

Hawaiian Telcom

HAWAII'S TECHNOLOGY LEADER



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**We're reaching farther,
so communities can too.**

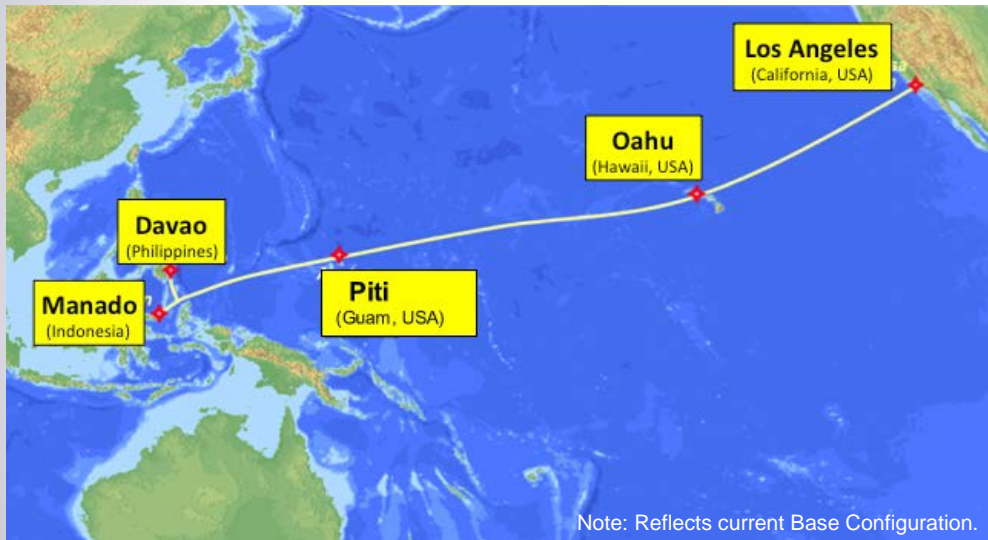


SEA-US Cable System



SEA-US Cable System Overview

On March 31, 2015, the SEA-US members issued a press release announcing the start of construction on their state-of-the-art, 100Gbps ultra-long haul submarine fiber system.



Project Snapshot

- SEA-US will connect Indonesia, Philippines, Guam, Hawaii, and the Continental United States (CONUS)
- **System Length:** ~15,000 km
- **Initial Design Capacity:** 20 Tb/s
- **Service Date:** 3Q, 2017
- **SEA-US East Segment Fiber Pairs:**
 - 1 express fiber pair from Guam to California
 - 1 fiber pair that lands in Hawaii

Partners

Consortium members include major global telecommunications companies and experienced telecommunications executives



Minimal Environmental Impacts

Undersea fiber optic systems have traditionally had little to no impact on the environment, especially following today's strict standards and implementation techniques. However, Hawaiian Telcom is ensuring this by:

- Conducting special studies including archeological and biological surveys of affected areas
- Full Environmental Assessment of the project
- Detailed survey of the cable route to avoid any sensitive areas
- Low profile modular Cable Landing Station (CLS) setback away from public view
- Use of Horizontal Directional Drilling (HDD)

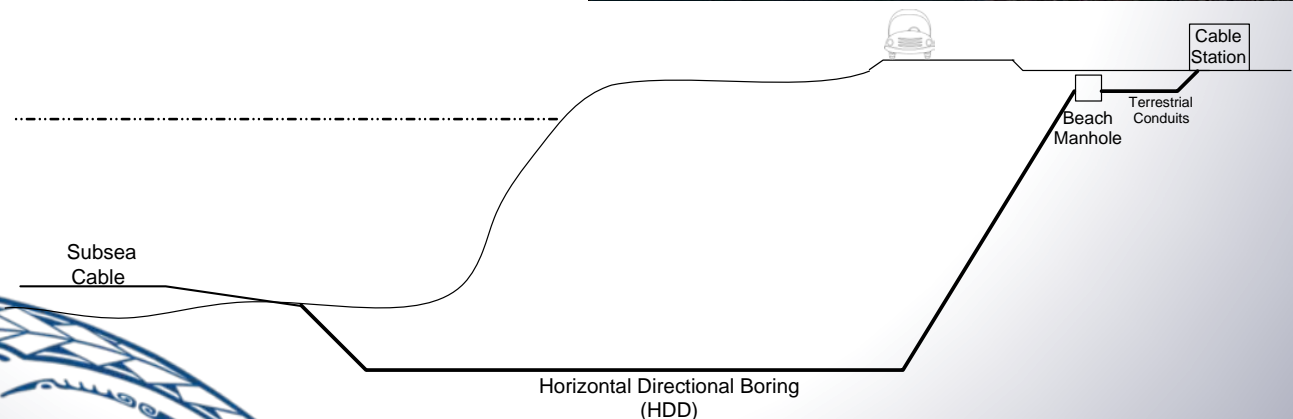


Horizontal Directional Drilling (HDD)

The Responsible Choice:

Instead of direct trenching and laying cable directly on the beach, SEA-US will utilize HDD boring to minimize both the community and environmental impacts.

- Avoids Farrington Highway & Makaha Beach
 - No Traffic impact to area
 - No impact to beach access or use of beach
 - No construction on the beach
- No cable exposure on beach (deep beneath ground)
- Non-chemical, non-toxic drilling fluid (5% bentonite + 95% water)
- CLS & Beach Manhole (BMH) located on HT property



Benefits to Hawaii

Broadband has become a critical piece of infrastructure necessary for economic development/innovation and for educational growth for today's communities. Both the private sector and governments are investing hundreds of millions of dollars for fiber connectivity worldwide. Hawaii's lifeline to broadband are Transpacific fiber cables and the SEA-US cable is especially critical for Hawaii because...

- **Broadband Exhaust:** Hawaii is forecasted to exhaust all its broadband connectivity to CONUS (Continental United States) cutting off internet growth
 - Two of three main fiber cables are beyond the halfway point of their designed life and can't meet the forecasted bandwidth demand for Hawaii
 - Technology has advanced to where a Hawaii landing is no longer necessary or even desired for new cable systems. New systems will bypass Hawaii.
 - Remaining systems will charge premium prices knowing no new systems would land in Hawaii
- **Direct Fiber Connection to Southeast Asia:** This system will connect Hawaii to +2B people in the Philippines, Indonesia, and the rest of SEA providing the infrastructure to facilitate new economic opportunities



Benefits to Hawaii (cont)

Further Benefits include:

- Attract additional Transpacific systems: Promote Hawaii as a Transpacific cable hub for diversity/resiliency and connection to existing cables such as Japan – US, Southern Cross, Asia America Gateway, and Honotua, as well as planned fiber systems such as SAPL (Central & South America), Southern Cross NEXT, and Hawaiki (Australia & New Zealand)
- Hawaii Broadband expansion: Project is an enabler to expanding Broadband throughout the State, especially as a magnet/driver for placing more fiber to the Waianae coast and synergies with Federal Connect America Funds
- Keep internet prices competitive and drive lower Broadband prices for Hawaii
- Increase tax revenue from this multi-million dollar project and economic growth
- New Market Opportunities:
 - Attract content providers and data centers to Hawaii either as disaster recovery location or to move content closer to users
 - Grow Hawaii's economy through online business
 - Develop businesses that offer lower latency alternatives to SEA than CONUS



Appendix



Hawaii's Growing Opportunities with Asia

- Hawaii's culturally diverse demographics are ideal for supporting business opportunities between Asia and the U.S.
- Asian races making up approximately 39% of Hawaii's population
- % of Asian owned businesses in Hawaii is 47.2% compared to a U.S. average of 5.7%
- Hawaii has a long history of organizations dedicated to bridging/promoting economic opportunities between Hawaii, Asia, and U.S. Mainland:

Subject	Number	Percent
RACE		
Total population	1,360,301	100.0
One Race	1,039,672	76.4
White	336,599	24.7
Black or African American	21,424	1.6
American Indian and Alaska Native	4,164	0.3
Asian	525,078	38.6
Asian Indian	2,201	0.2
Chinese	54,955	4.0
Filipino	197,497	14.5
Japanese	185,502	13.6
Korean	24,203	1.8
Vietnamese	9,779	0.7
Other Asian [1]	50,941	3.7
Native Hawaiian and Other Pacific Islander	135,422	10.0
Native Hawaiian	80,337	5.9
Guamanian or Chamorro	2,700	0.2
Samoan	18,287	1.3
Other Pacific Islander [2]	34,098	2.5
Some Other Race	16,985	1.2

- Japanese Chamber of Commerce - 1900
- Chinese Chamber of Commerce of Hawaii - 1911
- Hawaii Korean Chamber of Commerce - 1940
- Filipino Chamber of Commerce of Hawaii - 1947
- Pacific Basin Economic Council - 1967
- Australian American Chamber of Commerce – Hawaii - 1985
- Hawaii Indonesia Chamber of Commerce (HICHAM)