



## The ASEAN-Quad partnership in undersea cables: building inclusion, sustainability, and regional connectivity

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### Key points

- Viewed with scepticism, the Quad can gain more trust and confidence from ASEAN by streamlining its Critical and Emerging Technologies (CETs) agenda to support ASEAN's Digital Masterplan 2025 and the broader regional and digital connectivity efforts.
- Through the Quad Partnership for Cable Connectivity and Resilience, the Quad should collaborate with ASEAN on undersea or terrestrial cables, which are vital to the region's thriving digital economy.
- A track 1.5 ASEAN-Quad Working Group on undersea cables would advance the Quad's legitimacy as a digital public goods provider in Southeast Asia, and the Indo-Pacific.

### Policy recommendations

- Establish an ASEAN-Quad cyber-maritime working group on undersea cables to explore confidence-building measures and address enforcement gaps in international law relating to undersea cables.
- Organise the ASEAN-Quad Infrastructure, Connectivity, and Investment Forum dedicated to undersea cables to enhance cooperation between governments, the private sector, and civil society on tenders, technical advice, industry outreach, capacity-building, and policy research.
- Reduce the environmental damage caused by undersea cables by encouraging technical design and route selection guided by environmental impact assessments and strategic planning.

### Revisiting ASEAN-Quad relations: a shared digital connectivity agenda

Gaining ASEAN's trust should be the Quad's top priority. As the transformative impacts of artificial intelligence (AI), big data, fifth-generation (5G) mobile network technology, cloud computing, and the Internet of Things (IoT) ignite excitement in Southeast Asia, the Quad can leverage such momentum. It should retrofit its Critical and Emerging Technologies (CETs) agenda to support ASEAN's broader regional and digital connectivity efforts. This would allay ASEAN's suspicion and help cement the Quad's rebranding as a public goods provider.

A practical entry point for the Quad is undersea or terrestrial cables – the internet's global backbone comprising fibre optics that crisscross the world's vast seafloors. ASEAN's Digital Masterplan 2025 considers undersea cables as critical infrastructures vital to the region's booming digital economy. Because they are cheaper and more reliable than satellites, approximately, 95 per cent of international data and voice transfers pass through fibre optics that lie underneath the ocean. As more countries move to the cloud and/or adopt 5G, reliance on undersea cables is expected to accelerate.

Undersea cables are vulnerable to natural and man-made hazards, while geostrategic competition has heightened the risk of espionage and sabotage. To ensure operational reliability 24/7, timely repair and routine maintenance are necessary.

Assuming that the Quad's support for ASEAN centrality is genuine, this paper recommends the establishment of an ASEAN-Quad working group on undersea cables to advance an inclusive and sustainable regional connectivity agenda. The paper will assess the Quad's capacity to support the overall connectivity and resiliency of Southeast Asia's undersea cables in three key areas:

- Cyber-maritime security
- Infrastructure and Investments
- Marine sustainability

## Cyber-maritime security: preventive diplomacy and international law

Unresolved territorial disputes in the South China Sea have put the spotlight on undersea cables. According to media reports, China halted the construction of the Southeast Asia-Japan 2 (SJC2) cable system that passes through Hong Kong and the South China Sea.<sup>1</sup> The shortest route between Southeast and Northeast Asia passes through the South China Sea, but undersea cable contractors are circumventing it to avoid financial loss from the delays caused in large part by Beijing's stringent approval process.

In addition to the possible damage caused by sabotage, espionage, and natural or man-made hazards, a confrontation that may precipitate conflict is becoming a clear and present danger to undersea cables. The harassment of a Philippine vessel by Chinese coast guards demonstrates the risks of miscalculation that could disrupt or even destroy undersea cables.

For small and medium countries in Southeast Asia, international law is a critical tool to resolve conflict. Although ASEAN has shied away from the Quad's binary autocracy-versus-democracy messaging, the Quad's support for the rule of law, sovereignty, peaceful settlement of disputes, and objection to unilateral attempts to change the status quo have resonated deeply with the regional grouping.

A patchwork of international laws exists that theoretically ensures the security of undersea cables. Customary international law relating to cyberspace articulated in the Tallinn Manual prohibits intentional damage to undersea cables. However, implementation remains a daunting challenge.

The application of International Humanitarian Law (IHL) to undersea cables is unclear because of the blurred distinction between military and civilian networks. Similarly, the United Nations Convention on the Law of the Sea (UNCLOS) demands further clarity on the complex ownership of submarine cable infrastructure and lacks a mechanism to compel compliance from signatory parties or hold malicious actors to account.<sup>2</sup>

The Quad should collaborate with ASEAN partners on this enforcement gap by promoting normative principles, while developing practical measures to enhance the protection and resilience of submarine cables. This should be done through an ASEAN-Quad cyber-maritime security working group. A track 1.5 dialogue would accelerate the convergence of maritime and cyber security as it relates to undersea cables. It should seek to clarify the application of international law to undersea cables. A cross-sectoral deliberation may narrow implementation gaps concerning UNCLOS, cyber norms, and international law on responsible state behaviour in cyberspace.<sup>3</sup>

The working group should review and expand the ASEAN Regional Forum's cyber points-of-contact directory that was previously led by Malaysia and Australia to tackle undersea-related

incidents. Conversely, ongoing cyber capacity-building engagements and policy dialogue should factor in possible contingencies in the maritime domain. Scenarios that incorporate crisis communications, and confidence-building measures should be integrated into regular exchanges and table-top exercises.

## Infrastructure, connectivity, and investment: incentives and workstreams

Although the United States (US) continues to dominate the global undersea cable market, China is making headway in the industry. As part of its Digital Silk Road initiative, China is providing financial and technical assistance, as well as investments, to aid Southeast Asian countries' digital transformation strategies. The initiative includes building smart cities powered by 5G and constructing undersea cables in the South China Sea. To compete, the Quad countries launched the Quad Partnership for Cable Connectivity and Resilience. This initiative aims to leverage the Quad's collective expertise in the design, manufacturing, laying, and maintenance of undersea cables.

The key challenge for the cable and connectivity initiative is rallying the commercial sector to proactively contribute. Even if the Quad countries exhibit high political alignment, their respective private sectors will prioritise profit over national security. Well-established US and Japanese companies in the undersea cable market such as SubCom and Nippon Electric Company will compete to land the most lucrative deals. US ICT behemoths like Meta, Google, and Microsoft are also investing in undersea cables, and are often interested in partnering with Chinese state-owned telecom operators. To influence their private sector, Quad countries must establish effective consultative channels and offer incentives.

The Quad should explore an ASEAN-Quad Infrastructure, Connectivity, and Investment Forum. This would be an adjunct to the ASEAN-Indo-Pacific Forum which Indonesia, as ASEAN's outgoing chair, has organised to discuss infrastructure and connectivity projects among dialogue partners, including the US, Japan, and Australia.

If pursued, the ASEAN-Quad Infrastructure Forum can assist in managing workstreams to spur synergy among governments, members of the private sector, and civil society organisations on important areas like tenders of proposals, technical advisory, industry outreach, as well as capacity-building assistance and policy research on undersea cables. The feasibility study on the development of domestic subsea fibre optic cable systems, conducted by Indonesian company PT Super Sistem and funded by the US Trade and Development Agency, should provide useful insights.

## Marine sustainability: impact assessments and mitigation measures

Marine sustainability is another underexplored, yet promising, area for cooperation between the Quad and ASEAN. The construction of undersea cables harms the marine environment by generating underwater noise, heat, electromagnetic field emissions, and even contamination.<sup>4</sup> As Southeast Asia, as well as the neighbouring states in the Pacific, become crucially tethered to the internet, there must be a conscious effort to lessen the environmental footprint of undersea cables.

Environmental resilience should be mainstreamed into all Quad and ASEAN's work streams to promote ecological conservation. Should ASEAN and the Quad jointly pursue digital connectivity projects, coherence with other climate and environmental resilience initiatives should be a priority.

The Quad Climate Change Adaptation and Mitigation Package should be leveraged to create an ecosystem-based adaptation and resilience strategy focused on the marine environment.

Thoughtful strategic planning, guided by environmental impact assessments should inform the technical design, route selection, and suitable mitigation measures of undersea cables to reduce the destruction of sensitive or protective marine wildlife. The monitoring and evaluation of environmental impacts should also be carried out simultaneously when conducting maintenance and repairs of undersea cables.

## Going beyond redux: the Quad's legitimacy and ASEAN centrality

The Quad is still perceived in Southeast Asia as another exclusionary minilateral arrangement, like AUKUS and the Chip 4. Viewed this way, the Quad increases the risk of deepening regional divisions and fragmenting the regional order into various “like-minded camps” led by major powers. This could perpetuate lopsided regional cooperation and limited communication channels.

Optimism lies in the Quad's nimbleness. The grouping's expanding portfolio raises its profile as a formal diplomatic platform with a comprehensive agenda beyond the impression of containing China. The Quad continues to demonstrate flexibility, and has established working groups addressing the opportunities and challenges of CETs. In this regard, an ASEAN-Quad Working Group on undersea cables would only enhance the Quad's image, backed by practical deliverables.

A pragmatic and incremental approach towards ASEAN-Quad collaboration in functional areas such as undersea cables that yield positive dividends for the entire region can help promote a deeper understanding of the Quad's intentions. A stable exchange between ASEAN and the Quad can buffer the impact of the intensifying US-China rivalry. Combined with regular consultations, the Quad can earn ASEAN's trust and confidence over time.

If done right, the Quad can continue solidifying its legitimacy as a vehicle of diplomatic engagements and a key provider of public goods in solidarity with ASEAN's thrust of promoting and managing an inclusive and sustainable regional order.

## About the author

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## About this paper

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## About the Quad Tech Network

The Quad Tech Network (QTN) is an initiative of the NSC, delivered with support from the Australian Government. It aims to establish and deepen academic and official networks linking the Quad nations – Australia, India, Japan, and the United States – in relation to the most pressing technology issues affecting the future security and prosperity of the Indo-Pacific.

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## Notes

<sup>1</sup> Alan Weissberger, “China seeks to control Asian subsea cable systems; SJC2 delayed, Apricot and Echo avoid South China Sea,” *Tech Blog*, March 14, 2023,

<https://techblog.comsoc.org/2023/03/14/china-seeks-to-control-asian-subsea-cable-systems-apricot-and-echo-avoid-south-china-sea/>.

<sup>2</sup> Samuel Bashfield and Anthony Bergin, “Options for safeguarding undersea critical infrastructure,” *National Security College*, June 2022,

[https://nsc.crawford.anu.edu.au/sites/default/files/publication/nsc\\_crawford\\_anu\\_edu\\_au/2022-06/nsc\\_pop\\_undersea\\_critical\\_infrastructure\\_no.25\\_web-1.pdf](https://nsc.crawford.anu.edu.au/sites/default/files/publication/nsc_crawford_anu_edu_au/2022-06/nsc_pop_undersea_critical_infrastructure_no.25_web-1.pdf).

<sup>3</sup> Regional Consultation of Asia-Pacific States, International Humanitarian Law and Cyber Operations During Armed Conflicts November 29-30, 2022, *International Committee of the Red Cross*, July 6, 2023, <https://www.icrc.org/en/publication/4721-regional-consultation-asia-pacific-states>.

<sup>4</sup> Guidelines on Best Environmental Practice (BEP) in Cable Laying and Operation, *OSPAR Commission*, 2012, [https://www.gc.noaa.gov/documents/2017/12-02e\\_agreement\\_cables\\_guidelines.pdf](https://www.gc.noaa.gov/documents/2017/12-02e_agreement_cables_guidelines.pdf).