Re-Alignment of Submarine Cables in Asia and the Pacific

































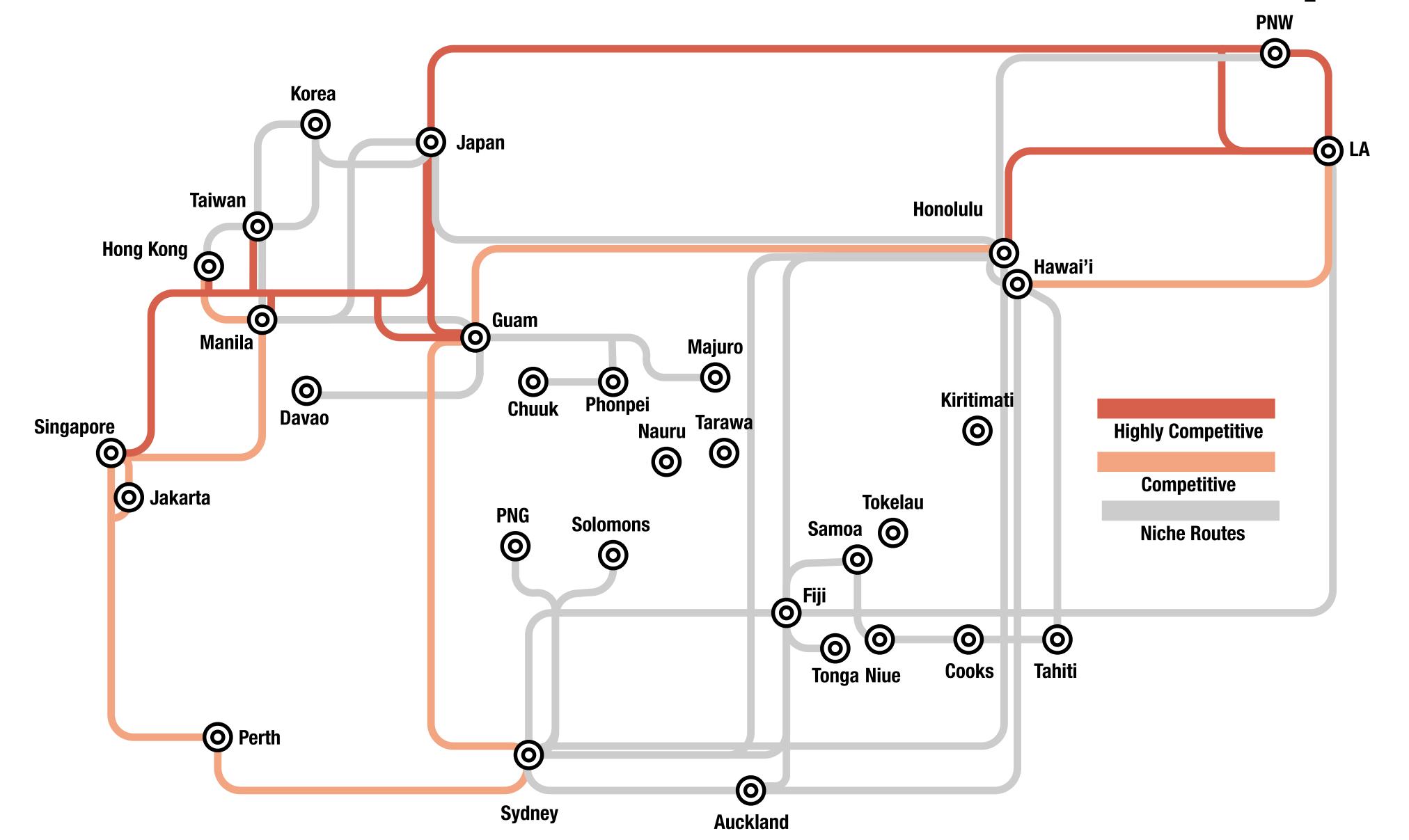








Asia Pacific Submarine Fibre Transit Map 2022



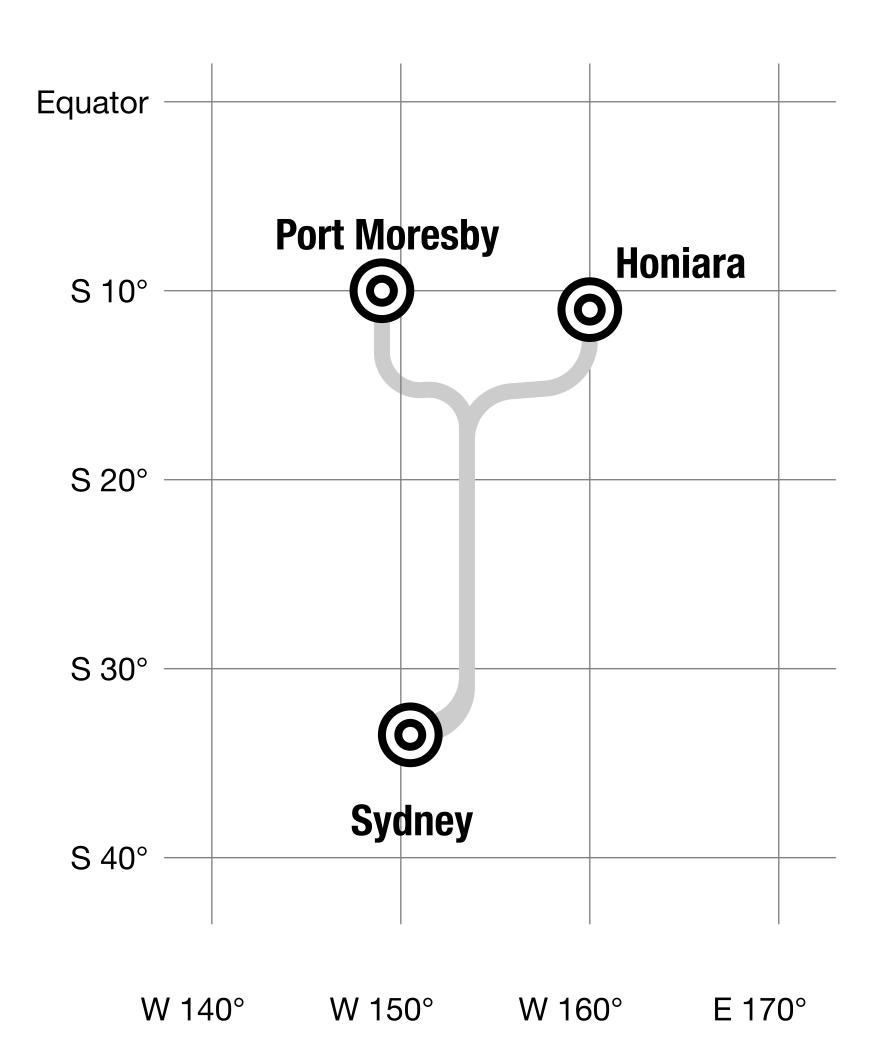




Solomons Oceanic Cable Network

Solomon Oceanic Cable Company

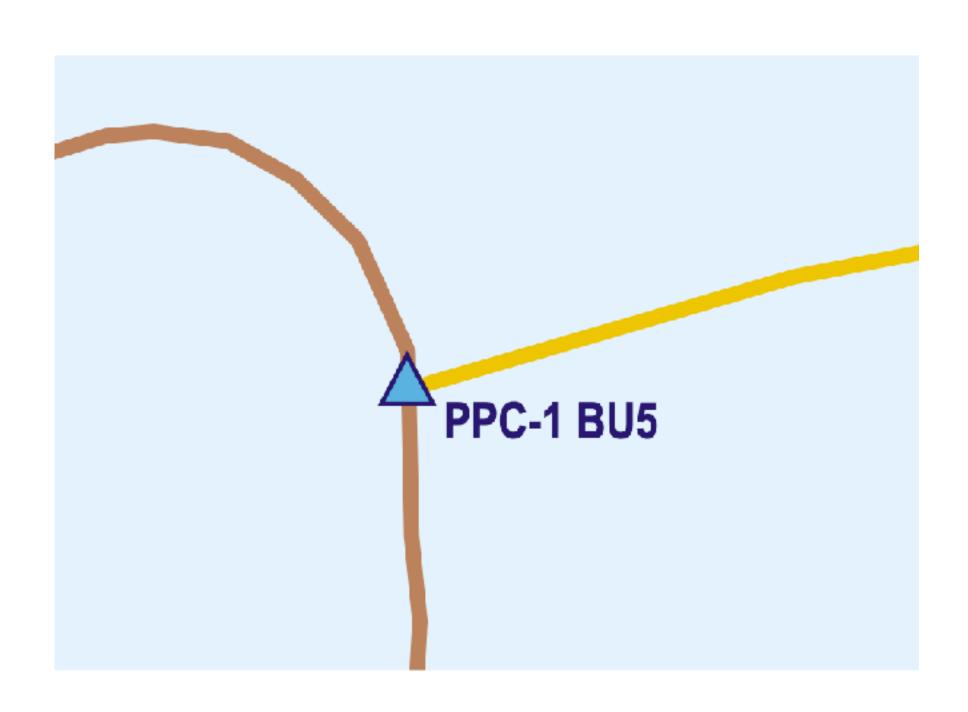
- ADB Led Project, Funding approved 2012
- Initially planned to be a spur to PPC-1
- Increased scope and funding in 2014
- 4000 km, 2.5 Tbps cable network
- International & domestic segments
- Branch unit planned for Port Moresby

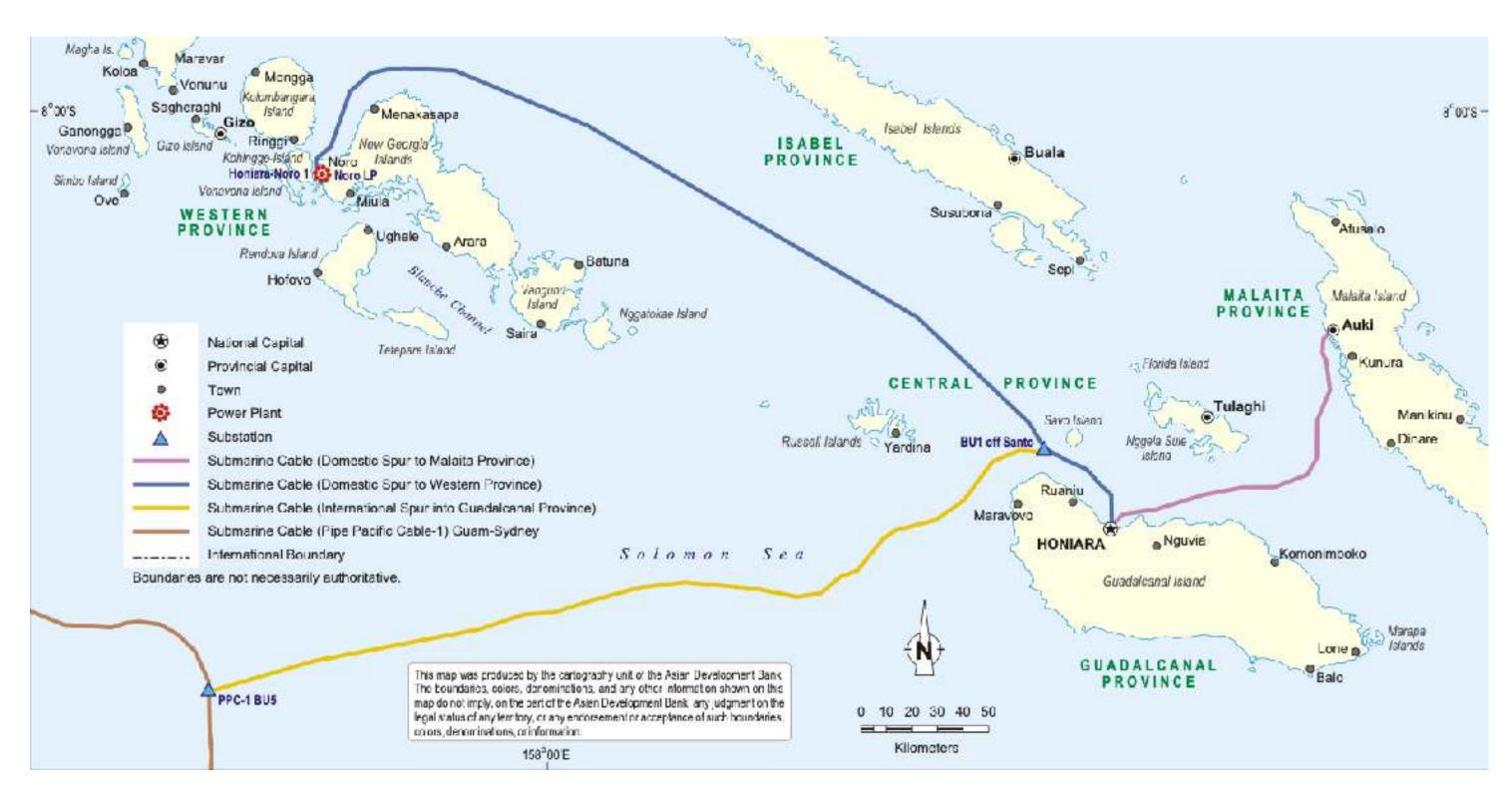




Solomon Oceanic Cable Company Solomon Oceanic Cable Company

Initially planned as a spur to PPC-1 "BU5"

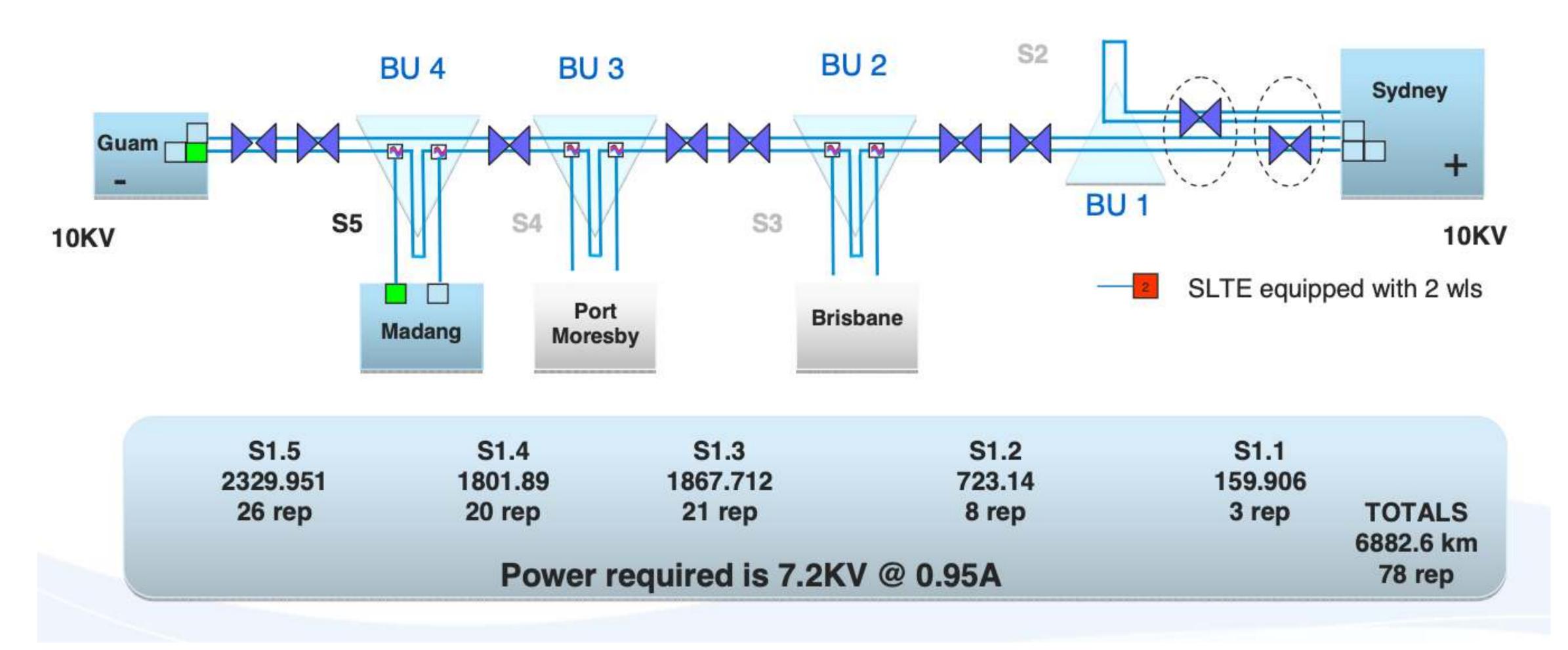






Solomons Oceanic Cable Network

Physical Configuration of PPC-1





Solomon Islands Submarine Cable Company

(Note the Name Change)

- Four years passes since project launch
- Solomons Govt sets up a new state owned cable company in August 2016
- Ditches the existing tender process, engages a vendor directly
- ADB terminates project due to Solomons Govt "changes to plan"
- Solomons Govt signs a contract for a new cable in 2017



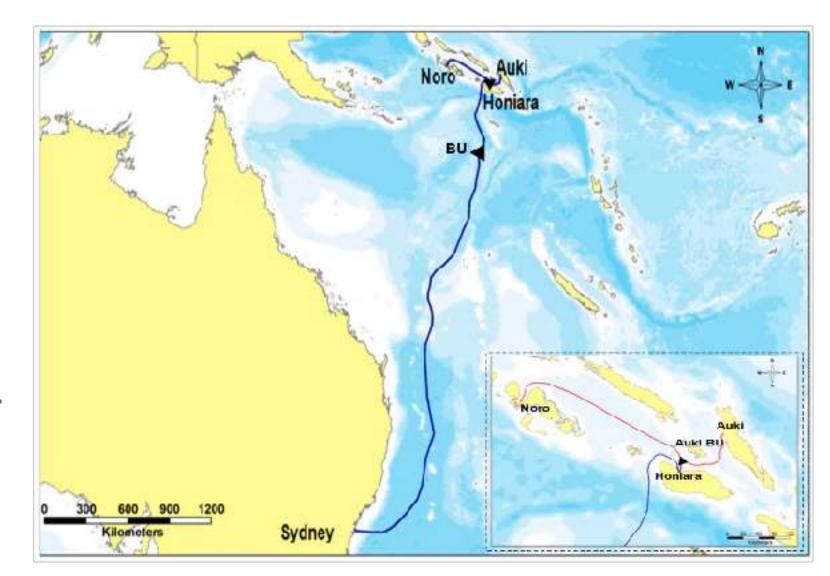
Huawei Marine Signs Submarine Cable Contract in Solomon Islands July 07, 2017

[Tianjin, China, July 7, 2017] Huawei Marine today announced that it has signed a contract with the Solomon Island Submarine Cable Company (SISCC) to construct the first submarine cable in the Solomon Islands. Prime Minister Manasseh Sogavare, Minister of Finance and Treasury Snyder Rini, Minister of Communications and Aviation Peter Shanel, CEO of SISCC Keir Preedy and President of Huawei's South Pacific Region Wei Chengmin attended the signing ceremony in Honiara.

The Solomon Islands is a nation encompassing six major islands and over nine hundred smaller islands lying to the northeast of Australia. Due to its geographical location the Solomon Islands have long depended on satellites for telecommunications, which are unstable, expensive and have proven unable to provide sufficient bandwidth for the country. In 2016, the Solomon Islands' Government founded the SISCC, with the remit to develop a submarine cable to connect its main islands, with onward connectivity to Australia.

Huawei Marine, in conjunction with parent company Huawei Technologies will design and construct a network that incorporates 4000km of submarine cable with a total capacity of 2.5TB that will link Sydney to the capital Honiara, with a further domestic connection from Honiara to Auki and Noro.

"We've been planning this submarine cable for nearly seven years," said Keir Preedy, CEO of SISCC. "Thanks to our partners Huawei Marine and Huawei Technologies for providing solutions to make it possible."





Solomon Islands undersea cable red-flagged by Australia's spy agencies, dogged by donation allegations

August 19, 2017

The Sydney Morning Herald The undersea cable project was supposed to bring reliable internet to the Solomon Islands, the small Pacific nation where Australian military and police forces have been helping keep political stability since 2004.

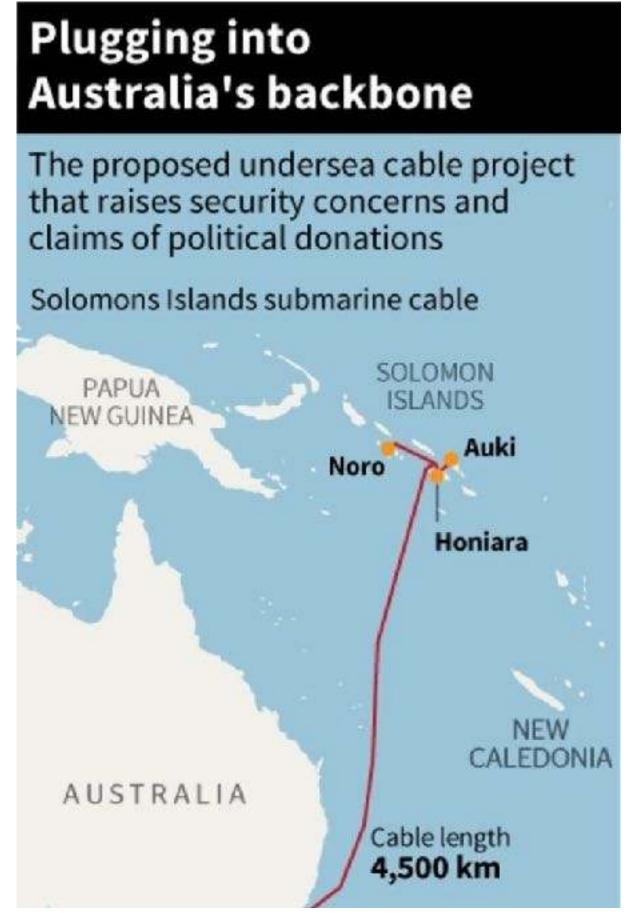
The project, which was to connect the Solomons to Sydney via a 4500-kilometre fibre optic cable, had the backing of the Asian Development Bank and a favoured contractor in a British-American company. It even had the nod from the Australian government to land the cable in Sydney.

But then last year, abruptly and allegedly without proper processes, the Solomons government switched to a subsidiary of the Chinese firm Huawei, which was banned from involvement in Australia's national broadband network on security grounds on the advice of ASIO.

Since then, allegations have surfaced of a \$6.5 million political donation paid by Huawei to the ruling party in Honiara. Solomons Prime Minister Manasseh Sogavare visited Canberra this week and discussed the matter with his Australian counterpart Malcolm Turnbull.

Mr Sogavare said afterwards that "the security issue was expressed to us" but added "we continue to have discussions with the Australian government to see how we can solve that" and expressed confidence there was a way through the issue.

In a separate statement, Mr Sogavare said he was "considering all available options" – which could point either to ditching Huawei as a contractor or connecting to another hub such as Fiji or Papua New Guinea.





Undersea cables bring Pacific nations online, but there are concerns China is trying to tap in winews

The contract was for Huawei Marine to lay a cable between Honiara and Sydney, which would have seen Chinese hardware connecting to the backbone of Australia's domestic internet infrastructure.

"That was seen as a red line that Australia would not cross and so we jumped in with a better deal providing the cable as a grant that would be implemented with a procurement partner of Australia's choosing — that wouldn't be Chinese," director of the Lowy Institute's Pacific Island Program Jonathan Pryke said.

This was at a time when Australia had just banned Huawei from the 5G and NBN networks.

Solomon Islands drops Chinese tech giant Huawei for billion-dollar undersea cable, signs Australia

June 13, 2018



Australia will help fund and build an undersea communications cable to the Solomon Islands, it was agreed Wednesday, after the Pacific nation was convinced to drop a contract with Chinese company Huawei.

The impoverished country and Huawei signed a deal in late 2016 to construct the fibreoptic cable from Australia to Honiara to improve its often unreliable internet and phone services.

But Solomon Islands Prime Minister Rick Houenipwela said last week there had been a change of heart following "some concerns raised with us by Australia", without elaborating.

The move comes with Australia refocusing its foreign aid programmes to win hearts and minds in the island nations of the Pacific, as China flexes its muscle in the region.

It pledged more than A\$1.3 billion (US\$970 million) in its national budget last month to fund projects such as the communications cable, which will also link Papua New Guinea.

Canberra and other regional capitals have become increasingly alarmed at Beijing's push into the Pacific through "soft diplomacy", which could potentially upset the strategic balance in the region.





Coral Sea Cable System Coral Sea Cable Company Pty Limited



- Solomon Islands Submarine Cable Company Limited 16.7%
- PNG DataCo Limited 16.7%
- 4,700 km Y cable joining PNG & Solomons to Sydney (but not each other)
- 4 pairs to the Y, 2 pairs to each of Papua New Guinea & Solomon Islands
- Bonus 730 km domestic submarine cable in the Solomon Islands

Government scuppers Huawei cable plan with Vocus contract



Australian government will majority fund sub-marine cable to Solomon Islands and Papua New Guinea



George Nott (CIO) 20 June, 2018 10:34

June 20, 2018



















NETWORK DESIGN > HIGH-SPEED NETWORKS

Vocus Group chooses Alcatel Submarine Networks for Coral Sea Cable System submarine network construction

Vocus Group has signed a contract with Alcatel Submarine Networks (ASN) for construction of the Coral Sea Cable System. The 4000-km submarine network will link Australia with Papua New Guinea and Solomon Islands.

Lightwave Staff

July 6, 2018

July 6, 2018

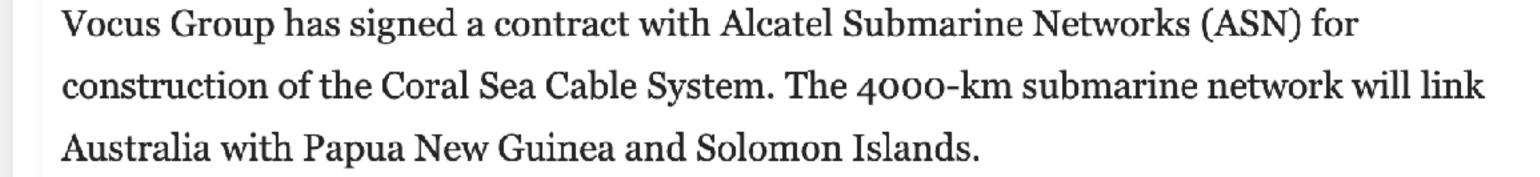












This undersea cable, touted as part of Australia's development assistance program to the Pacific, will offer at least 20 Tbps between Port Moresby (Papua New Guinea), Honiaram (Solomon Islands), and Sydney. Vocus expects Alcatel Submarine Networks to complete the job late next year. The scope of work also includes deployment of a submarine network



Vocus completes final splice of Coral Sea Cable System





Sept 30, 2019



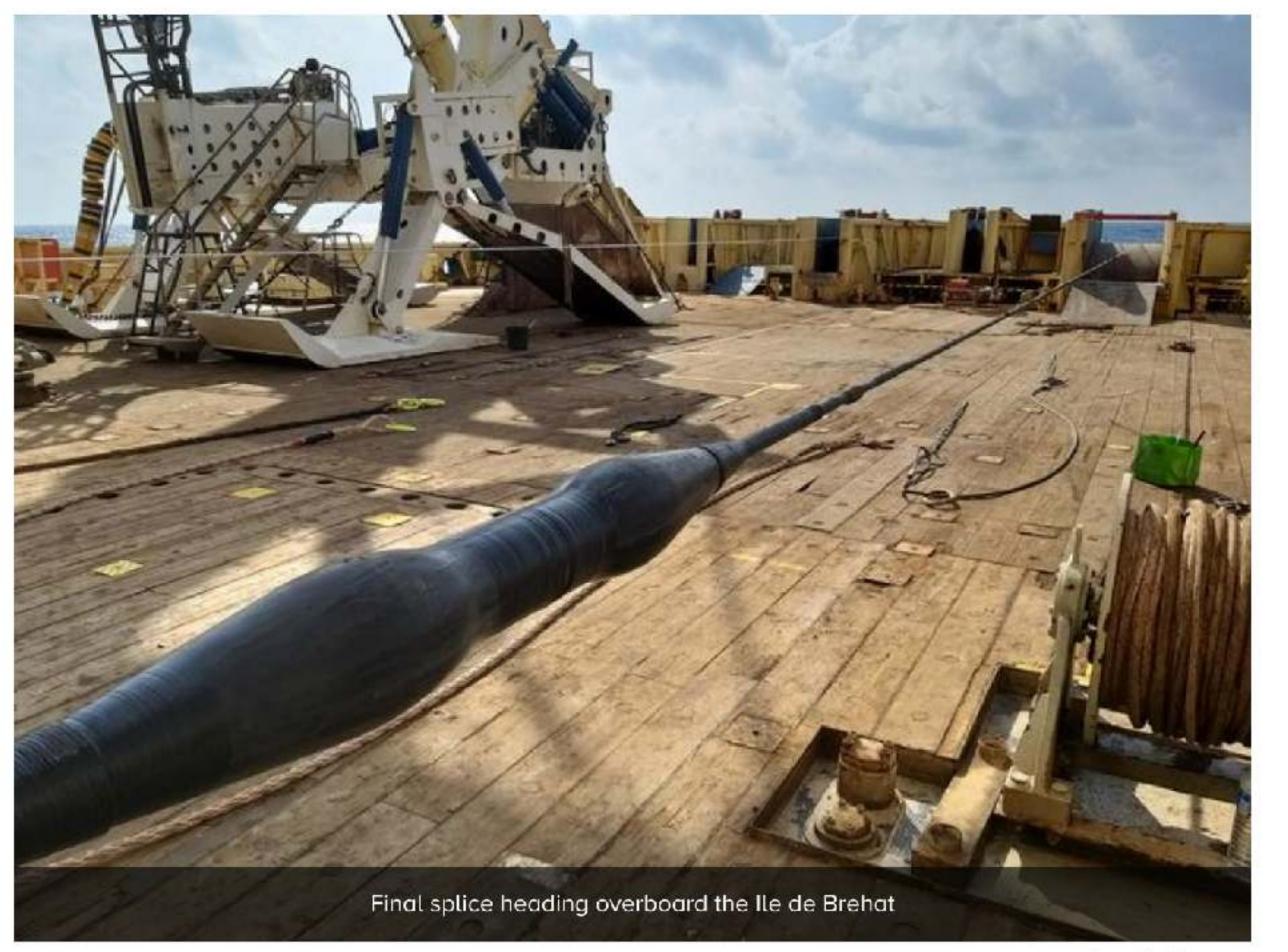






Comments















EVENTS



ARN Women in ICT Awards (WIICTA)

BRAND POST







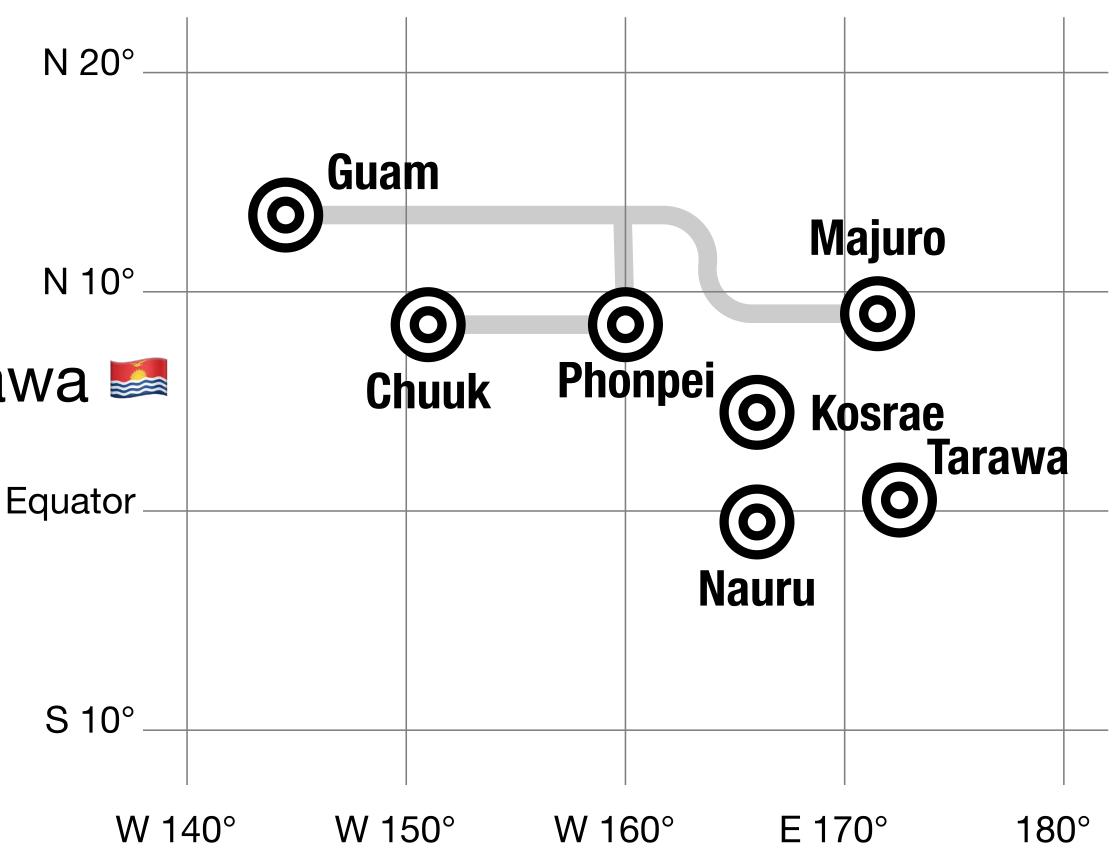


East Micronesia Cable System

World Bank Grant Led Project

- Initial grants proposed in 2017
- World Bank + Asian Development Bank

- \$72.6m project attracted three bidders:
 - ASN (Alcatel), HMN (Huawei), & NEC





Remote Pacific Regions set for Broadband Internet Under New World Bank Projects

June 1, 2017













\$36m grants approved to bring broadband to Kiribati and Federated States of Micronesia

WASHINGTON D.C., May 31, 2017 – The World Bank's Board of Executive Directors today approved US\$36 million in grants to help provide reliable fiber optic broadband internet to approximately 80,000 people in Kiribati and the Federated States of Micronesia (FSM).

The grants, including US\$20 million for Kiribati and US\$16.26 million for FSM, will finance the installation of a submarine cable system connecting Tarawa (Kiribati) to Nauru, and Kosrae state (FSM) to Pohnpei state (FSM), which is connected to global networks. The Asian Development Bank is preparing finance to support Nauru's participation in the cable system.

"We have already seen the benefits high-speed, reliable and affordable internet can bring to countries across the Pacific, and we look forward to working with Kiribati and Micronesia to bring faster and cheaper connectivity to the North Pacific," said Michel Kerf, World Bank Country Director for Timor-Leste,

Papua New Guinea and the Pacific Islands. "These connections will play a crucial role in linking families, creating economic and employment opportunities, reducing transaction costs, providing remote education and healthcare, and boosting national and international coordination."



In Sydney Kara Mouyis

Tel: +61 432 403 717 kmouyis@worldbank.org

Pacific Islands

East Asia Pacific

BLOGS

How to bridge the gap in Indonesia's inequality in internet access

Imam Setiawan, Utz Pape May 13, 2022 (0) Comments



East Micronesia Cable System

January, 2017



ADB, World Bank Support High-Speed Internet for Micronesia

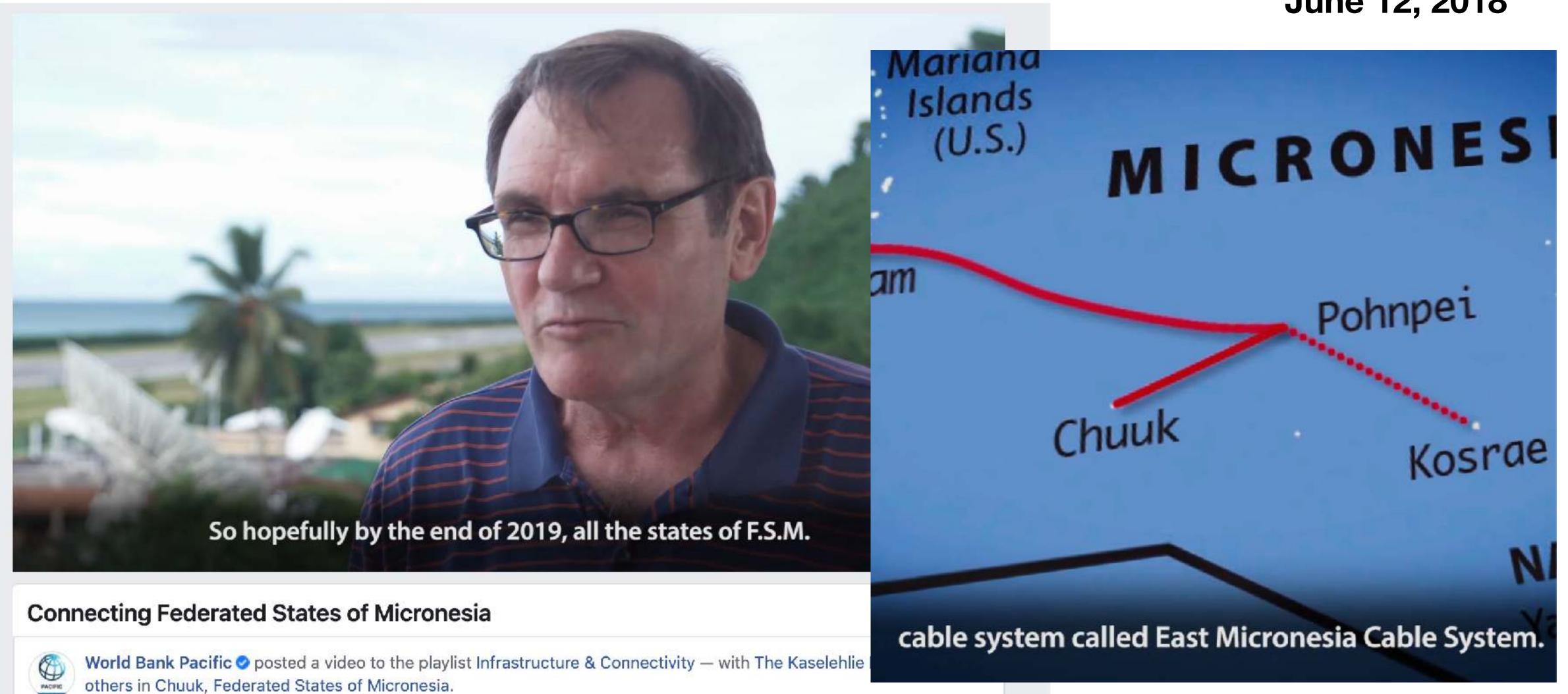


April 2, 2018

Connecting Federated States of Micronesia

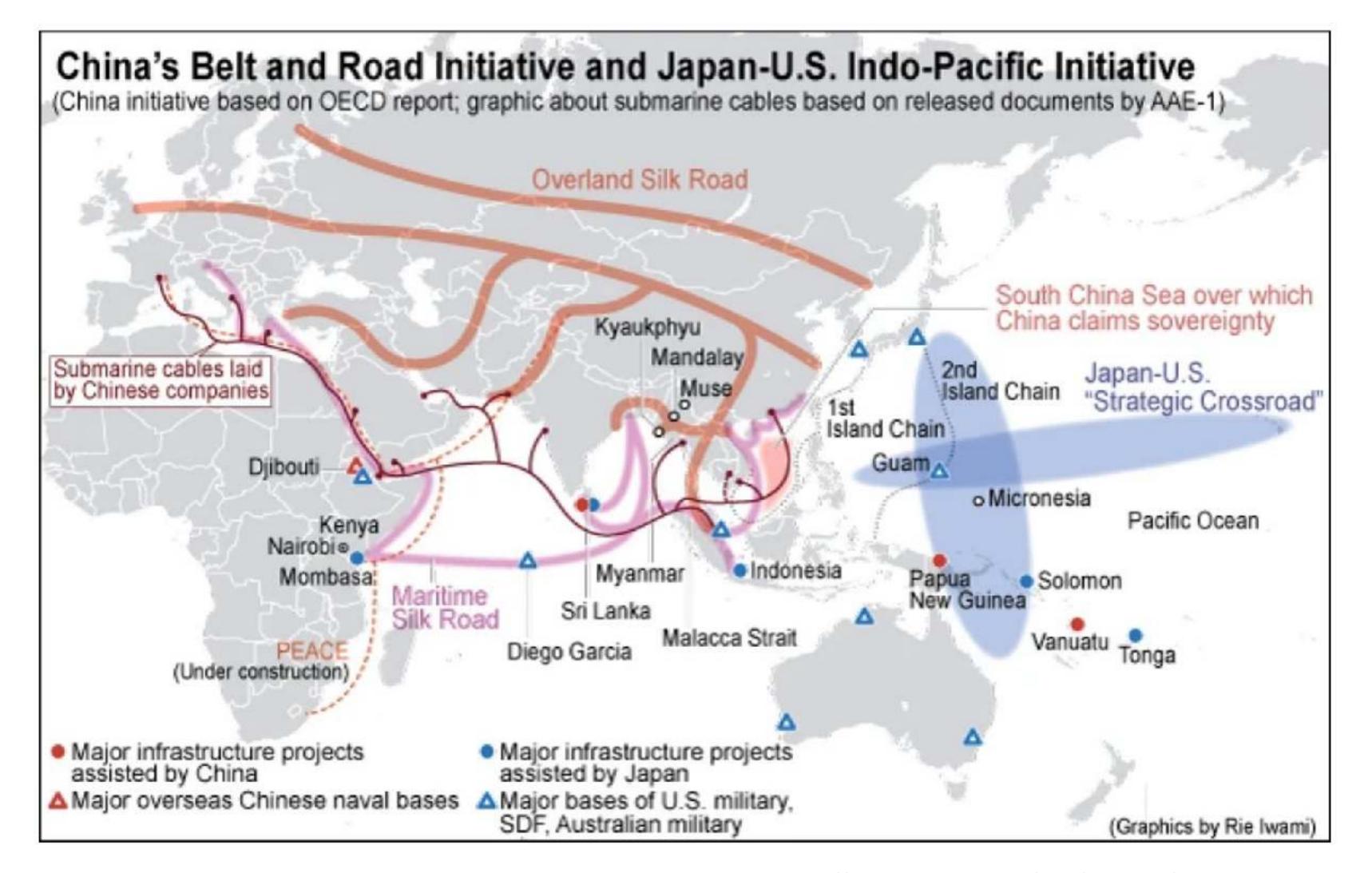


June 12, 2018





U.S.-Japan dueling China for influence in Indo-Pacific region



June 1, 2020

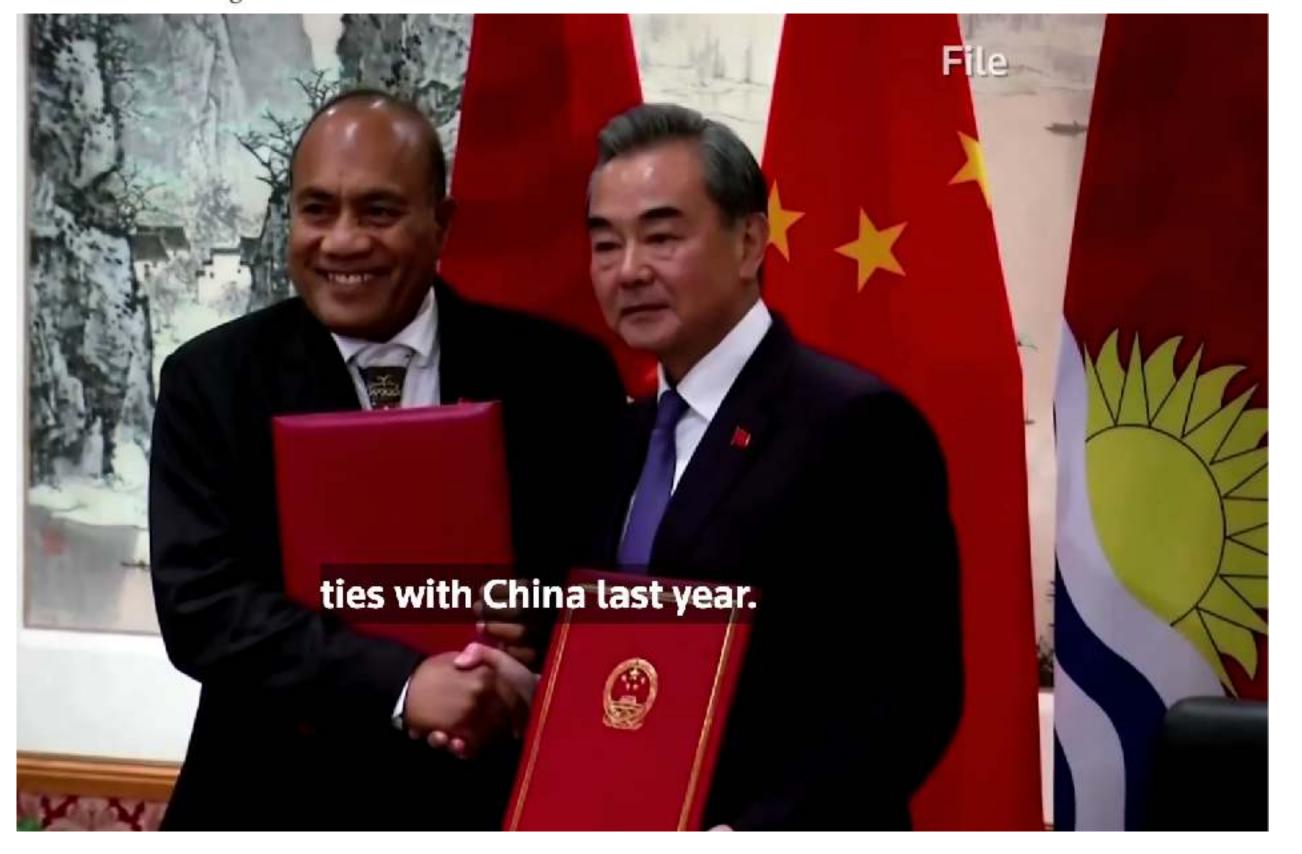


U.S. warns Pacific islands about Chinese bid for undersea cable project



REUTERS

The United States has warned Pacific island nations about security threats posed by a Chinese company's cut-price bid to build an undersea internet cable, two sources told Reuters, part of an international development project in the region.



Dec 16. 2020

Washington sent a diplomatic note to FSM in July expressing strategic concerns about the project as Huawei Marine and other Chinese firms are required to co-operate with Beijing's intelligence and security services, the sources said.

That note followed an earlier warning to Micronesia and development agencies from the Nauru government, a Pacific ally to Taiwan, which is viewed by China as a renegade province, about Huawei Marine's participation in the project, the sources said.

The FSM government told Reuters in a statement it is talking to bilateral partners in the project, "some of whom have addressed a need to ensure that the cable does not compromise regional security by opening, or failing to close, cyber-security related gaps."

Under the Compact of Free Association, a decades-old agreement between the United States and its former Pacific trust territories, Washington is responsible for FSM's defence.

A spokeswoman for the Nauru government said bids were being examined and that stakeholders were addressing "technical and administrative issues" to ensure the project progresses, without elaborating.

The U.S. State Department's Bureau of East Asian and Pacific Affairs did not respond to requests for comment.



Chinese bids on Pacific cable raise alarm in US and Australia

Washington fears infrastructure will be used for spying by Beijing



SYDNEY -- Moves by Chinese corporations to buy into undersea cable projects and telecommunications companies in the Pacific islands have become a point of major concern for Australia and the U.S. over the possibility of spying.

Jan 3, 2021

This region has long been the backyard of Canberra and Washington. But they increasingly find themselves fighting over influence with Beijing, which has strengthened its presence there by building infrastructure.

The U.S. has warned Pacific island nations about security threats posed by a bid by China's Huawei Marine to build a \$72.6 million undersea cable linking the Federated States of Micronesia, Kiribati and Nauru, Reuters reported.

World Bank-backed Pacific undersea cable project ditched after US warned Chinese firms posed security threat

June 18, 2021

A World Bank-led project declined to award a contract to lay sensitive undersea communications cables after Pacific island governments heeded US warnings that participation of a Chinese company posed a security threat, two sources told Reuters.

The former Huawei Technologies Co. Marine Networks, now called HMN Technologies and majority owned by Shanghai-listed Hengtong Optic-Electric Co Ltd, submitted a bid for the US\$72.6 million project priced at more than 20 per cent below rivals Alcatel Submarine Networks (ASN), part of Finland's Nokia, and Japan's NEC, the sources said.

The East Micronesia Cable system was designed to improve communications in the island nations of Nauru, Kiribati and Federated States of Micronesia (FSM), by providing underwater infrastructure with a far greater data capacity than satellites.

Two sources with direct knowledge of the tender said that the project reached a stalemate due to security concerns raised within the island nations over HMN Tech's bid. The project's planned connection to a sensitive cable leading to Guam, a US territory with substantial military assets, heightened those security concerns.



South China Morning Post

"Given there was no tangible way to remove Huawei Technologies Co. as one of the bidders, all three bids were deemed non-compliant," one of those sources said.

The source said that HMN Tech was in a strong position to win the bid due to the terms overseen by the development agencies, prompting those wary of Chinese involvement to find an expedient solution to end the tender.

The World Bank said in a statement that it was working with the respective governments to map out the next steps.

"The process has concluded without an award due to non-responsiveness to the requirements of the bidding documents," the Washington-based multilateral lender said.

A Chinese foreign ministry spokesperson said in a statement that all parties should provide a non-discriminatory business environment that companies from all countries, including China, can participate in.



Joint Statement on Improving East Micronesia Telecommunications Connectivity

Dec 11, 2021

Australia, Japan, and the United States are committed to working in partnership with the Federated States of Micronesia (FSM), Kiribati, and Nauru to improve internet connectivity to these three Pacific nations by providing funding to build a new undersea cable.

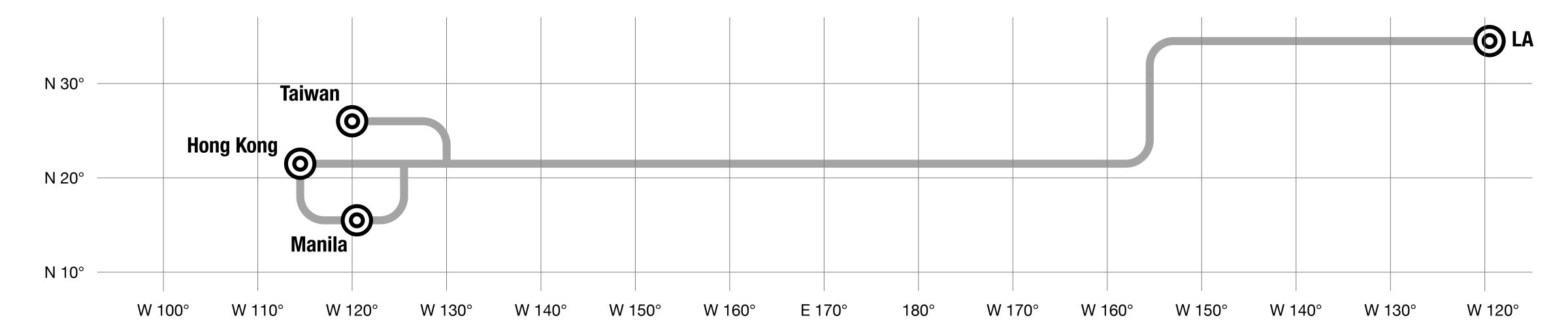
The proposed undersea cable will provide faster, higher quality, and more reliable and secure communications to approximately 100,000 people across three countries. This will support increased economic growth, drive development opportunities, and help to improve living standards as the region recovers from the severe impacts of COVID-19.

The new cable will connect Kosrae (FSM), Nauru, and Tarawa (Kiribati) with the existing HANTRU-1 cable at Pohnpei (FSM), providing internet connectivity through a submarine cable for the first time.



Pacific Light Cable Network (PLCN) Facebook, Google, Dr. Peng Group

- Project launched in 2015 to connect Los Angeles, California with:
 - Toucheng , Baler , Hong Kong
- Terrestrial "Luzon Bypass" > segment to avoid earthquake prone Luzon Strait
- Google gets Taiwan, Facebook gets Philippines, Dr. Peng gets 4x pair to HKG





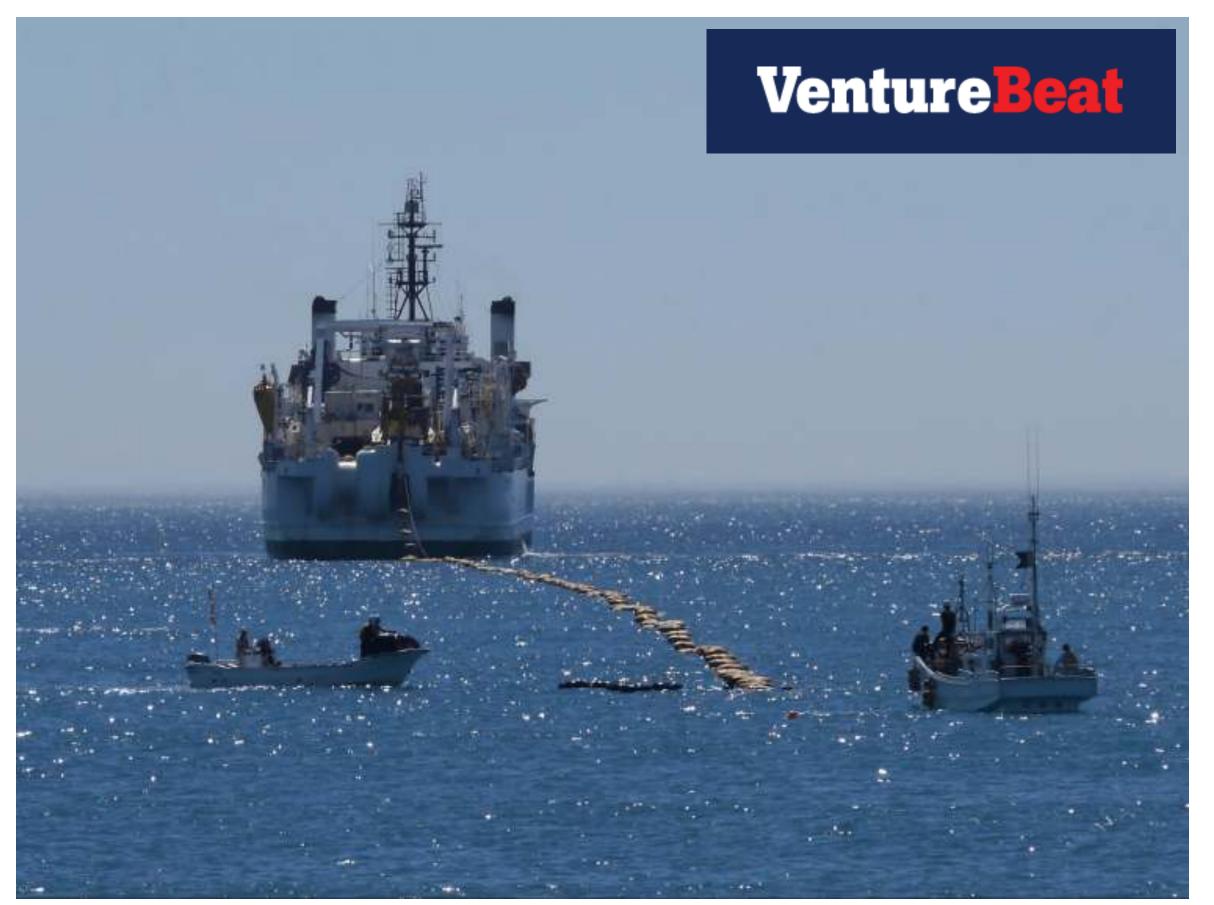


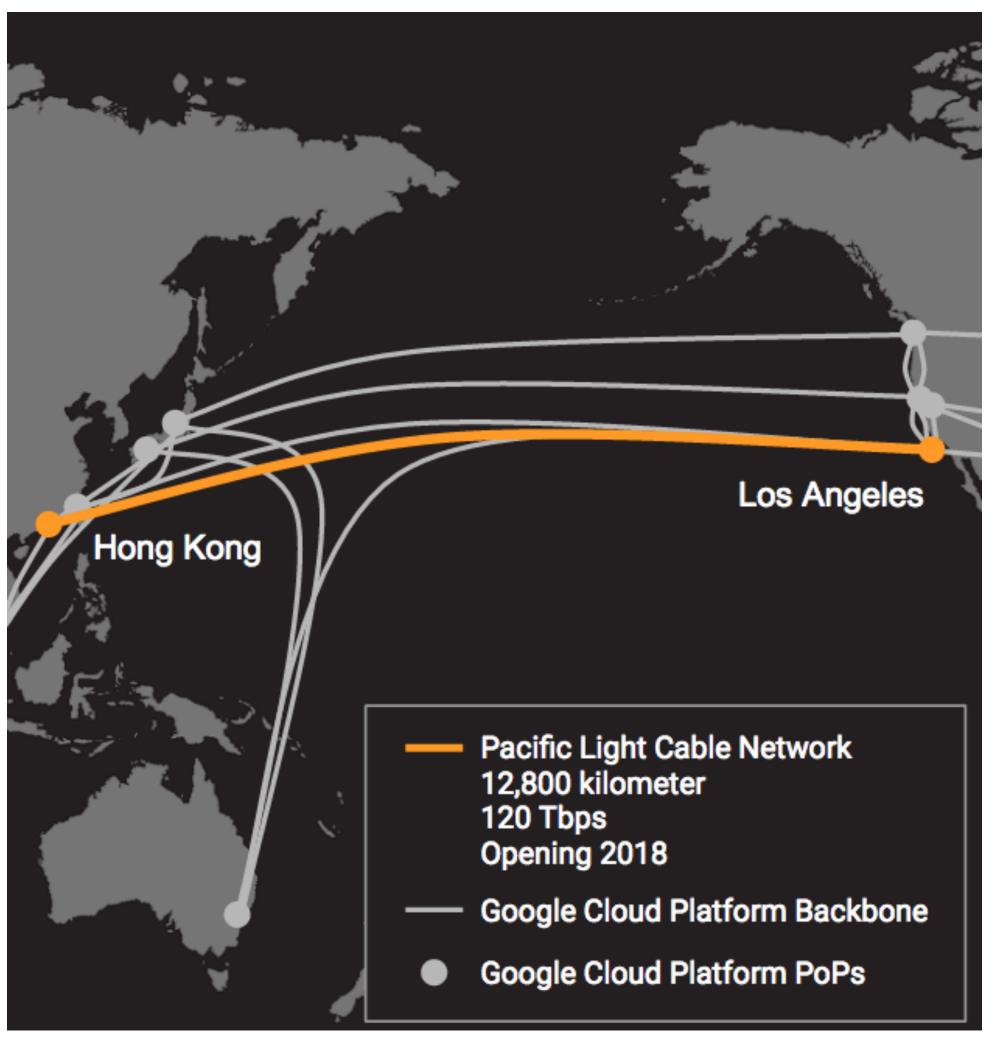


Google and Facebook partner on PLCN submarine cable

between Los Angeles and Hong Kong

October 1, 2016







PACIFIC LIGHT CABLE NETWORK LANDED IN HONG KONG

Pacific Light Data Communication Co., Ltd. (PLDC), joint owner of the Pacific Light Cable Network (PLCN) is pleased to announce today that the submarine cable system has successfully landed in Deep Water Bay, Hong Kong S.A.R.

March 23, 2018



The landing marks the kick-off phase of PLCN field works and is a strategic milestone for PLDC, as the company is building up this first direct link between Hong Kong and the United States, offering a faster routing with highest capacity. The initial capacity of PLCN will be 144 Tbps (100Gbps x 240 wavelength x 6 fibre pairs).

PLCN is targeted to be ready for service by the second quarter of 2019. Following up this landing in Hong Kong, there will be more field works in multi-regions along the whole route to be deployed.









National Security Concerns Threaten Undersea Data Link Backed by Google, Facebook



August 28, 2019

U.S. firms and Chinese partner have sunk hundreds of millions of dollars into Los Angeles-Hong Kong cable project.

THE WALL STREET JOURNAL.

While U.S. security officials have openly targeted Huawei's operations in the airwaves, they have been less vocal about another potential security threat: its undersea cables. Experts say in theory these cables could enable China to spy. Photo: George Downs/The Wall Street



Dark days for the P.L.C.N

Sept 5, 2019

- New 144 Tbps link between Hong Kong and Los Angeles may not come into use
- US tensions with China could see the Facebook/Google initiative left lying idle at the bottom of the sea
- DOJ's "Team Telecom" say Chinese partner links to the government of the PRC are "too close"
- Cites national security issues to deny licence to complete cable construction







Tech giants' high-speed internet link to Hong Kong has become politically toxic

Feb 7, 2020



oogle and Facebook seem to have resigned themselves to losing part of the longest and highest-profile internet cable they have invested in to date. In a filing with the Federal Communications Commission last week, the two companies requested permission to activate the Pacific Light Cable Network (PLCN) between the U.S. and the

Philippines and Taiwan, leaving its controversial Hong Kong and Chinese sections dormant.

Globally, around 380 submarine cables carry over 99.5 percent of all transoceanic data traffic. Every time you visit a foreign website or send an email abroad, you are using a fiber-optic cable on the seabed. Satellites, even large planned networks like SpaceX's Starlink system, cannot move data as quickly and cheaply as underwater cables.

When it was announced in 2017, the 13,000-kilometer PLCN was touted as the first subsea cable directly connecting Hong Kong and the United States, allowing Google and Facebook to connect speedily and securely with data centers in Asia and unlock new markets. The 120 terabit-per-second cable was due to begin commercial operation in the summer of 2018.







Team Telecom Recommends FCC Grant Google and Meta Licenses for Undersea Cable

National Security Agreements will Protect U.S. Person Data and Diversify U.S.-Asia-Pacific Network Connections

December 17, 2021

Today, the Department of Justice announced that Team Telecom entered into National Security Agreements with Google LLC and its subsidiary GU Holdings Inc., and Meta Platforms Inc. (formerly known as Facebook Inc.) and its subsidiary Edge Cable Holdings USA LLC to protect data on the Pacific Light Cable Network (PLCN) system, an undersea fiber optic cable system that will connect the United States, Taiwan and the Philippines.

The agreements were made with the Departments of Justice (DOJ), Defense (DOD), and Homeland Security (DHS) in their roles as members of the Committee for the Assessment of Foreign Participation in the U.S. Telecommunications and Services Sector (known informally as Team Telecom), and were coordinated with committee advisors listed in section 3(d) of Executive Order 13913 (2020). The Executive Branch has recommended that the Federal Communications Commission (FCC) condition any license to operate the PLCN system on compliance with the National Security Agreements.

"These agreements enable Google and Meta to take advantage of critical, additional cable capacity while protecting U.S. persons' privacy and security through terms that reflect the current threat environment," said Assistant Attorney General Matthew G. Olsen of the Justice Department's National Security Division, who leads Team Telecom's work for the Justice Department. "This resolution also demonstrates Team Telecom's ability to resolve complex cases involving critical infrastructure in a timely matter, thanks to recent reforms of our structure and process."

Team Telecom

THE WHITE HOUSE WASHINGTON

Executive Order 13913 of April 4, 2020

Establishing the Committee for the Assessment of Foreign Participation in the United States Telecommunications Services Sector



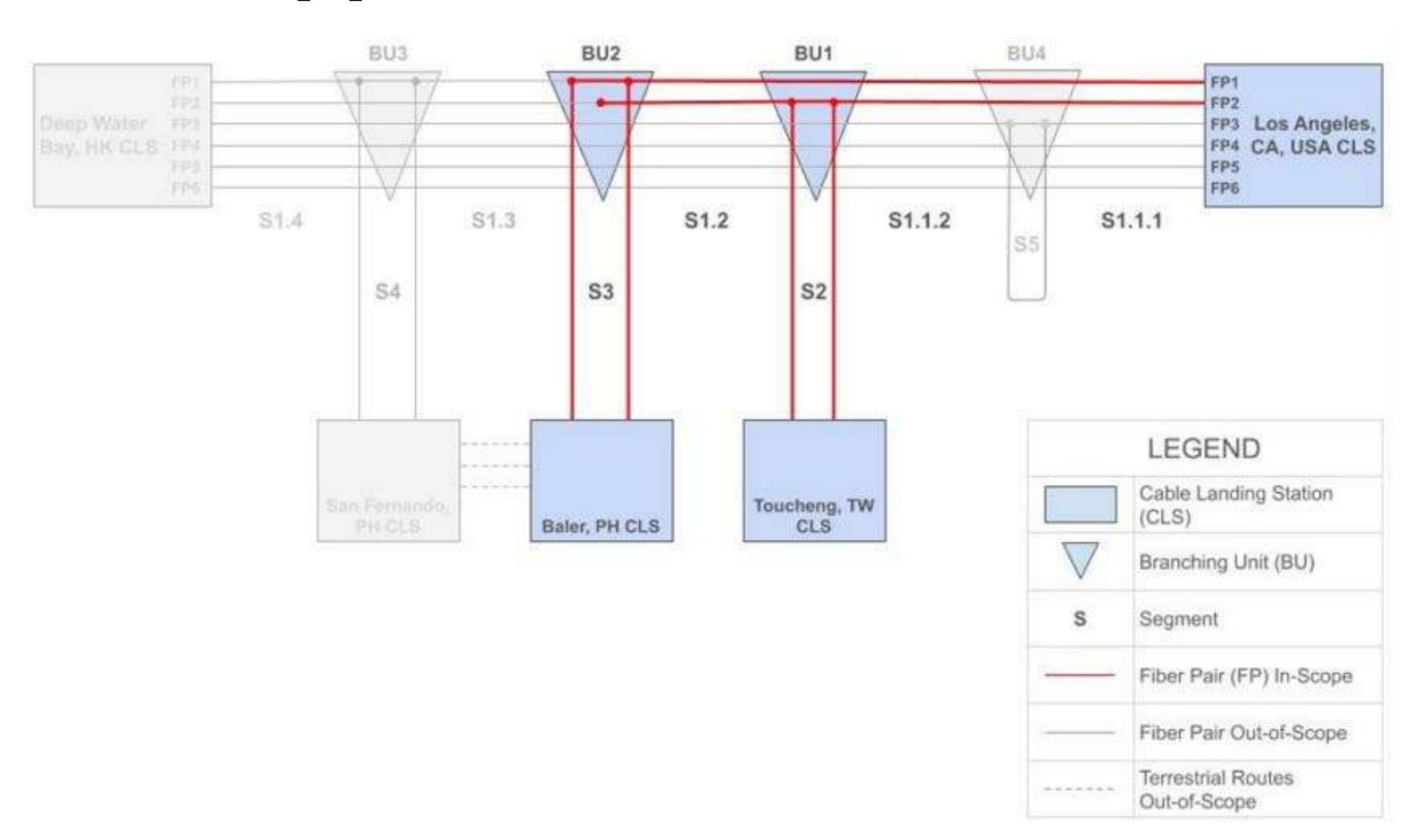








FCC Approves Licenses for PLCN



February 13, 2022





Dr. Peng Group Selling PLDC Shares

March 4, 2022

By Mary Hui, Quartz.com March 4, 2022

More than five years after an initiative to pioneer a **US-Hong Kong submarine cable connection** was initially announced, the Chinese firm that has majority ownership of the project has called it quits.

In company filings on Feb. 22 (pdf, link in Chinese), Chinese telecom giant Dr. Peng

Group announced that it was completely selling its stake in Hong Kong-based firm Pacific Light

Data Communication (PLDC)—which controls four of the six fiber pairs in the trans-Pacific cable

—in order to "dispose of loss-making assets."



An ambitious plan sunk by US-China geopolitics

The US-Hong Kong undersea cable, officially named the **Pacific Light Cable Network**, is supposed to be the first direct fiber-optic submarine cable system linking Los Angeles and Hong Kong. Google and Facebook joined the consortium of companies to build the 12,800-kilometer (8,000 miles) cable, which was originally slated to be ready by 2018 and become the "**highest-capacity trans-Pacific route**."

About That PLCN Delay: Pacific Cable Market Facts to Consider

February 11, 2020

- Several submarine cables already connect China and the United States
- PLCN is not the only planned cable between Hong Kong and the United States
 - Hong Kong-Americas (HKA): this consortium cable involves several parties including Facebook, China Telecom, and China Unicom.
 - Hong Kong-Guam: Google is an investor in this cable alongside RTI
 - Bay to Bay Express (BtoBE): this system is backed by Facebook, Amazon, and China Mobile

TeleGeography **BLOG**

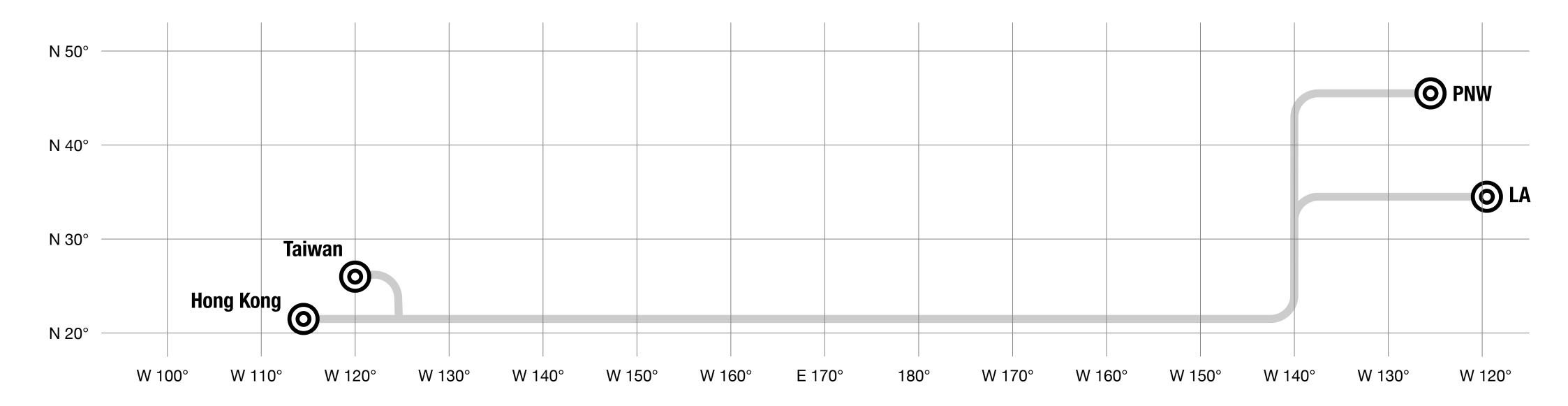
Submarine Cables in the Pacific with <a>Image

Licensed	Cable	Owners	Owners	Lands In	Lands in	Built By
1998	Southern Cross Cable Network	Singtel/Optus, Spark, Telstra, Verizon	No	, ** , **	No	Alcatel + Fujitsu
1999	Pacific Crossing 1 (PC-1)	NTT	No		No	Subcom
2000	Australia Japan Cable (AJC)	Consortium of telcos	No	3 , 1 , 1	No	NEC
2001	Japan-US Cable network (JUS)	Consortium of telcos	No		No	NEC
2002	TGN Pacific	Tata Communications	No	. , ., .	No	Subcom
2009	Samoa American Cable System	ATH, Government of American Samoa	No	, 	No	Alcatel
2009	Unity Cable System	Consortium of Telcos	No		No	NEC + Subcom
2010	Asia America Gateway (AAG)	Consortium of telcos	No		Yes	Alcatel + NEC
2010	HANTRU1	Hannon Armstrong	No		No	Subcom
2010	Honotua Cable System	OPT French Polynesia	No		No	Alcatel
2011	Trans-Pacific Express (TPE)	Consortium of Telcos	CT, CU		Yes	Subcom
2016	FASTER Cable System	telcos + Google	CMI, CTG		No	NEC
2016	Telstra Endeavour	Telstra	No	, ****	No	Alcatel
2017	GOKI Cable Network	AT&T	No		No	KCS/KDDI
2017	SouthEast Asia US (SEA-US)	RTI + US, Philippine, & Indonesian telcos	No		No	NEC
2017	Hawaiki Cable System	BW Group	No		No	Subcom
2017	New Cross Pacific (NCP)	Telcos + Microsoft	CM, CT, CU		Yes	Subcom
2020	Japan Guam Aus North (JGA N)	RTI	No		No	NEC
2020	Japan Guam Aus South (JGA S)	RTI, Google, AARNET	No	□ , *	No	Alcatel
2020	Jupiter	Amazon, Facebook, NTT, PCCW, PLDT, SoftBank	No		No	Subcom + KT
2020	Southern Cross NEXT	Singtel/Optus, Spark, Telstra, Verizon	No	5 , 5	No	Alcatel
2022	Pacific Light Cable Network	Google, Facebook, Meister United	No		No	Subcom



Hong Kong - America Cable (HK-A) Facebook, China Telecom, China Unicom, RTI, Tata, Telstra

- Project launched in 2018
- Intended to help create a ring for RTI with SEA-US + HK-G
- Application withdrawn March 2021

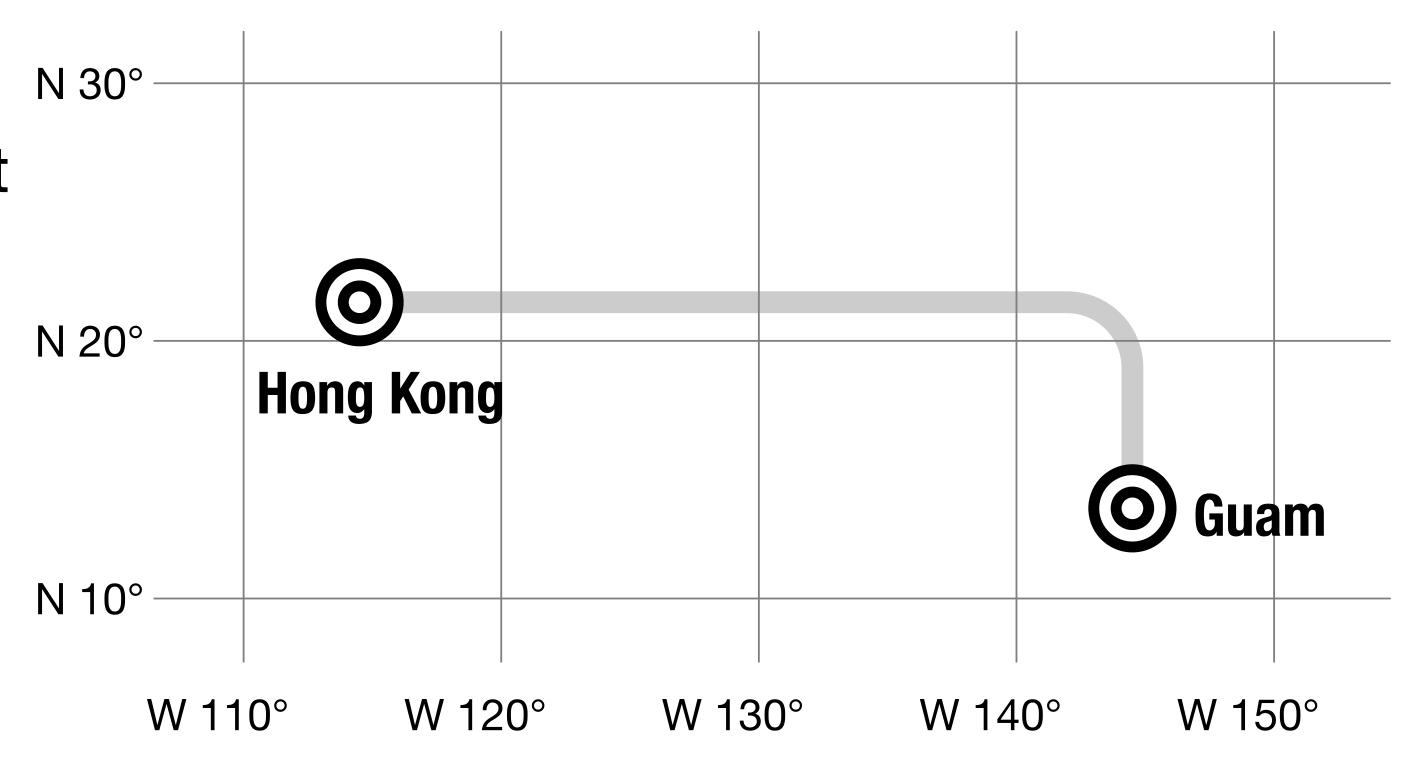






Hong Kong - Guam (HK-G) RTI, Google

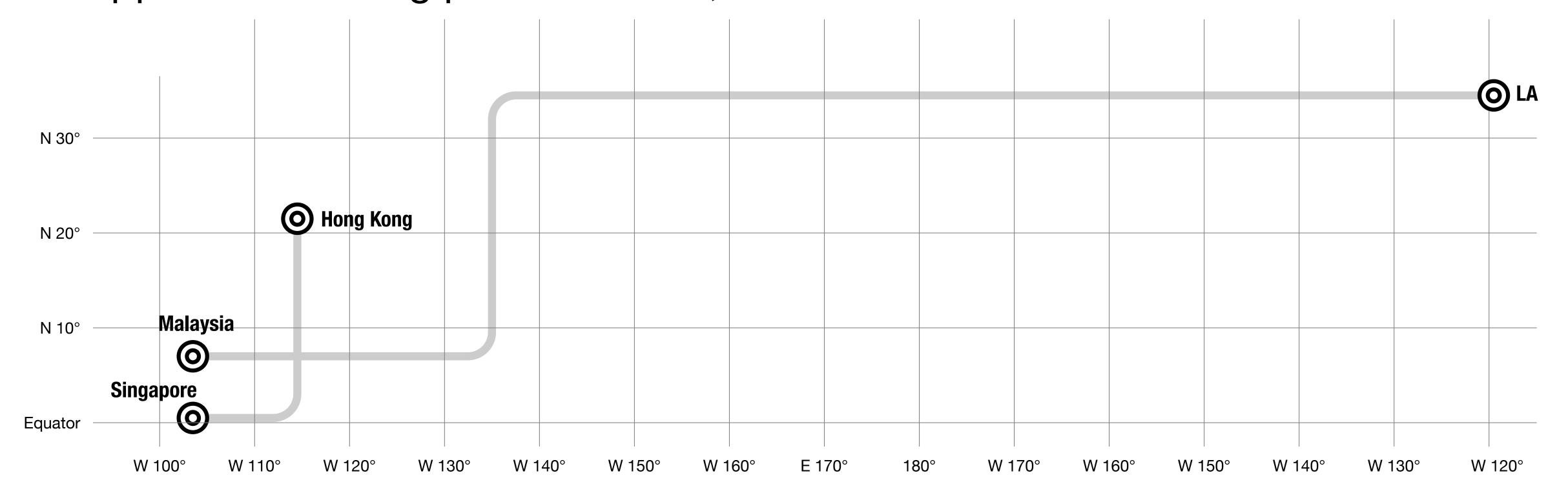
- Intended to help create a ring for RTI with SEA-US + HK-A
- Project launched in 2017
- NEC Awarded build contract
- FCC Application Withdrawn November 2020





Bay to Bay Express (BtoBE) China Mobile International, Facebook, Amazon

- Grover Beach, California , Changi , Chung Hom Kok , Cherating
- Applied for landing permit in 2018, Withdrew in 2020

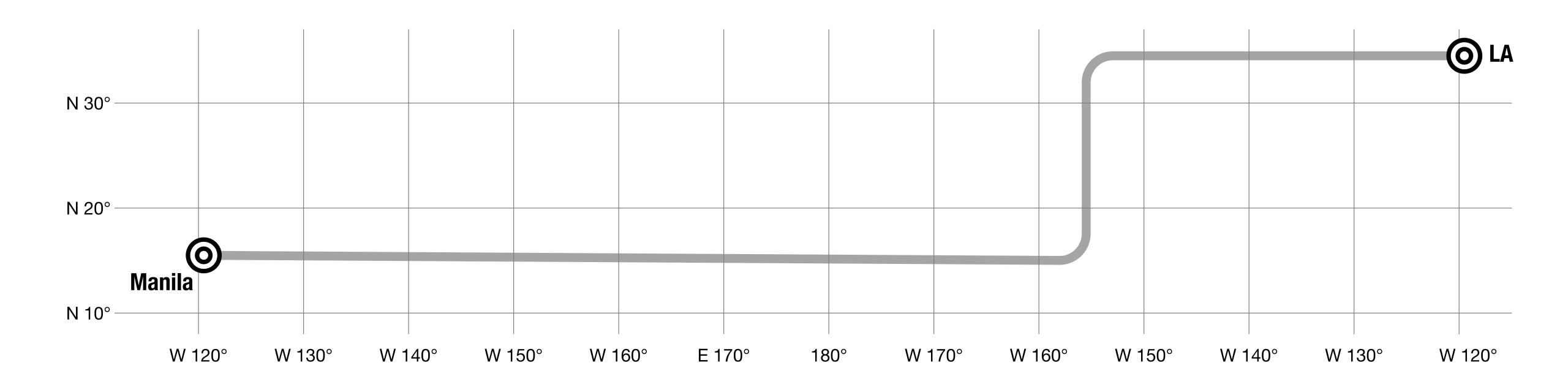




California Philippines 1 (CAP-1)

Facebook, Amazon

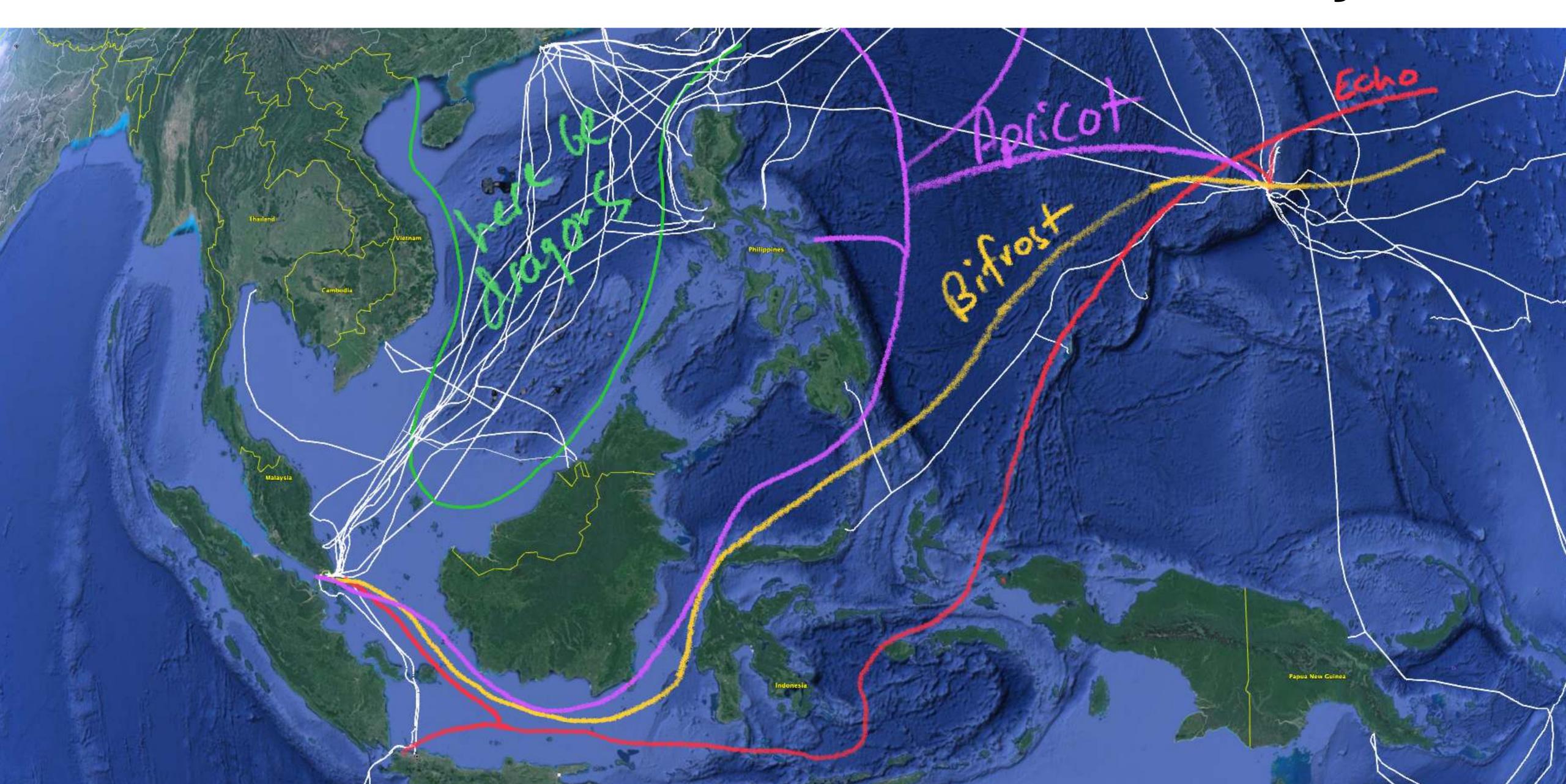
- New application for cable CAP-1, 2020-09-30, re-uses US part of BtoBE
- New path: Grover Beach, California 🚐, to Pagudpud, Philippines 🔀



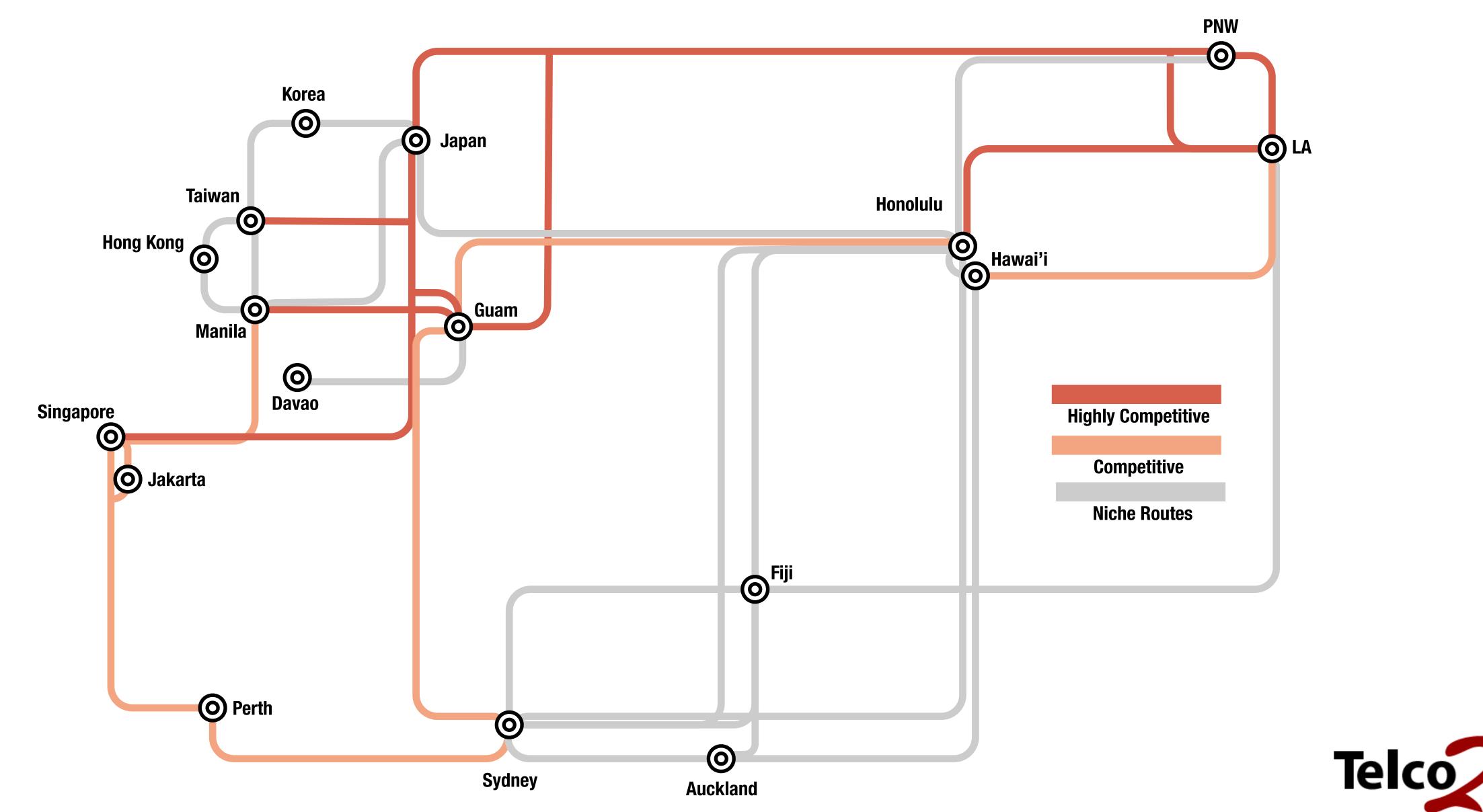
What's Next for Cables in the Pacific?

- - Chunghwa, Facebook, Google, NTT, PLDT
- Echo:], D, D, E,
 - Google, Facebook
- - Facebook, Telin, Keppel

No Wendors or Territories in New Cable Projects



Asia Pacific Submarine Fibre Transit Map 2027?



Re-Alignment of Submarine Cables in Asia and the Pacific





































