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Sophie Hamel

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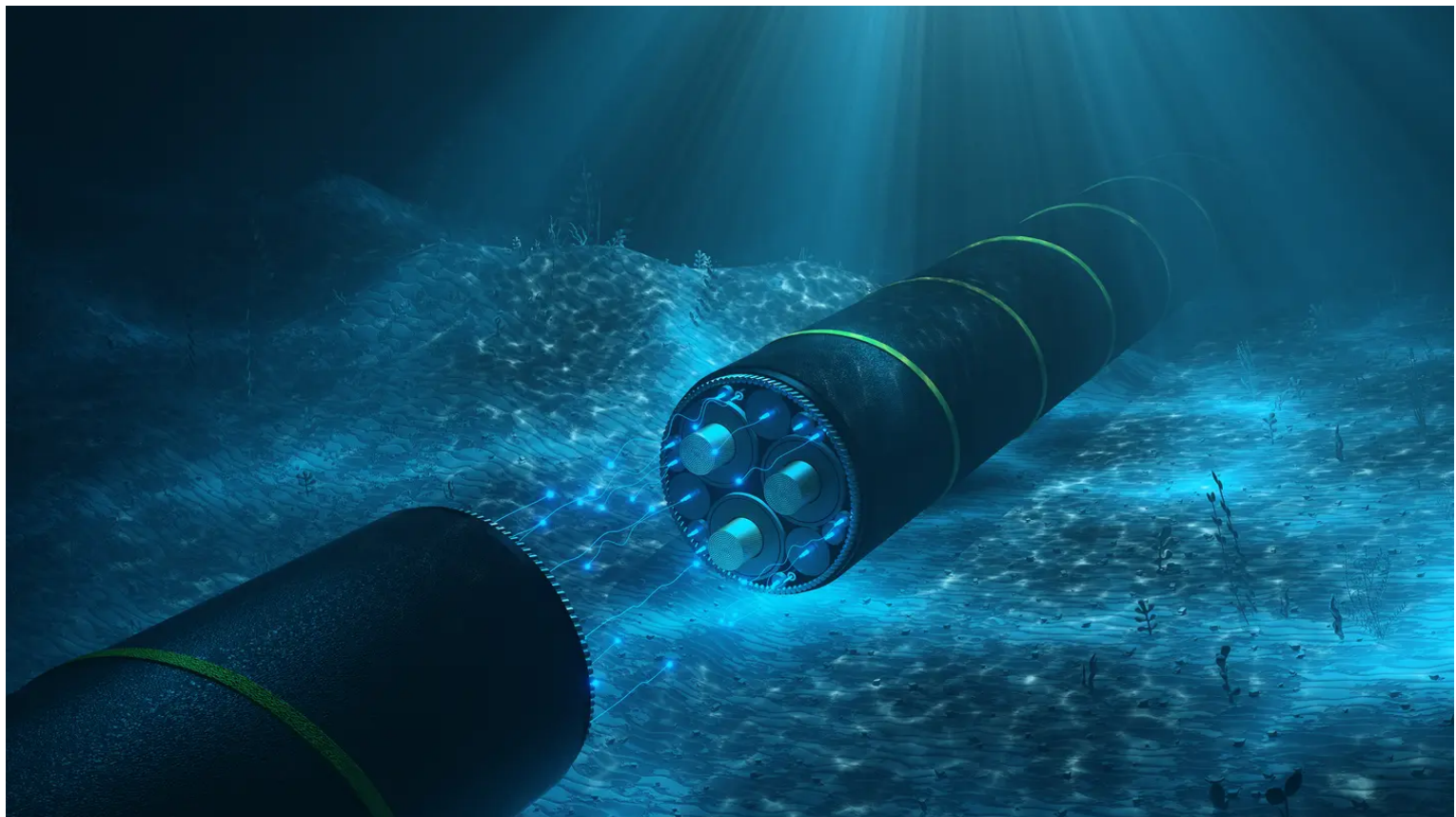
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TECHNOLOGY

Australia's role and opportunity in the contested arena of subsea cable networks

This explainer considers the evolution of the contested arena of subsea cables and the opportunities it holds for both Australia's economy and international connectivity, as new cable routes seek to avoid China and the South China Sea.

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Source: Getty

Explainer by



Sophie Hamel

PhD student in geography at the
University Paris 8, French Institute of
Geopolitics

In the era of strategic competition between the United States and China, subsea cables are becoming increasingly categorised as strategic assets, due to their potential as malicious surveillance tools and as targets to be damaged in the event of a conflict. With Chinese tech companies like HMN Tech and Huawei now considered part of China's international influence strategy, their involvement with undersea cables raises questions about the integrity of digital infrastructure and potential implications for Australia's national security. This piece considers the evolution of this contested arena of subsea cables and the opportunities it holds for both Australia's economy and international connectivity, as new cable routes seek to avoid China and the South China Sea.

Cables as critical infrastructure for Australia

Today, Australia's population has one of the highest internet connectivity rates in the world (93 per cent in 2022) but Australia was only first connected to the global Internet in 1989 by the US-led Pacific Communications Network project. Since then, Australia has been connected to 17 international subsea cables, mainly directed towards the United States via transpacific routes, but also increasingly towards Japan and Southeast Asia. Because of its isolated location and reliance on cables for international connectivity, Australia was one of the first countries to introduce government regulation to protect cables. The *Telecommunications Act 1997* identifies submarine cables and landing stations as critical communications infrastructure, enabling the establishment of protection zones around cable routes. In this context, the Australian Communications and Media Authority (ACMA) examines licence applications and consults the Attorney-General's Department (AGD) to ensure that "matters of international law, native title and security are appropriately considered" for every cable project due to land in Australia. The 'security' aspect has become increasingly geopolitical, especially since HMN Tech (previously Huawei Marine) joined the small group of companies – the American Subcom, the Japanese NEC and the French ASN – capable of supplying very long distance fibre-optic submarine cables that are no wider than a garden hose but carry 99 per cent of intercontinental data traffic.

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Australia and its regional partners have expressed concern over HMN Tech due to its links with the Chinese Communist Party (CCP) and the use of internet infrastructure for political and strategic purposes. In particular, the *Chinese National Intelligence Law* (2017) triggered a wave of concerns about the use of Chinese technologies for espionage and surveillance in the United States, Australia and elsewhere. This law allows the Chinese Government to require Chinese companies to provide it with access to the data they hold on their customers, including foreign network operators. Supported by China's Digital Silk Road policy, which in part aims to strengthen the international reach and influence of Chinese technologies, HMN Tech has supplied 18 per cent of the submarine cables brought online over the last four years to 2023, giving them a global foothold.

Several decisions in Australia that predate the 2017 *Chinese National Intelligence Law* highlight early concerns about Chinese digital technologies and infrastructure. As

early as 2010, the board of Australia's National Broadband Network (NBN) – Australia's domestic cable system – decided that it would not accept bids from Huawei to participate in the deployment of the new NBN, after the Australian Security Intelligence Organisation raised security concerns. This ban was publicly supported by the Gillard government in 2012.

In 2017, HMN Tech (then Huawei Marine) bypassed an Asian Development Bank (ADB) tender process and signed an agreement with the Solomon Island Submarine Cable Company for a new project that would directly connect Honiara and Port Moresby to Australia's core network, landing in Sydney. This prompted a swift response from the Australian Government, which presented an alternative, the Coral Sea Project, funded as development aid to protect national security in the context of a growing "securitization" of Chinese influence in Australia. The Australian government provided two-thirds of the funding, amounting to \$200 million, one of the largest Australian grants ever awarded. The Australian Government's deal with the Solomon Islands and Papua New Guinea avoided the delicate diplomatic situation of formalising an official refusal and stance on the connection of Chinese Huawei Marine cables to Australia.

Months later, a 2018 media release outlining the Australian Government's security guidance for telecommunications carriers was one of the first official documents that was a precursor to what became known as the "Huawei Ban." The guidance, which targeted "vendors who are likely to be subject to extrajudicial directions from a foreign government that conflict with Australian law," in effect prevented Huawei and ZTE from gaining access to national 5G contracts. However, while this established Australia's opposition to the use of Chinese equipment in the domestic market, the government remains less explicit when it comes to equipment with international reach – like undersea cables.

Australia within the US-China technological rivalry in the Indo-Pacific

Australia's strategy with respect to subsea cables from Chinese companies must be considered in terms of the broader Indo-Pacific and its alliance with the United States that implicates Australia – and many other countries – in the US-China technological rivalry.

US approaches to undersea cable networks

Under the Trump administration, the United States took a harder line on cables made by Chinese companies, with direct consequences for connectivity in the Pacific and Australia. In 2020, a presidential executive order created 'Team Telecom' (the Team). This interagency Team is charged with preventing foreign actors from participating in US telecommunications networks that could pose a threat of espionage or cyberattack. To this end, the Team makes recommendations to the Federal Communications Commission (FCC) – a process formalised in 2021 – for the issuance of cable licences. Licences are granted based on precise criteria, such as the absence of Chinese technology in the cables, routers, or landing stations that make up the overall cable infrastructure. In practice, this strategy prevents companies that want to land a cable in a US territory from using Chinese technology and rejects any plans for a cable connecting the United States directly to China. For example, following a Team Telecom recommendation, the Bay-to-Bay Express cable led by Amazon, Meta and China Mobile was cancelled. Rebranded CAP-1, China Mobile left the consortium and the cable was rerouted from Hong Kong to the Philippines.

With Australia's internet connectivity infrastructure still largely geared towards the United States – in 2020, 64 per cent of its data traffic went to or from the United States – such decisions heavily impact Australia. Any company wishing to link to the United States must meet FCC criteria, regardless of its point of origin or nationality. This makes it highly unlikely, if not impossible, to use Chinese cable equipment on a

Indo-Pacific minilateral approaches to undersea cable networks

Australia's defence and technology alliance with the United States was evidenced in the recent disclosure that Australia actively took part in building a secret spur from the Australia-Oman cable to the US military base of Diego Garcia in the Indian Ocean. Along with the United States, Australia has been a proactive player in Indo-Pacific minilateral partnerships, especially through the Quad, whose efforts include promoting cooperation on digital technologies. By supporting an "open, secure, stable, accessible, and peaceful cyberspace," Quad members are defending their shared cybersecurity vision for the Indo-Pacific and the international order at large. The May 2023 Quad meeting further highlighted the strategic importance of submarine cables, with the four countries committing to a "Quad partnership for cable connectivity and resilience," that aims "to develop trusted and secure cable systems," pointing directly to China as a counter-model.

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The East Micronesia Cable (EMC) is one example of minilateral cooperation that seeks to prevent China from gaining a foothold in Pacific networks. Under an initial World Bank tender process to build the EMC, HMN Tech proposed a project that was 20 per cent cheaper than its competitors. The cable was to link Nauru, the Federated States of Micronesia (FSM) and Kiribati to the Hantru-1 cable, which is connected to Guam, home to a number of US military bases. Considering this a security risk, the US Government sent diplomatic notes to the FSM expressing strategic concerns. When the World Bank finally called off the tender, Australia, along with the United States and Japan, decided to take over the project through a trilateral partnership. Funded through an Australian Infrastructure Facility For the Pacific development aid package on the Australian side, the supply and installation of the cable was ultimately awarded to NEC, a Japanese corporation, in June 2023.

Australia must continue to coordinate with its partners in the Indo-Pacific, notably Japan and the United States, which have the know-how and cutting-edge industries to develop these cables. However, the increased geopoliticisation of subsea cable networks should not be seen as a full 'decoupling' of networks – the Internet is more complicated, with the proliferation of points of presence (PoPs) allowing internet service providers to interconnect between data centres all over the world. Rather, it is the supply and construction of new cables that are being increasingly negotiated and conducted along geopolitical lines.

Alternative subsea routes: an opportunity for Australia

As an interface between the Pacific and the Indian oceans, the development of new subsea routes in the region offers Australia a national opportunity to be a hub for data traffic. As many Western and Asian ^{Events} stakeholders ^{Experts} now look for alternative subsea routes that avoid China and the South China Sea, Australia is in a position to offer solutions, with a network that has no national or international subsea cables supplied by HMN Tech. China itself largely prevents foreign cable companies and their vessels from accessing the South China Sea, further disincentivising companies from investing in projects in this region due to economic and geopolitical risks. In Australia, there is currently a high concentration of submarine cables, landing stations and data centres located in Sydney, raising concerns about redundancy and resilience in the event of cable cuts or cyber-attacks. Australia could seek to attract investment that helps diversify its access points to the global Internet while acting as an alternative destination for the region's subsea digital infrastructure – delivering economic benefit through improved internet speed and bandwidth and resultant investment in infrastructure, such as data centres.

There are already efforts underway to embrace this opportunity. Taking advantage of its proximity to the fast-growing Asian market, the Northern Territory Government is seeking to attract the installation of digital infrastructure in Darwin for it to operate as a hub. The Asia Connect Cable is due to connect Darwin to Singapore, Indonesia, the Philippines and the United States in 2026, while the Darwin-Jakarta-Singapore cable was completed this year. This offers not just greater connectivity to the local region, but the potential for “advanced manufacturing, data-centres and cloud-based computing services for Territorians and investors.” Perth has seen a sharp increase in its number of international connections, with four new cables landing there in the last five years. On Australia's East coast, Melbourne may see Hawaiki Nui, its first international cable, land on its shores in 2025, as well as a domestic cable linking it to Sydney and Brisbane. The announcement of a new set of transpacific cables by Google connecting Fiji and French Polynesia to Australia and the United States, supported by US and Australian government funds, highlights the growing interest from large information technology companies to invest in cables in the region. These companies are playing an increasingly significant role in the construction of international subsea networks.

Australia should continue to balance national security, international alliances, economic prospects and technological diversification in its approach to subsea fibre-optic cables. Its ability to shape the future of cable connectivity through Indo-Pacific alliances and within an evolving geopolitical landscape could bring strategic and economic benefits, while bolstering international cybersecurity.

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