USVs ideal to 'shadow' foreign warships: naval expert

ABOVE: The Sea Archer USV has capabilities that would enable it to 'shadow' foreign warships that challenge sovereign maritime borders, at a fraction of the cost of deploying crewed frigates or destroyers. *Image: Leidos*

A former US Naval Attaché to Australia and retired US Navy captain has provided insights on how unmanned surface vessels (USV) could help Australia respond to foreign warships circumnavigating the mainland and challenging maritime borders.

Speaking with *DTR* in late April, Canberra-based Kevin Quarderer said that USVs can help relieve tempo and operational burdens off the Royal Australian Navy's (RAN) crewed surface combatants while the aging fleet prepares for the next generation of frigates.

"Protecting the border is one thing, going after illegal fishing with uncrewed vessels is another one but the use case I personally like is that you're seeing foreign navies in the region that are challenging maritime sovereignty and I think there's a great place for uncrewed surface vessels to be able to go out and meet up with foreign vessels and to escort, shadow and if needed hold these ships at risk if they're going to challenge sovereignty in the maritime domain," Mr Quarderer, now the Director International Science and Technology at Leidos, remarked.

"I think there is a very valid opportunity for uncrewed vessels to perform that role and I think we're at the level of maturity that we're going to be able to do that."

Leidos Australia is currently maturing its Sea Archer USV, an 11.3m craft of aluminium construction that is largely designed in Australia and built on the New South Wales Central Coast north of Sydney.

"I would just say if you take a look at the last couple of foreign warship deployments that came down to Australia, and what it took to escort those ships and the subsequent impact on the RAN surface fleet. The Navy did a fabulous job with those escort tasks," Mr Quarderer continued, "but the question becomes is there a way to unburden those crewed platforms using uncrewed vessels so that you can accomplish the mission and save on your resources?"

Mr Quarderer said that any one of the core capabilities of the Sea Archer USV – intelligence, surveillance, reconnaissance, electronic warfare/attack and kinetic strike – would lend itself to escort duties.

For a nation with such a vast coastline as Australia that is looking to respond to and provide an accompanying presence that challenges foreign vessels in or near Australian

waters, USVs like Sea Archer could be used in 'relay', whereby as one craft approaches its maximum range/endurance, another is in preparation at a boat ramp, port or mothership to launch and take its place. This would be akin to a USV version of tag-team.

"One of the things I take away from operations in Ukraine is their use of uncrewed maritime vessels asymmetrically to hold another navy at risk," Mr Quarderer added. "Their USVs are working cross-domain; working with air components and also doing surface-to-air engagements against drones and helicopters. If a USV was working off the coast of Australia, conversely, there's nothing to say it's got to reconnect with another USV; it could connect to a maritime patrol aircraft and share information back and forth or it could connect to a crewed surface combatant."

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– Ian Bostock

Seahawk USV in at-sea milestone

The US Navy's Military Sealift Command (MSC) reported on 15 April that the fleet replenishment oiler USNS Guadalupe recently conducted what is thought to be the first underway refuelling of an unmanned surface vessel (USV).

The milestone event took place off the coast of Southern California, with the 31,000-tonne USNS Guadalupe transferring some 2,600 litres of diesel fuel to the 40m, 10,000nm-range medium USV Seahawk as it was positioned off the oiler's stern and connected via a series of lines and hoses. MSC stated that the replenishment at sea of MUSV Seahawk was a proof-of-concept activity and a key milestone demonstration of capability that is critical to deployed operations of medium-size USVs in conjunction with a carrier strike group.

Seahawk is one of two Leidos-built MUSVs designed for long-range/high-endurance autonomous operations, acting as a seaborne sensor platform to extend the operational picture of manned ships. The US Navy (USN) has been using the MUSVs as prototypes for research and experimentation purposes and to gather data and experience on the most effective way to utilise their operation and how to best to integrate them into the wider fleet.

ABOVE: The underway replenishment ship USNS Guadalupe refuels the MUSV Seahawk off the coast of California.
Image: US Navy

Relatedly, on 14 April 14, the USN formally transitioned MUSV Seahawk into the operational fleet, representing a step-change in the uptake and utilisation of USVs into frontline naval service.

– Staff Reporters