

## Undersea Internet Cables in the Pacific Part 2: Cybersecurity, Geopolitics and Reliability

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This is the second of two linked In Briefs looking at undersea internet cables in the Pacific region. Part 1 provides a map and information about internet cables that connect to Pacific Island countries (PICs).<sup>1</sup> Numerous PICs are keen to improve their connectivity through this submarine infrastructure. There has been a substantial increase in deployment of internet cables to PICs in recent years, some of which have been funded as aid projects. More are planned. This part discusses the intersection of cybersecurity and geopolitics, before outlining risks to the reliability of the cables.

### Cybersecurity

PICs have recognised the importance of cybersecurity. Pacific security practitioners have been highlighting ‘the recent or forthcoming connection of undersea cables to Pacific states [as] a major driver of cyber risk perception’ (Caldwell 2021:139). In addition, the increased internet bandwidth made available by new cables has ‘increased the risks of PICs becoming victims of cyberattacks and cybercrime’ (Rudolph et al. 2020:53).

Scholars have raised concerns about limited cybersecurity expertise in the Pacific region, citing ‘the lack of qualified people’ (ibid.:54). As Hogeveen has explained, ‘Coordinated cyber capacity-building support is yet to properly reach the Pacific region’ (2020:47).

A related matter is online safety. People may encounter risks online, and research has revealed that children ‘are most concerned about encountering sexual or violent content’ (Third et al. 2020:5). One response has involved the launch of bilingual websites containing tips and advice for internet users in [ten PICs](#).

In addition to cybersecurity and online safety risks due to increasing internet bandwidth availability, cybersecurity has been raised as a concern in relation to the activities of Chinese company Huawei. In 2010, the British government issued warnings about the possible use of Huawei switches in British telecommunication networks for purposes other than those for which they were intended. Subsequently, Huawei was banned

from participation in the rollout of the National Broadband Network and the fifth generation (5G) mobile network in Australia, and the 5G network in the United Kingdom. The United States has also imposed sanctions against Huawei, ZTE and other Chinese companies. For its part, Huawei has repeatedly denied the accusations of spying and links to the Chinese state (Barrett 17/12/2020) and [has offered](#) to have its equipment tested.

### Geopolitics

The laying of undersea internet cables has become entwined with geopolitics, diplomacy and donor engagement in the Pacific region. For example, the government of Solomon Islands had reportedly organised for a Chinese company to lay a cable from Solomon Islands to Australia but the Australian government [stepped in](#) to fund the project instead. This move ‘shut out Huawei Marine which had originally been contracted by the Solomon Islands government to lead the project’ (Jun 23/2/2021).

A recent tender process for the East Micronesia cable, which is to be funded by the World Bank and the Asian Development Bank, elicited warnings from the US to the relevant PICs ‘about security threats posed by a Chinese company’s cut-price bid’ (Barrett 17/12/2020). Such concerns may be behind a decision to declare all three bids [invalid](#). Taiwan has reportedly expressed similar anxiety: ‘Taiwan has claimed that China is backing private investment in Pacific undersea cable networks as a way to spy on foreign nations and steal data’ (Brennan and Feng 18/12/2020). It is yet to be seen whether a recent change in the majority ownership of Huawei Marine (Barrett 17/12/2020) has any bearing on the situation. Comparable concerns appear to be behind the cancellation of three planned cables that were to link to Hong Kong.

Despite these security concerns, the government of Papua New Guinea has used Huawei Marine for a domestic cable connecting coastal towns and islands within the country, funded through [a loan](#) from China, as well as accepting an Australian-funded cable connection to Australia.

## Reliability

There are various potential risks to reliability of cables. Earthquakes and natural disasters can damage cables, with climate change likely to increase the frequency and severity of natural disasters (Watson 2021:132). Those PICs with only one cable connection are particularly vulnerable to outages. For example, Tonga had no internet service for about a fortnight in 2019 when its undersea cable was inoperable due to damage. In 2015, the sole cable for the Commonwealth of the Northern Mariana Islands (CNMI) snapped, resulting in no connectivity for a period. In 2017, a second cable for CNMI was laid.

Obsolescence of technology can present a challenge to the longevity of cable utility. Older cables have low capacity compared to the newer-generation cables. Talking in 2018 about Vanuatu's only internet cable, the then prime minister [said](#), 'The one we have has almost exhausted its capacity ... we may soon be in big trouble'. Plans for a second cable for Vanuatu were developed but the project was delayed due to a funding shortfall. The country remains reliant on just one cable, with additional bandwidth provided by two networks of small satellite dishes.

Ideally, new internet infrastructure would be [planned for](#) in a manner that considers environmental consequences of both construction and operation, while existing services must be both financially and environmentally sustainable. For some PICs with existing cables, their upkeep may present challenges. For instance, the head of the internet wholesaler in Papua New Guinea [has said](#) that the organisation has a heavy debt burden that it is struggling to manage.

Regulation may enhance or reduce the potential benefits that cables can provide. Anti-competitive monopolies at cable landing stations could present a further obstacle. The International Telecommunication Union [recommends](#) full competition and sharing of sites in order to maximise the benefits of undersea internet cables, with the practices in Singapore [presented](#) as an exemplar.

## Conclusion

This In Brief has discussed the undersea internet cables in the Pacific region with respect to three key issues: cybersecurity, geopolitics and reliability — essential considerations in the context of the expansion of internet cables to PICs and in anticipation of further cable development. While cybersecurity and geopolitics were considered in turn, they are interrelated, given that cybersecurity has been cited on occasion as a reason for geopolitical decisions and aid funding allocations. This paper has also briefly discussed risks to the reliability of cables. Those PICs with only one undersea internet cable connection are especially vulnerable to internet outages.

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## Author notes

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## Endnote

1. The acronym 'PICs' includes reference to countries, territories and collectivities.

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