Navigating Security-driven Connectivity and Technology-Driven Connectivity in International Digital Infrastructure Governance:

How Network Position shapes Submarine Cable Policy in the United States, Japan, and ASEAN

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How Network Position shapes Submarine Cable Policy in the United States, Japan, and ASEAN

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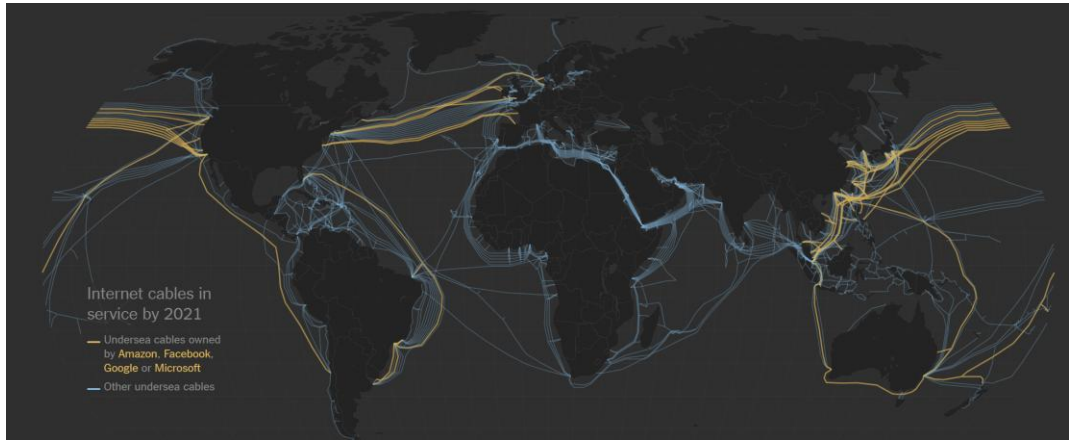
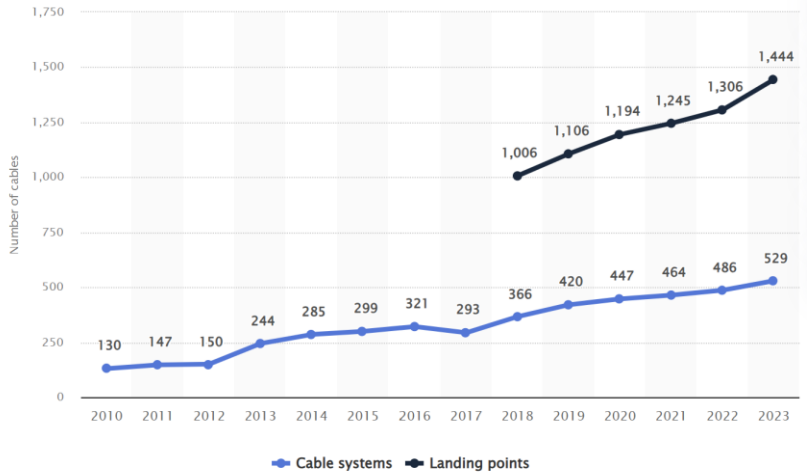
Increasing Importance of Data as a Strategic Asset and Submarine Cable Networks in the AI Era

- **Exponential Increase in Data Production:** Data generated by various entities is growing exponentially
- **Essential Conditions for Stable Digital Transformation**
  - Importance of Connectivity: Continuous data flow requires robust connectivity, highlighting the increasing importance of digital infrastructure networks (technology-driven connectivity)
  - ※ Data collection, storage, and transmission rely on cables, data centers, clouds, and satellites, with fiber optic cables playing a significant role. Fiber optic cables handle approximately $22 trillion in financial transactions and 95% of voice and data traffic daily, making them the core physical infrastructure for technological security in the AI transformation era (New York Times, 2015.10.26; TeleGeography, 2024))





Digital Infrastructure & Key Innovations

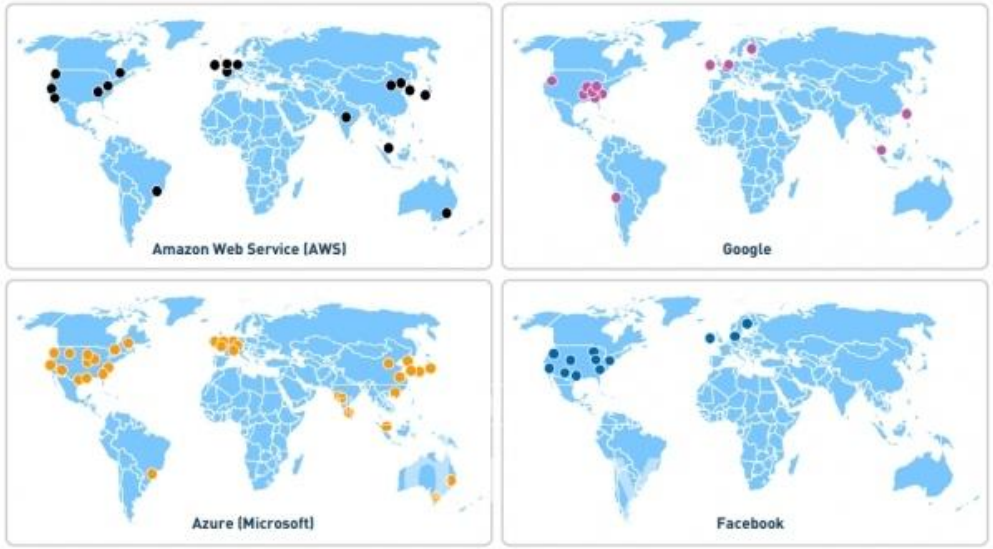
- Digital Infrastructure (DI): A network composed of hardware and software elements that process, store, and transmit data digitally
  - Hardware: Subsea cables, wired terrestrial networks, and ICT infrastructure, Wireless network equipment, satellites and satellite terminals

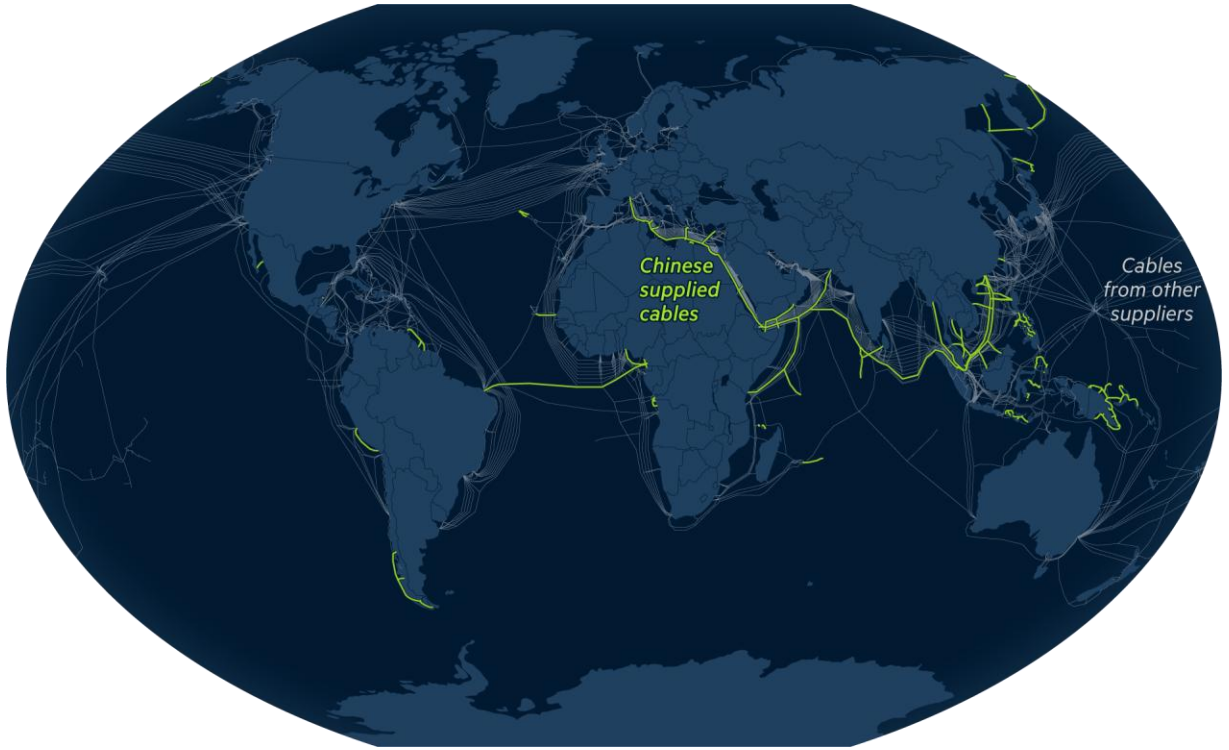
    * datacenter, cloud computing infra, etc

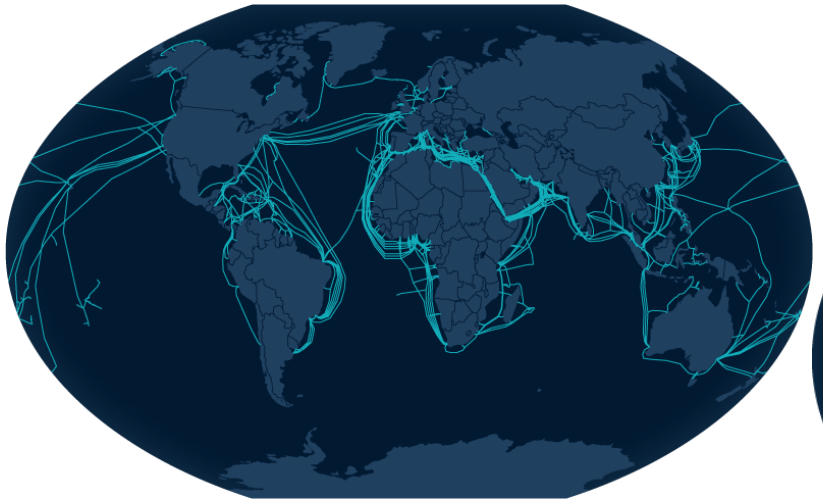
    * Subsea(fiberoptic) cables provide high-speed, high-capacity communication links connecting National Digital Infrastructures (NDIs) across continents/countries; Satellites operate in gigabit units, while subsea cables operate in terabit units
  - Software: Operating systems, firmware, software, and applications
  - Building Blocks: Terrestrial, cellular/wireless networks, space, and international networks

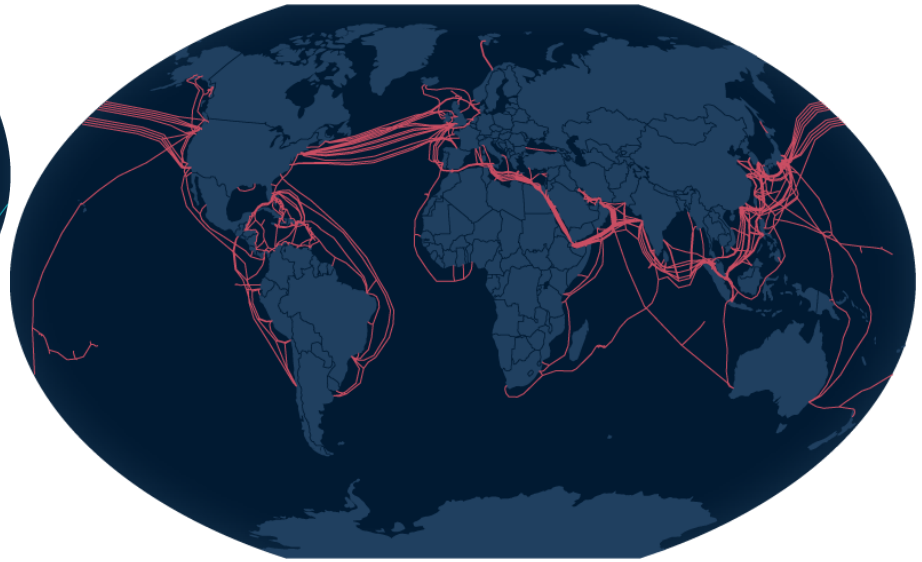
※ Ownership, access, and control over digital infrastructure are reflected in data ownership, access, and control (Rand, 2022,p 22.)

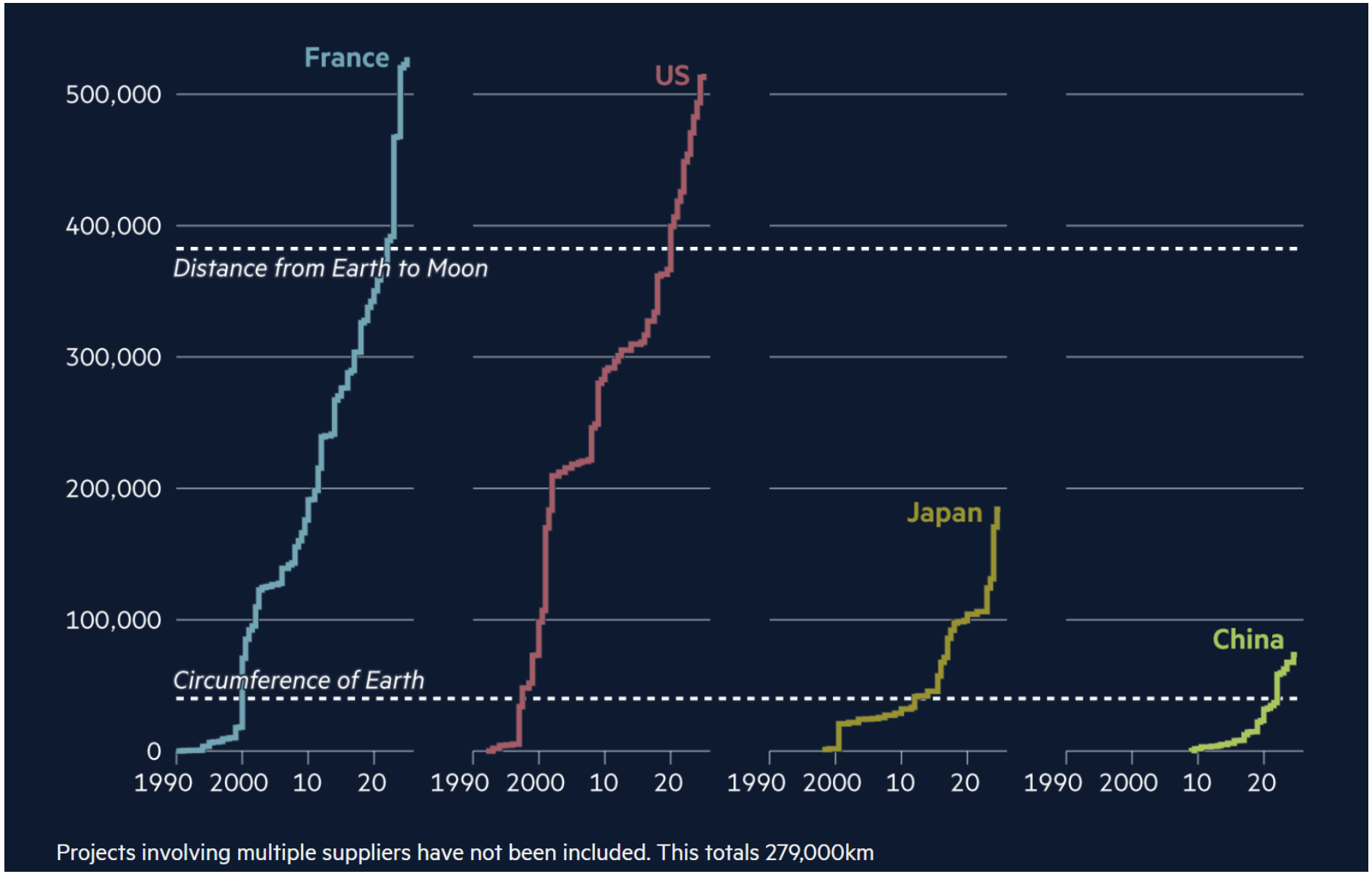
※ Digital 9 Infrastructure classify DI as Data centers, submarine fiber networks, terrestrial fiber networks, and wireless networks




Chinese supplied cables
Cables from other suppliers

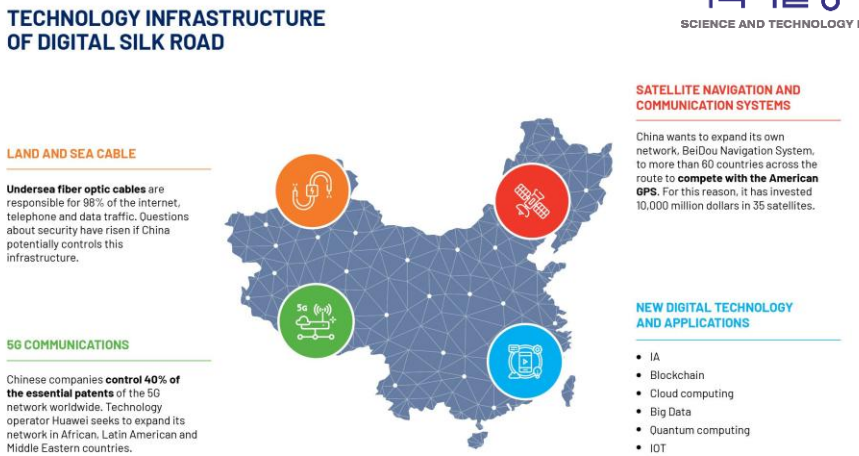


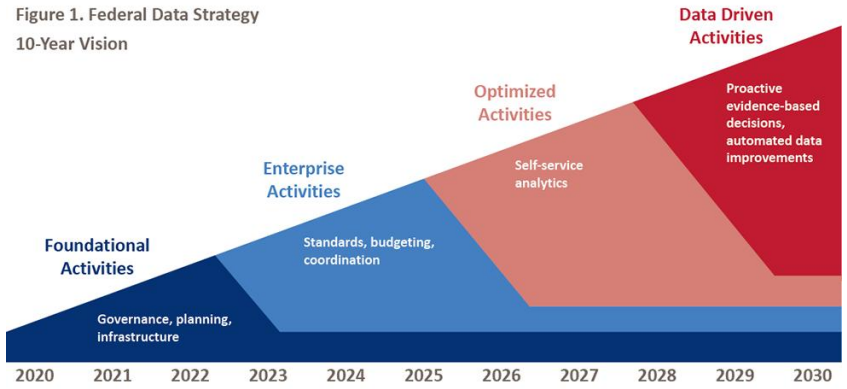



France
US
Japan
China
500,000
400,000
300,000
200,000
100,000
0
Distance from Earth to Moon
Circumference of Earth
1990
2000
10
20
Projects involving multiple suppliers have not been included. This totals 279,000km

US–China Strategic Competition (Security Connectivity)

- Intensified US-China Strategic Competition in AI and Data -> data; strategic asset
  - Increasing competition between countries for 'secure' data flow (security-driven connectivity)
  - The US has already labeled China's Digital Silk Road (DSR) as a form of espionage and a leadership competition (Brackup et al ,2023)
- Digital Infrastructure Networks: Must address both technological connectivity and security-driven connectivity simultaneously





Federal Data Strategy
Leveraging Data as a Strategic Asset

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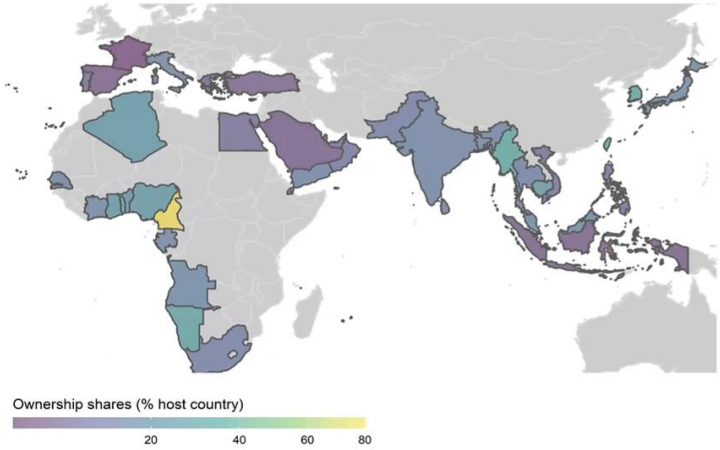


China in ownership segment (as of 2019)

China in supply – rejected (2017)

Subsea Cables as Digital Infrastructure & Network Industry

- Subsea Cables as “International Hardware” in DI (global/international network planning)–〉 Digital Network Infra (DNI)
  - Hardware: Subsea cables, wired terrestrial networks, and ICT infrastructure, Wireless network equipment, satellites and satellite terminals
  - Fundamental to digital connectivity, transforming speed, capacity, and global reach
- Network Industry Dynamics :Network Externalities & Path Dependence
- Network Externalities (direct & indirect) → lock-in effect → increase sunk costs and switching costs → path dependence deepens

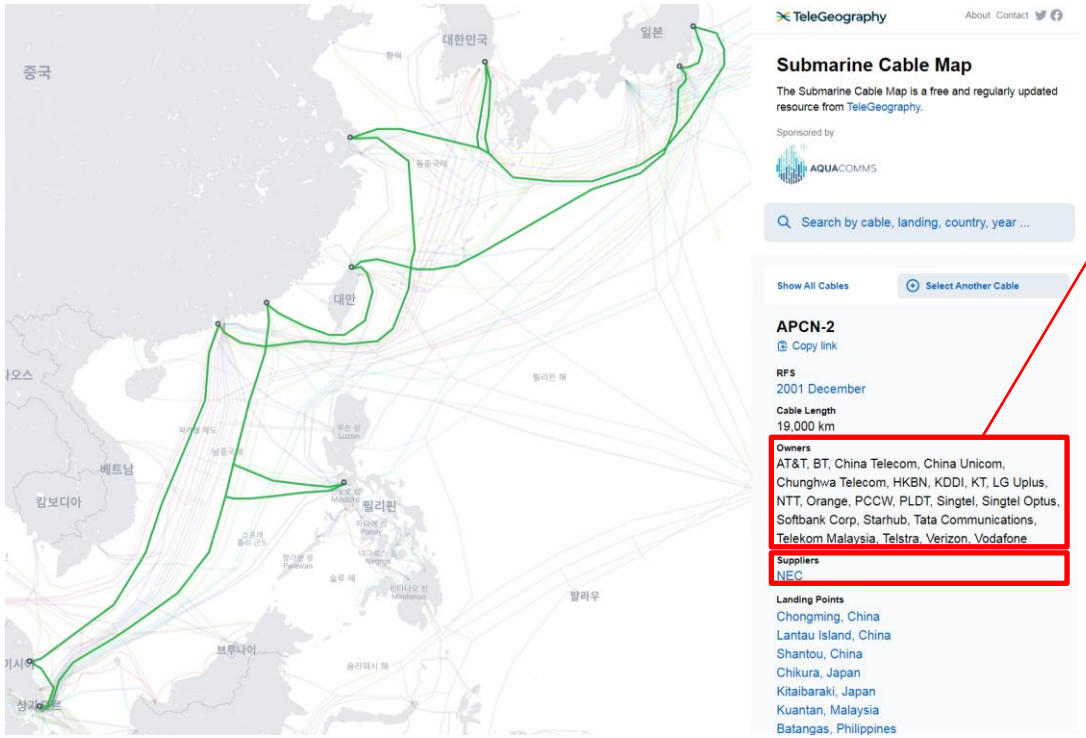
  path dependence → Winner Takes All & asymmetric interdependence Network

  *direct: volume, usage, number of connected link / indirect: compatibility, complementarity, and standard
  - Monopolization of network control strengthens asymmetric interdependence
  - Exacerbates network inequality → Structural security risks for spoke/peripheral states

Analysis of the Subsea Cable Industry Ecosystem and Value Chain

- The subsea cable industry is divided into "owners", who own and operate subsea cable systems, and "suppliers", who physically construct and deploy these systems
  - Ownership: ① system planning and operation ②securing investments and managing projects ③ MRO
  - Supply: ①Manufacturing of cables and related equipment ② deployment and installation③ MRO

〈 APCN-2 Case〉



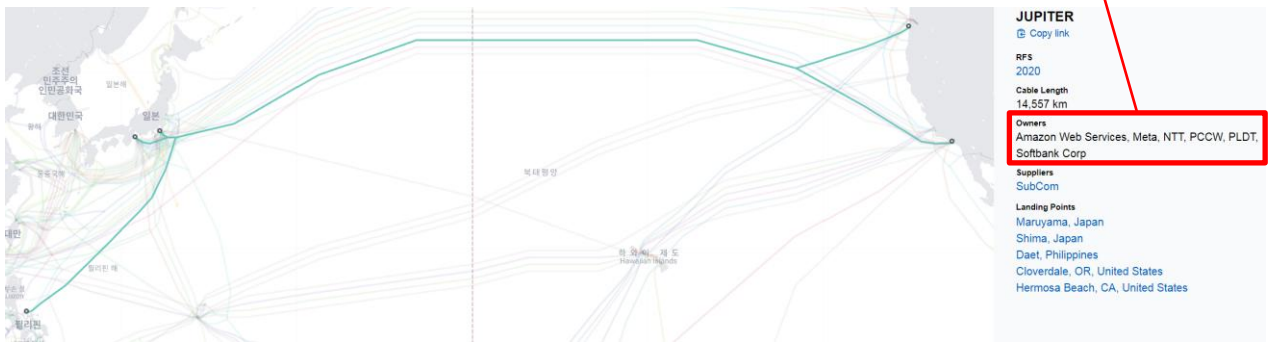
- Owners: Consortiums formed by national telecommunications companies*

  * Consortiums help distribute the substantial costs and risks associated with subsea cable construction, also enhance cross-border connectivity and operational efficiency in managing subsea cable systems

  (AT&T, China Unicom, KT, NTT)
- Suppliers: NEC(Japan)

- Global Big Tech's Increasing Involvement (AWS, META, Google etc)

〈 The JUPITER Subsea Cable System Led by Global Big Tech 〉



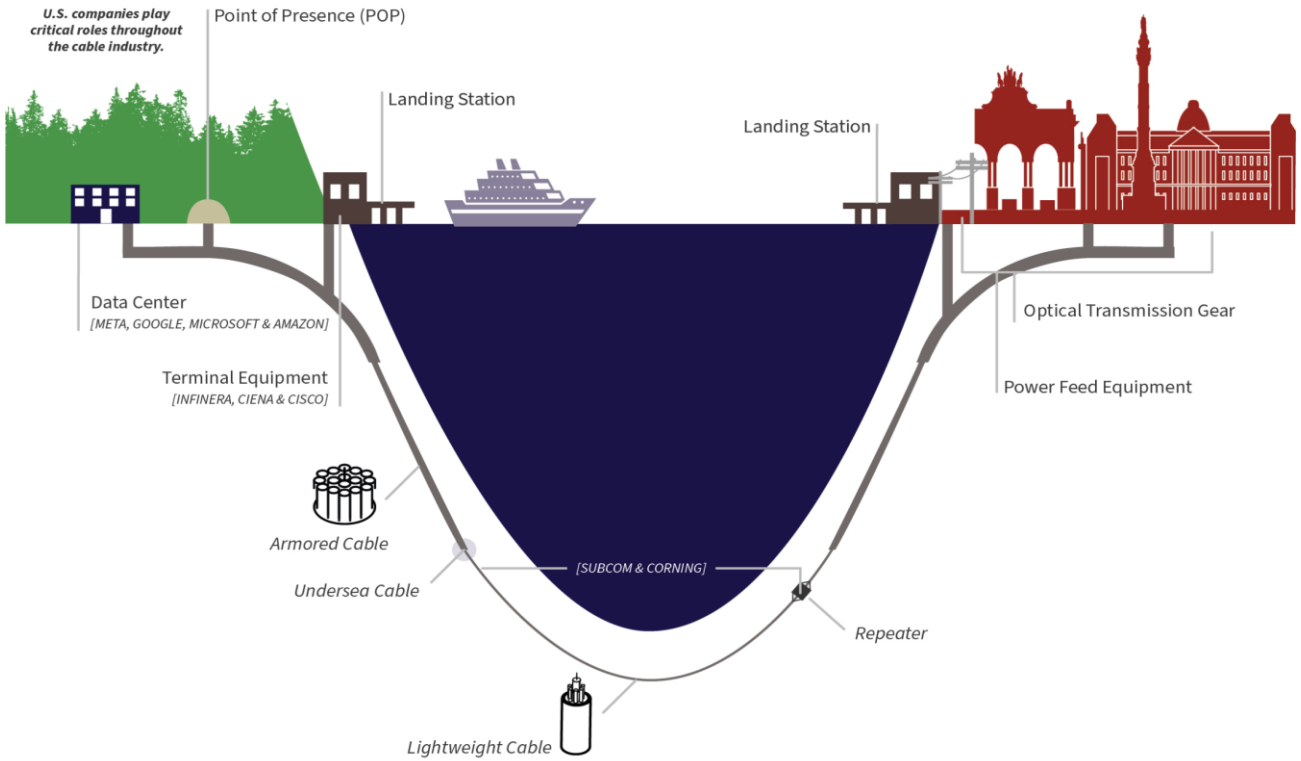
자료: TeleGeography (2024.08.12.)

자료: TeleGeography (2024.08.12.)

Analysis of the Subsea Cable Industry Ecosystem and Value Chain

- Value Chain of Subsea Cable Systems: Planning & Operation, Manufacturing & Supply, Deployment & Installment, MRO
- International Data Connectivity: landing station, data center, fiber optic cables

〈Data Transmission/Communication through Cable System〉



- Data Center Departure: Data packaging, traffic aggregation, optical signal conversion
- Transit through Terrestrial Network
- Transmission Processing at Sending Coastal Country (Landing Station)
- Subsea Cable Transmission
- Reception Processing at Receiving Coastal Country(landing station)
- Transit through Destination Terrestrial Network (Backhaul)
- Data Center Reception

International Politics of Digital Infra: Why and How States Securitize?

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Characteristics of Subsea Cables, Security Issues, and Threat Perceptions

- DNI's Path Dependency & Network Externalities → 'asymmetric interdependence' network
- Data Security in the AI Era: exposing the subsea cable supply chain to both physical and cyber threats
- AI Advancements & Intensified U.S.–China Strategic Competition in the Nexus between supply chain, technology, and security (DI as a critical infra) → identity change !

Asymmetric Interdependence and Weaponization in Subsea Cable Networks

- Sensitivity and Vulnerability

▶ Can replace and how danger when remove relations or supply link

▶ States with low vulnerability and high sensitivity can project interdependence power over those with high vulnerability and low sensitivity, leading to asymmetric interdependence → asymmetric interdependent relations

- Subsea networks characterized by asymmetric interdependencies that form a networked structure

▶ Weaponization of Interdependence: Chokepoint and Panopticon Effects in Data Communications → Data Security

Increased likelihood of weaponization based on technological characteristics, dynamically reinforcing the asymmetric interdependence structure

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International Politics of Digital Infra: Why and How States Securitize?

Security Issues and Points of Conflicts in Subsea System & Network

- The Potential for a Panopticon Effect in the subsea cable supply chain (in terms of data service)
  - ▶ Critical nodes (e.g., maintenance facilities and landing stations) may become hotspots for data security breaches.
  - ▶ Hub countries within the network can control, intercept, or monitor data flows (e.g., via router backdoors) in terms of data service
- Network Dependency and Chokepoint Effects:
  - ▶ The enormous initial(supply)and maintenance costs foster deep dependency on established networks
  - ▶ Network externalities further entrench technological dependency, reinforcing chokepoint effects
    - → This creates challenges in maintaining sensitivity while increasing overall vulnerability
  - ▶ Dependency on **Installed Cables**
    - → Not only does this enable monitoring of data (panopticon effect), but it also allows for deliberate latency and the exclusion of rival nations from maintenance networks (chokepoint effect)

*DI: the extent of ownership, accessibility, and control → This can be verified through the undersea cable supply chain, and DI itself is a threat factor.

- ☑ Factors based on IR and technological characteristics → are considered in the securitization process as threat perception / Subsea cable traits drive securitization
- ☑ Vulnerability and sensitivity are materialized in supply chain security and technological dependency (Hub–Spoke relations / network)
- ☑ The formation of network externalities and asymmetric interdependencies : vulnerability ↑ and sensitivity ↓

The emergence of specific threat clusters is not arbitrary—it is a direct product of the cable system's techno-economic architecture.

1. STRUCTURAL FEATURES

Techno-Economic Roots

Network Path Dependence

Reinforces asymmetric hub-spoke structure and entrenched topology, locking in physical routes and power distribution.

Asymmetric Market Structure

Uneven power distribution driven by 90% oligopoly (SubCom, NEC, ASN) creates inherent dependency.

Asset Scarcity

Only ~69 repair ships for 600+ cables globally makes maintenance critical.

2. LEVERAGE POINTS

Strategic Vulnerabilities

Route & Landing Control

Who decides where cables land? **(Planning and Ownership)**

Supplier Dependency

Reliance on foreign manufacturers. **(Manufacturing and Supply)**

Access to Infrastructure

Physical access to lay/repair cables. **(Planning / Installation)**

Maintenance Leverage

Repair denial or delays as coercion. **(Maintenance and Repair)**

3. EMERGENT THREAT CLUSTERS

Security Consequences

Geographic Concentration

Because routes are fixed (Path Dependence) + Landing stations are few.

Supply Chain Fragility

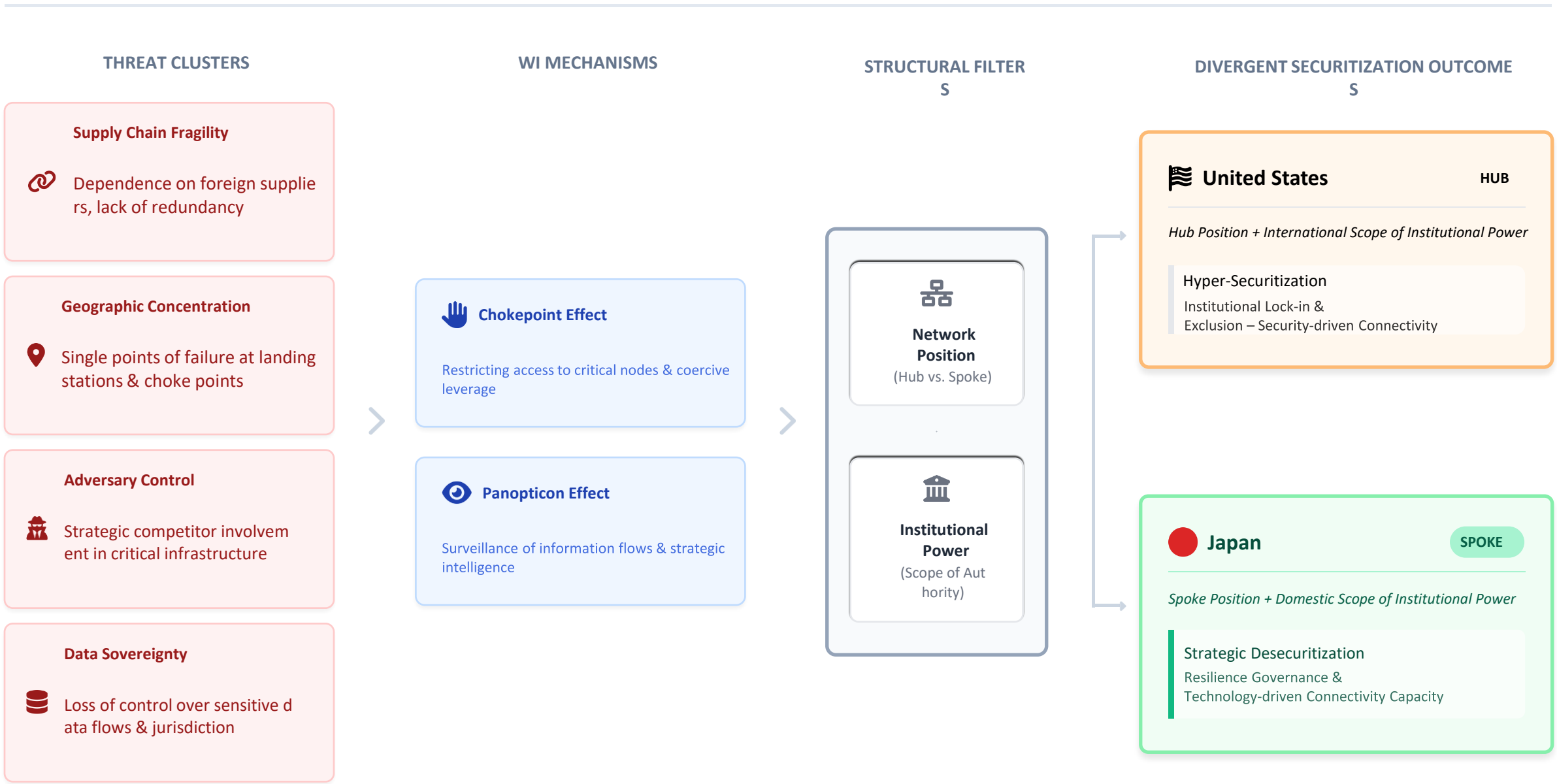
Because market is an oligopoly + repair assets are scarce.

Adversary Control

Because physical access allows surveillance (Panopticon) via untrusted vendors.

Data Sovereignty Erosion

Because route control determines whose jurisdiction applies to data flows.


THREAT CLUSTERS
Supply Chain Fragility
Dependence on foreign suppliers, lack of redundancy
Geographic Concentration
Single points of failure at landing stations & choke points
Adversary Control
Strategic competitor involvement in critical infrastructure
Data Sovereignty
Loss of control over sensitive data flows & jurisdiction
WI MECHANISMS
Chokepoint Effect
Restricting access to critical nodes & coercive leverage
Panopticon Effect
Surveillance of information flows & strategic intelligence
STRUCTURAL FILTERS
Network Position
(Hub vs. Spoke)
Institutional Power
(Scope of Authority)
DIVERGENT SECURITIZATION OUTCOMES
United States
HUB
Hub Position + International Scope of Institutional Power
Hyper-Securitization
Institutional Lock-in &
Exclusion – Security-driven Connectivity
Japan
SPOKE
Spoke Position + Domestic Scope of Institutional Power
Strategic Desecuritization
Resilience Governance &
Technology-driven Connectivity Capacity

Methodology: Mixed Methods Approach

Qualitative Analysis

- **Comparative case study**: US (hyper-securitizer) vs Japan (strategic desecuritizer)
- **Process tracing**: Policy evolution from 2015-2025
- **Content analysis**: Government documents, strategy papers, official statements

Quantitative Analysis

- **Revealed Comparative Advantage (RCA)** index calculation
- **Trade data**: UN Comtrade and KITA (2019-2023)
- **Eight HS codes** covering complete submarine cable value chain

Characteristics of Digital Infrastructure Securitization

- Spectrum exists: hyper-securitization ↔ strategic de-securitization
- Practice-centered: institutional measures, budget allocation, regulatory strengthening
- Structural determinants: network position, material capacity, institutional power

This Study's Approach

- Focus on actions rather than words
- Track changes in policies, institutions, and budgets
- Compare both ends of the securitization spectrum

This mixed-methods approach captures both material constraints (trade dependencies) and ideational processes (threat framing and policy responses)

Comparison of Domestic and International Subsea Cable Industry Competitiveness

- **Trade Classification**: Utilizes the **HS (Harmonized System)** classification developed by the World Customs Organization (WCO)
- Analysis Period: Covers 2019–2023, but focuses on the status as of 2023
- Analyzing Trade Competitiveness and Industrial Characteristics in the Subsea Cable Industry of states by Comparing Export-Import Shares from 2019 to 2023 based on **HS**

❖ Methodology for Analyzing Industrial Competitiveness Using RCA

$$RCA_{c,i,t} = \frac{E_{c,i,t} / \sum_i E_{c,i,t}}{\sum_c E_{c,i,t} / \sum_c \sum_i E_{c,i,t}}$$

〈RCA; Revealed Comparative Advantage〉

RCA Index 〉 1 → Comparative Advantage ✅

RCA Index 〈 1 → Comparative Disadvantage ❌

Analysis Purpose

- Quantitative diagnosis of material vulnerabilities and bottlenecks
- Identify relative positions in global value chains
- Reveal structural constraints on securitization strategies

Key Implications

- Confirms material basis of network position (Hub vs. Spoke)
- Analyzes how industrial competitiveness affects security choices
- Provides objective criteria for policy prioritization

Industry Classification Systems

HS Classification for Trade Analysis

8544.70	Optical fiber cables
9001.10	Optical fibers and bundles
8517.62	Transmission equipment
8544.60	High-voltage conductors
8905.90	Special-purpose vessels
8479.89	Special purpose machines
8430.69	Compacting machines
9015.80	Surveying instruments

Submarine Cable Value Chain

Planning & Ownership

Hyperscalers, Telecom Consortia, Route Design

Manufacturing & Supply

Optical fibers, Cables, Repeaters, Components

Installation

Cable-laying vessels, Marine operations

Maintenance & Repair

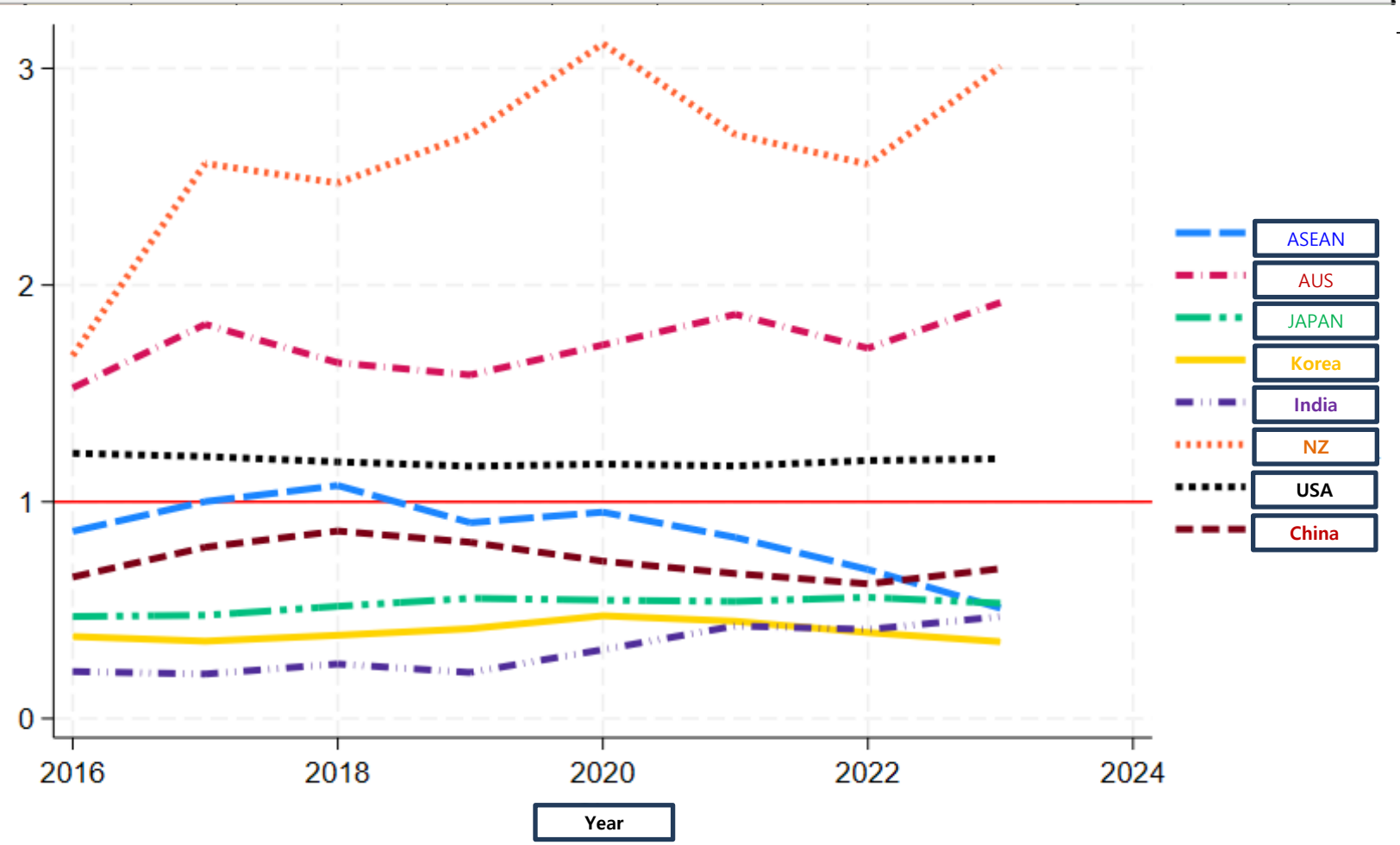
Repair ships, Emergency response, Spare parts

Key Observations from the RTA Index

	Nations	ASEAN	BRN	IDN	KHM	LAO	MMR	MYS	PHL	SGP	THA	VNM	AUS	IND	NZL	Korea	USA	China	Japan
	Year	2023																	
	RTA Total	0.509	0.000	0.124	0.000	0.000	0.000	0.205	0.778	0.500	1.343	0.034	1.919	0.470	3.010	0.35	1.20	0.69	0.53
RTA Index (IPC 4)	B63B	0.693	0.000	0.241	0.000	0.000	0.000	0.359	0.082	0.739	1.831	0.067	3.056	0.152	5.863	0.40	1.19	0.66	0.34
RTA Index (IPC 4+ main group)	B63B 35	1.260	0.000	0.923	0.000	0.000	0.000	0.185	0.257	1.285	5.096	0.068	2.466	0.148	9.688	0.33	1.16	0.82	0.15
	G01C 13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.314	0.057	0.375	0.69	0.83	0.57	2.55
	H02G 1	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.066	0.000	0.000	0.927	0.260	0.000	0.02	1.05	0.01	1.64
RTA Index (IPC 4+ main+ sub group)	B63C 11/00	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.053	0.000	0.000	0.072	0.000	0.000	0.85	0.85	3.06	0.64
	E02F 3/00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.032	0.000	0.000	0.79	1.07	0.97	0.90
	E02F 5/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.23	1.21	0.56	0.54
	F16L 1/24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.812	0.895	0.000	0.09	1.02	0.39	0.25
	G02B 6/00	0.456	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.645	0.000	0.000	0.199	0.102	0.003	0.01	1.19	0.65	0.00
	G02B 6/44	0.371	0.000	0.000	0.000	0.000	0.000	0.073	2.644	0.179	1.463	0.000	0.603	1.303	0.000	0.00	1.10	0.48	0.00
	H02G 1/00	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.050	0.000	0.000	0.157	0.041	0.000	0.12	1.31	0.56	0.70
	H02G 1/06	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.287	0.000	0.000	0.09	1.15	1.36	0.81
	H02G 1/12	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.187	0.000	0.000	0.000	0.000	0.000	0.18	1.04	0.78	1.00
	H02G 15/00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				

Key Observations from the RTA Index

	Nations	ASEAN	BRN	IDN	KHM	LAO	MMR	MYS	PHL	SGP	THA	VNM	AUS	IND	NZL	Korea	USA	China	Japan
	Year	2023																	
	RTA Total	0.50														0.35	1.20	0.69	0.53
RTA Index (IPC 4)	B63B	0.69														0.40	1.19	0.66	0.34
RTA Index (IPC 4+ main group)	B63B 35	1.26														0.33	1.16	0.82	0.15
	G01C 13	0.00														0.69	0.83	0.57	2.55
	H02G 1	0.04														0.02	1.05	0.01	1.64
RTA Index (IPC 4+ main+ sub group)	B63C 11/00	0.03														0.85	0.85	3.06	0.64
	E02F 3/00	0.00														0.79	1.07	0.97	0.90
	E02F 5/10	0.00														0.23	1.21	0.56	0.54
	F16L 1/24	0.00														0.09	1.02	0.39	0.25
	G02B 6/00	0.45														0.01	1.19	0.65	0.00
	G02B 6/44	0.37														0.00	1.10	0.48	0.00
	H02G 1/00	0.03														0.12	1.31	0.56	0.70
	H02G 1/06	0.00														0.09	1.15	1.36	0.81
	H02G 1/12	0.13														0.18	1.04	0.78	1.00
	H02G 15/00	0.00																	

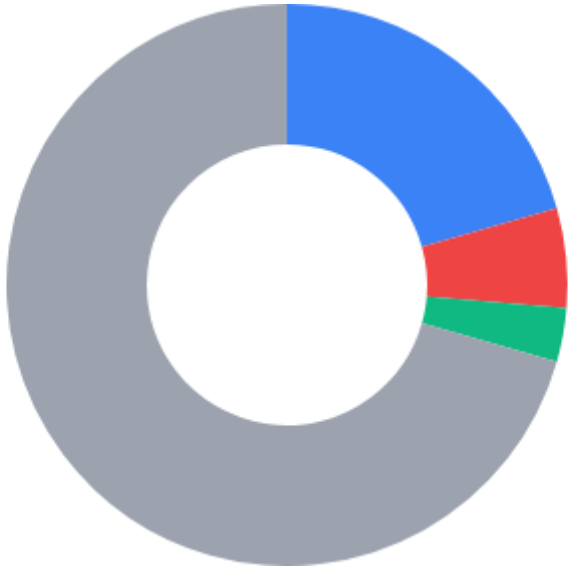


Global Trade Dependency (2019-2023)

Export Share (%)

China 25.2% USA 5.2% Japan 2.7%

Import Share (%)



USA 20.6% China 5.7% Japan 3.1%

Critical Import Dependencies (2019-2023)

United States

Total Imports: $260.4 billion

China: 23.5%

- China: $61.3B
- Mexico: $51.1B (19.6%)
- Vietnam: $27.6B (10.6%)

Japan

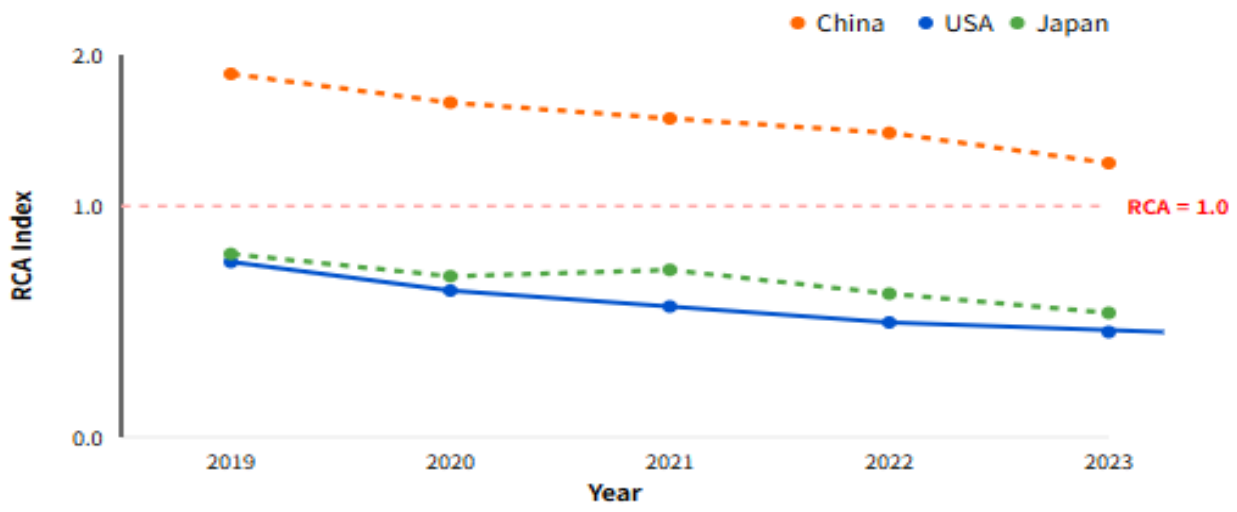
Total Imports: $31.6 billion

China + HK: ~50%

- China: $11.5B (36.4%)
- Hong Kong: $4.2B (13.4%)
- USA: $2.3B (7.1%)

Critical Finding: Japan's dependence on Chinese-controlled supply chains (50%) more than doubles U.S. exposure (23.5%), fundamentally constraining available policy options

RCA Trends: Competitive Positions (2019-2023)



Key Findings:

- **China**: Declining but dominant (1.92 → 1.35)
- **United States**: Persistent disadvantage (0.79 → 0.67)
- **Japan**: Deepening vulnerability (0.83 → 0.62)

Case 1: United States - Policy Trajectory (2019-2025)

2019

Team Telecom Strengthened

Enhanced FCC licensing review authority, expressed security concerns over Chinese firms

2020

CFIUS Expansion

Enhanced investment reviews, restrictive approvals for Chinese suppliers

2021

National Security Priority

Strengthened Team Telecom-CFIUS coordination, expanded security conditionalities

2022-2023

Regulatory Framework

Strategic Subsea Cables Act proposed, regulatory framework construction

2024-2025

Legislative Completion

Regulatory fence completed, selective decoupling from China institutionalized

US Institutions and Policy Instruments

Team Telecom

FCC committee that evaluates national security risks in submarine cable licens es, with authority to restrict transactions with Chinese suppliers.

CFIUS (Committee on Foreign Investment)

Treasury-led committee that reviews foreign investment impacts on national sec urity. Blocks Chinese acquisitions and equity stakes in cable projects.

Strategic Subsea Cables Act (2025)

Establishes legal framework designating submarine cables as critical infrastructur e, explicitly restricting transactions with security-risk countries.

Policy Instruments

- License conditions and blocking
- Supplier exclusion (Huawei, HMN Tech)
- Data security obligations
- Domestic company prioritization

Policy Effects

- Normalization of 'exceptional intervention' in commercial infrastructure
- Diffusion of exclusionary norms across allied networks
- Selective decoupling from Chinese suppliers

Core Mechanism

- Hub position utilization: Leading global network norms
- Institutionalization: Locking in hyper-securitization through laws, procedures, pr ecedents
- Regulatory fence: Establishing exclusionary security framework

Institutional Power

Strong regulatory agencies and legal authority

Team Telecom

Enhanced national security review, exclusion of Chinese firms

FCC Licensing

Conditional licensing, data security obligations

CFIUS Coordination

Foreign investment screening, national security-based rejection

Regulatory Fence Construction

Institutional lock-in through laws, procedures, and precedents

→
Regulation
→
Fencing
→

Institutional Lock-in Effect

Normalized exceptional intervention

Strategic Subsea Cables Act (2025)

Legal foundation codification, long-term security framework establishment

Supplier Blacklist

Chinese firm listing, norm diffusion across allied networks

Information Sharing Agreements

Norm diffusion to Five Eyes, NATO alliances

Institutional Practice Institutionalization

Security-oriented approach to commercial infrastructure established

Case 1: U.S. Hyper-Securitization Process

Key Policy Milestones

- **Executive Order 13873 (2019)**: ICT supply chain national emergency
- **Team Telecom formalization (2020)**: Institutionalized security reviews
- **Clean Network initiative (2020)**: "Clean Cable" component
- **Entity List addition (2021)**: HMN Technologies sanctioned
- **Quad Partnership (2023)**: Internationalized exclusion model

U.S. Case: Weaponizing Network Position

Coercive Diplomacy in Action

> **SEA-ME-WE 6 Intervention:** Washington successfully pressured consortium to switch from China's HMN Tech to U.S.-based SubCom through combination of security warnings and sanction threats

Mechanisms of Control

- **Regulatory chokepoints**: FCC license denials for China-connected cables
- **Financial leverage**: Threatening sanctions on consortium members
- **Alternative financing**: Offering DFC funding for "trusted" vendors
- **Intelligence sharing**: Warning allies about security risks

Systemic Effects

- Industry self-censorship—avoiding Chinese routes preemptively
- Market concentration favoring Western suppliers
- Bifurcation of global cable networks along geopolitical lines

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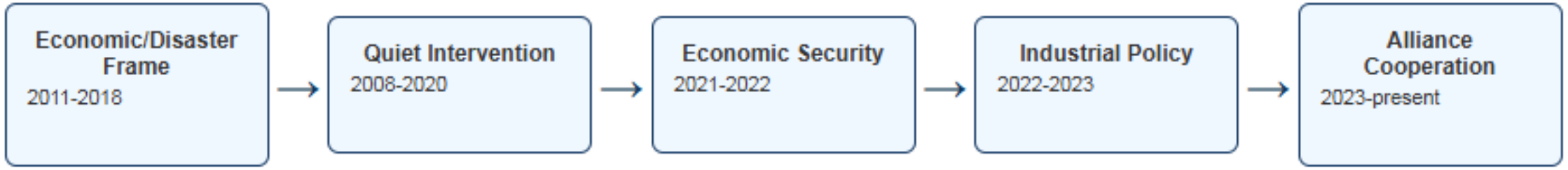
Case 2: Japan's Strategic Desecuritization Process



Key Characteristics

- **Disaster resilience narrative**: Earthquake preparedness as primary frame
- **Behind-scenes intervention**: NEC's acquisition of OCC (2008)
- **Economic ministries lead**: METI/MIC rather than defense
- **Industrial subsidies**: ¥70 billion for domestic production
- **Quiet balancing**: Quad participation without confrontational rhetoric

Japan Policy Instruments

2019

FEFTA Strengthening

Enhanced foreign investment screening, precursor to comprehensive economic security framework

2020

Strategic Concepts

LDP introduces Strategic Autonomy and Strategic Indispensability as core policy pillars

2022

ESPA Enactment

Economic Security Promotion Act integrates security and industrial policy

2023

Domestic Capacity Building

Subsidies for vessels, components, and personnel to secure repair/laying capabilities

2024

Strategic Implementation

Grand Design positions submarine cables as strategic sectors for new capitalism

Japan Case: Building Resilience Without Confrontation

Industrial Policy Instruments

Domestic Capacity Building

- ¥70 billion subsidies for fiber production
- Support for NEC's cable division
- First Japan-flagged cable ship
- R&D funding for next-gen cables

Route Diversification

- Arctic cable project support
- New landing stations beyond Tokyo
- Pacific Island cable investments
- Redundant domestic networks

Strategic Outcomes

- Enhanced resilience without explicit exclusion
- Maintained economic ties with China
- Avoided triggering retaliatory measures
- Built domestic consensus through economic benefits

Comparison Item	United States (Hub)	Japan (Spoke)
Strategic Approach	**Hyper-securitization** Exclusion-focused, surveillance and regulation intensification	**Strategic Desecuritization** Resilience-focused, industrial policy enhancement
Key Instruments	**Regulation & Law** Team Telecom, FCC licensing, CFIUS control, Strategic Subsea Cables Act	**Subsidies & Diversification** ESPA (Economic Security Promotion Act), domestic cable ship building, route diversification
Risks	**Increased costs, norm conflicts** Alliance cooperation weakening, direct confrontation with China	**Continued dependence** Limited reduction of China dependency, remaining security risks
Primary Benefits	**Norm Leadership** Global regulatory standard setting, influence expansion within alliance networks	**Industrial Base Strengthening** Enhanced domestic technological capabilities, securing strategic indispensability in global supply chains
Alliance Role	**Regulatory Architect** Security regulatory framework design, exclusion norm diffusion	**Industrial Builder** Infrastructure construction and maintenance capabilities, technical standardization contribution

1

Argument 1: Technology Characteristics → Recurring Threat Clusters

✓ Submarine cable techno-industrial characteristics generate recurring vulnerabilities ✓ Supply chain fragility, geographic concentration, adversary influence, data sovereignty erosion ✓ Create universal securitization pressures across the value chain

2

Argument 2: Hub States → Externally-Oriented Institutional Lock-in

✓ US leverages hub position and coercive institutional power ✓ External-oriented hyper-securitization through regulatory coordination
✓ Replaces market access to reshape global network architecture

3

Argument 3: Spoke States → Internally-Oriented Strategic Desecuritization

✓ Japan pursues internal capacity-building as spoke state ✓ Internal-oriented strategic desecuritization through technocratic solutions
✓ Builds resilience and strategic indispensability within existing networks

Critical Theoretical Insight

Network Position + Institutional Power systematically determines securitization form
Material network constraints fundamentally shape how states respond to identical vulnerabilities

Theoretical & Policy Implications

Academic Contributions

Securitization as Institutionalization

Moves securitization from 'speech act' to institutionalization across rules, reviews, and budgets

Weaponized Interdependence + Techno-Industrial Materiality

Connects weaponized interdependence to cable techno-industrial materiality (recurring threat clusters)

Hub vs Spoke Strategic Responses

Explains divergence via network position + institutional power: hub hyper-securitization vs spoke strategic de-securitization

Alliance Governance as Complementary Division

Reframes alliance governance as complementary division of labour, not inevitable convergence

Practice Implications

Position Diagnosis

Begin with a position diagnosis (hub/spoke) and map chokepoints + dependencies (vendors, landings, repair ecosystem)

Tailored Policy Mix

Use a tailored policy mix: screening & coordination and resilience incentives—avoid one-size-fits-all bans

Repair Capacity Investment

Treat repair capacity and multi-pathing as frontline security investments (vessels, spares, SLAs, drills)

PPP and Coalition Mechanisms

Build PPP and coalition mechanisms (standards, joint financing, regional capacity-building) to align security + connectivity

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Thank You! Bless You!

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