

2025 Analysis Report on Causes of Submarine Communication Cable Damage in Taiwan and Improvement Strategies

Ministry of Digital Affairs (MODA)

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I. Introduction

1. Background and Purpose of This Report

Submarine cables carry 99% of international data traffic, yet more than 200 faults occur globally each year

Submarine communication cables (hereinafter "**submarine cables**") serve as the vital arteries connecting Taiwan to the world, playing an indispensable role in global digital commerce and information transmission. According to a February 2026 press release¹ from the **International Telecommunication Union (ITU)**, more than 99% of international data traffic worldwide is transmitted via submarine cables. Yet the number of cable fault incidents reported globally each year also exceeds 200, disrupting economic activity, impeding information access, straining public services, and impacting the daily lives of billions.

Submarine cables are Taiwan's "digital lifeline" — and human activity is the primary threat

As an island nation, Taiwan relies on submarine cables for both inter-island communications and global connectivity; they are, in every sense, our "digital lifeline." However, Taiwan's unique geographic and geopolitical landscape means that cable security faces complex, multifaceted challenges. The waters surrounding Taiwan are among the most active shipping and fishing corridors in the world, and the shallow bathymetry of the Taiwan Strait makes these cables highly susceptible to external interference. According to a January 2025² **thematic briefing by national security authorities** to the Legislative Yuan, submarine cables in the waters around Taiwan have been severed an average of seven to eight times per year in recent years. The principal causes are human-driven, including: large-scale sand dredging that exposes buried cables, damage from fishing trawlers, anchor dragging by commercial vessels, and - of particular concern - malicious acts by Flags of Convenience (FOC) vessels operating with obscured identities.

Geopolitical threats and frequent earthquakes amplify damage risk; a systematic review mechanism is urgently needed

In recent years, an increasingly complex geopolitical landscape has seen a rise in non-traditional gray-zone security threats. Compounding this, Taiwan lies at the intersection of three major seismic belts; frequent tectonic activity poses an extreme persistent threat to submarine cable infrastructure. The seismic events of December 2025, for example, caused multiple faults across several international cable systems. To

systematically examine the root causes of these damages, identify prevailing risk characteristics, evaluate the effectiveness of current protection mechanisms, and formulate strategies to enhance network resilience, the **Ministry of Digital Affairs (MODA)** has compiled data on 2025 cable fault incidents alongside historical records from 2022 to 2024, to produce this analysis and improvement report.

2. Overview of Taiwan's Submarine Cable Network

As of end-2025, Taiwan has 15 international and 10 domestic submarine cables

As a vital information hub in the Asia-Pacific region, Taiwan's international communications rely heavily on a dense network of international submarine cable systems. These cables not only connect Taiwan with neighboring countries — including Japan, South Korea, mainland China, the Philippines, Vietnam, Malaysia, and Singapore — but several also span the Pacific, serving as primary conduits to the United States and beyond, thus constituting the lifeline of our external communications. In addition to joint investments by international telecommunications carriers, major Over-The-Top (OTT) content providers, such as Meta and Google, have actively participated in and invested in new cable projects in recent years to satisfy their massive data transmission requirements.

As of the end of 2025, Taiwan has commissioned **15 international submarine cables** and **10 domestic submarine cables**¹:

- International cables: 15 cables (see Table 1), connecting the United States, Japan, Southeast Asia, and China, among other destinations. Landing stations are primarily located in the northern, northeastern, and southern parts of Taiwan.
- Domestic cables: 10 cables (see Table 2), primarily connecting Taiwan proper with the outlying islands of Penghu, Kinmen, Matsu, and Little Liuqiu.

Table 1 International Submarine Cables Connected to Taiwan

Data current as of February 26, 2026

No.	Chinese Name	Abbrev.	Full English Name	Connected Countries/Regions
1	市通市海纜 (City-to-City)	C2C	City-to-City Cable System	Hong Kong, Japan, Philippines, Singapore, South Korea, China
2	東亞交匯一號海纜系統	EAC1	East Asia Crossing 1	Japan, Hong Kong, South Korea, China
3	東亞交匯	EAC2	East Asia Crossing 2	Philippines, Singapore, Hong Kong

¹MODA official website: Latest Cable Status. Retrieved from <https://moda.gov.tw/major-policies/subseacable/1747>

	二號海纜系統			
4	北亞海纜	FNAL	FLAG North Asia Loop	Hong Kong, Japan, South Korea
5	北亞光纖系統	RNAL	REACH North Asia Loop	Hong Kong, Japan, South Korea
6	金廈海纜	CSCN	Cross-Straits Cable Network	China, Hong Kong
7	亞太網路二號	APCN2	Asia Pacific Cable Network-2	China, Japan, USA, Malaysia, Hong Kong, Philippines, Singapore, South Korea
8	亞太直達海纜	APG	Asia Pacific Gateway	Japan, USA, Hong Kong, Singapore, South Korea, Vietnam, Malaysia, China, Thailand
9	新橫太平洋海纜	NCP	New Cross Pacific Cable System	China, Japan, USA, Hong Kong, South Korea
10	太平洋光纜網路	PLCN	Pacific Light Cable Network	USA, Philippines
11	橫太平洋快速海纜	TPE	Trans-Pacific Express	China, Japan, USA, South Korea
12	東南亞日本二號	SJC2	Southeast Asia-Japan Cable 2	Hong Kong, Japan, Singapore, China, South Korea, Thailand, Vietnam
13	海峽光纜一號	TSE-1	Taiwan Strait Express 1	China
14	跨太平洋高速海纜	FASTER	FASTER	USA, Japan
15	杏子海纜	APRICOT	APRICOT	Japan, Guam

Note: FNAL and RNAL each represent half of the approximately 9,800-km "Intra-Asia submarine cable system," a ring configuration linking Japan, South Korea, Taiwan, and Hong Kong. The entire FNAL/RNAL system consists of 6 fiber pairs, with FLAG Telecom and Reach each owning 3 of those 6 pairs.²

Table 2 Domestic Submarine Cables

Data current as of February 26, 2026

No.	Chinese Name	Abbreviation(s)
1	Taiwan-Kinmen No. 2 Cable (臺金二號海纜)	TK2
2	Taiwan-Matsu No. 1 Cable (臺馬一號海纜)	TM1-D
3	Taiwan-Matsu No. 2 Cable (臺馬二號海纜)	TDM2
4	Taiwan-Matsu No. 3 Cable (臺馬三號海纜)	TM3-A / TM3-B / TM3-C

²FNAL/RNAL. Retrieved from <https://www.submarinenetworks.com/en/systems/intra-asia/fnal-rnal>

		/ TM3-D
5	Taiwan-Penghu No. 2 Cable (臺澎二號海纜)	TP2
6	Taiwan-Penghu No. 3 Cable (臺澎三號海纜)	TP3
7	Penghu-Kinmen No. 1 Cable (incl. Penghu Magong–Xiyu segment)	PK1-A / PK1-B
8	Penghu-Kinmen No. 3 Cable (incl. Penghu Magong–Xiyu segment)	PK3-A / PK3-B
9	Little Liuqiu No. 1 Cable (小琉球一號海纜)	LLV1
10	Little Liuqiu No. 2 Cable (小琉球二號海纜)	LLU2

3. Critical Infrastructure Protection Status

The Executive Yuan has designated all international and domestic submarine cables as Critical Infrastructure (CI)

Submarine cables are not only the foundation of Taiwan's economic and trade development; they are also intrinsically linked to national security. Consequently, the **Executive Yuan** has designated all international and domestic submarine cables as **National Critical Infrastructure (CI)**. Under this framework, MODA — pursuant to the *Guidelines for Critical Infrastructure Security Protection*, the *Telecommunications Management Act*, and the *Cybersecurity Management Act* — oversees cable operators (such as Chunghwa Telecom) in the formulation of comprehensive security protection plans and cybersecurity maintenance plans. Furthermore, MODA regularly conducts risk assessments and security protection drills to ensure the continuous operational capability of this infrastructure.

4. Summary

All cables are now under CI protection, yet human and natural-disaster threats remain

Submarine cables serve as Taiwan's irreplaceable "digital lifeline." All 25 cables are now fully integrated into the national CI protection regime. Given the rising frequency of external human interference and the increasing severity of natural disasters, the systematic analysis of failure root causes and implementation of targeted remedies have become urgent priorities for sustaining national communication resilience.

II. Statistics and Analysis of Year 2025 Cable Faults

1. Classification of Cable Fault Causes

Cable fault causes are classified into three major categories: "Human Factors," "Natural Factors," and "Other"

To ensure that reporting and subsequent analysis of cable fault incidents remain consistent and objective, MODA has collaborated with cable operators to adopt a unified **classification framework**. This framework categorises all fault drivers by nature into three primary domains — **Human Factors**, **Natural Factors**, and **Other** — with specific sub-categories and standardized criteria for each. Detailed definitions and classification methodologies are outlined in Table 3.

Table 3 Cable Fault Cause Classification Criteria

Category	Fault Cause	Definition / Explanation
Human Factors	Vessel anchor damage	A vessel's anchor caused cable damage, confirmed by photo/video evidence at the anchor drop point or the ship repair vessel's professional assessment.
	Fishing operations	Fishing gear found wrapped around the cable at time of repair, with visible cable damage.
	Sand-dredging vessel operations	A clearly defined sand pit found on the seabed at or near the fault location.
	Planned construction work	Engineering work (e.g., cable laying or repair) that was pre-notified caused the cable fault.
	Suspected external-force damage	No fishing gear was found wrapped around the cable, nor was there evidence of anchor damage, yet the cable showed clear signs of external force damage.
	Other human factors	Cable faults caused by human activities not falling within the above definitions.
Natural Factors	Natural fiber degradation	Measured by Optical Time Domain Reflectometer (OTDR); shows significant attenuation increase in the fiber core.
	Amplifier failure	Cable monitoring equipment detects a drop in optical power output from the amplifier, with gradual degradation of communication quality.
	Earthquake	Fault triggered by an earthquake.
	Other natural disasters	Faults caused by landslides or other meteorological events, excluding earthquakes.
Other	Pending investigation	Fault cause awaiting confirmation by the cable ship during repair and maintenance.
	Undetermined (unknown cause)	Fault with no visible damage to the cable exterior upon inspection.

2. Statistics and Attribution of Year 2025 Fault Incidents

In 2025, domestic cables and international cables within 24 nautical miles recorded a combined total of 7 fault incidents

In 2025, a total of 7 fault incidents were recorded across domestic cables and international cables within 24-nautical-miles (nm) contiguous zone. In accordance with the classification framework described in the preceding section, detailed data regarding the date of occurrence, cable designation, approximate location, and root cause are provided in Tables 4 and 5.

Table 4 Year 2025 Domestic Cable Fault Incident Details

No.	Date of Fault	Cable Name	Abbrev.	Fault Location	Fault Category	Fault Cause
1	Jan 2025	Taiwan-Matsu No. 3 Cable	TM3-A	Waters off northern Taiwan	Natural factors	Natural fiber degradation
2	Feb 2025	Taiwan-Matsu No. 2 Cable	TDM2	Waters off northern Taiwan	Human factors	Vessel anchor damage
3	Feb 2025	Taiwan-Penghu No. 3 Cable	TP3	Waters off southern Taiwan	Human factors	Vessel anchor damage
4	Oct 2025	Taiwan-Matsu No. 2 Cable	TDM2	Waters in the Taiwan Strait	Human factors	Fishing operations

Table 5 Year 2025 International Cable (within 24 nm) Fault Incident Details

No.	Date of Fault	Cable Name	Abbrev.	Fault Location	Fault Category	Fault Cause
1	Jan 2025	Trans-Pacific Express	TPE	Northern Taiwan offshore	Human factors	Vessel anchor damage
2	Sep 2025	FLAG North Asia Loop	FNAL	Waters off northeastern Taiwan	Human factors	Suspected external-force damage
3	Sep 2025	REACH North Asia Loop	RNAL	Waters off northeastern Taiwan	Human factors	Suspected external-force damage

Year 2025 international cables (beyond 24 nm) recorded as many as 25 fault incidents

Separately, international cables operating beyond 24-nm threshold experienced 25 fault incidents in 2025. Causal analysis identifies natural disasters — specifically seismic activity — as the primary driver, exerting the most significant impact on network integrity. The analysis is as follows:

- (1) Seismic activity is the leading and most concentrated cause: A total of 11 incidents throughout the year were triggered by earthquakes (approximately 44% of the total), a figure significantly higher than those attributed to fishing operations (5 incidents) or planned construction activities (4 incidents). Earthquakes represent the dominant threat to submarine cable infrastructure in the open sea. Notably, a powerful earthquake in the waters off eastern Taiwan waters in December 2025 triggered an underwater landslide, simultaneously disrupting 6 major international cable systems — SJC2, PLCN, EAC1, FNAL, RNAL, and EAC2 — within a condensed timeframe. This underscores the significant impact of large-scale natural disasters on the operation of international cables beyond 24 nm.
- (2) Non-seismic incidents exhibit a scattered distribution: These incidents are more chronologically and geographically dispersed, comprising fishing operations (5 incidents), planned construction work (4 incidents), suspected external-force damage (2 incidents), cases pending investigation (2 incidents), and amplifier failure (1 incident). Unlike the clustered, simultaneous impact of seismic events, these faults tend to be isolated or sporadic.

In accordance with the aforementioned classification criteria, the details of these incidents — including time of occurrence, cable identification, approximate location, and root cause — are outlined in Table 6. As stipulated in Article 33 of the United Nations Convention on the Law of the Sea³, a coastal state may exercise the control necessary to prevent and punish infringements of its laws within a contiguous zone not exceeding 24 nm from the baselines. Consequently, the following section of this report focuses on the causal structure analysis and near-term risk assessment specifically for cable faults occurring within this 24-nm zone.

Table 6 Year 2025 International Cable (beyond 24 nm) Fault Incident Details

No.	Date	Cable Name	Abbrev.	Fault Location	Category	Cause
1	Jan 2025	FLAG North Asia Loop	FNAL	Northeast Taiwan far sea	Natural	Earthquake
2	Jan 2025	REACH North Asia Loop	RNAL	Northeast Taiwan far sea	Natural	Earthquake
3	Jan 2025	Trans-Pacific Express	TPE	Northern Taiwan far sea	Human	Suspected external-force damage
4	Jan 2025	East Asia Crossing 1	EAC1	Northern Taiwan far sea	Natural	Earthquake
5	Mar	East Asia Crossing 2	EAC2	Northern	Natural	Earthquake

³Ocean Affairs Council, Conservation Department: United Nations Convention on the Law of the Sea. Retrieved from <https://www.oca.gov.tw>

	2025			Taiwan far sea		
6	Apr 2025	Asia Pacific Cable Network-2	APCN2	Northern Taiwan far sea	Human	Fishing operations
7	Jul 2025	City-to-City Cable System	C2C	Southern Taiwan far sea	Natural	Earthquake
8	Aug 2025	East Asia Crossing 1	EAC1	Waters off northern Taiwan	Other	Pending investigation
9	Oct 2025	Asia Pacific Gateway	APG	East China Sea	Human	Suspected external-force damage
10	Oct 2025	Taiwan Strait Express 1	TSE-1	Waters off northern Taiwan	Other	Pending investigation
11	Nov 2025	Asia Pacific Cable Network-2	APCN2	Waters off northern Taiwan	Human	Planned construction
12	Nov 2025	Southeast Asia-Japan Cable 2	SJC2	Waters near Singapore	Human	Planned construction
13	Nov 2025	Asia Pacific Gateway	APG	East China Sea	Natural	Amplifier failure
14	Nov 2025	Asia Pacific Gateway	APG	South China Sea	Human	Planned construction
15	Dec 2025	Trans-Pacific Express	TPE	Northeast Asia surrounding sea	Human	Fishing operations
16	Dec 2025	Asia Pacific Gateway	APG	Waters near Singapore	Human	Fishing operations
17	Dec 2025	New Cross Pacific Cable	NCP	East China Sea	Human	Planned construction
18	Dec 2025	Trans-Pacific Express	TPE	East China Sea	Human	Fishing operations
19	Dec 2025	Asia Pacific Cable Network-2	APCN2	East China Sea	Human	Fishing operations
20	Dec 2025	Southeast Asia-Japan Cable 2	SJC2	West Pacific far sea	Natural	Earthquake
21	Dec 2025	Pacific Light Cable Network	PLCN	Waters off northeastern Taiwan	Natural	Earthquake
22	Dec 2025	East Asia Crossing 1	EAC1	Northern Taiwan far sea	Natural	Earthquake
23	Dec 2025	FLAG North Asia Loop	FNAL	Waters off northeastern Taiwan	Natural	Earthquake
24	Dec 2025	REACH North Asia Loop	RNAL	Waters off northeastern Taiwan	Natural	Earthquake
25	Dec 2025	East Asia Crossing 2	EAC2	Waters off northern Taiwan	Natural	Earthquake

Note: Incidents 20–25 were caused by an underwater landslide triggered by a strong earthquake in eastern Taiwan waters in late 2025.

3. Causal Structure Analysis and Near-4-Year Risk Trends

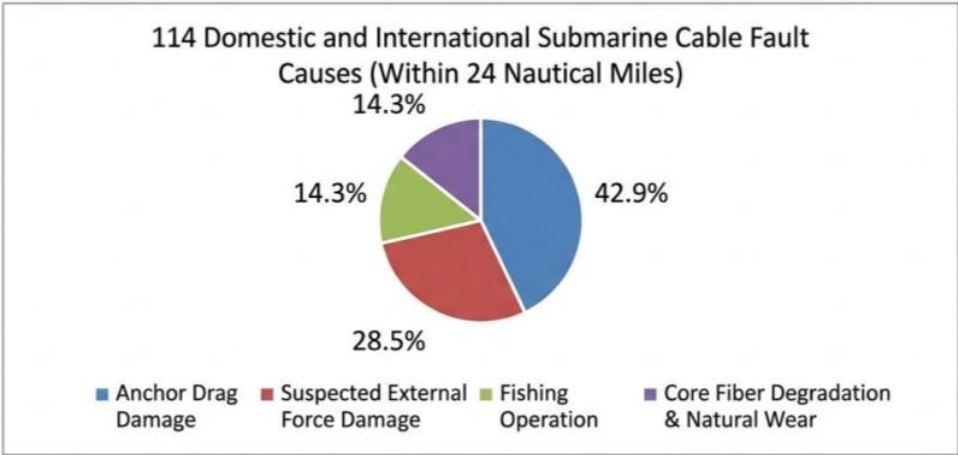
Of the 7 domestic and international cable (within 24 nm) faults in 2025, human factors remain the dominant cause

The causal distribution of the 7 fault incidents in 2025 is summarized as follows (see Table 7):

- Human Factors (85.7%, 6 incidents):
 - 1. Vessel anchor damage: 3 incidents (approx. 42.9% of total)
 - 2. Suspected external-force damage: 2 incidents (approx. 28.5% of total)
 - 3. Fishing operations: 1 incident (approx. 14.3% of total)
- Natural Factors (14.3%, 1 incident): Natural fiber degradation.

Table 7 Year 2025 Statistics of Domestic and International Cable (within 24 nm) Fault Causes

Cable Type	Anchor Damage	Suspected External Damage	Fishing Ops.	Human Sub-total	Natural Fiber Degradation	Natural Sub-total	Total
Domestic cables	2	0	1	3	1	1	4
International cables (within 24 nm)	1	2	0	3	0	0	3
Total	3	2	1	6	1	1	7
Share (%)	42.9%	28.5%	14.3%	85.7%	14.3%	14.3%	100%



A comprehensive analysis of Taiwan's cable faults in 2025 shows that **human** activity is the overwhelming primary driver, accounting for 6 of the 7 incidents (85.7%), far exceeding natural factors (1 incident, 14.3%). Among these, **vessel anchor damage** (3 incidents, 42.9%) remains the most prevalent sub-cause.

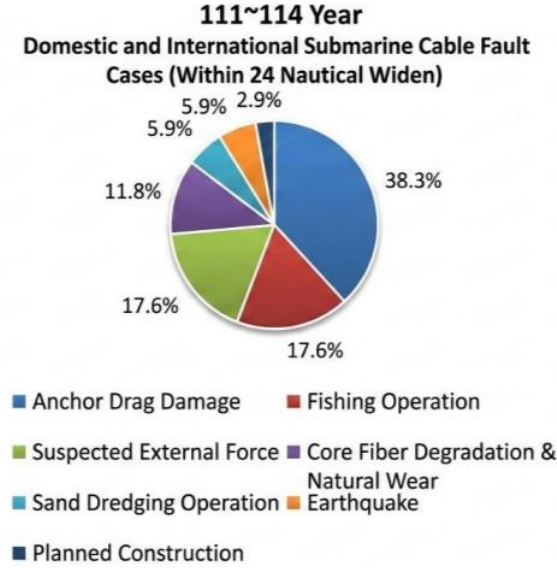
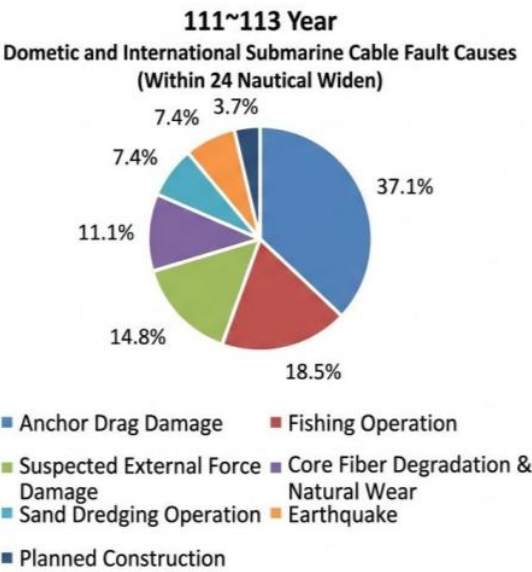
Over the past 4 years, 34 cable faults also show vessel anchor damage as the dominant cause

To determine whether this pattern reflects an isolated anomaly or a persistent structural risk, MODA further compiled cable fault data from 2022 (since the Ministry’s inception) through year-end 2025 for longitudinal comparison. See Table 8.

Table 8 Years 2022–2025 Domestic and International Cable (within 24 nm) Fault Cause Analysis

Year	Total Faults	Anchor Damage	Fishing Ops.	Susp. External Damage	Sand Dredging	Planned Const.	Other Human	Human Sub-total	Fiber Degrad.	Earthquake	Natural Sub-total	Grand Total
2022 (111)	9	3	1	2	2	0	0	8	0	1	1	9
2023 (112)	11	5	2	2	0	1	0	10	1	0	1	11
2024 (113)	7	2	2	0	0	0	0	4	2	1	3	7
2022–2024 Sub-total	27	10	5	4	2	1	0	22	3	2	5	27
Avg. %	—	37.1%	18.5%	14.8%	7.4%	3.7%	0%	81.5%	11.1%	7.4%	18.5%	—

2022–2024												
2025 (114)	7	3	1	2	0	0	0	6	1	0	1	7
Grand Total 2022–2025	34	13	6	6	2	1	0	28	4	2	6	34
Avg. % 2022–2025	—	38.3%	17.6%	17.6%	5.9%	2.9%	0%	82.3%	11.8%	5.9%	17.7%	—



Between 2022 and 2025, the annual frequency of cable faults remained relatively stable, ranging from 7 to 11 incidents per year, totaling 34. Key observations regarding the causal structure are as follows:

(1) "Vessel anchor damage" ranks first among threats; FOC gray-zone behaviour is a key protection challenge:

1. "Vessel anchoring as the leading threat: An analysis of the 34 faults recorded between 2022 to 2025 shows that "vessel anchor damage" accounts for 13 incidents, with a cumulative share of approximately 38.3% — significantly higher than "fishing operations" (17.6%) and "suspected external-force damage" (17.6%). During the 2022–2024 period, vessel anchor damage accounted for 10 of 27 incidents, with an average share of approximately 37.1%, again significantly higher than "fishing operations" (18.5%) and "suspected external-force damage" (14.8%). In 2025, the share of "vessel anchor damage" rose further to 42.9% (3 out of 7 incidents). This means that, on average, more than one in every three cable faults originates from vessel anchoring activities.

National security authorities also noted in their January 2025 thematic briefing to the Legislative Yuan⁴ that "PRC large cargo vessels waiting to enter ports in Taiwan's surrounding waters and anchoring to secure their vessels have on occasion hooked and damaged cables — for example, in February 2023, the Taiwan-Matsu No. 3 cable (TM3) was suspected of being damaged by the anchoring operations of a PRC cargo vessel. This phenomenon underscores a critical challenge in maritime domain awareness and the protection of subsea infrastructure against gray-zone activities.

2. FOC vessels leverage 'innocent passage' to conduct gray-zone threats: Of the 3 "vessel anchor damage" incidents in 2025, 2 involved vessels operating under Flags of Convenience (FOC). According to the aforementioned national security briefing, "third-country flag vessels, not being formal adversary forces, may assert the right of *innocent passage* under international law. This practice has now emerged as a new modality by which external actors exercise gray-zone threats against our critical infrastructure. This was illustrated by the January 2025 incident involving the Trans-Pacific Express (TPE) cable, which was suspected of being severed by the '**Shunxin 39**' (SHUNXIN39) — a cargo vessel flying a Cameroonian flag with PRC crew members — after it dropped anchor in waters off northern Taiwan. To strengthen cable security and enforce legal accountability, MODA has referred the relevant evidence to prosecutors for investigation. Similarly, in February 2025, the Taiwan-Penghu No. 3 cable (TP3) was severed by the anchor of the Dominican-registered cargo vessel '**Hong Tai 58**'; following MODA's referral of evidence, the Tainan District Court sentenced the captain to 3 years' imprisonment in June 2025. According to Coast Guard Administration (CGA) analysis⁵, these vessels typically employ two primary evasion tactics:

- (1) Identity concealment: Using multiple Automatic Identification System (AIS) transponders, which are toggled or disabled to evade law enforcement tracking.
- (2) Identity obfuscation: Altering the vessel's visual identifiers to confuse enforcement personnel.

Such highly covert and deceptive behaviour underscores the urgent need for enhanced dynamic maritime surveillance and rigorous criminal prosecution.

(2) Fishing operations (bottom trawling) rank as the second most significant threat:

The Taiwan Strait comprises shallow coastal water where fishing vessels frequently utilize bottom trawl nets — a practice colloquially known as plowing the fields. If a cable is

⁴Legislative Yuan Official Gazette, Vol. 114, No. 22 — same source as footnote 2.

⁵Liberty Times Net, February 26, 2025: "Evading Inspection — Chinese Flags-of-Convenience Vessels Suspected of Changing Ship Names Multiple Times."

not buried to sufficient depth or becomes exposed due to seabed shifting, it is highly susceptible to snagging or abrasion by fishing gear. The national security briefing further noted that "PRC fishing vessels deploy drift nets and bottom trawls for long-distance dragging in waters surrounding Taiwan to harvest shrimp, crabs, and shellfish. Beyond the degradation of marine ecosystems, this activity frequently severs submarine cables — as seen in August 2021, when the Taiwan-Kinmen No. 2 cable (TK2) was suspected to have been damaged by PRC trawling operations, resulting in significant communications disruptions to Matsu.

(3) Infrastructure aging risk:

In general, submarine cables have a designed service life of 25 to 30 years, while diligent maintenance can extend this operational window. However, as infrastructure ages, risks such as optical signal attenuation and degradation of protective sheathing increase. This not only escalates the frequency and cost of routine maintenance but also heightens the system's vulnerability to extreme weather events or external shocks.

(4) Seismic and landslide risks are real:

Taiwan is situated at the intersection of three major seismic belts⁶. High-magnitude earthquakes can trigger submarine landslides, potentially severing multiple cable systems simultaneously.

(5) Sand-dredging vessel incidents have declined markedly:

In 2022, there were 2 fault incidents attributed to sand-dredging operations; notably, no such faults have occurred through 2025. According to a May 9, 2024, release from the National Academy of Marine Research (NAMR)⁷, legislative amendments in 2021 — specifically to the *Soil and Rock Excavation Act* and the *Law on the Exclusive Economic Zone and Continental Shelf of the Republic of China* — significantly increased criminal penalties and fines. These measures proved effective, as the number of illicit mainland Chinese dredging incursions plummeted from nearly 4,000 vessel-trips prior to the amendments to only 7 vessel-trips in 2023 (ROC Year 112).

4. Summary

Cable threats exhibit a dual-peak structure; protection resources must precisely target both human and natural disaster risks

Synthesising the 2025 fault data with historical records, Taiwan's cable threat landscape exhibits a **dual-peak structure**: within 24 nm contiguous zone, human

⁶Central Weather Administration Seismological Center: Distribution of Earthquake Zones in Taiwan. Retrieved from <https://scweb.cwa.gov.tw>

⁷National Academy of Marine Research (NAMR) press release, May 9, 2024: "Concerned About the Marine Ecology of Matsu Waters! NAMR Holds Seminar to Share Findings from a Special Project Survey."

interference — specifically "vessel anchor damage" and "bottom trawling" (human interference) — dominates, with some incidents involving complex gray-zone tactics. Conversely, beyond the 24 nm threshold, "submarine landslides triggered by powerful earthquakes" constitute the primary force-majeure threat. Strategic resource allocation must be bifurcated to address these fundamentally different risk profiles with targeted remediation and protective measures.

III. Cable Protection and Improvement Actions

1. Taiwan's Current Cable Security Protection Mechanism

A cable security protection chain covering pre-incident prevention, during-incident response, and post-incident improvement has been established

All of Taiwan's submarine cable systems have been integrated into national critical infrastructure (CI) framework. Under the strategic guidance of the Executive Yuan, and in response to identified threat vectors, MODA has deployed a multi-tiered protection strategy. This strategy operates across **three tiers — pre-incident protection, during-incident response, and post-incident improvement** — and across three dimensions: **legal, administrative, and international cooperation**. These tiered measures interlock and complement each other, forming a complete protection chain from prevention through response to recovery. They represent the concrete actions of the government and cable operators working together to safeguard cable safety and resilience. Details are as follows (see also Table 9):

(1) General Protection Measures

Pre-incident prevention:

(1) Strengthening criminal penalties and vessel asset disposition: To strengthen CI protection for submarine cables, MODA, in coordination with the National Communications Commission (NCC), proposed amendments to Articles 72 and 72-1 of the *Telecommunications Management Act* during the 2023 legislative session; these were promulgated by the President and entered into force on June 28, 2023. Subsequently, the Executive Yuan advanced the "**seven laws to protect undersea cables**" — a comprehensive legislative package encompassing the *Telecommunications Act*, the *Electricity Act*, the *Natural Gas Act*, the *Waterworks Act*, the *Meteorological Act*, the *Commercial Port Act*, and the *Ship Act*. This amendment package passed its third reading in the Legislative Yuan in December 2025 and was promulgated by the President on January 5, 2026. In addition to imposing criminal penalties on those who destroy submarine cable facilities, the amendment also adds provisions for the confiscation of instruments of crime (vessels) and strengthens AIS management regulations.

(2) Strengthening cable CI protection drills: MODA oversees cable operators in implementing their security protection plans and conducting security protection and operational continuity drills, and encourages operators to participate in Executive Yuan-level CI protection drills.

(3) Subsidizing new cable construction and multi-path communication backup (including microwave):

- Since 2024, MODA has utilized forward-looking infrastructure funding to subsidize the construction of the Taiwan-Matsu No. 4 cable, Taiwan-Penghu No. 4 and Penghu-Kinmen No. 4 cable systems (scheduled for completion in 2026). This will enhance communications resilience for the outlying islands of Matsu, Penghu, and Kinmen.
- MODA also oversees operators in expanding Taiwan-Matsu microwave communications bandwidth; as of January 15, 2024, capacity has been substantially increased to 12.6 Gbps, which can fully back up all Taiwan-Matsu communications needs.
- From 2023 to 2024, 770 Non-Geostationary Orbit (NGSO) satellite terminal devices were deployed nationwide and on outlying islands, strengthening the communications capacity of the government command-and-control system under emergency conditions.

(4) Armoring or deepening burial of new cables: MODA mandates that operators employ advanced laying techniques — such as deep sea burial and armoring in high risk zones — in alignment with International Telecommunication Union (ITU) and the International Cable Protection Committee (ICPC) standards to enhance cable protection resilience.

(5) Subsidizing the resilience build-out of cable landing station infrastructure (building structure, transmission network, power equipment, and engineering): In 2025, MODA subsidized the modernization of switching equipment, transmission networks, building structures, and power cables, thereby enhancing infrastructure resilience. As of December 2025, the Ministry has approved subsidies for the upgrade of transmission network equipment at important cable landing stations in the northern, northeastern, and southern regions, as well as the optimization of power backup architecture at key cable hubs. Through the introduction of modular and redundant design, this reduces the impact of a single facility failure on the entire network's communications. Related construction is scheduled to continue through 2026.

(6) Subsidizing the construction or enhancement of cable early-warning systems: In December 2025, MODA approved subsidies for cable operators to build or upgrade cable early-warning systems. Through the deployment of high-availability automated monitoring platforms and off-site backup mechanisms, continuous operation of early-warning systems is ensured. Simultaneously, these systems are being further upgraded with AI-based intelligent identification technology to **establish vessel risk-behavior monitoring and anomaly auto-screening mechanisms**, effectively strengthening maritime security monitoring capability. The relevant system optimization

is scheduled for completion in the second half of 2026.

(7) Establishing an inter-agency joint response mechanism: Under the coordination of the Executive Yuan, an inter-agency (Coast Guard Administration, Maritime and Port Bureau, National Communications Commission, Mainland Affairs Council, and MODA) horizontal liaison and response mechanism has been established to jointly prevent cable damage incidents.

(8) Encouraging cable operators to join the ICPC to strengthen international cooperative defense: Chunghwa Telecom joined the **International Cable Protection Committee (ICPC)** in February 2025, thereby accessing international technical and operational recommendations on cable construction, and effectively enhancing cable protection capability.

During-incident response:

(1) Supervising operators to activate backup communications: MODA oversees the immediate transition to redundant paths (such as undamaged cables, microwave, or satellite communications) and, where appropriate, coordinating through the **National Communications and Cyber Security Center (NCCSC)** the allocation of communications resources, in order to minimize the impact of cable fault incidents on public communications services.

(2) Supervising operators to fulfill incident reporting requirements: When a cable fault occurs, cable operators must, pursuant to the *National Security Emergency Reporting Procedures*, report the national security incident to NCCSC; and pursuant to the *Cybersecurity Incident Reporting and Response Act*, report the cybersecurity incident to NCCSC within 1 hour of becoming aware of the incident. After review by MODA, the incident is forwarded in accordance with regulations to relevant agencies; and, if necessary, the inter-agency joint response mechanism is activated.

(3) Publishing "Latest Cable Status" updates: MODA has set up a dedicated "Latest Cable Status" section⁸ on its official website to publicly disclose relevant information in a graphical and timely manner. During cable fault periods, the information is continuously updated to enable all stakeholders to access accurate cable fault information.

(4) Timely clarification of misinformation: In response to inaccurate information circulating externally, MODA issues press releases or clarifications as appropriate to provide accurate information to the public and prevent the spread of misinformation.

⁸MODA official website: Latest Cable Status. Retrieved from <https://moda.gov.tw/major-policies/subseacable/1747>

Post-incident improvement:

The mission of the post-incident improvement phase is to strengthen repair capability, complete backup systems, and establish a continuous improvement mechanism, ensuring that cable fault incidents can be repaired and communications restored as quickly as possible.

(1) Supervising operators to repair cable breaks as quickly as possible: MODA, through NCCSC, oversees operators in completing repairs on schedule, and updates the "Latest Cable Status" on the official website after repair completion.

(2) Subsidizing accelerated cable break repair: In the second half of 2025, MODA used supplementary budget appropriations and a tiered subsidy approach to encourage cable operators to accelerate the repair of cable breaks (using past average cable repair time as a baseline: the faster the repair relative to average, the higher the subsidy).

(3) Forwarding cable damage evidence to district prosecutors for investigation to enforce the law: Starting in 2025, MODA, when clear evidence exists for cable damage, forwards relevant evidence to district prosecutors for investigation pursuant to Article 72 of the *Telecommunications Management Act*. As of February 2026, 4 cases have been referred, of which 2 illegal cases have resulted in convictions:

- Taiwan-Penghu No. 3 cable (TP3) cable-break case (February 25, 2025): The captain of the Dominican Republic-registered cargo vessel 'Hong Tai 58,' a PRC national surnamed Wang, was sentenced to 3 years' imprisonment by the Tainan District Court in June 2025 for destroying the TP3 cable. This is Taiwan's first successful prosecution of a submarine cable damage case.
- Taiwan-Matsu No. 2 cable (TDM2) cable-break case (October 7, 2025): The captain of the PRC-registered fishing vessel 'Minlianyu 60138,' surnamed Wu, was convicted of negligently destroying the TDM2 cable and sentenced on December 4, 2025 by the Fujian Lianchiang District Court to 3 months' imprisonment, commutable to a fine.
- Trans-Pacific Express (TPE) cable-break case (January 3, 2025): The Cameroonian-flagged cargo vessel 'Shunxin 39' dropped anchor in Waters off northern Taiwan and severed the TPE cable. Relevant evidence has been forwarded to the district prosecutor's office for investigation.
- Taiwan-Matsu No. 2 cable (TDM2) cable-break case (February 16, 2025): A Taiwan-flagged fishing vessel is suspected of severing the cable by anchor in Waters off northern Taiwan. Relevant evidence has been forwarded to the district prosecutor's office for investigation.

(4) Requiring cable operators to periodically review and revise protection plans and response measures: To improve cable security protection and incident response efficiency, MODA has asked cable operators to review and revise their protection plans at least every 2 years, with immediate updates upon major incidents or changes, and to regularly conduct security protection drills.

(5) Fault cause analysis and response review: Continuously analyze the cause of each cable fault and the response situation, in order to continuously update incident reporting and response-related standard operating procedures.

(6) Encouraging cable operators to join international cable repair pool zones to enhance cable repair capability: Continuing to encourage cable operators to strengthen their repair capability. Taking Chunghwa Telecom as an example, it has already joined 2 international cable repair pool zones to accelerate fault repair. For cables in which it has invested or which it operates, multiple cable ships can now be dispatched to Taiwan for repair work; additional support from other pool zones can be requested when needed.

(7) Exchanging cable protection regulations and measures with competent authorities of like-minded countries: In 2025, MODA held 2 video-conference meetings with the cable network security competent authorities of like-minded countries to exchange cable protection regulations and relevant measures. Furthermore, in January 2026, MODA co-organized with the Ministry of Foreign Affairs (MOFA), the Ministry of Transportation and Communications (MOTC), and the representative offices of the United States, Japan, Australia, Canada, and the United Kingdom in Taiwan the "**Global Cooperation and Training Framework (GCTF) — Strengthening Communications Infrastructure Resilience**"⁹ international workshop in Taipei. The theme centred on security protection and recovery of submarine cables, and was expanded to encompass the multi-dimensional resilience theme of terrestrial and satellite communications systems.

(8) Rolling review and development of legislative amendment proposals: The "seven laws to protect undersea cables" passed its third reading in December 2025 and was promulgated on January 5, 2026. Relevant agencies will continue to review the effectiveness of the law's implementation and, as appropriate, propose rolling amendments to related regulations.

(2) Specific Measures Targeting Anchor Damage and FOC Gray-Zone Threats

⁹MOFA press release, January 21, 2026: "Global Cooperation and Training Framework — Partnering with Like-Minded Allies to Jointly Strengthen Communications Network Resilience."

Pre-incident prevention: Inter-agency cooperation.

Strengthening FOC vessel monitoring: In response to the growing threat posed by FOC vessels, the **Ocean Affairs Council** has activated a monitoring mechanism, establishing a blacklist of 96 FOC vessels¹⁰ and classifying them into 4 threat levels — "high threat," "medium threat," "low threat," and "non-threat" — with the Coast Guard Administration conducting tiered monitoring according to threat level.

During-incident response: Joint reporting and inter-agency response.

MODA oversees cable operators in reporting to NCCSC within the prescribed timeframe; after MODA completes its review, the incident is forwarded to relevant agencies, and the Coast Guard Administration is immediately coordinated to dispatch to the scene for law enforcement.

Post-incident improvement: Forward evidence to prosecutors.

Forward cable destruction evidence to prosecutors (e.g., the Hong Tai 58 captain sentenced to 3 years) to raise the cost of illicit activity.

(3) Specific Measures Targeting Fishing Operations (Bottom Trawling)

Pre-incident prevention: Public-private cooperation, inter-agency coordination.

(1) **Fisheries Agency, Ministry of Agriculture**, subsidizes fishing vessels, sampans, and fishing rafts under 20 gross tonnes¹¹ in installing Automatic Identification System (AIS) equipment.

(2) Cable operators, through cable early-warning systems, proactively detect vessels behaving abnormally — either stationary or operating slowly in waters near cables — and **issue alert messages via AIS**, prompting vessels to avoid cable-sensitive areas, in order to prevent accidental cable contact and damage. For vessels that do not respond to warnings and represent high risk, the situation is reported to the Coast Guard Administration.

During-incident response and post-incident improvement: These procedures **mirror those established** for anchor damage and FOC gray-zone threats (joint reporting/inter-agency response, and forwarding to prosecutors).

(4) Specific Measures for Earthquakes

1. Encouraging cable operators to participate in new international cable

¹⁰Ocean Affairs Council press release, March 14, 2025: "Initial Progress in Managing the Threat from Flags-of-Convenience Vessels."

¹¹Fisheries Agency, Ministry of Agriculture, Order No. 1141525531, November 10, 2025: Operational Regulations on Subsidies for Installing AIS on Fishing Vessels, Sampans, and Fishing Rafts, FY 2025–2027.

projects: To increase international cable backup routes, MODA has encouraged cable operators to actively invest in new international cable projects routed through Taiwanese waters. Chunghwa Telecom announced its investment in the trans-Pacific E2A cable in March 2025, announced further investment in AUG cable construction in June 2025¹², and in October 2025 secured participation in the Candle cable project announced by Meta¹³. The above cables are scheduled for completion in 2028–2029 (ROC Years 117–118), and will effectively enhance Taiwan's external communications backup capacity and reduce the risk posed by earthquakes.

2. Enhancing satellite communications backup capability: MODA has opened 19 satellite frequency bands, bringing in diverse constellation providers to supply satellite communications services in Taiwan, jointly strengthening the resilience of Taiwan's communications network.

(5) Specific Measures for Sand-Dredging Vessel Operations: Maintaining high-pressure enforcement and consolidating protection outcomes

Pursuant to the *Law on the Exclusive Economic Zone and Continental Shelf of the Republic of China* and the *Soil and Rock Excavation Act*, the government continues to maintain high-intensity enforcement and heavy penalties against cross-border sand-dredging vessels. Through unrelenting high-pressure enforcement, the government prevents illegal sand dredging from reigniting, thereby consolidating the protection achievement of zero sand-dredging-related cable faults in 2025 and ensuring continued stability of the seabed and cable infrastructure.

Table 9 Cable Security and Resilience Promotion Measures

Protection Focus	Dimension	Pre-Incident Prevention	During-Incident Response	Post-Incident Improvement
General Measures	Legal	Amend statutes to strengthen penalties for cable damage, vessel asset seizure, and AIS management	—	Rolling review and legislative amendment proposals
	Administrative	• Supervise cable operators to implement CI protection plans and conduct CI protection drills • Subsidize new	• Activate backup communications • Enforce incident reporting • Publish 'Latest Cable Status' updates • Issue timely	• Prompt cable repair • Subsidize accelerated repair • Refer damage evidence to prosecutors • Require rolling

¹²Central News Agency, June 29, 2025: "Chunghwa Telecom Expands 'Sea-Land-Sky' Strategy with Additional Cable Investment."

¹³United Daily News, October 10, 2025: "Chunghwa Telecom Cable Business Posts Outstanding Performance."

		cables and microwave backup • Armor/bury cables in critical areas • Subsidize landing station resilience • Build/upgrade cable early-warning systems • Establish inter-agency joint response mechanism	clarifications on misinformation	revision of protection plans • Conduct fault-cause analysis and response review
	International	Encourage cable operators to join ICPC; strengthen international cooperation	—	• Join international cable repair pool zones • Exchange protection norms with like-minded states
Anchor Damage & FOC Gray-Zone Threats	Legal	—	—	Refer damage evidence to prosecutors
	Administrative	Strengthen FOC vessel monitoring	• Inter-agency reporting and response • Supervise operators to report to NCCSC; forward to relevant agencies • Coordinate Coast Guard Administration for on-site enforcement	—
Fishing Operations (Bottom Trawling)	Legal	—	—	Refer damage evidence to prosecutors
	Administrative	• Inter-agency public-private cooperation • Fisheries Agency subsidizes AIS installation • Cable operators issue AIS alerts; notify Coast Guard Administration for high-risk vessels	• Inter-agency reporting and response • Supervise operators to report to NCCSC; forward to relevant agencies • Coordinate Coast Guard Administration for on-site enforcement	—
Earthquake Measures	Administrative	• Encourage operators to invest in new international cables routing through Taiwan • Open satellite	—	—

		spectrum; bring in diverse constellation providers for satellite backup		
Sand-Dredging Vessel Operations	Administrative	Maintain high-pressure crackdown; consolidate protection achievements	—	—

2. Future Strategic Improvement Directions

As described above, Taiwan's cable protection framework, under inter-agency cooperation, is already operational. However, faced with elevated geopolitical risk and increasingly frequent human sabotage threats, the protection mindset must shift from **passive repair** to **proactive deterrence and resilience building**. Under the framework of whole-of-government coordination, with reference to expert practical recommendations, the future strategic directions and actions are as follows:

(1) General Strategic Actions: Enhance cable resilience; build multi-path backup and deepen international cooperative defense

1. Enhance cable resilience: To ensure that cable infrastructure can still maintain uninterrupted communications during extreme situations such as natural disasters or human sabotage, MODA is proactively evaluating cable protection and resilience enhancement strategies. In 2026, the Ministry plans to seek public budget subsidies for cable operators — through policy incentives guiding them to strengthen physical protection, refine early-warning maintenance, and increase backup routes. At the same time, MODA will continue to canvas domestic and international communications policy and technology development trends, analyzing and evaluating feasibility, and rolling-optimizing the Ministry's policy subsidy directions. MODA will also conduct field visits to cable operators to track the outcomes and implementation feedback of the previous year's subsidies, using a scientific approach to optimize the priority, weighting, and implementation details of subsidy items. The three main subsidy directions planned for 2026 are:

- (1) Infrastructure construction for enhancing cable resilience: Subsidize 'cable system or landing station related infrastructure' and 'power engineering and equipment,' strengthening the seismic and high-intensity typhoon protection capability of stations and nodes, and building backup power systems or energy storage equipment to ensure autonomous node operation in extreme conditions.
- (2) Refining cable-related early-warning and repair measures: Subsidize 'early-warning

protection facilities' and 'accelerated cable repair mechanisms,' using automated monitoring to reduce interference risk, and using a tiered subsidy approach to incentivize operators to accelerate repair of cable breaks.

- (3) Communication backup systems for cables: Subsidize 'communications backup facilities' and 'network routing systems,' building diverse-path backup facilities (such as alternative landing, satellite, or microwave) and automated network routing mechanisms, ensuring that when the main network trunk is interrupted, traffic can be quickly rerouted to maintain the resilience of national critical transmission.

2. Continuing to strengthen multi-path backup communications resilience:

(1) Strengthening multi-path backup network integrated switching

mechanism: To mitigate large-scale natural disasters or external cable-cut shocks, continue deepening the integration of submarine cables, microwave (e.g., Taiwan-Matsu links now expanded to 12.6 Gbps) and 770 NGSO satellite (OneWeb, SES) terminals, ensuring that in extreme conditions the national communications goal of "cable severed, network uncut" can be maintained.

(2) Bringing in emerging constellations to build diversified routes: In response to international satellite development trends, testing the feasibility of diverse constellations (such as Amazon Leo) supplying services in Taiwan, and using this as the basis to advance next-generation government satellite communications networks, providing government command-and-control systems with diversified communications routes in emergency situations, ensuring the government command system can continue to operate.

3. International repair coordination:

(1) Deepening international repair and dispatch capability: Continuing to deepen cooperation with international organizations such as ICPC and repair pool zones, and encouraging operators to sign long-term maintenance agreements with cable maintenance alliances or establish priority dispatch mechanisms, in order to reduce vessel waiting time when faults occur and establish a more stable maintenance environment.

(2) Actively promoting the 'RISK' international submarine cable risk management framework: Taiwan has proposed the "**RISK**" initiative¹⁴, covering four core objectives: **Risk mitigation** (enhancing cross-national emergency repair and backup capacity), **Information sharing** (establishing threat intelligence exchange and early-warning mechanisms), **Systemic reform** (reviewing the inadequacy of existing norms for

¹⁴MOFA important statement, January 12, 2026: "Minister Lin Delivers Written Statement to Domestic Media on International Submarine Cable Risk Management Initiative." Retrieved from <https://www.mofa.gov.tw>

hybrid threats), and **Knowledge building** (deepening international professional training and practical exchanges). Specific implementation pathways include: leveraging the GCTF to advance the exchange of cable maintenance, repair, and enforcement experience; and establishing long-term cooperation mechanisms with international coast guards and cable regulatory authorities to advance FOC information sharing, while simultaneously strengthening the development and application of protective technologies — using technology to assist enforcement. Through these efforts, Taiwan's protection experience will be transformed into an international institutional solution, **advancing cables as a protected "global commons"** and building, together with like-minded partners, a resilient cable security network.

(2) Measures for Anchor Damage and FOC Gray-Zone Threats: Enforcing heavy penalties; eliminating early-warning blind spots

1. Enforcing 'vessel asset confiscation' and addressing AIS anomalies

Given that the "seven laws to protect undersea cables" critical to cable security has been officially promulgated on January 5, 2026, the law now penalizes the conduct of "disabling or altering AIS" and orders the vessel to enter port for inspection; handles those who destroy cables with criminal penalties and enforces "confiscation of criminal tools (vessels)"; and **uses legal means to deter illegal conduct**, correcting the current serious imbalance between the cost of illegal activity and the cost to society.

2. Strengthening cable monitoring

(1) Strengthening cable early-warning:

- MODA will subsidize cable operators to continue strengthening the construction or enhancement of cable early-warning system functions, expanding monitoring density and improving anomaly detection accuracy for the conduct of "disabling or altering AIS."
- The Coast Guard Administration has planned a "Coastal Surveillance System Construction Program,"¹⁵ actively seeking special budget allocations to build 'Infrared Thermal Imaging Systems,' 'Island-Wide Smart Surveillance Systems,' and various UAV devices, incorporating AI-based intelligent early-warning and active identification technology to enhance coastal monitoring efficiency. The Coast Guard Administration is also strengthening maritime (coastal) monitoring capability through UAVs, Unmanned Surface Vehicles (USV), Unmanned Underwater Vehicles (UUV), medium-range coastal radar, and AI image recognition.

¹⁵Coast Guard Administration press release, May 29, 2025: "Deploy Coastal Surveillance Technology — Comprehensively Prevent Small Target Infiltration."

(2) Sharing cable monitoring intelligence: Encouraging operators to share cable monitoring intelligence in real time with port authorities, the coast guard, or other relevant agencies, forming a three-dimensional monitoring and real-time reporting network. Through cross-referencing of different monitoring data sources, the early-warning accuracy of gray-zone infiltration intent can be strengthened and the information transmission time shortened, enhancing protection and enforcement effectiveness.

(3) Measures for Fishing Operations (Bottom Trawling) and Infrastructure Aging: Refining physical protection; encouraging new cable construction

1. Refining physical protection to prevent fishing damage

During the pre-laying phase, strictly enforce environmental and geological surveys, carefully select cable routes while deliberately avoiding high-risk areas (such as active bottom-trawling hotspots and unstable seabed zones), and evaluate options for deepening burial depth and enhancing the cable's physical protection — for example, adding cast iron pipe and semi-hard-sheath protection to enhance resistance to pressure, abrasion, and impact, strengthening the resilience of vulnerable critical nodes.

2. Subsidizing new cable construction to address infrastructure aging

For early-deployed domestic cables, MODA will continue to encourage cable operators to plan new cable deployments to increase redundant backup routes, and provide appropriate subsidies. By accelerating new cable construction, the risk of infrastructure aging can be fundamentally addressed.

(4) Measures for Earthquakes: Participating in new international cables; enhancing satellite communications backup capacity

1. Participating in new international cables to increase external backup routes:

MODA has encouraged cable operators (such as Chunghwa Telecom) to actively invest in new international cable projects routed through Taiwan waters. In March 2025 it invested in the trans-Pacific E2A cable, in June 2025 invested in AUG cable construction, and in October 2025 secured participation in the Candle cable project announced by Meta. MODA will continue to monitor progress in the above international cable construction projects.

2. Enhancing satellite communications backup capacity: MODA will continue to monitor developments in opening 19 satellite frequency bands to diverse constellation providers supplying satellite communications services in Taiwan.

(5) Sand-Dredging Vessel Operations: Maintaining high-pressure enforcement; consolidating protection outcomes

Pursuant to the *Law on the Exclusive Economic Zone and Continental Shelf of the*

Republic of China and the *Soil and Rock Excavation Act*, the government continues to maintain high-intensity enforcement and heavy penalties against cross-border sand-dredging vessels. Through unrelenting high-pressure enforcement, the government prevents illegal sand dredging from reigniting, consolidating the protection achievement of zero sand-dredging incidents in 2025 and ensuring continued stability of the seabed and cable infrastructure.

3. Summary

A comprehensive 360° protection chain: implementing the three-phase protection framework

Taiwan has established a complete "pre-incident prevention, during-incident response, post-incident improvement" protection mechanism. Through the "seven laws to protect undersea cables" amendments, criminal penalties have been strengthened and vessel confiscation provisions added on the legal front; on the administrative front, AI-based early-warning systems have been introduced, new cable construction subsidized, and microwave and satellite combined for multi-path backup.

Resilience improvement priority: from "passive repair" to "proactive deterrence"

Strengthening law enforcement, implementing inter-agency cooperation to heavily penalize criminal vessels, and accelerating the replacement of aging cables are the key directions for future strategic improvement. At the same time, the government will continue to deepen international repair pool zone dispatch mechanisms and mutual legal assistance mechanisms, ensuring that the national communications security objective of "cable severed, network uncut" can be achieved under extreme geopolitical or disaster scenarios.

IV. Conclusion

Human cable sabotage largely involves FOC activities, highlighting national security dimensions

Data from 2025 indicate that while the aggregate number of fault incidents remains relatively stable, the nature of disruptions has evolved. Beyond traditional operational accidents, submarine cables now face highly covert, targeted gray-zone threats. The frequent activities of FOC vessels highlight that cable protection is no longer merely an economic issue, but a composite issue encompassing national security.

Cable protection has established a complete protection chain of pre-incident prevention, during-incident response, and post-incident improvement

Facing this serious situation, Taiwan — across the three operational phases of "pre-incident prevention, during-incident response, and post-incident improvement" — has implemented corresponding measures in the dimensions of "legal, administrative, and international cooperation." These tiered measures interlock with each other, forming a complete protection chain from prevention through response to recovery, and represent the concrete actions of the government and cable operators working together to safeguard cable safety and resilience.

With the formal entry into force of the "seven laws to protect undersea cables" amendments in 2026, the government now possesses the powerful enforcement tool of vessel asset confiscation; on the physical infrastructure front, the government will continue annually seeking budget subsidies for cable operators to achieve substantial expansion of outlying island communications, new cable construction, and enhancement of cable physical protection measures. At the same time, through the analysis of the previous year's subsidy outcomes and the international situation, the government will roll-adjust the implementation order of various items or mechanisms, as the basis for the following year's subsidy allocation. Together with the construction of multi-path backup networks using microwave and satellite, Taiwan will be better positioned to cope with any form of cable disruption risk.

Four major strategic tracks will be precisely implemented in the future through inter-agency joint defense

Looking ahead, to ensure the resilience of the national digital neural network, Taiwan's cable protection thinking will comprehensively shift from "passive repair" to "**proactive deterrence and resilience building.**" In response to the various protection gaps facing cables, the government will — through inter-agency cooperation, following the four major strategic tracks of "**enhancing cable resilience and building multi-path backup and deepening international cooperative defense,**" "**implementing heavy**

penalties and early-warning," "refining physical protection and encouraging new cable construction," and **"maintaining high-pressure enforcement"** — continue to advance. Under the coordination of the Executive Yuan, maritime law enforcement and heavy-penalty crackdowns are carried out forcefully by the Coast Guard Administration and prosecutorial authorities; while MODA focuses on the core task of communications resilience — in addition to supervising CI providers in implementing various protection plans, also advancing with new cable construction by assisting operators in introducing AI early-warning mechanisms, and combining inter-agency UAV surveillance and other emerging technology applications, rolling-refining protection strategies and completing the substantive construction of a multi-layered communications resilience network — to ensure that Taiwan's communications resilience in the digital era is as solid as a rock, building a secure, stable, and resilient national communications network.

References

Online sources:

1. ITU Press Release (February 3, 2026): "Porto Summit drives critical cooperation on submarine cable resilience." Retrieved from: <https://www.itu.int/en/mediacentre/Pages/PR-2026-02-03-Porto-Submarine-Cable-Resilience-Summit.aspx>
2. Legislative Yuan Official Gazette, Vol. 114, No. 22 — Minutes of the 27th Plenary Meeting of the Foreign Affairs and National Defense Committee, 11th Legislative Session, 2nd Regular Session (January 16, 2025). Retrieved from: https://ppg.ly.gov.tw/ppg/PublicationOfficialGazettes/download/communique1/final/pdf/114/22/LCIDC01_1142201_00004.pdf
3. MODA official website: Latest Cable Status. Retrieved from: <https://moda.gov.tw/major-policies/subseacable/1747>
4. FNAL/RNAL. Retrieved from: <https://www.submarinenetworks.com/en/systems/intra-asia/fnal-rnal>
5. Ocean Affairs Council, Conservation Department: United Nations Convention on the Law of the Sea. Retrieved from: https://www.oca.gov.tw/ch/home.jsp?id=643&parentpath=0,297,641&mcustomize=law_view.jsp&dataserno=202107300049
6. Legislative Yuan Official Gazette, Vol. 114, No. 22 (same source as item 2).
7. Liberty Times Net, February 26, 2025: "Evading Inspection — Chinese Flags-of-Convenience Vessels Suspected of Changing Ship Names Multiple Times." Retrieved from: <https://news.ltn.com.tw/news/politics/paper/1693591>
8. Central Weather Administration Seismological Center: Distribution of Earthquake Zones in Taiwan. Retrieved from: <https://scweb.cwa.gov.tw/zh-tw/guidance/faqdetail/54>
9. National Academy of Marine Research (NAMR) press release, May 9, 2024: "Concerned About the Marine Ecology of Matsu Waters! NAMR Holds Seminar to Share Findings from a Special Project Survey." Retrieved from: https://www.namr.gov.tw/ch/home.jsp?id=36&parentpath=0,6&mcustomize=news_view.jsp&dataserno=202405090002
10. MODA official website: Latest Cable Status. Retrieved from: <https://moda.gov.tw/major-policies/subseacable/1747>
11. Judicial Yuan Case Database: Tainan District Court, Criminal Judgment No. 235 (2025), June 12, 2025. Retrieved from: <https://judgment.judicial.gov.tw/FJUD/data.aspx?ty=JD&id=TNDM,114%2ce8%a8%b4%2c235%2c20250612%2c1>
12. Judicial Yuan Case Database: Fujian Lianchiang District Court, Criminal Judgment No. 20 (2025), December 4, 2025. Retrieved from: <https://judgment.judicial.gov.tw/FJUD/data.aspx?ty=JD&id=LCDM,114%2ce8%a8%b4%2c20%2c20251204%2c1>

13. MOFA press release, January 21, 2026: "Global Cooperation and Training Framework — Partnering with Like-Minded Allies to Jointly Strengthen Communications Network Resilience." Retrieved from:
https://www.mofa.gov.tw/News_Content.aspx?n=95&sms=73&s=121558
14. Ocean Affairs Council press release, March 14, 2025: "Initial Progress in Managing the Threat from Flags-of-Convenience Vessels." Retrieved from: <https://www.oac.gov.tw>
15. Fisheries Agency, Ministry of Agriculture, Order No. 1141525531, November 10, 2025: Operational Regulations on Subsidies for Installing AIS on Fishing Vessels, Sampan, and Fishing Rafts, FY 2025–2027. Retrieved from:
https://www.fa.gov.tw/view.php?theme=FisheriesAct_RULE&subtheme=&id=701
16. Central News Agency, June 29, 2025: "Chunghwa Telecom Expands 'Sea-Land-Sky' Strategy with Additional Cable Investment." Retrieved from:
<https://www.cna.com.tw/news/afe/202506290083.aspx>
17. United Daily News, October 10, 2025: "Chunghwa Telecom Cable Business Posts Outstanding Performance." Retrieved from: <https://udn.com/news/story/7252/9062719>
18. MOFA important statement, January 12, 2026: "Minister Lin Delivers Written Statement to Domestic Media on International Submarine Cable Risk Management Initiative." Retrieved from: https://www.mofa.gov.tw/News_Content.aspx?n=1020&s=121476
19. Coast Guard Administration press release, May 29, 2025: "Deploy Coastal Surveillance Technology — Comprehensively Prevent Small Target Infiltration." Retrieved from:
<https://www.cga.gov.tw/GipOpen/wSite/ct?xItem=165126&ctNode=8195&mp=9996>
20. Liberty Times Net, February 5, 2026: "Coast Guard Administration Installs 99 Infrared Thermal Imaging Systems Across Taiwan, Deploys 176 Island-Wide Smart Surveillance Systems." Retrieved from: <https://def.ltn.com.tw/article/breakingnews/5333853>