one of the vision has around three Virginia-class vessels operating in Australian waters with a dual crew of Americans and our own navy people. This makes sense, as the Virginia's are larger and more difficult to operate in every way than our present Collins boats – almost double the tonnage, half again as long, and with a crew of 135 as opposed to the 58 of the Collins.

Rotating US nuclear-powered submarines on patrol through the shore base HMAS Stirling in Perth also makes sense. It sends a message to would-be aggressors that the Pacific is dominated by the West. [Note to The Dolphin 22 crowd brochure writers from which Tom must be cribbing : Perth is in the IO. To get to the Pacific - you either have to get on the roof to go round the top of Oz or go like a bat out of hell around the bottom -either route is a great place for low tech low skill at the coalface but rat cunning at the top ASW wazzas to cause trouble in some way - you just have to have the doctrine.](#)

The worst part of the program though is the plan to build a new-design submarine here. Given some of the Collins class might still be operating when this starts, we could conceivably be operating three types of boat – a recipe for duplication and difficulties in training, administration, and crewing.

But could we build these vessels anyway? Nuclear submarines are amongst the most complex machines built. Unlike surface warships, they are operating in an environment more akin to working in outer space, where they are surrounded by a hostile environment – seawater under pressure. This pressure increases on the hull as they go deeper, and therefore routinely they have tons of stress upon the hull. A leak of any sort can be disastrous.

Added to that is the submarine's need to remain quiet. Noise transmitted through the water can be heard by potential enemies, and so submarines have engineering and routines to minimise noise: engines mounted to separate them from the hull; pumps turned off, even crew movements restricted.

A third part of the complexity comes from the need to operate in a hostile environment, yet simultaneously operate all of the submarine's weapon systems covertly – until that moment comes when its missiles or torpedoes are unleashed. And then the submarine has to escape. A nuclear boat has tremendous speed – faster than many surface warships – to utilise as part of its defence, but it does start from a compromised base once it fires its weapons.

All up a nuclear attack submarine is a tremendously complicated weapons system. I can't see how we can go in one giant leap from the remainders of an old Collins-class production line, to building the most sophisticated machines on the planet. Some reports say that we will need 20,000 workers to build them.

Britain once went down this road in the 1960s. They wanted to acquire nuclear subs, and they asked the Americans for help. The first, HMS Dreadnought, was powered by a US reactor, made available as part of the 1958 US-UK Mutual Defence Agreement. The keel was laid down on 12 June 1959; the boat was launched on 21 October 1960, and Dreadnought was accepted into service in April 1963. This remarkable speed was partly obtained though because the Royal Navy was in the business of building submarines. The Royal Australian Navy, by contrast, last saw a Collins-class boat, HMAS Rankin, accepted into service in March 2003 – twenty years ago. This is doubtless part of the reason for the general advice that we will not see an Australian-built submarine until the mid-2030s at the earliest.

The Collins-class build though, was a disaster. The vessels had problems with the combat system, excessive noise – at one stage described by the US Navy to the Australian government as “louder than an underwater rock concert” – engine breakdowns, hull welding, propeller noise, fin noise, salt water in the engine feeds, and problems with the periscopes and various other “masts” that use the fin to house them.

**Finally meat and potatoes bit.** It would be nice to be proved wrong, but building a nuclear-powered sub series of our own looks extremely difficult. At the end of the day this project is all about providing – not jobs – but an excellent weapons system to protect Australia. It makes far more sense to keep the first stages of this project and cut away the rest. That would therefore be to simply keep acquiring Virginia-class boats from the USA as fast as possible, and in whatever format they come: secondhand; half crewed by Americans, or whatever.

And the faster the better.

**And Tom was too nice to say it, preferring 'extremely difficult':** the ADO's procurement machine is so broken that, if it were a car, any insurance assessor would be knocking back the claim on the grounds that the pile of wreckage it is looking at is of such a state that it is impossible to determine that it is actually the claimed insured vehicle. The stories that dribble down the Monaro Highway pretty much support an argument that an old Defence Minister was probably right; eg seeing the OPV isn't much more than a canoe. In short, any 'persistent terrors' are ultimately and totally the customer's fault, so he was actually pointing the gun directly at himself. Nothing has changed.

## [Defense Feed](#)

# AUKUS: Success of Australian Nuclear Submarine Deal Depends on Quick Wins



By

[Brent Sadler](#)

[a US view - and note the link to sterling - it's always follow the money isn't it ha](#)

On Monday, [national leaders](#) from Australia, the United Kingdom, and the United States came together in Point Loma Naval Base, San Diego, and announced a decades-long plan – [AUKUS](#) – for [delivering a nuclear attack submarine capability to Australia](#). The intent is to tilt the strategic balance in Asia away from [China](#), but if this endeavor is to survive looming budgetary and political tensions, some quick wins are needed.

In Australia, some see this effort as too expensive and useless, but [polling indicates strong support](#). Meanwhile, some U.S. congressmen have expressed concerns that the agreement may [strain an already struggling shipbuilding](#) program. All three nations [want jobs](#) and economic benefits; while speaking in San Diego, Australia's Prime Minister asserted AUKUS will [generate 20,000 jobs](#). The plan as described seems to address these concerns well enough.

Beginning immediately, there will be increasing [visits to Australia](#) by U.S. and U.K. nuclear submarines. Australian [shipyard workers and sailors](#), meanwhile, will arrive in the U.S. and their sailors join crews on U.S. submarines, thereby becoming acquainted with the rigors of naval nuclear propulsion. Seemingly underscoring this effort, [President Biden](#) announced that U.S. [nuclear submarine Asheville](#) is currently in Australia.

The goal is to increase familiarity with naval nuclear propulsion operations, shipbuilding, and maintenance. This will set the stage for an older [U.S. Virginia-class](#) submarine to be delivered to Australia early next decade.

These movements also provide an early and visible demonstration of America's commitment to AUKUS. Critical to this initial phase's success is the announcement of a larger forward U.S. naval presence to increase training and preparation of Australian shipyards for nuclear maintenance.

Missing from the announcement, unfortunately, was a plan to move one of the Navy's Guam-based [U.S. submarine tenders](#) to Australia. These ships, which conduct nuclear maintenance on deployed submarines, have an obvious role in AUKUS.

By 2027 the plan is for a persistent U.S. submarine presence in [Sterling](#), home to Australia's submarine fleet. These boats will be supported by Australian shipyards and serve as training platforms, giving Australian nuclear submariners valuable experience. This phase of AUKUS will culminate with the delivery of a nuclear submarine – presumably one of the subs based in Australia – the first of three such sales by the early 2030s.

The final phase of AUKUS would see the [co-development of a new submarine](#), initially built in the U.K. with later subs built in Australia. While this would not occur until the 2040s, it nevertheless appears to add undue complexity to a nascent Australian program that would eventually be required to sustain multiple classes of submarines.

The plan, however, does a good job of balancing [trilateral domestic interests](#), while taking a methodical approach to building Australian naval nuclear propulsion competencies. Building a naval nuclear enterprise with its culture of exacting standards takes time, but is critical to the safe operation of an effective nuclear-powered undersea force.

In any scenario, AUKUS will be a very expensive and decades-long endeavor. The complexity and length of the plan highlights some obvious deficiencies in the latest announcement.

Absent are details on [Australia's financial commitment](#), which should complement efforts to grow U.S. submarine shipbuilding capacities. Also missing are any details regarding Australia's proposed support to visiting U.S. nuclear platforms and staff. Lastly, the late addition to AUKUS of a [second advanced technology effort](#), focusing on collaboration on emerging technologies like artificial intelligence and quantum computing, risks diluting political and budgetary commitments critical to a successful nuclear submarine program for Australia.

To survive over the long haul, AUKUS will need to deliver visible results in the next couple years. Those quick wins should include expanded U.S. submarine shipbuilding capacity and a more sustained U.S. forward presence in the Indo-Pacific. Most impactful in the near-term would be the movement of a U.S. submarine tender to Australia, arrival in the U.S. of significant numbers of Australian shipyard workers to learn how and assist in building submarines, and the hosting of a U.S. rotational submarine presence in Australia.

Three national leaders have spoken. That's all well and good, but that's the easy part. Delivering on AUKUS promises will require their personal commitment and that of their successors for years to ensure that it succeeds.