

# AUKUS security partnership

In Focus

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AUKUS is a trilateral security partnership between the United Kingdom, the United States of America and Australia agreed in 2021. It consists of two key pillars and has been designed to allow the three nations to cooperate closely on key defence capabilities, including submarine technology and cutting-edge advanced capabilities such as artificial intelligence and quantum technologies.

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On 29 February 2024, the House of Lords will consider the following question for short debate:

“Lord Risby (Conservative) to ask His Majesty’s Government what progress they have made in respect of the AUKUS agreement, the defence and security partnership between the United Kingdom, Australia and the United States.”

# 1. What is AUKUS?

AUKUS is a trilateral defence and security partnership between Australia, the United Kingdom and the United States.<sup>[1]</sup> It was first announced in September 2021 and consists of two pillars:

- Pillar 1 focuses on supporting Australia to acquire its first conventionally armed, nuclear-powered submarine fleet.<sup>[2]</sup> (It does not involve the transfer of nuclear weapons to Australia.)
- Pillar 2 focuses on cooperation in eight advanced military capability areas: artificial intelligence (AI), quantum technologies, innovation, information sharing, and cyber, undersea, hypersonic and counter-hypersonic and electronic warfare domains.<sup>[3]</sup>

The agreement reflects the UK's renewed policy focus on the Indo-Pacific, first articulated in the government's 2021 integrated review of security, defence, development and foreign policy and reaffirmed in the 2023 refresh of the review and the subsequent defence command paper.<sup>[4]</sup>

## 1.1 AUKUS pillar 1

After the AUKUS agreement was announced in September 2021, an 18-month consultation period began to determine the “optimal pathway” for delivering a conventionally armed, nuclear-powered submarine (SSN) capability for Australia, while at the same time ensuring responsible nuclear stewardship and the highest standards of nuclear non-proliferation.<sup>[5]</sup>

A joint steering group, comprising senior officials from each nation, was established to examine the full range of options and that scoping period ended in March 2023. In a joint statement on 13 March 2023, the AUKUS nations set out how pillar 1 of the agreement, the SSN programme, would be achieved, including that the submarine would be based on the UK's next generation design:

“Together we will deliver SSN-AUKUS—a trilaterally-developed submarine based on the United Kingdom's next-generation design that incorporates technology from all three nations, including cutting edge US submarine technologies. Australia and the United Kingdom will operate SSN-AUKUS as their submarine of the future. Australia and the United Kingdom will begin work to build SSN-AUKUS in their domestic shipyards within this decade.<sup>[6]</sup>”

The statement added that the submarines would be built in the UK and Australia, with work to begin by 2030, with a view to entering service towards the end of the 2030s (UK) and the early 2040s (Australia). In the interim, the US will sell Australia three Virginia class SSN, with potential for the sale of a further two. The UK and Australia will both operate the SSN-AUKUS as their conventionally armed attack submarine, equipped for intelligence, surveillance, undersea warfare and strike missions.

In order to deliver conventionally armed, nuclear-powered submarines to Australia at the “earliest possible date”, the statement said that the three nations intended to pursue the following phased approach, moving through each phase based on mutual commitments from each nation:

- Beginning in 2023, Australian military and civilian personnel will embed with the US Navy, the Royal Navy, and in the United States and United Kingdom submarine industrial bases to accelerate the training of Australian personnel. The United States plans to increase SSN port visits to Australia beginning in 2023, with Australian sailors joining US crews for training and development; the United Kingdom will increase visits to Australia beginning in 2026.

- As early as 2027, the United States and United Kingdom plan to begin forward rotations of SSNs to Australia to accelerate the development of the Australian naval personnel, workforce, infrastructure and regulatory system necessary to establish a sovereign SSN capability.
- Starting in the early 2030s, pending congressional approval, the United States intends to sell Australia three Virginia class submarines, with the potential to sell up to two more if needed. This step will systematically grow Australia’s sovereign SSN capability and support capacity.
- In the late 2030s, the United Kingdom will deliver its first SSN-AUKUS to the Royal Navy. Australia will deliver the first SSN-AUKUS built in Australia to the Royal Australian Navy in the early 2040s.<sup>[7]</sup>

The UK currently has two submarine programmes underway: the Astute class SSN and the Dreadnought class SSBN, which will provide the platform for the UK’s strategic nuclear deterrent from the early 2030s.<sup>[8]</sup> The last of the Astute class SSNs is expected into service by 2026 while construction on the Dreadnought class is expected to continue well into the 2030s. SSN-AUKUS will be the next generation successor to the current Astute class SSN.

In March 2023 UK Prime Minister Rishi Sunak said an additional £5bn would be provided to the Ministry of Defence over the next two years, to be “spent in a number of areas including modernising the UK’s nuclear enterprise and funding the next phase of the AUKUS submarine programme”.<sup>[9]</sup> This would be followed by “sustained funding over the next decade to support the SSN-AUKUS programme and will build on the £2bn invested last year in our Dreadnought class submarine programme”.

The government also suggested this would create thousands of jobs in the UK:

“This massive multilateral undertaking will create thousands of jobs in the UK in the decades ahead, building on more than 60 years of British expertise designing, building and operating nuclear-powered submarines. As the home of British submarine building, most of these jobs will be concentrated in Barrow-in-Furness with further roles created elsewhere along the supply chain, including in Derby.<sup>[10]</sup>”

## 1.2 AUKUS pillar 2

The activity areas delineated under the advanced capabilities provided for in AUKUS pillar 2 are the following:

- undersea capabilities
- quantum technologies
- artificial intelligence and autonomy
- advanced cyber
- hypersonic and counter-hypersonic capabilities
- electronic warfare
- innovation
- information sharing

Each capability is led by a trilateral working group. A joint steering group oversees the working groups, with a senior officials group providing overall direction.

In the UK, the Ministry of Defence (MOD) had already committed to invest £6.6bn to 2025 in defence research and development with specific focus given to emerging technologies in AI, AI-enabled autonomous systems, cyber, space, directed energy weapons, hypersonics and quantum computing.<sup>[11]</sup> However, in the 2023 refresh of the defence command paper previously published in 2021, the government committed to investing “significantly more” in these emerging capabilities:

“Recognising that maintaining our technological edge is as battle-winning as anything in the force, we plan to invest significantly more than £6.6bn in advanced research and development (R&D) to create and seize the opportunities presented by new and emerging technologies, to enhance the military capabilities available to the UK and our allies, and to help maintain our strategic advantage.

The defence [science and technology] enterprise is the bedrock of our R&D system. We will therefore increase investment in our in-house capabilities in those areas which are key to evolving security challenges and future technological advances, or which underpin MOD’s ability to engage effectively with external partners and suppliers.<sup>[12]</sup>”

Among the key priorities identified in the refresh were AI and quantum technologies.

## 2. What progress has been made in delivering AUKUS?

In December 2023, the AUKUS nations issued a joint statement to mark the second anniversary of the agreement.<sup>[13]</sup> The statement said that the three nations had deepened collaboration and made progress in delivering several aspects of pillar 1:

“For Australia’s acquisition of conventionally armed, nuclear-powered submarines (pillar 1), AUKUS partners are collaborating to deliver this capability at the earliest possible date while upholding the highest nuclear non-proliferation standard.<sup>[14]</sup>”

Adding that “exceptional progress” had been made since the March 2023 announcement of the ‘optimal pathway’ for Australia to acquire conventionally armed, nuclear-powered submarines, the statement highlighted specific progress on the following:<sup>[15]</sup>

- **Increased Royal Australian Navy education and training:** The statement said that “significant progress” had been made on increased education and training opportunities for Royal Australian Navy personnel to attend specialized US and UK schools.
- **Increased industry training:** The statement noted that the first tranche of Australian industry personnel have commenced work at Pearl Harbor Naval Shipyard in the United States and Barrow-in-Furness shipyard in the UK to develop their skills to build and sustain nuclear-powered submarines. It said this will support future maintenance activities during nuclear-powered attack submarine (SSN) visits to Australia.

- **Preparing for Submarine Rotational Force (SRF)-West:** The statement said efforts were “well underway” to increase Australia’s experience with nuclear-powered submarines and build Australia’s capacity to participate in future maintenance activities. It also said that Australian sailors will commence duty in Guam in early 2024 to build their SSN maintenance skills and qualifications in the lead up to SRF-West, the name given to a planned UK and US rotational presence at HMAS Stirling near Perth, Western Australia. The three nations have also agreed to the increased frequency of SSN visits to HMAS Stirling in 2024. The next US SSN visit is planned to occur in the first half of 2024. The first planned maintenance activity of a US SSN is planned to occur at HMAS Stirling in the second half of 2024. The statement said this represents a “substantial increase” in Australian Defence Force participation in maintenance activities on US SSNs. The UK also reiterated its commitment to increasing SSN port visits beginning in 2026.

The statement also noted outstanding legislative action required to implement AUKUS.<sup>[16]</sup> Since the publication of that statement, the US Congress passed the AUKUS Undersea Defense Act, providing for a range of measures including the sale of Virginia class US submarines to Australia.<sup>[17]</sup>

The statement also provided an update on progress towards delivering pillar 2, saying the AUKUS nations were making sure each nation had the capability to respond to rapidly evolving threats:

“For advanced capabilities (pillar 2), AUKUS partners are substantially deepening cooperation on a range of security and defence capabilities, making sure that each nation has the capabilities needed to defend against rapidly evolving threats. Through these efforts, AUKUS contributes to integrated deterrence by pursuing layered and asymmetric capabilities that promote increased security and stability.”

With regard to specific progress indicators on pillar 2 the statement highlighted the following:

- **AUKUS maritime autonomy experimentation and exercise series.** The statement said the AUKUS partners will undertake a series of integrated trilateral experiments and exercises aimed at enhancing capability development, improving interoperability, and increasing the sophistication and scale of autonomous systems in the maritime domain.
- **Trilateral anti-submarine warfare.** The statement said the AUKUS partners have demonstrated and will deploy common advanced AI algorithms on multiple systems, including P-8A maritime patrol aircraft, to process data from each nation’s sonobuoys. It said these joint advances will allow for timely high-volume data analysis, improving the partnership’s anti-submarine warfare capabilities.
- **Undersea vehicle launch and recovery.** The AUKUS partners are integrating the ability to launch and recover undersea vehicles from torpedo tubes on current classes of submarines to deliver effects such as strike and intelligence, surveillance, and reconnaissance.
- **Quantum positioning, navigation, and timing.** The statement said that AUKUS partners were accelerating the development of quantum technologies for positioning, navigation, and timing in military capabilities.
- **Resilient and autonomous AI technologies (RAAIT).** The statement said that AUKUS partners were delivering AI algorithms and machine learning to enhance force protection, precision targeting, and intelligence, surveillance, and reconnaissance. It added that the AUKUS nations aimed to integrate RAAIT into national programmes in 2024, to pursue the rapid adoption of these technologies across land and maritime domains.

- **Deep space advanced radar capability.** The statement said that AUKUS was accelerating capabilities that provide trilateral partners with advanced technology to identify emerging threats in space. It added that radar sites will be in the United States, United Kingdom, and Australia. The first site in Western Australia will be operational in 2026, with all three in service by the end of the decade.
- **Cyber.** The statement said that AUKUS partners were engaging on cyber security with critical suppliers to the naval supply chain. It said they were also working to strengthen cyber capabilities, including protecting critical communication and operations' systems.
- **Establishing trilateral requirements.** The statement said that AUKUS partners were committed to ensuring AUKUS capability and technology development focuses on the most important military challenges each nation faces. A key collaborative forum to this end is the International Joint Requirements Oversight Council, including identifying and validating operational requirements.
- **AUKUS innovation challenges.** The statement said AUKUS partners were aligning their defence innovation ecosystems by creating opportunities for trilateral cooperation including innovation challenges in which companies will be able to compete for prizes on a common innovation challenge topic.
- **Defence trade and industrial base collaboration.** The statement said AUKUS partners were working to facilitate deeper and more rapid defence trade by streamlining policies and processes.
- **AUKUS advanced capabilities industry forum.** The statement said the three nations would establish and convene a standing industry forum to help inform policy, technical, and commercial frameworks to facilitate the development and delivery of advanced capabilities.
- **AUKUS Defense Investors Network.** The statement said that AUKUS partners were increasing and expanding private sector engagement, including through the creation of an AUKUS Defense Investors Network.

### 3. Recent commentary and debate

The 1 December 2023 joint statement was followed by a written ministerial statement made on 4 December 2023 by Secretary of State for Defence Grant Shapps, in which he formally updated Parliament on these measures.<sup>[18]</sup> On 8 January 2024, Minister for Defence Procurement James Cartlidge added that the partners had “made significant progress in developing the AUKUS partnership”.<sup>[19]</sup> He added:

“The AUKUS defence ministerial meeting last month announced a range of tri-national activities taking forward advanced capabilities, including our deep space advanced radar capability, DARC. Australian personnel are training in the UK and the US, and £4bn-worth of contracts have been awarded to UK companies building SSN-AUKUS [submarines]. Finally, [the US] Congress passed legislation to enable AUKUS to facilitate frictionless trade between partners, including the reform of the international traffic in arms regulations.”

Mr Cartlidge also suggested the programme would generate 1,700 jobs at the Rolls Royce Raynesway site in Derby to build reactors for the UK and Australia.<sup>[20]</sup>

On 13 February 2024, Foreign Secretary Lord Cameron of Chipping Norton reiterated in the House of Lords that the three AUKUS partners were “making significant progress to deliver nuclear-powered submarines for the UK and Australia” and “deepening co-operation on cutting-edge military technologies”.<sup>[21]</sup> He added there was potential for future collaboration on pillar 2 activities with partners such as Canada and Japan.

Outside of Parliament, the AUKUS programme has been welcomed by many defence commentators, though many have highlighted that it carries both risk and opportunity. For example, writing for the Royal United Services Institute (RUSI) and speaking specifically of pillar 1, Dr Sidharth Kaushal says that the three nations must guard against any perception that the programme is a weakening of individual capabilities—particularly considering the delivery of US submarines to Australia—and adds that there will be significant operational challenges.<sup>[22]</sup> He writes:

“[The AUKUS] submarine deal involves both short- and longer-term opportunities to the parties involved, although it is not without risk. In the short term, it will be crucial to both shield the sale of the Virginia class to Australia from the risk that it is seen as a diversion of capacity from the US Navy. Demonstrating both the value of diversifying basing and, potentially, Australia helping to resolve US maintenance bottlenecks could help accomplish this. In the long term, a joint effort to deliver an SSN based on the British model could allow both the Royal Navy and the Royal Australian Navy to generate much needed capacity. The project will however need to manage design trade-offs, as well as potential early strains on human capital.<sup>[23]</sup>”

Similarly, Andrew Dowse, the director of RAND Australia, said that the AUKUS partnership will benefit each participant, but “is not without its challenges”.<sup>[24]</sup> He highlighted for example the “enormous uplift in workforce skills and numbers required in Australia to build, operate, and support nuclear-powered submarines”. He also argued there had been public perception challenges with regard to the use of US shipyards to support the provision of submarines to Australia, and in Australia itself on the issue of nuclear proliferation. Speaking to the importance of both pillars 1 and 2, Mr Dowse contended that the ultimate success of AUKUS “will lie not only in the cooperation in technological development but also in the application of advanced allied capabilities and the full suite of efforts to strengthen integrated deterrence”.

## 4. Read more

- UK Parliament, ‘[Written questions so far in the 2023/24 session: AUKUS](#)’, accessed 15 February 2024
- House of Commons Library, ‘[AUKUS submarine \(SSN-A\) programme](#)’, 22 November 2023; ‘[AUKUS pillar 2: Advanced capabilities](#)’, 9 November 2023; and ‘[The AUKUS agreement](#)’, 11 October 2021
- House of Commons Defence Committee, ‘[UK defence and the Indo-Pacific](#)’, 24 October 2023, HC 183 of session 2022–23; and ‘[Government response](#)’, 11 January 2024
- House of Lords Library, ‘[AUKUS agreement to exchange naval nuclear propulsion information](#)’, 14 January 2022

- US Congressional Research Service, ‘[AUKUS and Indo-Pacific security](#)’, 19 May 2022; ‘[AUKUS pillar 2: Background and issues for Congress](#)’, 20 June 2023; ‘[AUKUS nuclear cooperation](#)’, 15 November 2023; and ‘[Navy Virginia-class submarine program and AUKUS submarine proposal: Background and issues for Congress](#)’, 16 February 2024
  - Parliament of Australia, ‘[Australia’s security relationships](#)’, June 2022
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- 2 House of Commons Library, ‘[AUKUS submarine \(SSN-A\) programme](#)’, 22 November 2023. [Return to text](#)
- 3 House of Commons Library, ‘[AUKUS pillar 2: Advanced capabilities](#)’, 9 November 2023. [Return to text](#)
- 4 Cabinet Office, ‘[Global Britain in a competitive age: The integrated review of security, defence, development and foreign policy](#)’, 16 March 2021, CP 403; and ‘[Integrated review refresh 2023: Responding to a more contested and volatile world](#)’, 13 March 2023, CP 811. See also: Ministry of Defence, ‘[Defence’s response to a more contested and volatile world](#)’, 18 July 2023, CP 901. [Return to text](#)
- 5 House of Commons Library, ‘[AUKUS submarine \(SSN-A\) programme](#)’, 22 November 2023. [Return to text](#)
- 6 Prime Minister’s Office, ‘[Joint leaders statement on AUKUS](#)’, 13 March 2023. [Return to text](#)
- 7 As above. [Return to text](#)
- 8 House of Commons Library, ‘[AUKUS submarine \(SSN-A\) programme](#)’, 22 November 2023. SSNs are nuclear-powered attack submarines and SSBNs are nuclear-powered ballistic missile submarines. [Return to text](#)
- 9 HM Government, ‘[British-led design chosen for AUKUS submarine project](#)’, 13 March 2023. [Return to text](#)
- 10 As above. [Return to text](#)
- 11 House of Commons Library, ‘[Emerging and disruptive defence technologies](#)’, 13 November 2023. [Return to text](#)
- 12 Ministry of Defence, ‘[Defence’s response to a more contested and volatile world](#)’, July 2023, CP 901. [Return to text](#)
- 13 US Department of Defense, ‘[AUKUS defense ministers meeting joint statement](#)’, 1 December 2023. [Return to text](#)
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- 15 As above. [Return to text](#)



- 16 As above. [Return to text](#)
- 17 US Congress, ‘[AUKUS Undersea Defense Act: HR3939](#)’, accessed 12 February 2024; and Guardian, ‘[US Congress passes bill allowing sale of AUKUS nuclear submarines to Australia](#)’, 14 December 2023. [Return to text](#)
- 18 House of Commons, ‘[Written statement: Update on the AUKUS defence partnership \(HCWS89\)](#)’, 4 December 2023. [Return to text](#)
- 19 [HC Hansard](#), 8 January 2024, cols 12–13. [Return to text](#)
- 20 As above. [Return to text](#)
- 21 [HL Hansard](#), 13 February 2024, cols 142–6. [Return to text](#)
- 22 Dr Sidharth Kaushal, ‘[SSN-AUKUS: Opportunities, risks and implications](#)’, RUSI, 15 March 2023. [Return to text](#)
- 23 As above. [Return to text](#)
- 24 Andrew Dowse, ‘[Opportunities and challenges of AUKUS](#)’, Georgetown Journal of International Affairs, 7 February 2024. [Return to text](#)

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