

RSIS Commentary is a platform to provide timely and, where appropriate, policy-relevant commentary and analysis of topical and contemporary issues. The authors' views are their own and do not represent the official position of the S. Rajaratnam School of International Studies (RSIS), NTU. These commentaries may be reproduced with prior permission from RSIS and due credit to the author(s) and RSIS. Please email to Editor RSIS Commentary at RSISPublications@ntu.edu.sg.

Strengthening Undersea Cable Resilience in The Indo-Pacific

By Queek Jiayu

SYNOPSIS

The waters of the Indo-Pacific are host to a dense network of undersea cables that form the backbone of global data traffic. With the emergence of advanced deep-sea cable-cutting technologies and a rise in incidents worldwide, states need to do more to enhance their resilience to potential disruptions. Two ways of doing this are investing in a sovereign cable repair capability and reducing bureaucratic red tape.

COMMENTARY

On 22 March, the South China Morning Post reported on China's development of a new deep-sea cable-cutting device that "[could reset the world order](#)". The China Ship Scientific Research Centre, the research arm of the state-owned shipbuilder China State Shipbuilding Corporation, designed a device that can sever armoured undersea cables at depths of up to 4,000 metres. The device is reportedly intended for use with China's advanced manned and unmanned underwater vehicles.

While experts have questioned its [operational status](#) and the [strategic intent](#) of dramatically publicising such a capability, the timing of the revelation is significant. It follows a series of undersea cable-cutting incidents around Taiwan in recent years. In these cases, [Chinese-linked](#) cargo and [fishing vessels](#) were [suspected](#) of being involved, though no definitive accusations have been made.

This has [fuelled concerns](#) of deliberate cable cutting being used as part of Chinese "grey zone" operations, where unconventional and difficult-to-attribute tactics below the threshold of war are used to put pressure on adversaries such as Taiwan.

Similar events in the [Baltic Sea](#), linked to Chinese and Russian-flagged vessels, have raised alarm amongst its surrounding states.

Undersea cables carry over [99 per cent](#) of all international internet traffic, which virtually every aspect of modern digitally connected life relies on – from financial transactions to cloud computing, business communications, and online entertainment.

For the Indo-Pacific, an extremely [cable-dense region](#), incidents of cable cutting raise questions about how states can better protect themselves from the effects of intentional damage.

Providing for Cable Resilience

According to the [International Cable Protection Committee](#), a UK-based non-profit organisation promoting undersea cable protection and resilience, there are 63 cable-laying and maintenance ships worldwide, with 16 specialist repair vessels based in the Indo-Pacific.

There is no shortage of cables to fix, with 570 cable systems in service worldwide, about a third of which are in this part of the world, and another 79 entering service by 2027 (46 per cent of which are in our region). [Two-thirds](#) of the approximately 200 cable faults yearly are caused by sea-going vessels, including accidents and alleged cases of sabotage, which are more difficult to attribute.

Developing a national cable repair capability can reduce repair times, increase global capacity, and reduce dependencies on the private sector, which may have financial and scheduling considerations that prevent an immediate response.

Having such a capability on call also reduces the risk of relying on foreign vendors, whose access might be [compromised](#) or hindered by potential adversary governments in times of conflict.

Repair Capabilities: Sovereign or Transnational Partnerships

The United States has instituted the [Cable Security Fleet](#) since 2021, with two US-flagged vessels serving in this capacity and ready to do so during national emergencies. Meanwhile, the Indian Department of Commerce is studying the viability of [government-supported financing](#) for designated cable repair vessels.

At present, there are no sovereign repair capabilities within any ASEAN state. The 16 specialist ships homeported in the Indo-Pacific are owned by nine foreign-owned companies, three of which are headquartered in Southeast Asia (Malaysia, Indonesia, and Singapore).

This does not mean that small states are helpless, as they can still form transnational partnerships. ASEAN Cables Pte Ltd, for example, is a consortium formed by the telecommunications authorities of Thailand, the Philippines, Indonesia, Brunei, Singapore, and Malaysia. It has a fleet of four ships and the [experience](#) in cable repair operations stretching from East Africa to the Western Pacific.

Such cooperation could be instructive for other Indo-Pacific states in coordinating undersea cable resilience measures, especially since the involvement of multiple state partners allows for cost-sharing. Operating the consortium as a private company

capable of taking on private contracts ensures that the capability does not remain inactive until required.

Challenges: Material, Manpower, Policy

However, the global cable ship fleet is ageing, with most of it between 20 and 30 years old. New ships are being delivered at a slow rate, leading to a [capacity crunch](#) for cable laying and maintenance projects.

Attracting and retaining talent in the field presents another [major obstacle](#) – long stints away at sea with limited digital connectivity are almost anathema to the current generation of digital natives.

Protectionist policies can also hinder the timely execution of cable repairs. For example, repairs to the SEA-ME-WE 5 cable connecting Singapore to France were [delayed by two months](#) after it was damaged in April 2024. This was attributed to Indonesia's policy mandating cable repairs within its waters to be carried out only by Indonesian-registered and crewed vessels.

In the Indo-Pacific, where cables can cross multiple jurisdictions, the administrative paperwork required for repairs and construction can [delay the process](#). This is further complicated in waters with overlapping claims, such as the South China Sea, which implies that multiple permits, potentially with complicated processes, are needed to avoid trouble from maritime law enforcement agencies.

Towards a Simplified and Progressive Approach

Ambiguities and short-sighted policies such as the above present clear obstacles to enhancing the resilience of undersea cable infrastructure. For its part, ASEAN issued the "[Guidelines for Strengthening Resilience and Repair of Submarine Cables](#)" in 2019, which outlines best practices to simplify processes and policies related to cable repair.

Indo-Pacific states can consult the guidelines to assist in formulating their own policy frameworks, speeding up the repair process, and, therefore, providing a shot in the arm to minimise downtime from cable damage. [Malaysia](#), for example, exempted foreign cable-repair ships from its cabotage policies restricting the operation of foreign ships within its waters in June last year.

A New Frontier for National Maritime Security

As global data volumes continue to surge, so does the need for undersea cable networks to transmit and carry data globally. Thus, there is a greater demand for cable maintenance and repair services. This also means that there will be more potential targets for states seeking to exploit and sabotage undersea cables as a grey zone tactic.

Establishing a national cable repair capability mitigates the impact of downtime from cable damage on critical data transmission networks. Despite persistent challenges in

fleet renewal and workforce development, such a capability reduces reliance on the private sector and potentially risky providers from adversary states.

In the complex Indo-Pacific maritime environment, it is also essential for states to reduce the barriers to repair by removing protectionist restrictions. This will enhance undersea cable resilience and improve their ability to respond quickly, minimise disruption, and maintain connectivity with the rest of the world.

Undersea cables should be considered critical national infrastructure. Their important role in our digitally-enabled lives today cannot be overemphasised, and states should pay attention to this new frontier of national maritime security.

Queek Jiayu is an MSc (Strategic Studies) student at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU), Singapore.

S. Rajaratnam School of International Studies, NTU Singapore
Block S4, Level B3, 50 Nanyang Avenue, Singapore 639798