Nuclear-powered submarines at HMAS Stirling & US/joint facilities (intelligence, surveillance and communications) in WA

Webinar: Stop AUKUS WA

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The argument

- AUKUS cannot be separated from the wider evolution of Australian C 21st militarization, typified by
  - foundation in constitutive settler-colonial racialised identification – AUKUS = Anglosphere
  - culturally invisibility,
  - alliance-dependent high technology, and
  - severe limits on defence decision-making resulting from US political, economic and cultural penetration,
  - leading to learned institutional incapacity to distinguish US and Australian national interests

- Now two key dimensions driven by US planning for a refurbished alliance system :
  - Hosting and enabling of US weapons platforms (B-52s to Tindal; Virginia-class US SSNs to Stirling)
  - Expansion of hosting/"partnering" of enablers of US war fighting - command, control, communications, intelligence and surveillance facilities

Australian Defence Facilities, Nautilus Institute Briefing Book,
at https://nautilus.org/publications/books/australian-forces-abroad/defence-facilities/

- HMAS Stirling and Submarine Rotational Force – West
  - US and UK submarine visits to HMAS Stirling, Western Australia

- Deep-Space Advanced Radar Capability [DARC]
  - Deep-Space Advanced Radar Capability, Site 1, Exmouth, Western Australia
  - Deep-Space Advanced Radar Capability, Site 2, Cawdor Barracks, St Davids, Wales

Nautilus Institute Briefing Book: *Australian Defence Facilities*, at https://nautilus.org/publications/books/australian-forces-abroad/defence-facilities/

HMAS Stirling and Submarine Rotational Force – West

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Under construction. Last updated: 28 August 2025

See also:

- US and UK submarine visits to HMAS Stirling, Western Australia

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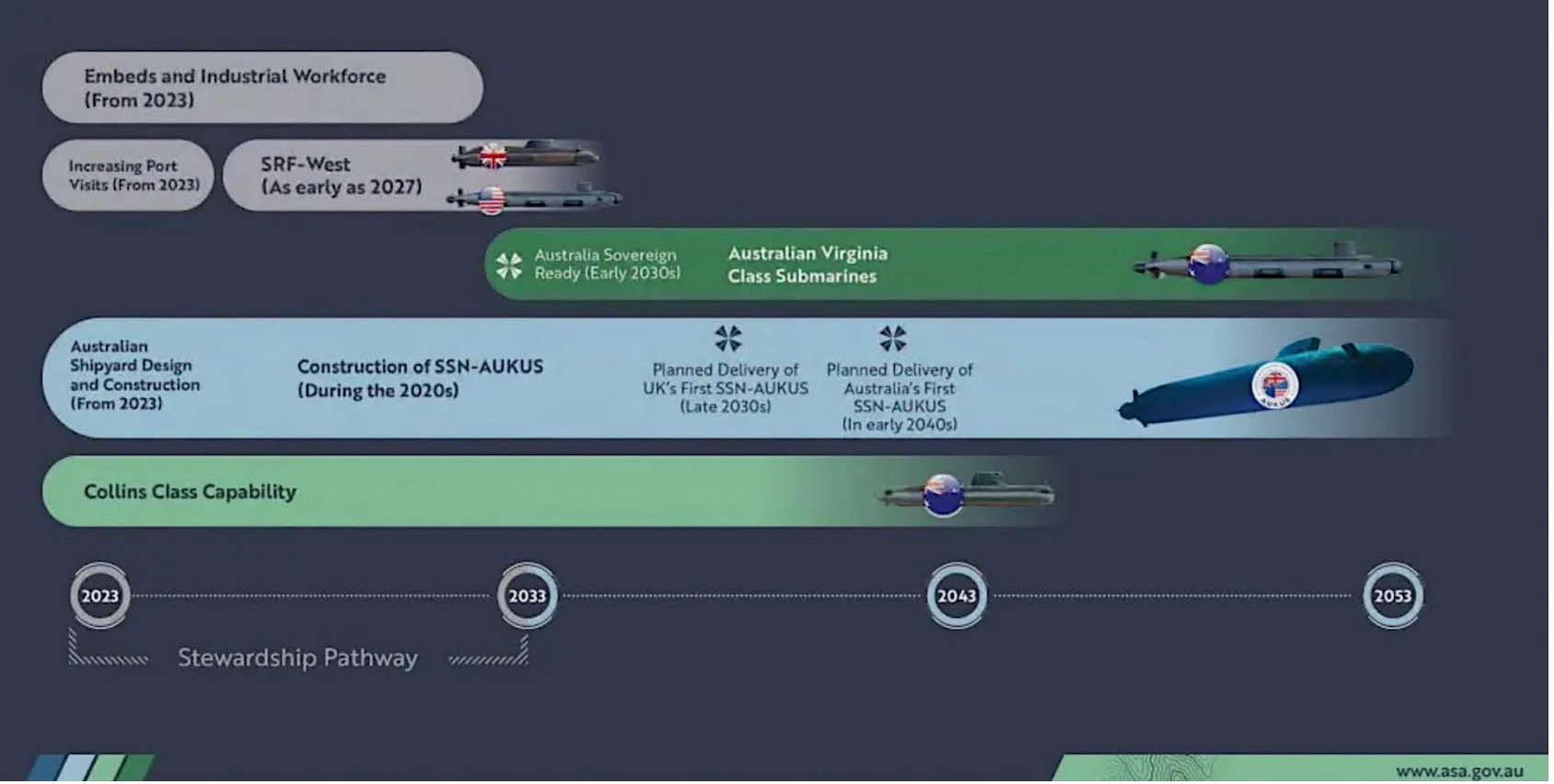


The Australian story: 'AUKUS Pillar 1 planned timeline', Australian Submarine Agency

Source: 'Optimal Pathway', Australian Submarine Agency, updated: 20 June 2025

The US story:

Ronald O'Rourke, Navy Virginia-Class Submarine Program and AUKUS Submarine (Pillar 1) Project: Background and Issues for Congress, Congressional Research Service, RL32418, 28 March 2025.

- Embedding of Australian personnel
- Rotational deployments of U.S. and U.K. SSNs from Australia.
- Sale of three to five Virginia-class boats to Australia.
- Replacement SSNs to be built for U.S. Navy.
- UK and Australia construction of SSN AUKUS boats incorporating U.S. technology.
- Australian investments in U.S. and UK submarine industrial bases.

US attack submarine visits to HMAS Stirling, Western Australia, 1976 - 1982

Dates of Visit	Name of Submarine
14-18 August 1976	USS Snook
19-27 April 1979	USS Tunny
20-25 October 1979	USS Pintado
24-29 October 1979	USS Gurnard
26 March - 1 April 1980	USS Haddock
1-7 April 1980	USS Los Angeles
19-26 May 1980	USS Guardfish
18-25 July 1980	USS Puffer
25-30 July 1980	USS Baton Rouge
13-19 August 1980	USS Tautog
6-11 September 1980	USS Groton
11-16 September 1980	USS Permit
10-17 November 1980	USS Omaha
16-22 December 1980	USS Haddo
23-29 December 1980	USS Philadelphia
6-11 February 1981	USS Memphis
27 February - 6 March 1981	USS Gurnard
15-22 April 1981	USS Cavalla
22-27 May 1981	USS Pintado
29 May - 3 June 1981	USS Bluefish
6-13 July 1981	USS Los Angeles
8-13 July 1981	USS Cincinnati
11-17 August 1981	USS Haddock
23-30 September 1981	USS New York City
5-12 October 1981	USS Bremerton
22-28 October 1981	USS Flasher
30 November - 7 December 1981	USS Aspro
29 January - 5 February 1982	USS Tautog
10-17 February 1982	USS Puffer
19-26 March 1982	USS Sea Horse.

Source: Desmond Ball, 'Limiting danger from nuclear attack', in Desmond Ball and J.O. Langtry (eds.), *Civil Defence and Australia's Security in the Nuclear Age*, (Sydney: George Allen and Unwin, 1983), p. 154, drawing on CPD, House of Representatives, 22 March 1981, p. 1080; 5 May 1981, p. 2004; 10 June 1981, p. 459; 19 August 1981, p. 459; and 4 May 1982, p. 2226.

US submarine visits to HMAS Stirling, 2022 - 2025

Vessel name	ID no	Dates	Class	Block / Flight	Homeport	Unit
USS Minnesota	SSN 783	2025.02.25 - 2025.3.01 (+)	*Virginia*	II	Naval Base Guam	Submarine Squadron 15
USS Hawaii #	SSN 776	2024.08.?? - 2024.09.??	*Virginia*	I	Joint Base Pearl Harbor-Hickam	Submarine Squadron 1
USS Annapolis	SSN 760	2024.03.?? - ?	*Los Angeles*	III	Naval Base Guam	Submarine Squadron 15
USS North Carolina	SSN 777	2023.08.0? - ?	*Virginia*	I	Joint Base Pearl Harbor-Hickam	Submarine Squadron 1
USS Asheville	SSN 758	2023.03.01 - 2023.03.20	*Los Angeles*	III	Naval Base Guam	Submarine Squadron 15
USS Mississippi	SSN 782	2022.11.28 - 2022.12.01	*Virginia*	II	Joint Base Pearl Harbor-Hickam	Submarine Squadron 1
USS Springfield #	SSN 761	2022.04.22 - 2022.04.28	*Los Angeles*	III	Naval Base Guam	Submarine Squadron 15

Note: * = in port at least this day. + = in port within this period. # = 3 week maintenance visit with *Emory S. Land*-class submarine tender

Virginia-class SSN 'general characteristics' and variations by block

Builder: General Dynamics Electric Boat and HII- Newport News Shipbuilding

Date Deployed: USS Virginia commissioned Oct. 3, 2004

Propulsion: One nuclear reactor, one shaft

Length: 377 feet (114.8 meters); 461 feet (140.5 meters) with Virginia Payload Module

Beam: 34 feet (10.36 meters)

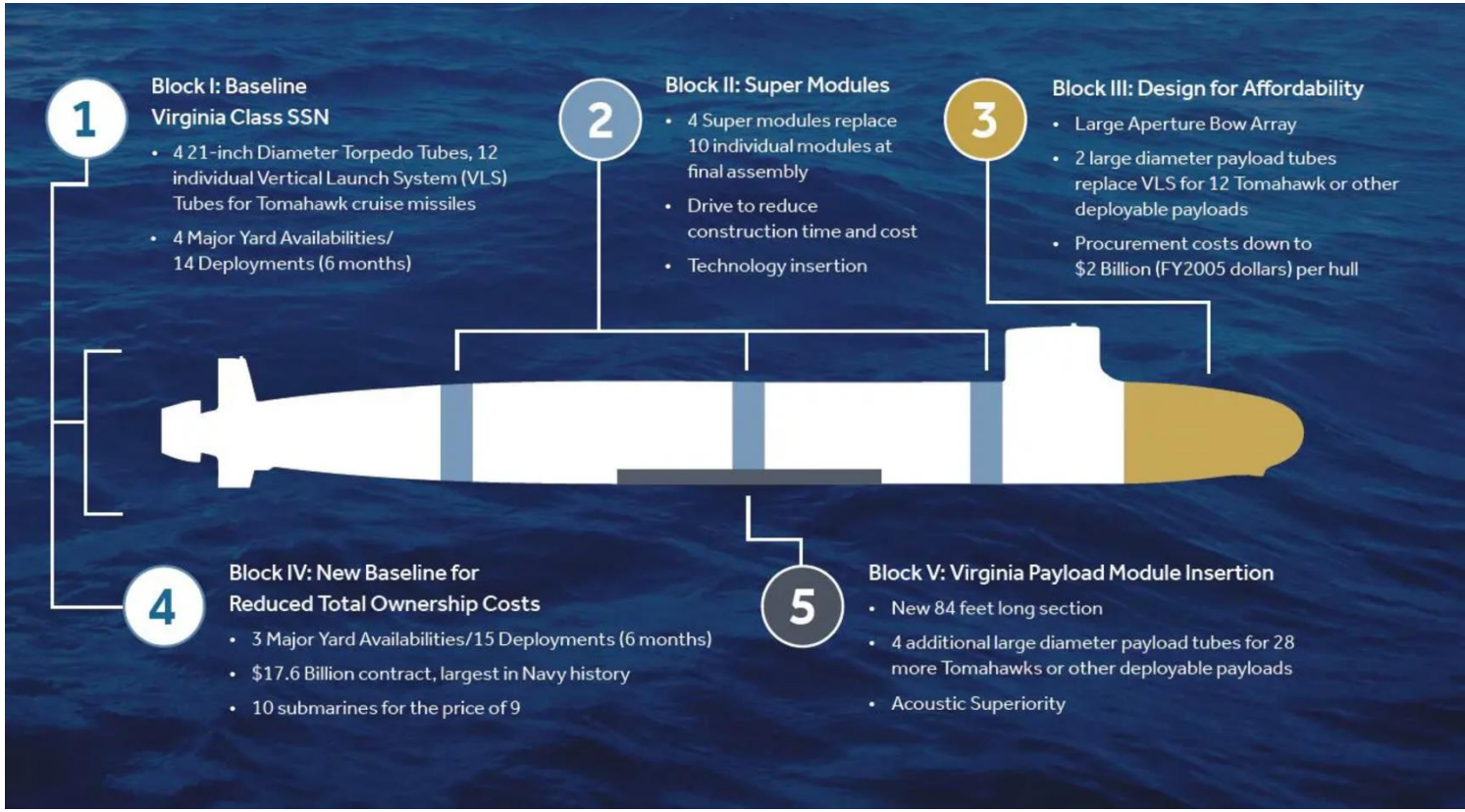
Displacement: Approximately 7,800 tons (7,925 metric tons) submerged; 10,200 tons (10,363.7 metric tons) with VPM

Speed: 25+ knots (28+ miles per hour, 46.3+ kph)

Crew: 145: 17 officers; 128 enlisted

Armament: Tomahawk missiles, 12 Vertical Launch System tubes (SSNs 774-783) or two Virginia Payload Tubes (SSNs 784 and beyond, and four additional payload tubes (SSNs 803 and beyond); Mk 48 Advanced Capability torpedoes, four torpedo tubes.

Source: 'Attack submarines', *America's Navy*, last updated 1 July 2025, https://www.navy.mil/



Virginia Class Submarine Design Evolution by Block.
Source: 'Virginia-class SSN', Submarine Industrial Base Council

Stockholm International Peace Research Institute, Top 10 companies arms-producing and military services companies in the world, 2023

Rank[a]		Company[b]	Country[c]	Arms revenues ($ m.)		Change in arms revenues, 2022–23 (%)	Total revenues ($ m.)	Arms revenues as a % of total revenues
▲ 2023	2022			2023	2022[d]		2023	2023
1	1	Lockheed Martin Corp.	United States	$60,810	$61,820	–1.6% ▼	$67,570	90.0%
2	2	RTX	United States	$40,660	$41,190	–1.3% ▼	$68,920	59.0%
3	3	Northrop Grumman Corp.	United States	$35,570	$33,620	5.8% ▲	$39,290	90.5%
4	4	Boeing	United States	$31,100	$30,500	2.0% ▲	$77,790	40.0%
5	5	General Dynamics Corp.	United States	$30,200	$29,270	3.2% ▲	$42,270	71.4%
6	6	BAE Systems	United Kingdom	$29,810	$29,150	2.3% ▲	$30,350	98.2%
7	9	Rostec[e f]	Russia	$21,730	$14,550	49.3% ▲	$33,430	65.0%
8	8	AVIC	China	$20,850	$19,750	5.6% ▲	$83,430	25.0%
9	7	NORINCO	China	$20,560	$21,130	–2.7% ▼	$76,600	26.8%
10	10	CETC[e]	China	$16,050	$14,260	12.6% ▲	$55,990	28.7%

Source: The SIPRI Top 100 arms-producing and military services companies in the world, 2023, [accessed 30 August 2025],
Note: Revenue figures are in millions of constant (2023) US dollars and are rounded to the nearest $10 million.

North West Cape / Exmouth Peninsula defence locations with US access

(from north to south)

Updated: 29 August 2025

Facility	Coordinates	Remarks
Area A, VLF transmitter antenna, Naval Communications Station Harold E. Holt	-21.816549°, 114.165868°	US constructed; US access; joint management
Area B, Base Administrative Area, Naval Communications Station Harold E. Holt	-21.886593°, 114.130581°	US constructed; US access; joint management
Space Surveillance Radar System, Naval Communications Station Harold E. Holt	-21.888860°, 114.130111°	US developed and constructed; Australian paid some installation cost; remotely operated from RAAF Edinburgh; data to Combined Space Operations Center (CSpOC), Vandenberg AFB, CA.
Space Surveillance Telescope, Naval Communications Station Harold E. Holt	-21.8957°, 114.0899°	US developed and constructed; Australian paid some installation cost; remotely operated from RAAF Edinburgh; data to Combined Space Operations Center (CSpOC), Vandenberg AFB, CA.
Defence High Frequency System Transmitter Station, Exmouth	-21.906818°, 114.132060°	Australian constructed, paid for, and operated. US access and US high frequency system integration
Deep-Space Advanced Radar Capability, Site 1, Exmouth	-21.905231°, 114.114462°	U.S.-constructed and Australian-maintained and remotely operated , likely by Australian Space Force No. 1 Space Surveillance Unit and U.S. Space Force Space Delta 2
HANDS Ground Station Learmonth	-22.218294°, 114.102356°	Wholly US space situational awareness telescopes remotely and controlled from USAF Kikei supercomputing space surveillance complex, Maui, HA.
Learmonth Solar Observatory	-22.219239°, 114.103259°	Joint operation by Bureau of Meteorology and the USAF Detachment 1 of the 2nd Weather Squadron, Solar Observing Optical Network and Radio Solar Telescope Network, 557th Weather Wing, Offutt AFB
Learmonth Space Situational Awareness (SSA) Observatory, Electro Optical Systems	-22.220436°, 114.103602°	Electro-Optical Systems, Canberra-based Australian technology company, partnering with Lockheed Martin; located on Defence property.
RAAF Base Learmonth	-22.234317°, 114.080960°	HANDS Ground Station Learmonth, Learmonth Solar Observatory and Learmonth Space Situational Awareness (SSA) Observatory co-located on RAAF Learmonth.
Learmonth Air Weapons Range	-22.449045°, 113.811018°	US use not verified.
Defence High Frequency System Receiver Station, Rough Range	-22.336271°, 114.048547°	Australian constructed, paid for, and operated. US access and US high frequency system integration

U.S. Space Operations and Activities with Select Allies and Partners

	Australia	Canada	France	Japan	Norway	United Kingdom
Combined operations (OOD)[a]	Yes	Yes	Yes	No	No	Yes
Data sharing agreements[b]	Yes	Yes	Yes	Yes	Yes	Yes
Personnel Exchanges[c]	Yes	Yes	Yes	Yes	No	Yes

[a]Operation Olympic Defender (OOD) is a multinational named U.S. Space Command operation to jointly strengthen defenses and deter aggression in space.
[b]U.S. Space Command has space situational awareness data sharing agreements with 33 partner countries to share data gathered by U.S. and partner countries' sensors.
[c]U.S. Space Command and Space Force have personnel exchange agreements for exchange and liaison officers with multiple countries to foster relationships and facilitate information sharing.

Source: GAO analysis of Department of Defense information. | GAO-25-108043

United States Government Accountability Office, 'Space Operations: DOD Is Pursuing Efforts to Collaborate with Allies and Partners but Needs to Address Key Challenges', GAO-25-108043, July 2025

Naval Communications Station Harold E. Holt – VLF submarine communications station

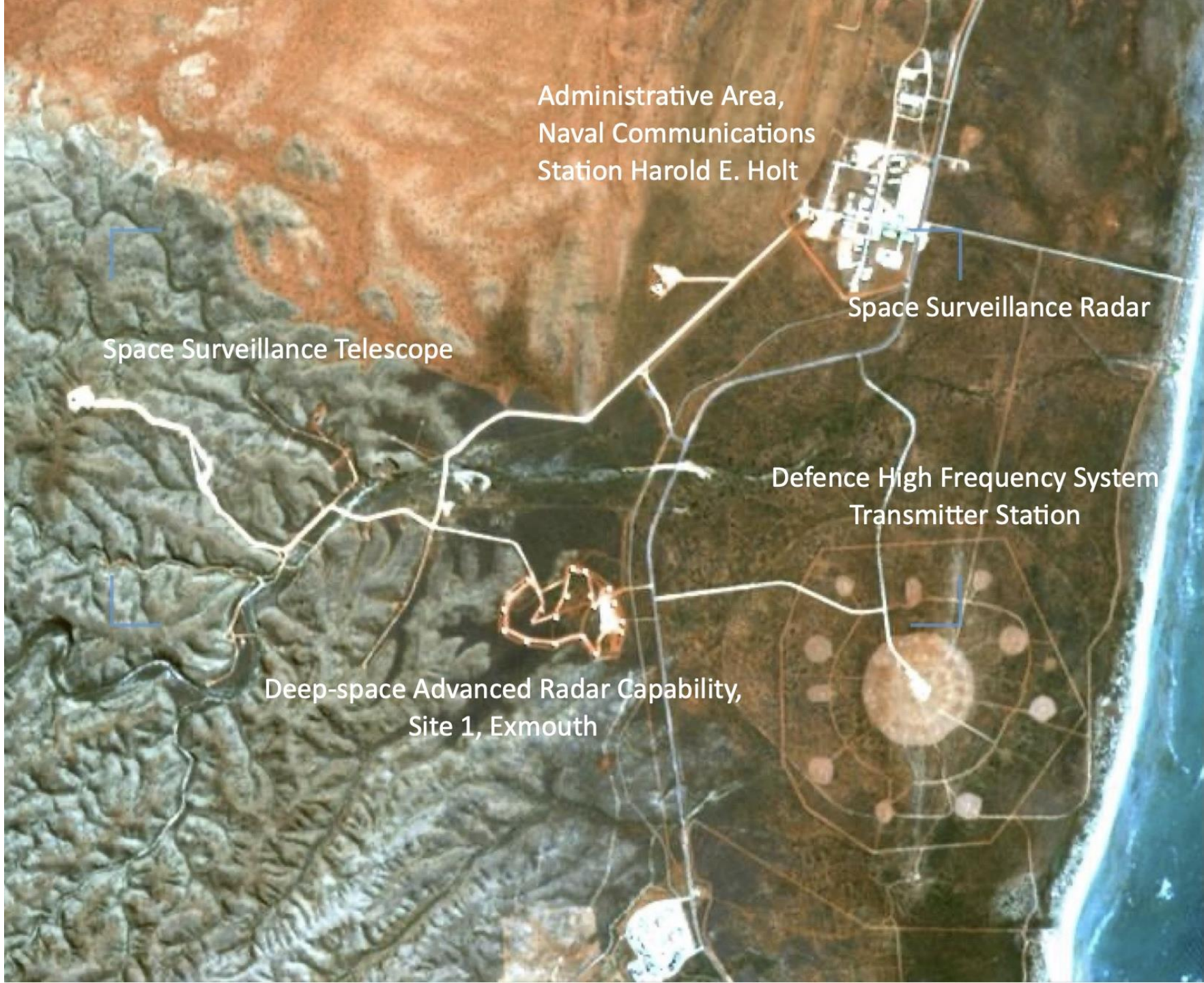
Defence High Frequency System Transmitter Station

Space Surveillance Radar – C-band

Space Surveillance Telescope

Deep-Space Advanced Radar Capability, Site 1

Defence High Frequency System Transmitter Station



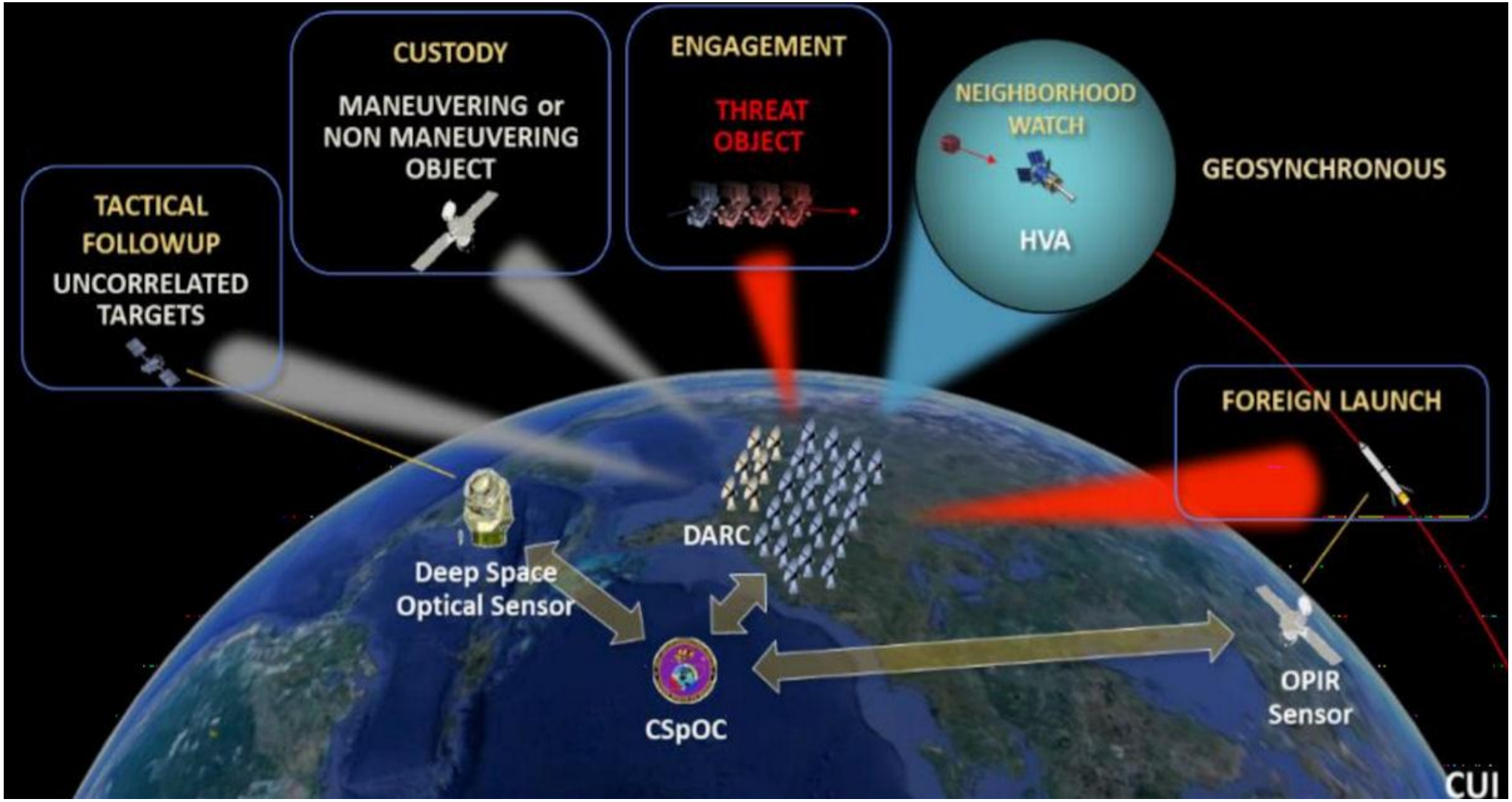
Deep Space Advanced Radar Capability [DARC] – Demonstrator site, White Sands Missile Range, NM.

Source: JHU/APL. | GAO-22-105230

The DARC Demonstrator by Johns Hopkins University provided confirmation that an array of up to 27 antennas can be coordinated to function as a single unified radar system for small objects in geosynchronous orbit (altitude c. 36,000 kms.) The DARC Australia site at Exmouth consists of 27 similar antennas operating as a unified radar system.

Source: United States Government Accountability Office, Weapon Systems Annual Assessment, GAO-22-105230, June 2022, p. 29.

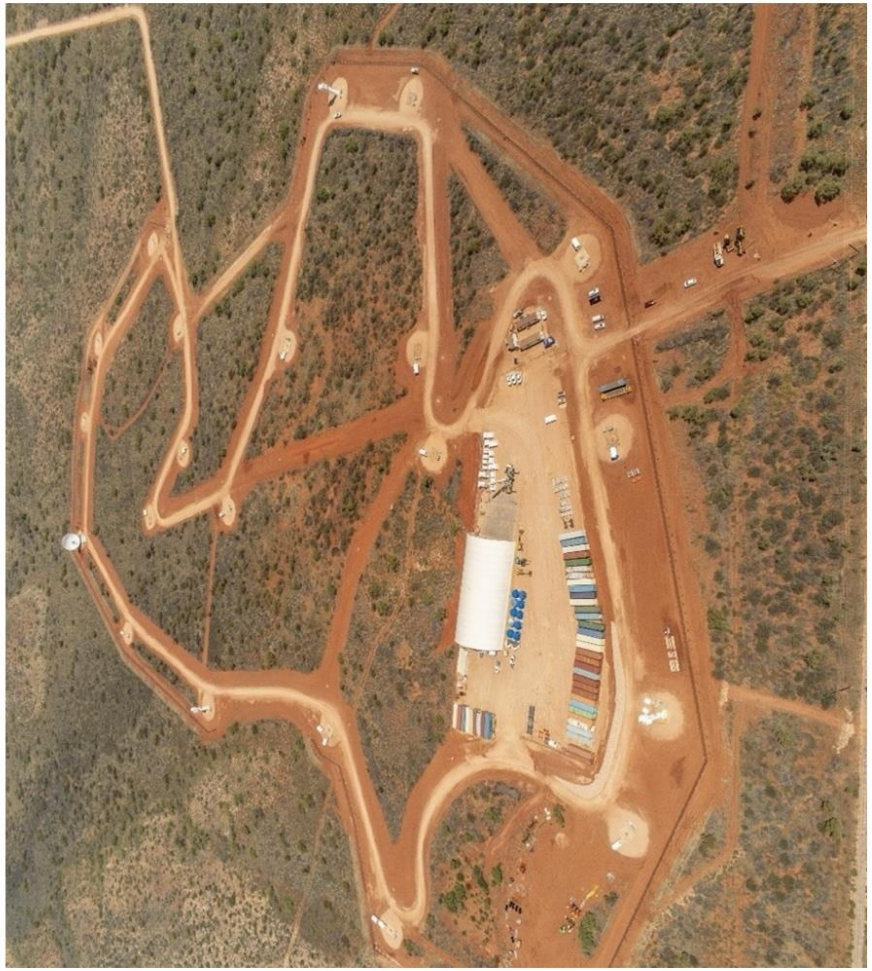
Schematic of Deep Space Advanced Radar Capability functions [DARC]



'Deep Space Advanced Radar Capability – DARC', GlobalSecurity.org, n.d., [accessed 15 August 2025]

Antenna array, DARC Site 1, Exmouth, February – August 2025

Apache Drone Photography, 19 February 2025



Source: Secretary of the Air Force for International Affairs, photo by: X0813, VIRIN: 250219-X-FC312-1001, at https://www.safia.hq.af.mil/News/Photos/igphoto/2003660051/mediaid/9022245/

Sentinel-2 L2A, 4 August 2025

Source: EOSDA LandViewer, Sentinel-2 L2A, 16 August 2025, at https://eos.com/landviewer/?lat=-21.89774&lng=114.15276&z=13&mapLabels=true&id=S2A_tile_20250801_49KHR_0&b=Red,Green,Blue&anti=true