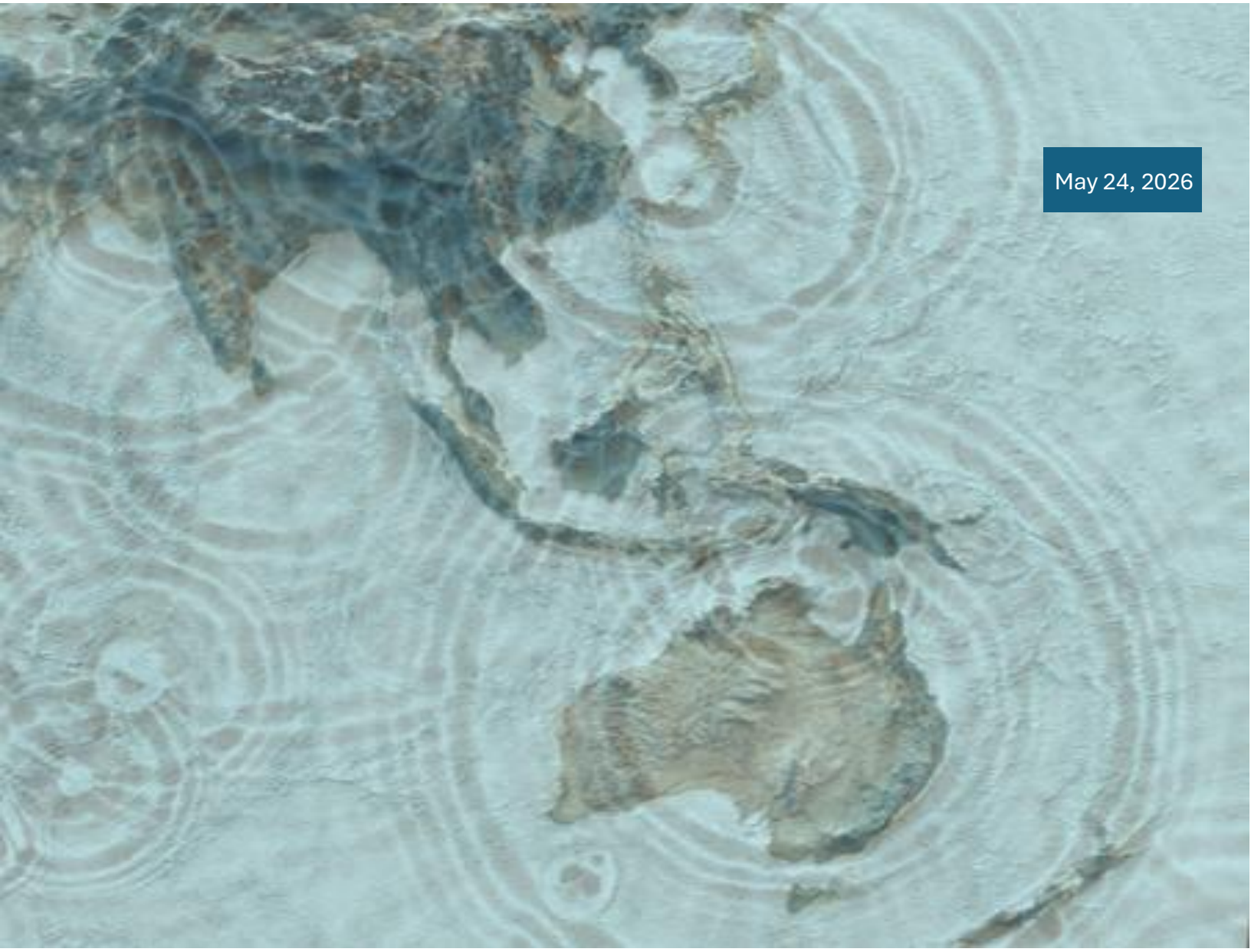

May 24, 2026

AUKUS REIMAGINED:
Australia as an Autonomous Systems Hub

IMPLEMENTATION PLAN: AUSTRALIA-CENTERED AUTONOMOUS FLEET OF DISTRIBUTED, NETWORKED, KILL-CHAIN ENABLING MARITIME DRONES

John Rodman

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TABLE OF CONTENTS

Purpose: This Implementation Plan is a strategic guide for a shift from the current AUKUS focus on Pillar I to Pillar II. It provides participating nations a foundation for creating a Roadmap to an earlier and more responsive defensive and offensive autonomous capability centered in Australia.

Acknowledgements: Summarizing large amounts of previous assessments and data into a coherent planning document makes direct citations more difficult as information from those sources is sliced and diced to provide context, graphics, timelines, and recommendations for next steps. The author would like to recognize that this paper pulls from the outstanding contributions to the AUKUS issue by:

- The Australian Strategic Policy Institute
- The United States Department of Defense
- The Defense Advanced Research Projects Agency
- The Center for Strategic and Budgetary Assessments (CSBA)
- The International Institute for Strategic Studies
- The RAND Corporation.

Caveat: The analysis, observations, and positions in this document are those of the author(s) and do not represent any former or current employer.

EXECUTIVE SUMMARY

Executive Summary

The current AUKUS pathway relies on creating a nuclear submarine deterrence capability in Australia, but this plan is already experiencing challenges; the implementation timeline, potential cost escalation, skilled labor shortages, and political sustainability in each partner nation. While it promises advanced undersea capability, it requires decades of industrial development and substantial and continual investment by Australia, the UK, and the US. An alternative model is to rapidly create in Australia an Indo-Pacific hub for autonomous maritime systems development, deployment, and sustainment. Nuclear submarine acquisition by Australia is delayed or reduced. This alternative plan accelerates Phase II and shifts submarine operations to a system of port facilities in the Pacific.

Multiple assessments have emphasized the importance of the AUKUS Pillar II focusing on advanced technologies such as autonomous undersea systems, AI-enabled ISR, quantum navigation, and cyber capabilities. However, the general assumption is that Phase I is also essential. This paper proposes making Australia a UUV-HUB and autonomous sensing data center for joint Pacific operations. It examines if an autonomy pivot could deliver equal or greater strategic value at lower costs more quickly than the current plan, but also provides possible autonomous force structures, deployment maps, and a five-year implementation plan for shifting to Pillar II as a priority. Some key takeaways:

- **Autonomy-AUKUS offers earlier, more scalable, and more resilient capability**, leveraging distributed systems, AI-enabled sensing, and undersea networks to complicate adversary operations. It takes advantage of the recent standup of the Maritime Autonomous Systems Unit, MASU by the Royal Australian Navy. Focusing on Phase II supports MASU's mandate to build a distributed, networked, kill-web-enabled autonomous fleet able to operate as part of an allied maritime force.
- **Australia's geography, workforce, and tech ecosystem are better aligned with autonomous systems than with nuclear submarine construction.** This may create a comparative advantage in Pillar II. Additionally, the systems integration for collection, surveillance, and targeting of an autonomous fleet may carry over to manned systems.
- **However, a full autonomy pivot** will likely be politically disruptive even if it delivers deterrence in the next few years, decades before SSN-AUKUS reaches maturity. The lower cost of implementing a joint autonomous hub may mitigate some concerns regarding the fiscal viability and regionally destabilizing effects of the current AUKUS.

INTRODUCTION: THE AUSTRALIA AUTONOMOUS SYSTEMS HUB CONCEPT

AUKUS faces major industrial, political, and strategic challenges. The current plan focuses on SSN-AUKUS and offers strategic deterrence at a high price, long timeline, and unsure future. Autonomy-AUKUS shifts to Phase II of AUKUS and expands it by proposing that Australia become the Indo-Pacific hub for autonomous maritime systems development, deployment, and sustainment with SSN support facilities being the end-state for Australia's nuclear submarine component under AUKUS.

This shifts the AUKUS center of gravity from Australian nuclear submarines (Pillar I) to advanced capabilities (Pillar II) that are deliverable this decade. This may create a faster, scalable, and more politically sustainable path to Indo-Pacific security. This emphasizes:

- Large uncrewed underwater vehicles (UUVs)
- Uncrewed surface vessels (USVs)
- Undersea sensor networks
- AI-enabled maritime domain awareness
- Distributed autonomous strike and ASW systems
- Software autonomy stacks and mission packages

This creates a deep technology bench in Australia with many more commercial spin-offs than developing a nuclear submarine build program. It will build a skilled Australian workforce in advanced robotics research, AI and machine learning, strong university research and industrial partnerships, bolster the defense technology sector. This approach leverages Australia's vast maritime approaches for persistent ISR, long-range autonomous patrols, undersea sensor grids, and the testing and evaluation of UUV/USV systems. It aligns with Australia's current industrial and technological strengths and may satisfy some fiscal, political, and social concerns an SSN program in Australia.

Strategically, this approach aligns with the doctrines of distributed maritime operations, mosaic warfare, and attritable warfare. Autonomy-AUKUS may also better counter China's vision of the future battlespace where systems are linked and provide continuous information/intelligence. Autonomous systems are cheaper to produce and faster to iterate, easier to scale, and require minimal specialized infrastructure compared to a nuclear maritime capability that may also require regulatory or governance reform.

Given the substantial hurdles to overcome is this right time for Australia to change the focus and its role under AUKUS to create a near-term, networked, autonomous system? Does combining this with a future dispersed naval force across the region offer the same or better deterrence against China with less regional disruption and cost.

INDO-PACIFIC STRATEGIC CHALLENGES DURING AUKUS IMPLEMENTATION

While AUKUS is characterized as a defense industrial cooperation agreement, the outcome from adding an SSN strategic deterrence capability in Australia to the regional dynamics will impact economies, politics, and security from India to the South Pacific Islands. Some of the challenges that will test the intended outcomes for AUKUS through 2050 are below include China completing its military modernization, the complex maritime environment (competing naval growth, climate, and growing trade route congestion), and the infrastructure, resourcing, and supply chain limits of the AUKUS partners.

Some key points of these challenges are:

- **China Completes Military Modernization and Naval Expansion.** China is rapidly modernizing its maritime advanced anti-submarine warfare capabilities and undersea surveillance networks. When combined with having more combat ships than the US by the end of AUKUS and improved long-range strike systems, the undersea and surface battlespaces in the Indo-Pacific regions will likely be more contested and operationally challenging for Australia, the UK, and the US.
- **Regional Maritime Stability and Environment.** This collection cluttered environment and the Indo-Pacific's vast distances, chokepoints, and archipelagic environments will likely require smaller and more agile collection systems that can be deployed rapidly. Increased shipping and regional naval activity will demand persistent ISR, distributed sensing, and long-endurance platforms – perfectly suited to autonomous systems if they can be linked to multiple operational systems.
- **Alliance Interoperability and Infrastructure Constraints.** Even at this fledgling state the industrial base constraints in all three nations, but particularly the submarine build capacity, are inadequate due to a lack of experienced shipyard workers, skilled workforce with nuclear expertise, and systems incompatibility. Sharing constraints on sensitive design and equipment, amending regulatory and safety requirements, and setting aside funding to prevent significant shortfalls are all being constantly reviewed and coordinated between three nations.
- **Australian and Regional Wariness.** Many questions are being raised by countries like Indonesia, Malaysia, New Zealand, and Vietnam regarding the potential for AUKUS to escalate military and arms races in the region. There are also concerns that it may conflict with existing forums and protocols regarding non-proliferation, freedom of navigation for ships, and whether this is an exclusive Anglosphere club.

An assessment of whether flipping Phase I and Phase II has a positive effect on the above challenges and others should be a first step in reimagining the AUKUS plan.

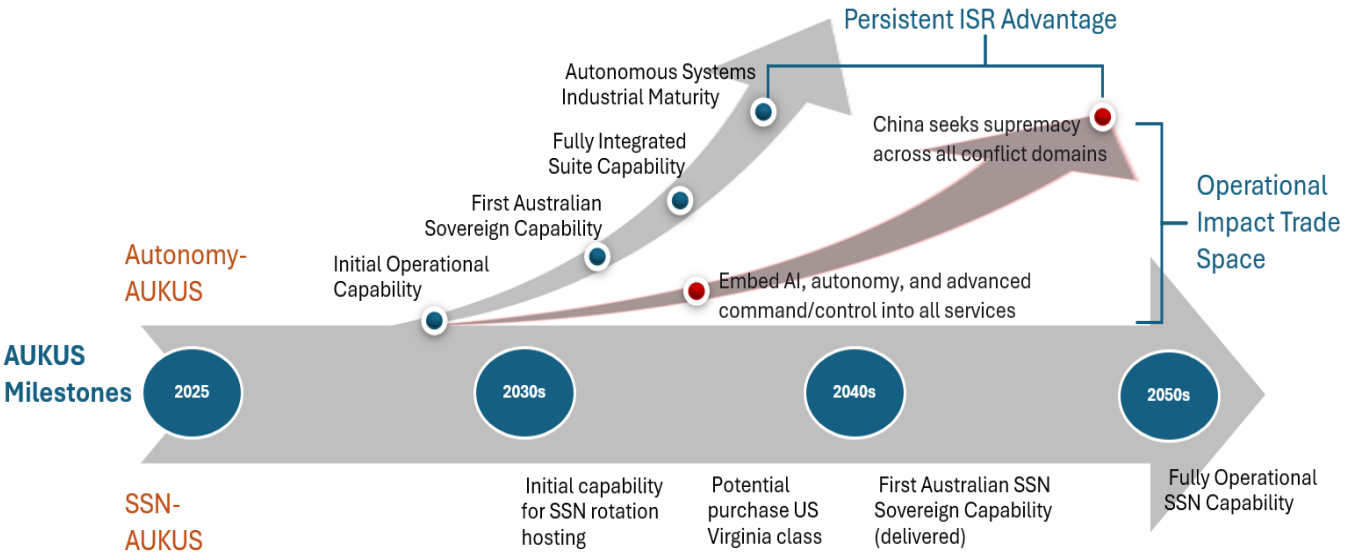
COMPARING THE AUKUS SUBMARINE FOCUS TO AUTONOMY-AUKUS

Under Pillar I, Australia will host UK and US conventionally armed nuclear submarines by the early 2030s, then jointly operate and then own SSNs through the 2040s and 2050s. Phase I may be achieved in a couple decades if funding and momentum are ensured. This creates a dilemma. During this same time, China will likely connect its battlespace, launch enough maritime assets to be the largest navy in the world, and achieve its goal of a capable blue-water power projection. Its current shipbuilding capacity far outstrips the combined capabilities of the AUKUS partners. China has also successfully met its military modernization goals in recent five-year plans, often before predicted.

The AUKUS dilemma is whether in-place SSN deterrence through eventual Australia basing and more frequent submarine rotations is sufficient or is it better to achieve greater awareness of China's capabilities and intentions now through pervasive regional surveillance, targeting, and warning by setting Pillar I aside to put resources on Phase II. These capabilities could deliver earlier operational impact than SSNs, improve monitoring and warning from the Malacca Strait to Taiwan Strait, and require less industrial transformation with many dual-use or transformational technologies for commercial. RAND modeling from 2022 suggests that autonomy-centered forces can deliver equivalent or superior ISR and ASW coverage at 20-40% of the cost of SSNs. This becomes the Operational Impact Trade Space depicted below, which needs a careful examination of all the drivers and factors – including the projected AUD $300 billion investment.

AUKUS Dilemma Branch – Strive for In-place SSN Deterrence or Achieve Pervasive Situational Awareness

Creating Autonomy-AUKUS may provide in-place ISR that keeps pace with, or outpaces, China's systems approach to achieving military superiority. Additionally, indications and warnings, surveillance, and targeting are robust and synchronized so that future maritime/SSN rotations to a more robust set of SSN ports across the region are better informed and more responsive to a crisis before 2030.



Characteristics and comparison of the current and proposed AUKUS plans.

Issue	SSN-AUKUS	Autonomy-AUKUS
Anti-Submarine Warfare (ASW)	• High end ASW capability • Stealth and endurance unmatched • Limited by small fleet size (6–8 boats)	• Distributed ASW networks • Persistent sensing across wide areas • Scalable to dozens or hundreds of platforms • Cyber vulnerable, but resilient with redundancy
ISR and Domain Awareness	• High quality ISR, but limited coverage due to number of platforms • Best suited for deep water intelligence collection	• Persistent ISR across Australia's northern approaches • Integration with space based and airborne sensors • Enables real time maritime picture
Strike and Deterrence Characteristics	• Long range strike with cruise missiles • High survivability • Symbolic and political deterrent	• Distributed strike potential • Harder to target as a system • Less individually survivable but more resilient collectively
Associated Costs/Benefits	• Lifetime cost: AUD $300B+ • Nuclear regulatory infrastructure • Workforce development for nuclear engineering • High risk of cost overruns	• Lower capital cost • Lower sustainment cost • Leverages existing tech workforce & advances commercial sector • Avoids nuclear regulatory burden
Industry Factors	• Requires nuclear shipyard capability • Requires nuclear regulatory regime • Requires long term workforce pipeline • Dependent on U.S./UK industrial capacity	• Builds on existing Australian tech sectors • Easier to build a distributed component supply chain • Faster workforce development • Lower barriers to entry • Potential for export markets
Alliance and Politics	• Deepest possible integration with U.S./UK • High prestige • Politically sensitive domestically • Raises proliferation concerns in Southeast Asia	• Still deep integration, but more flexible • Easier to sell to regional partners • Lower domestic political risk • More adaptable to future coalition structures
Strategic Factors and Impact	• High end deterrence • Blue water reach • Symbol of alliance commitment • Vulnerable to industrial delays	• Distributed, resilient deterrence • Saturation of maritime approaches • Faster adaptation to Chinese countermeasures • Enables coalition operations

IMPACT OF REDUCING/DELAYING AUKUS PILLAR I FOR AUTONOMY-AUKUS

Exercises held by the Australian Strategic Policy Institute and the Center for Strategic and Budgetary Analysis in 2024 looked at alternative uses for the money to be spent on if Australia cancelled the Pillar II SSN acquisition. Those exercises identified the ongoing concerns over industrial capacity, fiscal challenges, complexity of building advanced platforms across the three nations, timetables, and long-term operational challenges. Cancelling AUKUS (Pillar I) submarine acquisition program for Australia and redirecting resources to Pillar II (defense technology development) may have the following outcomes.

1. Operational Impacts

- Immediate Submarine Capability Gap:
    - The Collins-class submarines are aging and undergoing a limited-life extension (LOTE), which might extend service only into the mid-2030s.
    - Without SSN-AUKUS, Australia would have a smaller Virginia-class fleet, reducing submarine-based operational availability. Allied exercises suggest this would likely affect sustained undersea deterrence, maritime surveillance, and anti-submarine warfare (ASW) capability.
    - Partial operational compensation could come from airborne ASW and surface fleet enhancements, but no existing unmanned or crewed system fully replaces nuclear-powered submarines for strategic missions.
- Potential Remedies:
    - The U.S. or U.K. provide supplemental SSN support on a bilateral force-sharing basis to make up for Australian SSN acquisition, which is possible if Australia shifts funding to support 1-2 strategically placed port renovations.
    - Reimagine maritime operations throughout the Malacca Strait, South China Sea, and Taiwan Strait to a more flexible autonomous, networked warning first-line of defense. This inserts Australian operational flexibility into the battlespace using the drone toolkit we have seen in Ukraine at a programmatic level.

2. Strategic Implications

- Political Signaling, Deterrence, and Regional Messaging:
    - Cancelling Pillar will likely limit Australia's blue-water force projection and perceptions of undersea deterrent capability that are based on the strategic deterrent model of a quiet and lethal submarine force.
    - The cancellation could be interpreted regionally as Australia prioritizing defensive and technological resilience over nuclear submarine acquisition. Just

as nations in the region have a range of perspectives on Australia acquiring SSNs, there will be a range of perceptions among allies and potential adversaries as to whether this is a positive or negative move.
    - Predicting the impact on regional geopolitics and how to best message the shift should be examined, gamed, and implemented as a joint AUKUS program.
- Potential Remedies:
    - The AUKUS shift causes a collective shift in partner nations towards a focus on cyber, unmanned systems, AI-enhanced ISR, and more limited missile and strategic response systems. This offers the potential for deescalation or off ramping from a regional arms race.
    - Emphasize that these systems are defensive by design. Australia is investing in autonomous systems and maritime sensing to ensure that the maritime approaches, critical infrastructure, and sea lanes can be monitored for all forms of aggressive or illicit behavior. This can benefit the entire region on environmental, fishing, and security issues.
    - Diplomatically, this move can be conveyed as a pivot toward port and logistics infrastructure that is less provocative to China because it avoids deliberately avoiding large, permanent forward garrisons and a largely defensive posture.

3. Financial and Resource Reallocation

- Abandoning SSN-AUKUS can free up roughly $11 billion[1]:
    - These funds can be used for maritime interdiction and northern Australia defense, including missile batteries, coastal radars, and electronic warfare assets.
    - The funds could be applied to port modernization that provide an early means to facilitate allied operations, distribute basing, and embed rapid mobilization.
    - If reinvested into the research, development, and testing capacity in Australia, the freed-up funds could drive innovation and employment in multiple dual-use industries across Australia.
- Opportunity costs:
    - Australia becomes more dependent on U.S./U.K. nuclear capabilities for peacetime patrols and warfighting contingency.
    - Cancelling SSN-AUKUS does not automatically generate operational capability; redirected investments in Pillar II require multi-year development, testing, and

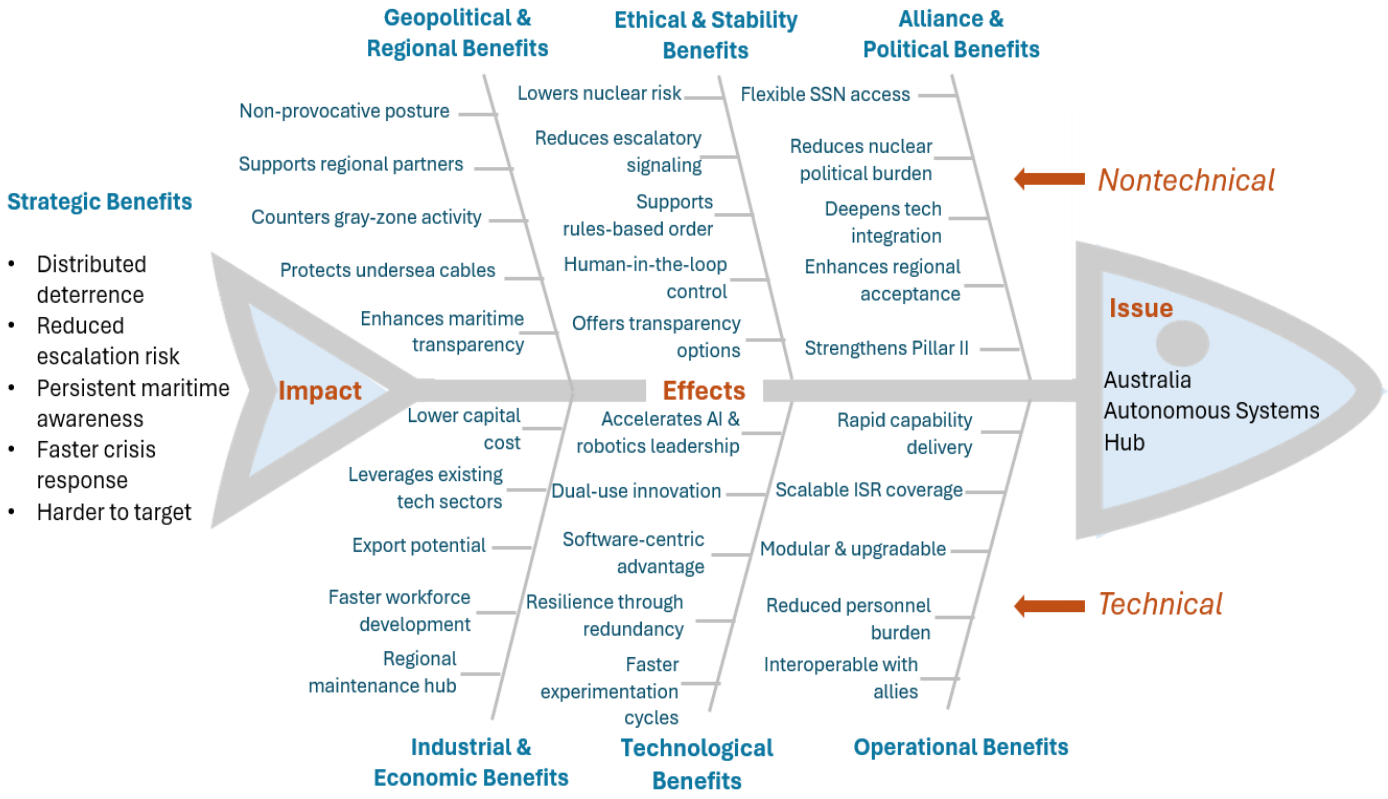
[1] In a series of exercises, four out of six teams cancelled SSN-AUKUS in favor of divesting in the submarines for other long-range strike capabilities. The Center for Strategic and Budgetary Assessments estimated this to result in a one-time savings of $11 billion.

integration that has short-term costs due to the shift in priorities, but likely long-term innovation gains that translate to Australia's people and society.

- Focusing on port upgrades improves force deployment readiness, supporting allied access, resupply, and expeditionary operations—but does not replace SSN stealth, endurance, or deep-undersea strike capabilities.

Using a modified Ishikawa Fishbone process to breakdown the creation of an Australian Autonomous Systems Hub helps identify and summarize the impacts associated with delaying or curtailing Australia's acquisition of nuclear-powered submarines in favor of an Australian Autonomous Hub.

Benefits to Creating an Australian Autonomous Systems Hub



Australia's autonomous networks quietly watch and shape the undersea picture across its approaches and parts of the broader region while integrating SSN operations consistently throughout the theater without the higher expense and risk of permanent Australia nuclear submarine basing.

SUGGESTED AUTONOMY-AUKUS ORDER OF BATTLE AND USE

In this model, Australia acts as a nervous system for the allied Pacific SSN forces. The submarines are not permanently stationed in Australia, nor does Australia own an expanded fleet of SSNs with a deep-strike capability. Instead, this nervous system of sensors loiters or patrols 24/7 – 365 to monitor and provide domain awareness that benefits regional defense as well as illegal fishing, climate data, and defense in a crisis. This system will require coordination with other nations in the area that may be handled by Australia through bilateral or multilateral agreements. This force structure model provides more continuous and pervasive ISR than can be accomplished with a few submarines decades before.

This notional Australian structure under Autonomy-AUKUS creates a defensive, saturation-awareness posture that can provide early warning over a much larger area and is not inherently offensive.

- Large UUVs (ASW/ISR): 60–80
    - Role: Deep-water listening, tracking, and mine countermeasures in Australia's approaches.
    - Posture: Defensive focused on own EEZ and key sea lanes.
- Medium UUVs: 150–200
    - Role: Chokepoint surveillance, harbor defense, seabed infrastructure protection.
    - Posture: Clearly framed as protection of critical infrastructure.
- USVs (sensor + EW + limited strike): 80–100
    - Role: Maritime domain awareness, decoys, non-lethal signaling, and only tightly controlled strike options.
    - Posture: Emphasis on ISR and de-escalatory tools (e.g., shadowing, broadcasting presence).
- Fixed undersea sensor nodes: 300–500
    - Role: Persistent acoustic/non-acoustic sensing in northern approaches.
    - Posture: Defensive tripwire.
- Deployable sensor arrays: 40–60
    - Role: Crisis-time reinforcement of specific areas.
    - Posture: Used sparingly, with clear signaling to avoid surprise.

- ISR UAVs (long endurance): 30–40
    - Role: Wide-area maritime picture, cueing for UUV/USV networks.
    - Posture: Shared data with partners, transparency when useful.
- Crewed surface combatants: 12–16
    - Role: Command nodes, air defense, escort, presence.
    - Posture: Visible, predictable deployments—not "sudden lunges."
- Cyber/AI/autonomy units: 3–5 dedicated groups
    - Role: Software, EW, resilience, red-teaming autonomy.
    - Posture: Quiet backbone, but with strong emphasis on safety and control.

This Australian force structure is integrated into a constellation of ports that provide access points throughout the region, but do not reinforce China's perception of encirclement and containment. These are not large, permanent based but a dispersed set of improved facilities for SSNs and surface ships that can provide network of ports and facilities where U.S./UK SSNs can:

- Replenish
- Conduct light maintenance
- Swap crews
- Reload conventional weapons (where politically acceptable)

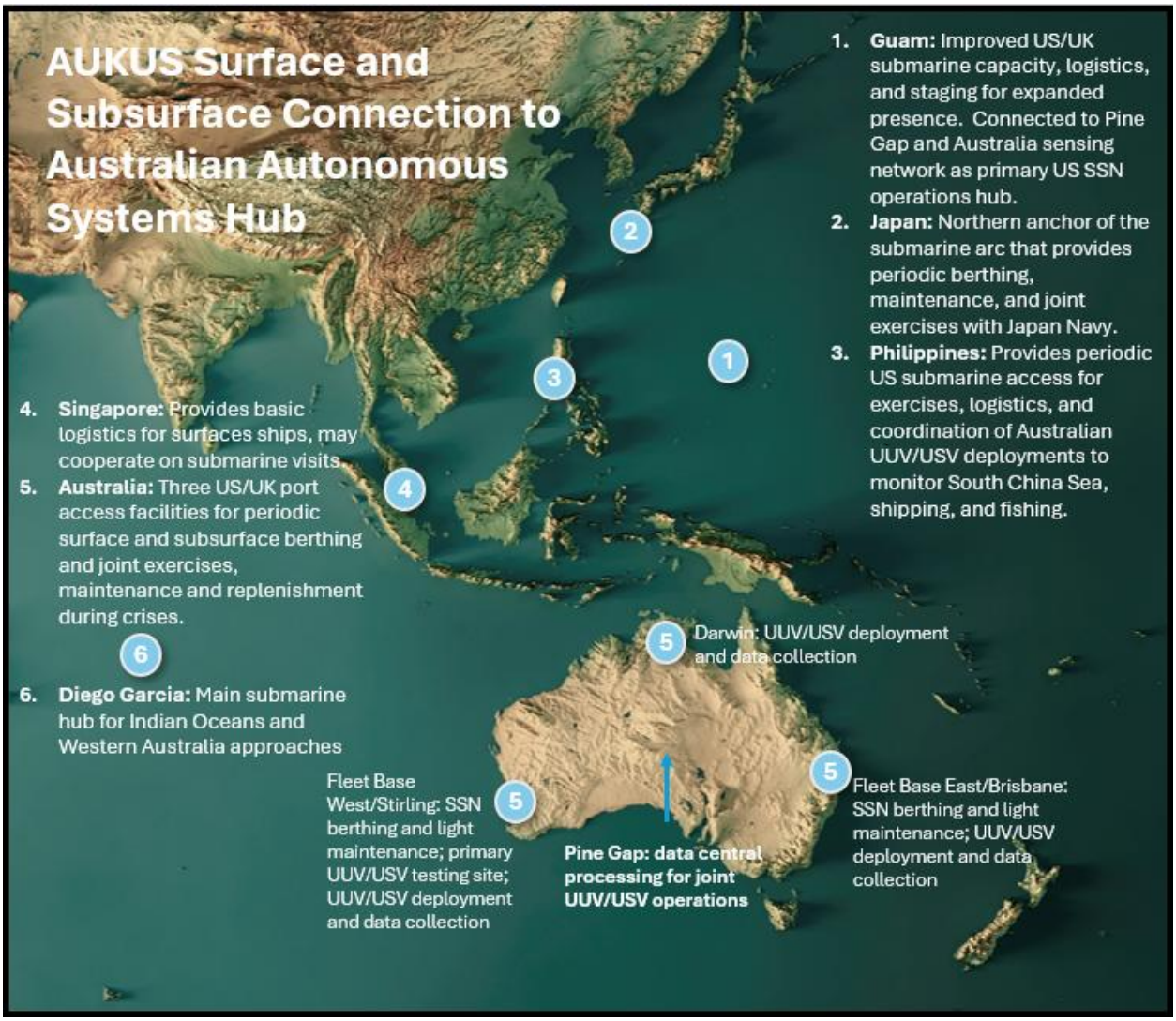
Initial participants include:

- Australia: Primary southern node for autonomy and maritime support
- Guam: An improved, major U.S. hub for submarine operations.
- Japan: Access and visits, maybe limited maintenance.
- Philippines: Episodic access, exercises, not a Cold War Subic redux.
- Singapore / others: Mostly for surface, but politically symbolic.

As the autonomous maritime order of battle matures and is deployed, Australia takes the lead on negotiating with countries that may be affected by the UUVs/USVs. However, these countries could be provided with access to unclassified data on the environment, illicit fishing, and security concerns in return for access or freedom of navigation for the drones.

Notional Basing Map for the Region

On the map, this dispersion of traditional surface and subsurface platforms provides a loose constellation of access points with the large ocean area covered by UUVs/USVs controlled and monitored jointly from Australia.

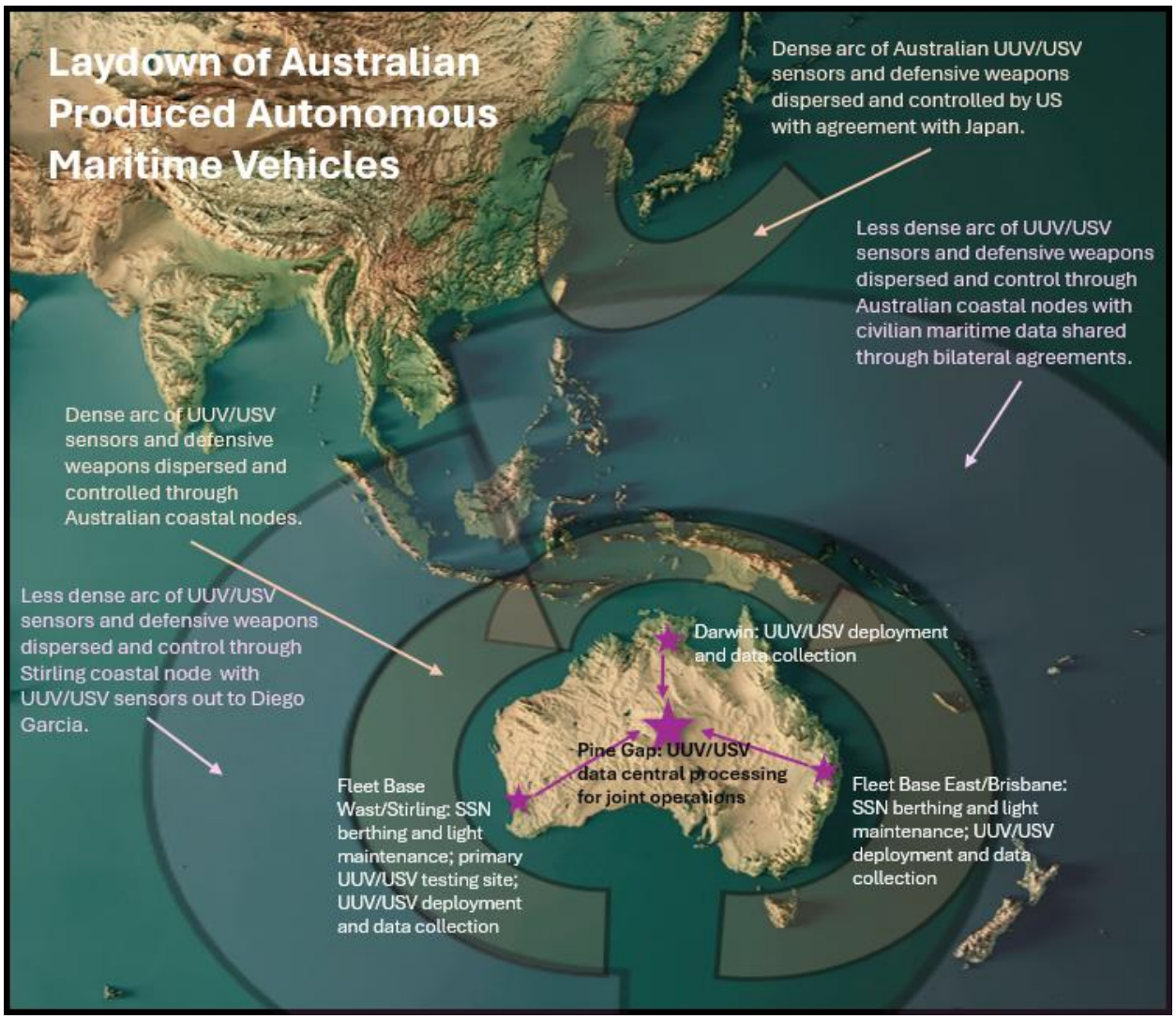


UUV/USV Monitoring, Patrol, and Command and Control Structure

Autonomous platform patrol zones radiate out from northern Australia into the Timor Sea, Arafura Sea, Coral Sea, and parts of the eastern Indian Ocean. In areas where other countries may have maritime control or interests, sensors may be shared in some way or nonsensitive information shared by agreement. These areas might include the Philippine Sea, approaches to the Malacca and Lombok Straits, parts of the South China Sea EEZs through willing partners (e.g., Philippines, Vietnam). Through a bilateral agreement, Australia, Japan, and the U.S. deploy UUVs/USVs from Okinawa to cover the Yellow Sea

and Northern approaches to Taiwan. This data would go to Guam and then back through to Australia for transparency and threat awareness. Although more sparsely deployed, larger drones might be deployed to the West from Stirling in Australia as far out as Diego Garcia to monitor the essential shipping routes for China from the Middle East and across the Indian Ocean. Data fusion would occur at a Command Center for autonomous platforms at Pine Gap in Australia and the primary data collection sites for deployed sensors would be Darwin, Stirling, and Brisbane facilities. Pine Gap would then feed the data, unprocessed or processed as determined by agreement, to Honolulu and the improved facilities in Guam. This creates dense sensing layers in key areas of transit or of strategic value and more sparsely dispersed by integrated sensors over the much wider region.

Notional Autonomous Vehicle Deployment Guide



POLICY RECOMMENDATIONS FOR AUSTRALIA, THE U.S., AND THE U.K.

Shift the deterrence model for Australia from large platforms (more USS Virginia class subs, B-21 equivalent bombers, etc.) to a very large quantity of autonomous sensors that are networked through a central hub in Australia with data disseminated to Joint Bases in the region. This creates an information web better suited to the military capabilities China is creating and may have a greater deterrence capability at a lower cost than large platforms with long-lead times due to its capacity for pervasive surveillance and targeting.

Deterrence is increased and the likelihood of confrontation decreased by:

- **Enhancing Predictability:** Regular, scheduled port visits and exercises from a range of improved access points create an ongoing presence and a commitment to the region that also visibly improves readiness and connectivity among allies.
- **Defensive Framing:** Emphasize autonomous protection of sea lanes, undersea cables, and critical infrastructure so that allied monitoring and presence across the region is tied to shared regional concerns.
- **Shared activities:** Increase joint and shared actions that focus on SAR, disaster response, mine clearance, and infrastructure protection alongside warfighting drills conducted through multilateral exercises with current and future partners.

Reducing the options for China to move unseen, identifying coercive actions earlier, and having hundreds of collectors monitoring at-risk maritime activities is a deterrence. Autonomy-AUKUS increases ISR capability, supports and informs joint exercises, and multinational technology cooperation for next war autonomous systems. The less visible layer consists of hundreds of hard to track and disable undersea sensors and 24/7-365 data fusion across the maritime domain. This improves early warning in the maritime environment on shipping, illicit activities, and climatic risks or threats.

Australia Recommendations	United States Recommendations	United Kingdom Recommendations
Expand autonomous systems R&D and testing infrastructure	Reform export controls that limit high-tech transfers to Australia	Develop synchronization program for SSN industrial capacity based on new
Build sovereign AI and autonomy capabilities	Create a national tradesman program for long-term submarine builds	Partner with Australia on autonomy software and undersea systems
Develop a long-term workforce plan for autonomy and cyber	Increase rotational SSN presence in and around Australia & Pacific ports	Work with U.S. counterparts on design, build, and integration of UUV sensor mesh
Maintain flexibility on SSN timelines and continue facilities improvements	Co-invest in autonomous systems development and testing in Australia	

APPENDIX A: 5-YEAR IMPLEMENTATION PLAN FOR AUTONOMY-AUKUS

Key to successfully shifting the AUKUS program to Autonomy-AUKUS is an Implementation Plan (I-Plan) the lays out the major objectives for subsequent years. This includes developing a guaranteed funding stream, freeing up appropriations across partners, and ensuring that the program is allowed to run for at least five years before a review of whether it should be continued.

Australia as the Autonomous Systems Hub. The overview of the next five years, starting with 2026, follows a sequencing path that eliminates institutional barriers and builds the industrial capacity, and then moves on to initial prototyping, testing, and a deployable autonomous force. It can be summarized as:

- **Year 1** solves the biggest blockers: governance, IP, export controls.
- **Year 2** proves the model with prototypes.
- **Year 3** scales production and begins real operations.
- **Year 4** expands regionally and builds massed-effects capability.
- **Year 5** integrates autonomy into strategy and deterrence.

AUKUS Pillar II:

5-Year Implementation Plan (Australia-Led Autonomous Systems Hub)

(2026–2031)

The goal of the five-year plan is to have a functional fleet of sensors in place by 2031, with incremental testing and build-out beginning as early as 2027. Though the first instinct might be to start this process immediately, it is essential to have in place before creating the in-place systems the proper authorities, designation of roles and responsibilities, and a framing or actual protocols for information sharing and management of the autonomous systems.

Year 1 — Foundation & Governance (2026–2027)

Objective: Build the legal, organizational, and industrial scaffolding for a trilateral autonomy ecosystem.

Deliverables by end of Year 1

- Governance charter
- Shared digital engineering environment
- Initial trilateral IP/data-sharing agreement
- First joint autonomy standards draft

Core Actions

- **Establish the AUKUS Autonomous Systems Steering Group**
  A trilateral authority with decision rights over requirements, standards, and timelines. Chaired by an appropriate Australian senior official with two deputies, one from the United Kingdom and one from the United States.
- **Create an AUKUS Trusted Technology Transfer Framework**
  - Pre-approved export lanes for autonomy-related hardware and software
  - Shared classification guidance for all aspects of the program
  - AUKUS-only ITAR exemptions for specific programs
- **Stand up the Australian Autonomous Systems Hub**
  - Location: South Pine Gap, Australia
  - Functions: R&D, prototyping, integration, testing
  - Staffing: 40% Australian, 30% U.S., 30% U.K. embedded teams
- **Launch three Centers of Excellence**
  - Australia: autonomy & undersea systems
  - U.S.: sensors, AI chips, C2 integration
  - U.K.: swarming algorithms & EW autonomy

Year 2 — Rapid Prototyping & Early Capability Fielding (2027–2028)

Objective: Produce and test early autonomous systems to validate the hub's operating model.

Deliverables by end of Year 2

- First AUKUS autonomous systems prototypes
- Joint autonomy stack v1.0
- Initial swarming trials
- T&E network operational

Core Actions

- **Accelerate Ghost Shark Block 1**
    - 3–5 prototypes delivered
    - Shared payload interfaces
    - Joint autonomy stack integration
- **Launch MQ-28 Ghost Bat AUKUS Variant**
    - Modular ISR/EW payloads
    - Swarm-capable software baseline
- **Begin Maritime Surface Autonomy Program**
    - Small/medium USVs for ASW pickets and maritime domain awareness
- **Stand up AUKUS Test & Evaluation Network**
    - Australian ranges designated as primary autonomy test sites
    - Shared simulation and digital twin environments

Year 3 — Scaling Production & Operational Integration (2028–2029)

Objective: Move from prototypes to scalable production and begin integrating autonomy into real operations.

Deliverables by end of Year 3

- Production lines operational
- First operational autonomous task groups
- Swarm-capable air and undersea systems
- Regional exercises with autonomy components

Core Actions

- **Build the AUKUS Autonomous Production Zone**
    - Co-located AI labs, sensor integration, and rapid prototyping lines
    - 24-month production cycles for UUVs and USVs
- **Field AUKUS Autonomous Task Groups**
    - Mixed U.S.–U.K.–Australian autonomous formations
    - Missions: ISR saturation, ASW pickets, logistics, deception
- **Integrate autonomy into major Indo-Pacific exercises**
    - Talisman Sabre
    - RIMPAC
    - Pitch Black
- **Launch AUKUS Autonomy Safety & Ethics Framework**
    - Shared rules for human-machine teaming
    - Reliability and fail-safe standards

Year 4 — Regional Integration & Massed Autonomy (2029–2030)

Objective: Expand AUKUS autonomy into regional partnerships and develop massed-effects capabilities.

Deliverables by end of Year 4

- Regional autonomy partnerships
- Massed-effects prototypes
- Expanded production
- Sustainment enterprise operational

Core Actions

- **Create the Indo-Pacific Trusted Autonomy Network**
    - Partners: Japan, Singapore, South Korea, possibly India
    - Focus: non-lethal systems, maritime domain awareness, logistics drones
- **Develop Massed Autonomous Effects Concepts**
    - 100+ UUV/USV swarms
    - Air-sea integrated swarms
    - Distributed deception operations
- **Expand Australian production capacity**
    - Double output of UUVs and USVs
    - Add second MQ-28 line
- **Launch AUKUS Autonomy Sustainment Enterprise**
    - Shared spare parts
    - Joint maintenance teams
    - Predictive maintenance AI

Year 5 — Full Operational Capability & Strategic Integration (2030–2031)

Objective: Make autonomous systems a core element of AUKUS deterrence and Indo-Pacific strategy.

Deliverables by end of Year 5

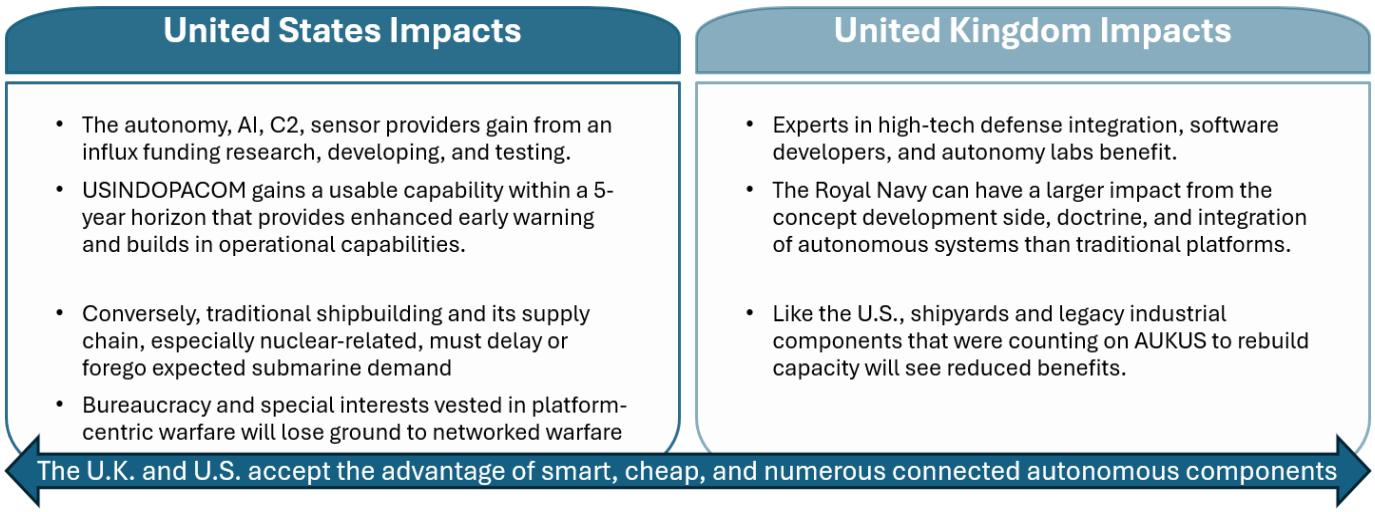
- Full operational autonomy posture
- Integrated trilateral warfighting concepts
- Exportable autonomy packages
- Long-term roadmap

Core Actions

- **Deploy AUKUS Autonomous Deterrence Posture**
    - Persistent undersea sensor-shooter networks
    - Autonomous picket lines
    - Rapid-response air autonomy detachments
- **Integrate autonomy into joint warfighting concepts**
    - U.S. JADC2
    - Australian Integrated Force
    - U.K. Multi-Domain Integration
- **Establish AUKUS Autonomy Export Framework**
    - Non-lethal systems for Southeast Asia
    - Maritime domain awareness packages
    - Training and sustainment programs
- **Publish AUKUS Autonomy Roadmap 2031–2040**
    - Next-generation AI
    - Hypersonic-autonomy integration
    - Space-autonomy convergence

APPENDIX B: WAVE-TOP IMPACT ON THE U.K. AND U.S.

The author acknowledges this is a rewiring of the AUKUS costs and benefits for the United Kingdom and the United States. For the AUKUS coalition, at the highest level, a Pillar II-heavy effort achieves power projection with a more distributed and survivable system of collection, defensive, and offensive platforms. This happens within five years, before submarine operations in Pillar I could even begin. Shifting more resources to Pillar II now could also play to both countries' strengths: the U.S. can be provider of chips, sensors, and global Command and Control connectivity; the U.K. is leveraged for its capabilities in algorithms, systems integration, and niche components. Breaking down the strategic – wave-top – impacts below helps understand and navigate the tensions that may emerge.



Shifting resources to Pillar II risks becoming a defense economy and political issue in both countries, but this is largely a shift in the defense industrial complex and cold war thinking that is now out-of-step with China's military doctrine and agile low, medium, and high-tech warfighting mixes. AUKUS is already experiencing shipbuilding shortages combined with cost overruns. This move supports unmanned systems proponents, near-term deterrence in the Pacific, rethinking defense innovation, and forward-leaning defense R&D. It provides breathing space for the U.K. and U.S. shipbuilding industries to resolve supply and demand challenges or find alternative solutions to future submarine platform requirements.

With this option, Australia becomes a gravitational center rather than a customer. It is the physical hub for testing, production, and operations of autonomous systems. This also makes the U.K. and U.S. division of labor clearer with the U.K. providing algorithms/coding and systems integration, and the U.S. a provider of high-end components that plays to our greater industrial capacity.