

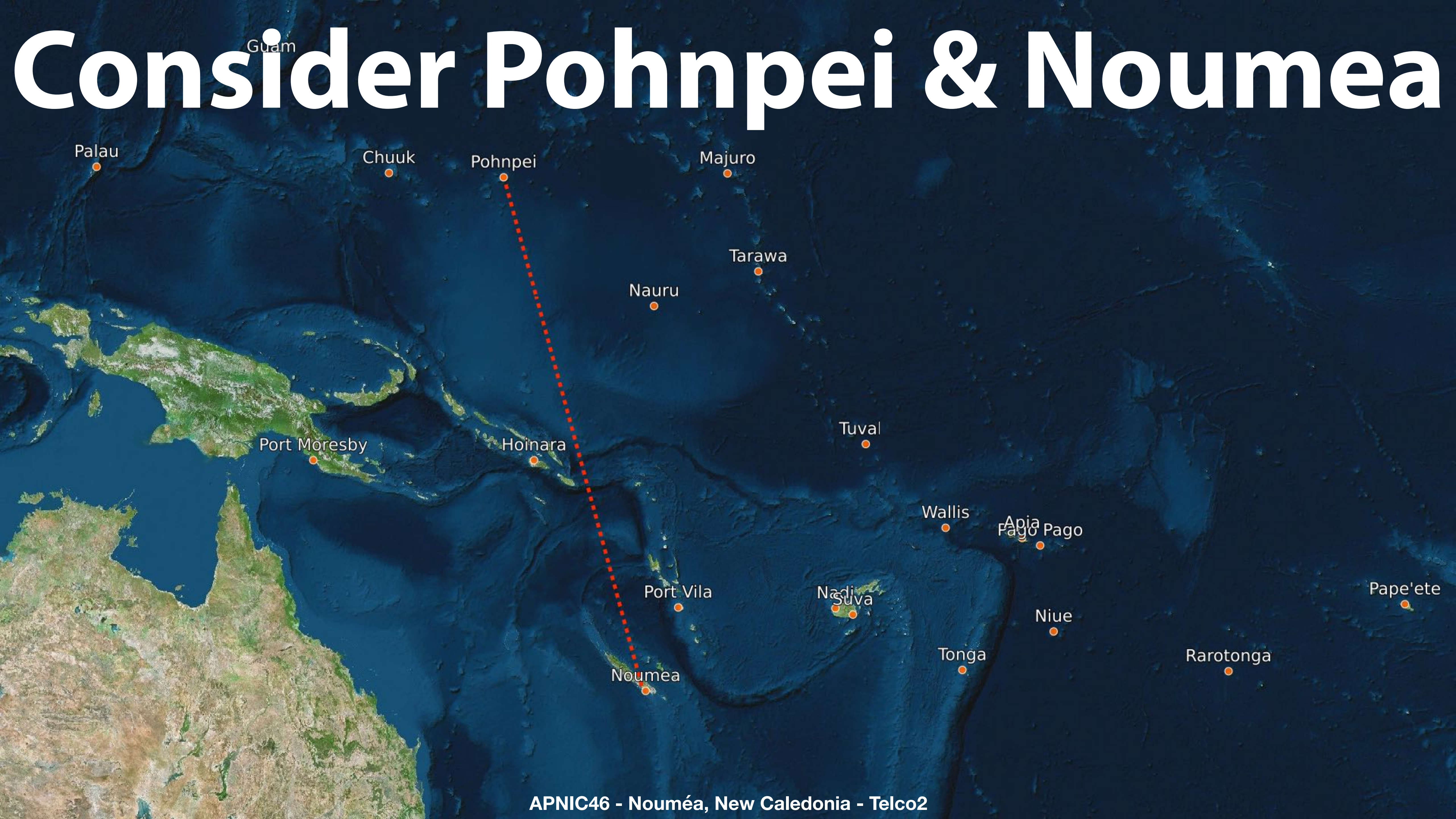


The Connected Pacific

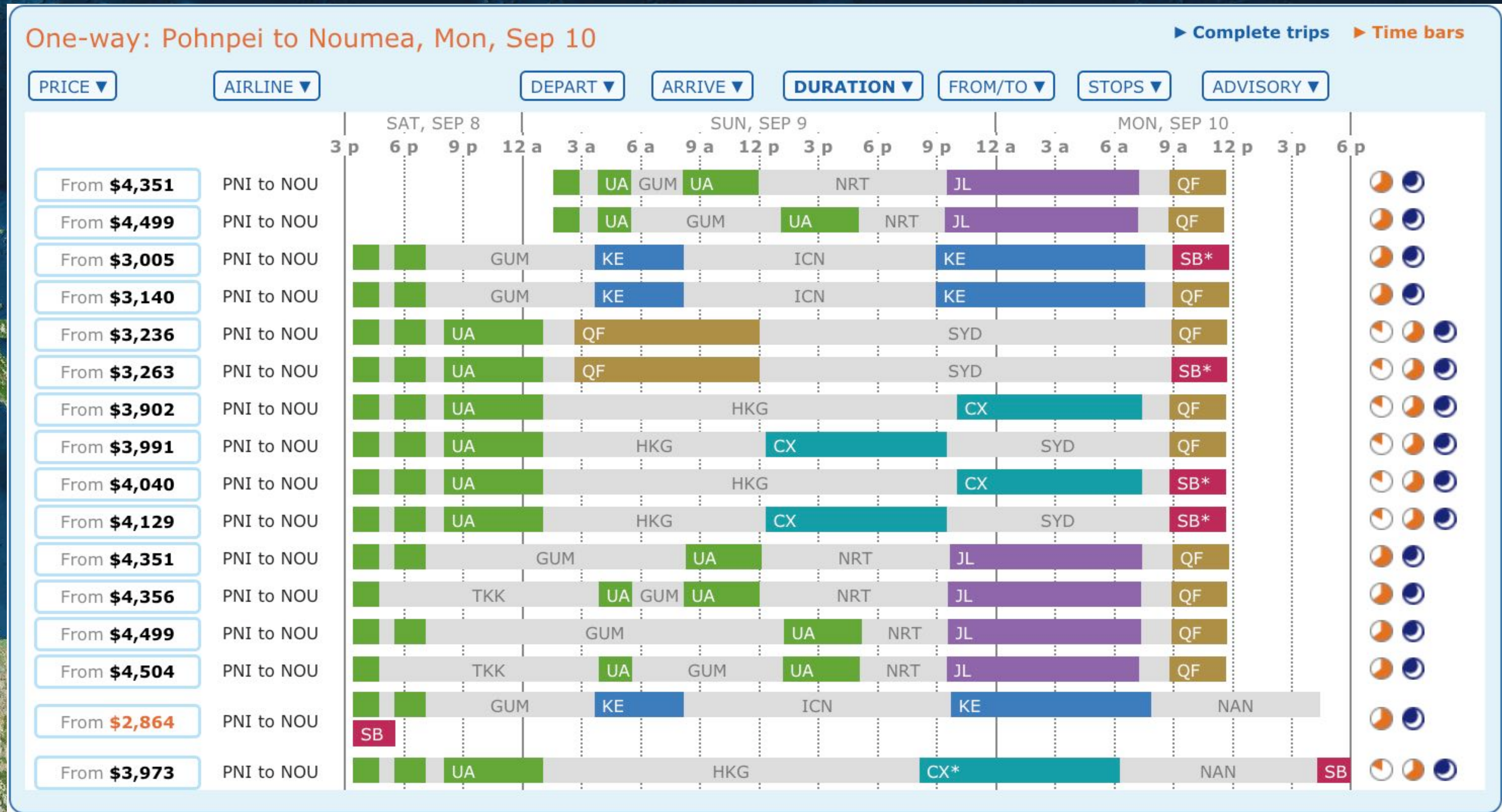
APNIC 46, Noumea

Jonathan Brewer

Consider Pohnpei & Noumea



You Can't Get There From Here



First you fly to Chuuk



Stay on the plane Guam's Next

Guam

Chuuk

Pohnpei

Change for Tokyo



Next Sydney

APNIC46 - Nouméa, New Caledonia - Telco2



Finally Noumea

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A Review of Pacific Cables 2000-2018, Abridged

Southern Cross

Oregon

Los Angeles

Hawaii

Suva

Sydney

Auckland

2000

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Tokyo

Shima

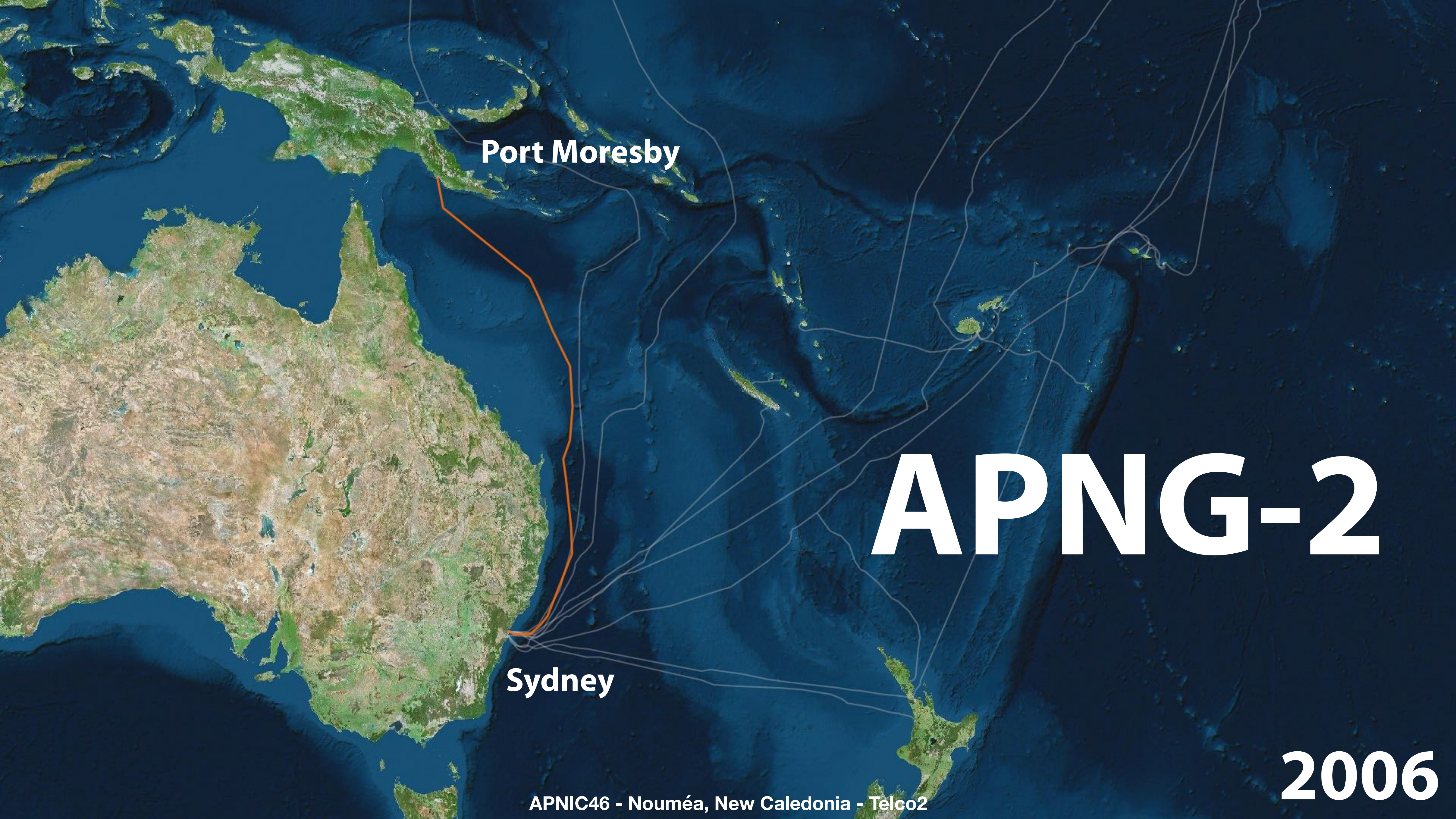
Guam

Sydney

Australia Japan Cable

2001

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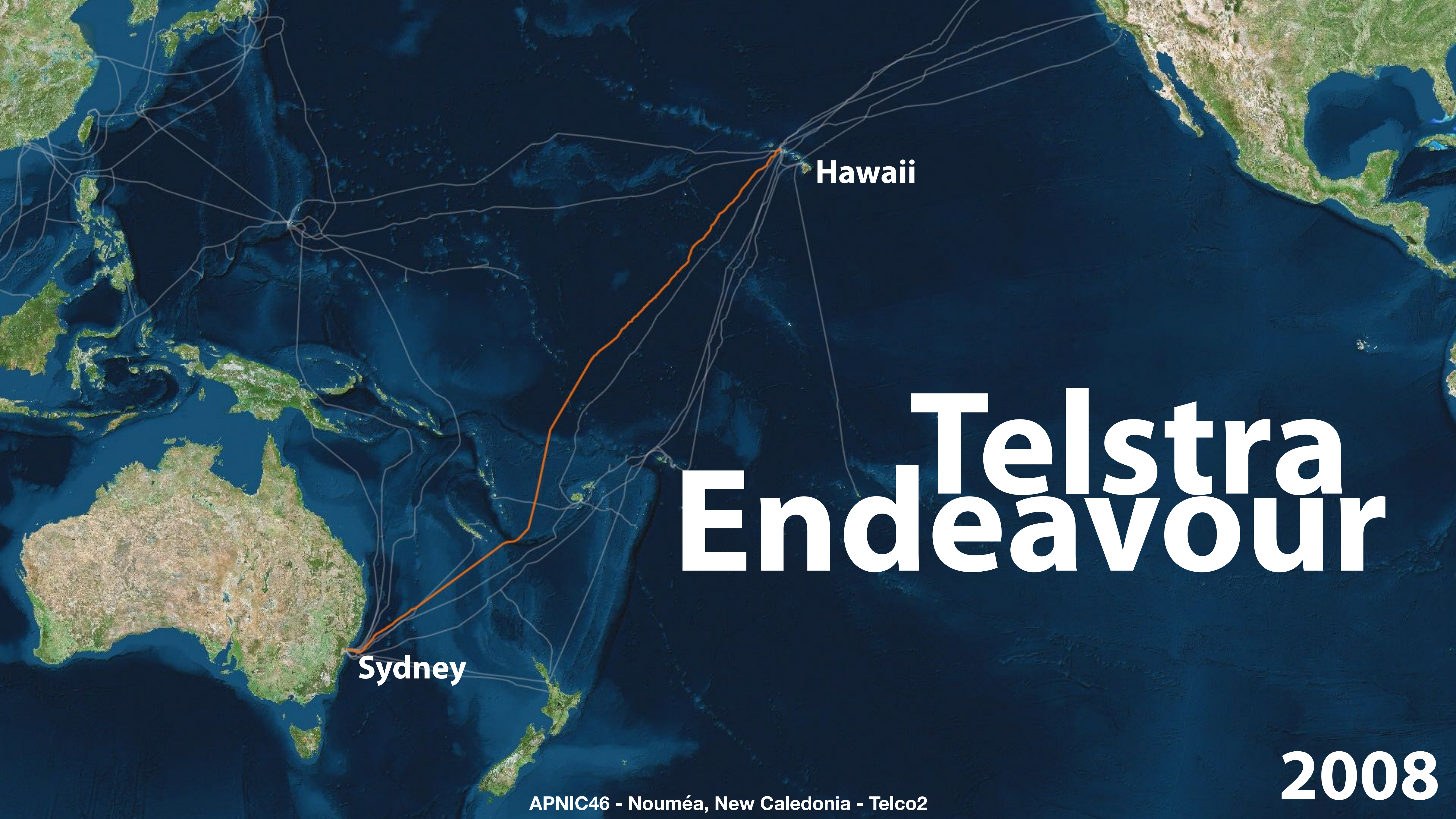
Port Moresby

APNG-2

Sydney

2006

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A satellite map of the Pacific Ocean with a network of white lines representing submarine cables. A prominent orange line traces the path of the Telstra Endeavour cable from Sydney, Australia, in the bottom left, across the Pacific, to Hawaii, in the top right. The landmasses of Australia, New Zealand, and parts of Asia and North America are visible in green and brown.

Telstra Endeavour

Sydney

Hawaii

2008

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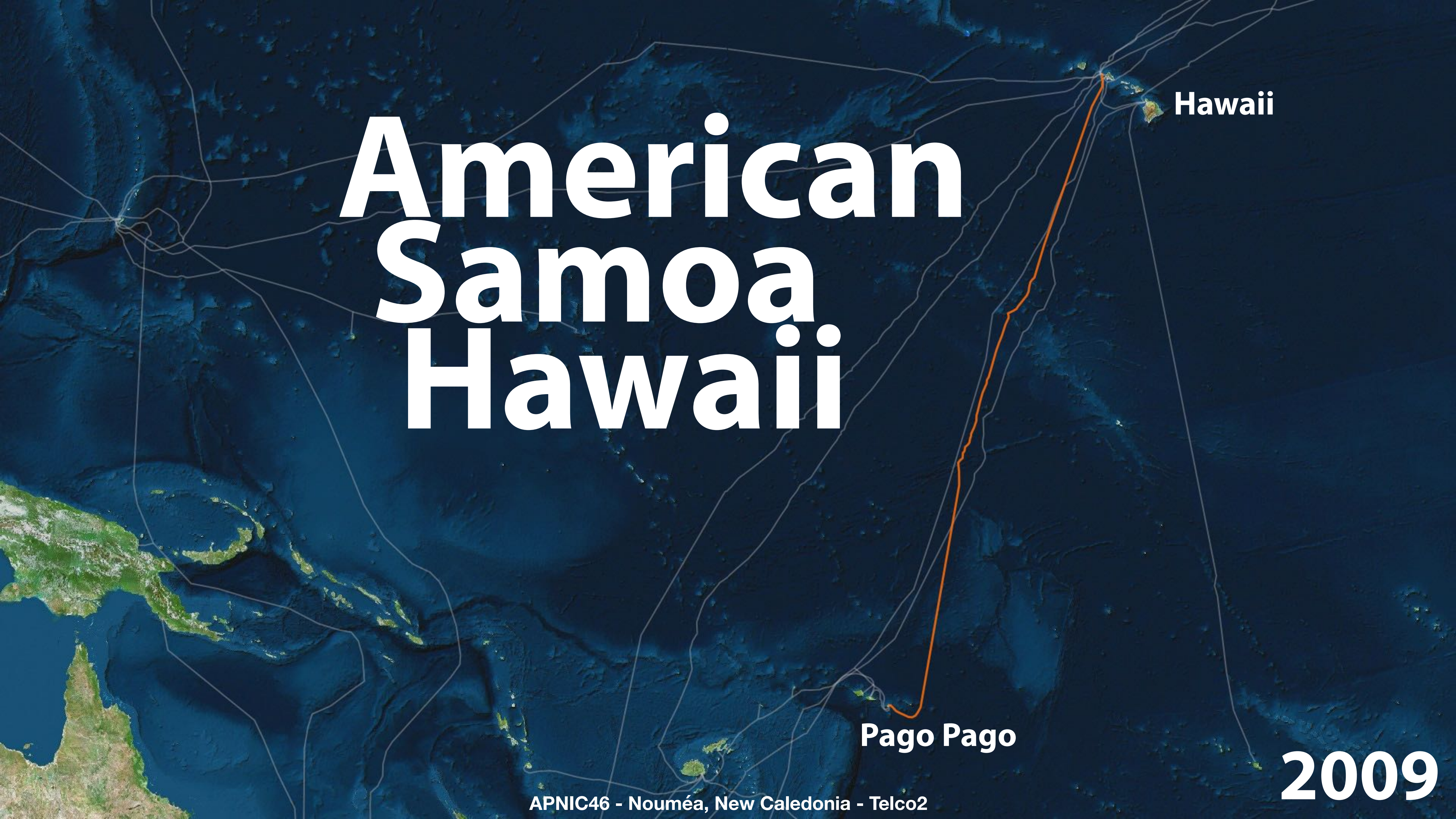
Gondwana-1

Sydney

Noumea

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2008

A satellite map of the Pacific Ocean. A thick orange line represents a submarine cable route starting from the Hawaiian Islands in the upper right, traveling south along the coast of the United States, then curving west and south towards the Samoa Islands. The route ends near Pago Pago. Thin white lines indicate other submarine cables. The landmasses of North America, South America, and parts of Africa and Europe are visible on the left. The year '2009' is in the bottom right.

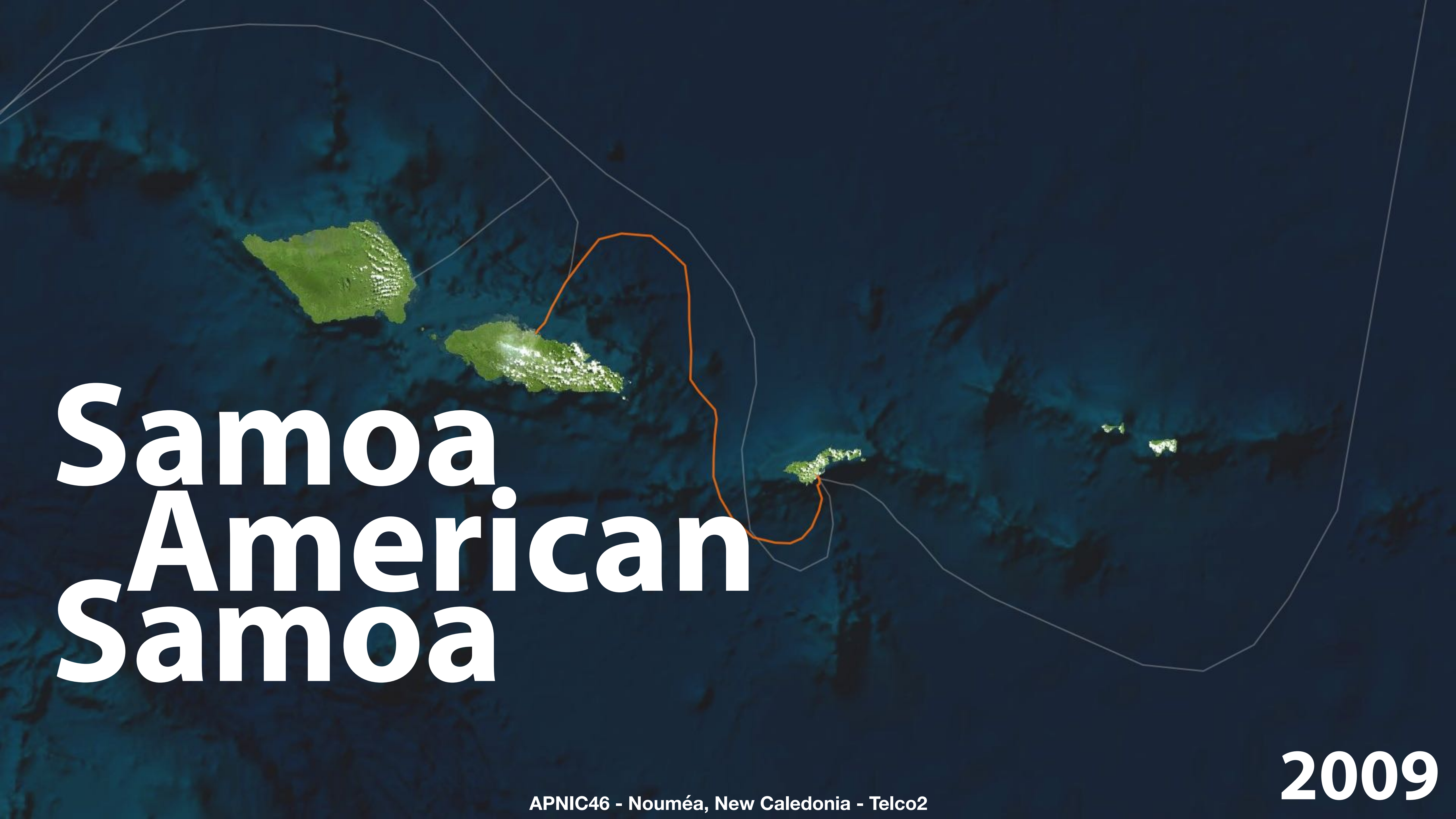
American Samoa Hawaii

Hawaii

Pago Pago

2009

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Samoa American Samoa

2009



California

Hawaii

Philippines

Guam

Asia America Gateway

Hong Kong
Vietnam
Brunei
Bangkok
Malaysia
Singapore

2009

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Pipe Pacific Cable (PPC-1)

Guam

Madang

Sydney

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2009

You Can't Get There From Here

Madang

Port Moresby

2009

HANTRU-1

Guam

Kwajalein

Majuro

Pohnpei

2010

Honotua

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2010

Tonga Suva

Suva

Tonga

Interchange 1

Port Vila

Suva

2013



Sydney

Auckland

Tasman Global Access

2017



Davao
Manado

Guam

Hawaii

South East Asia-United States

2017

Mindanao

Manila

Davao

2017

Belau Cable

Koror

Yap Cable

Yap

2018

Tui Samoa

Suva

Futuna

Wallis

Apia

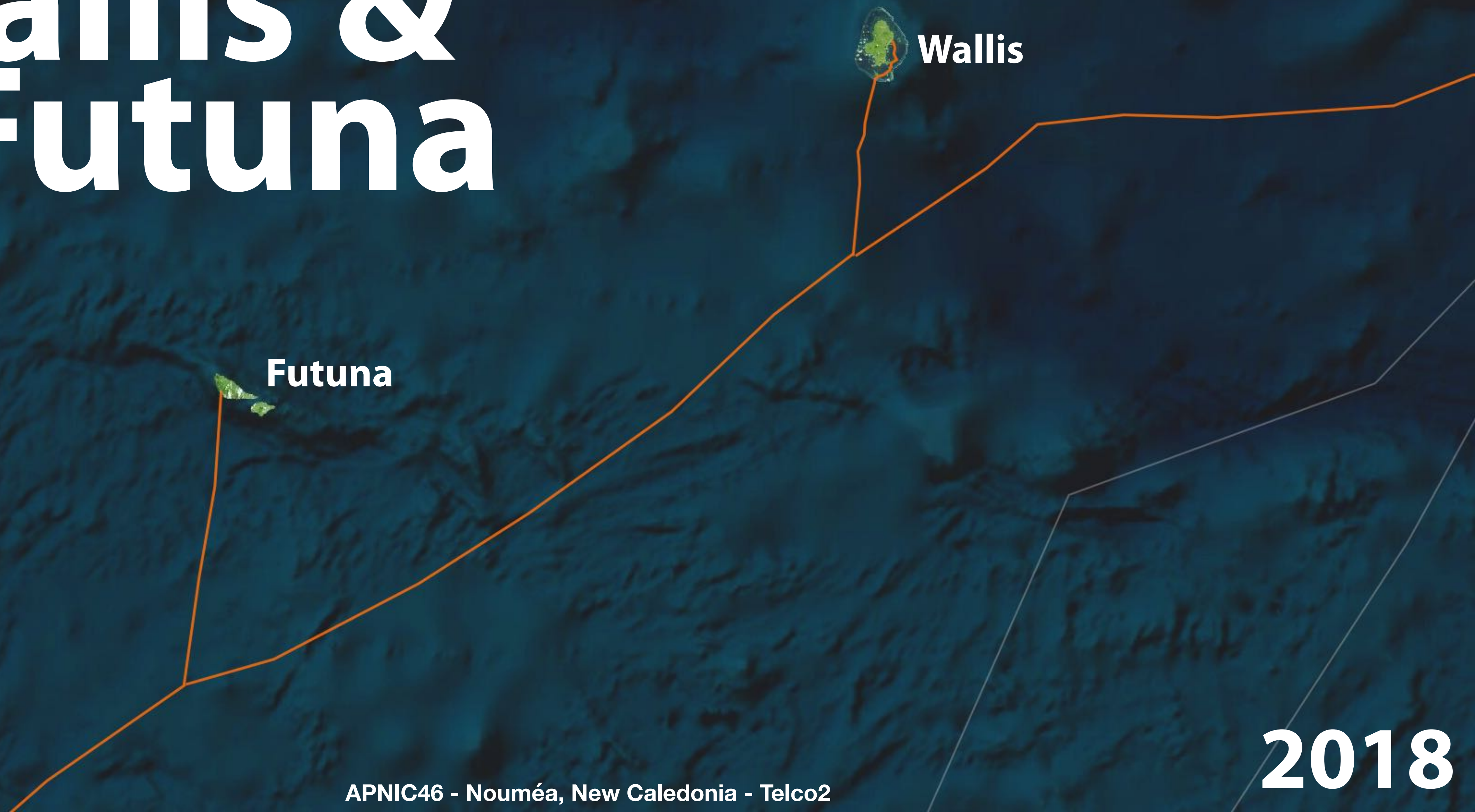
Savai'i

Tuasivi

Apia

2018

Wallis & Futuna



Wallis

Futuna

Vanua Levu

Savusavu

Suva

2018

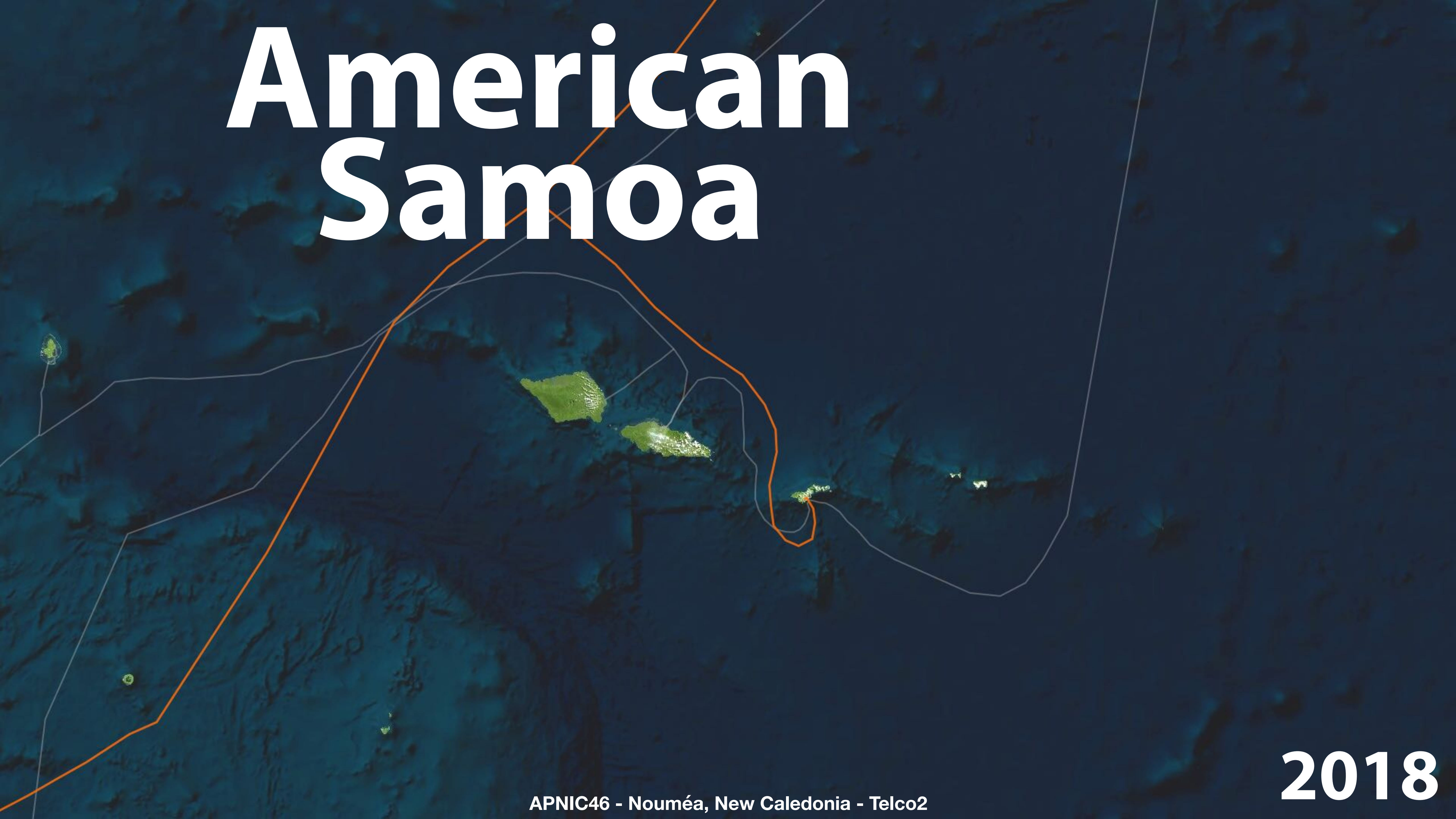
Hawaiiki

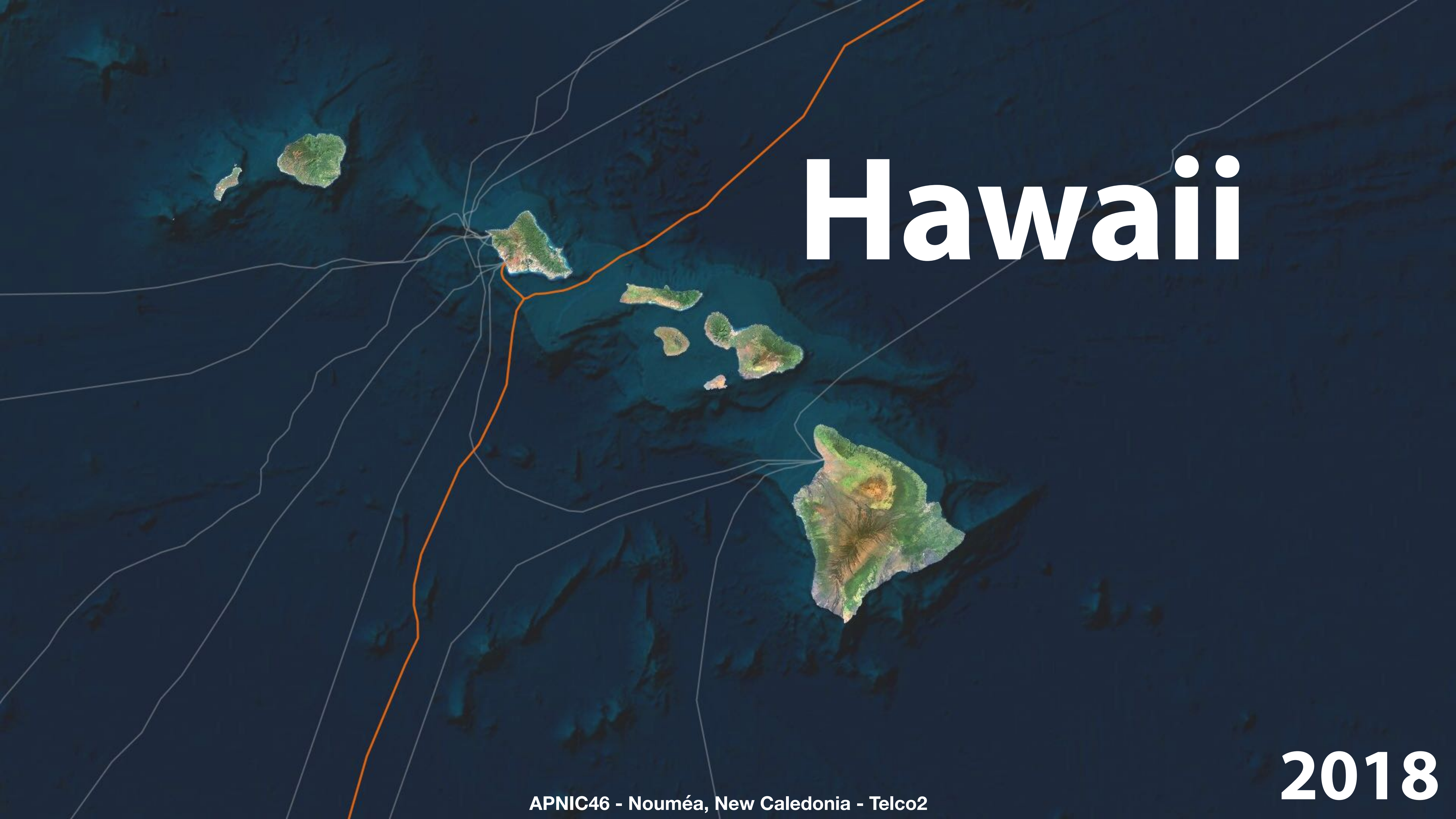


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2018

American Samoa



A satellite map of the Hawaiian Islands. The islands are shown in green and brown, indicating vegetation and terrain. The surrounding ocean is dark blue. A network of white lines is overlaid on the map, representing submarine cables. A prominent orange line runs from the bottom left towards the center, connecting to a hub near the main Hawaiian Islands. Other white lines branch out from this hub to various islands and further into the Pacific.

Hawaii

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2018

Australia Singapore Cable

2018

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Unconnnected?

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Up In The Sky

Photo: SpaceX

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JCSAT 14 (2016)
Optus B3 (2009)

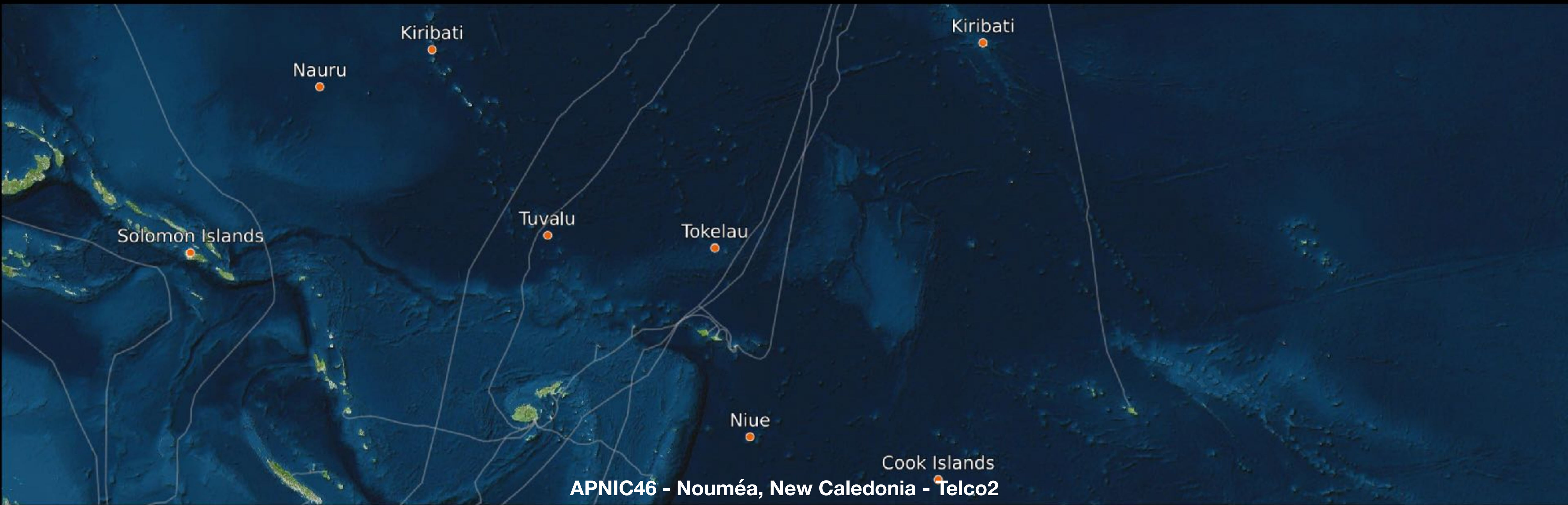
Superbird 8 (2018)
Optus D4 (2014)
Intelsat 19 (2012)

Eutelsat 172B (2011)

Intelsat 18 (2011)

NSS 9 (2009)

Ten Years of Satellite



JCSAT-14

- Owned by Sky Perfect JSAT Corporation
- Geostationary Orbit at 154 degrees East
- In-Service July 2016
- 26 C-band transponders
- 18-Ku-band transponders
- Provides TV + High Speed Broadband
- Excellent Pacific Islands Coverage

2016



EUTELSAT 172B

- Owned by Eutelsat
- Geostationary Orbit at 172 degrees East
- In-Service November 2017
- 14 C-band transponders
- 36 Ku-band transponders
- In-flight broadband & Cellular backhaul
- Excellent Pacific Islands coverage

2017



03b Networks

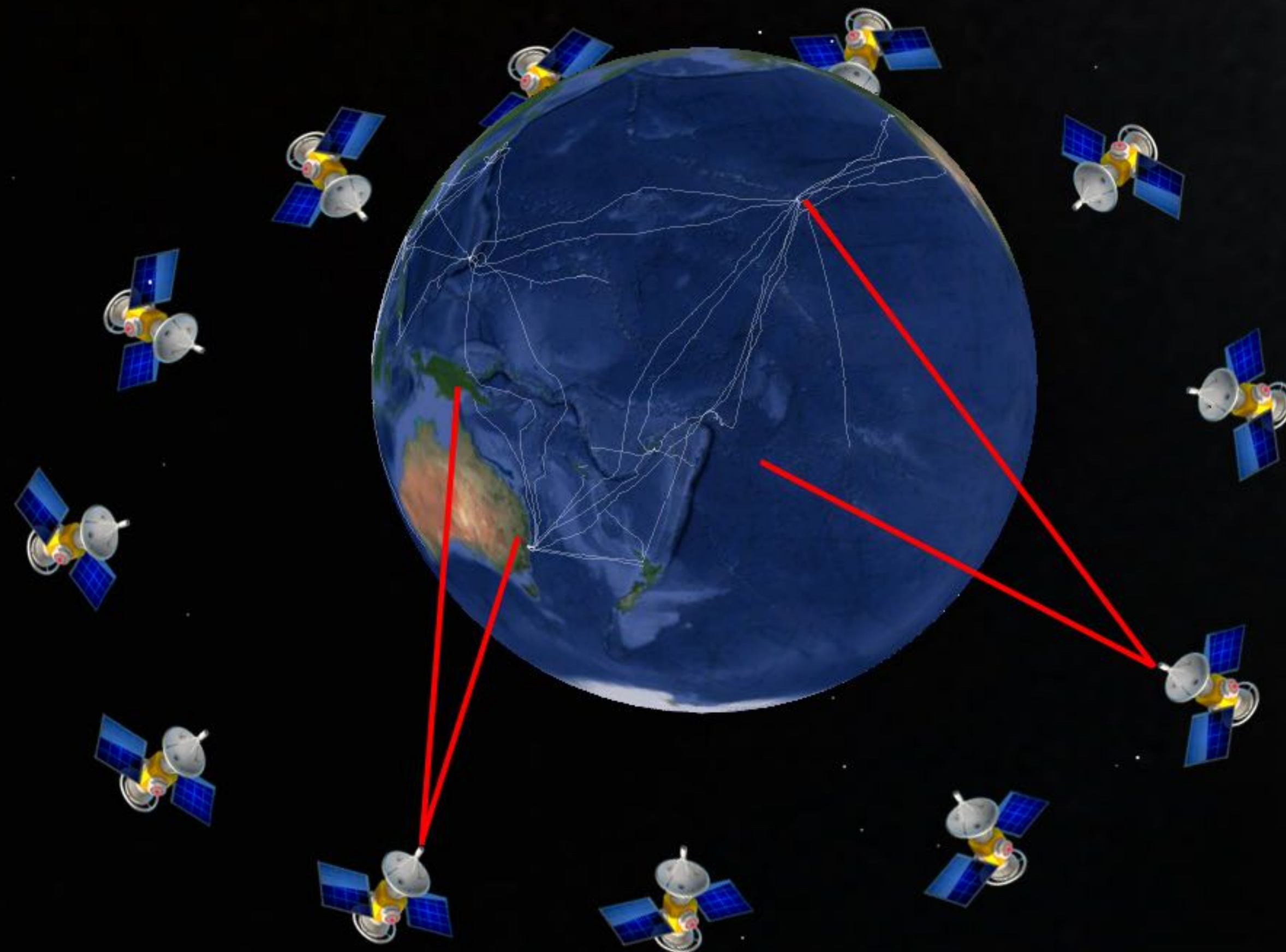
- Medium Earth Orbit, Ka band since 2014
- Global +/- 45° Cover for Carrier & Enterprise
- 384 Gbps of global capacity
- 2 Gbps, 700 km diameter beams
- 16 Satellites in orbit today , 4 more in 2019
- 2x Tracking antennas req
- Rain fade possible even w/ 4m dish
- 100% owned by SES since 2016

2018

APNIC46 - Nouméa, New Caledonia - Telco2



03b Networks

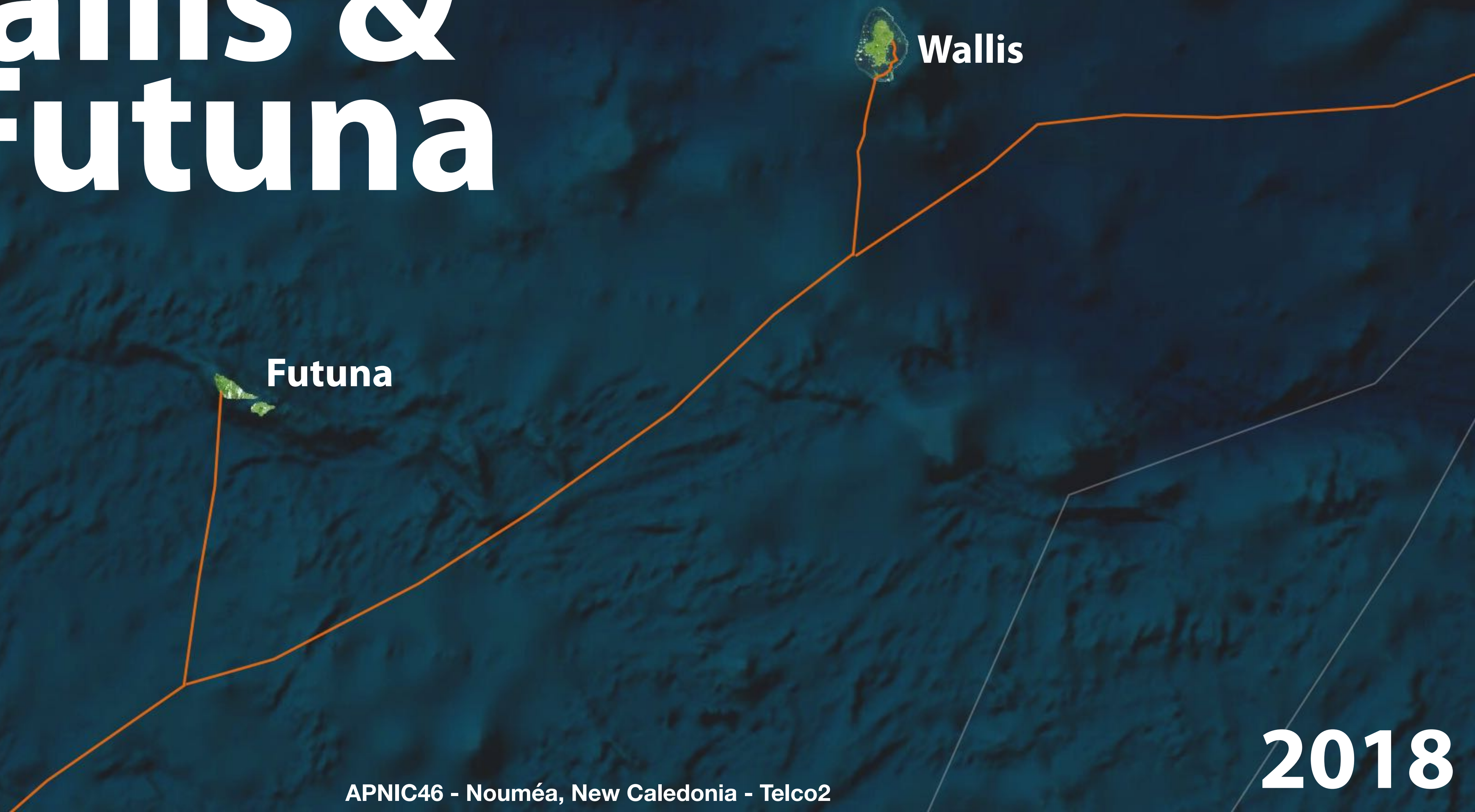


2018



The Connected Pacific: Metrics

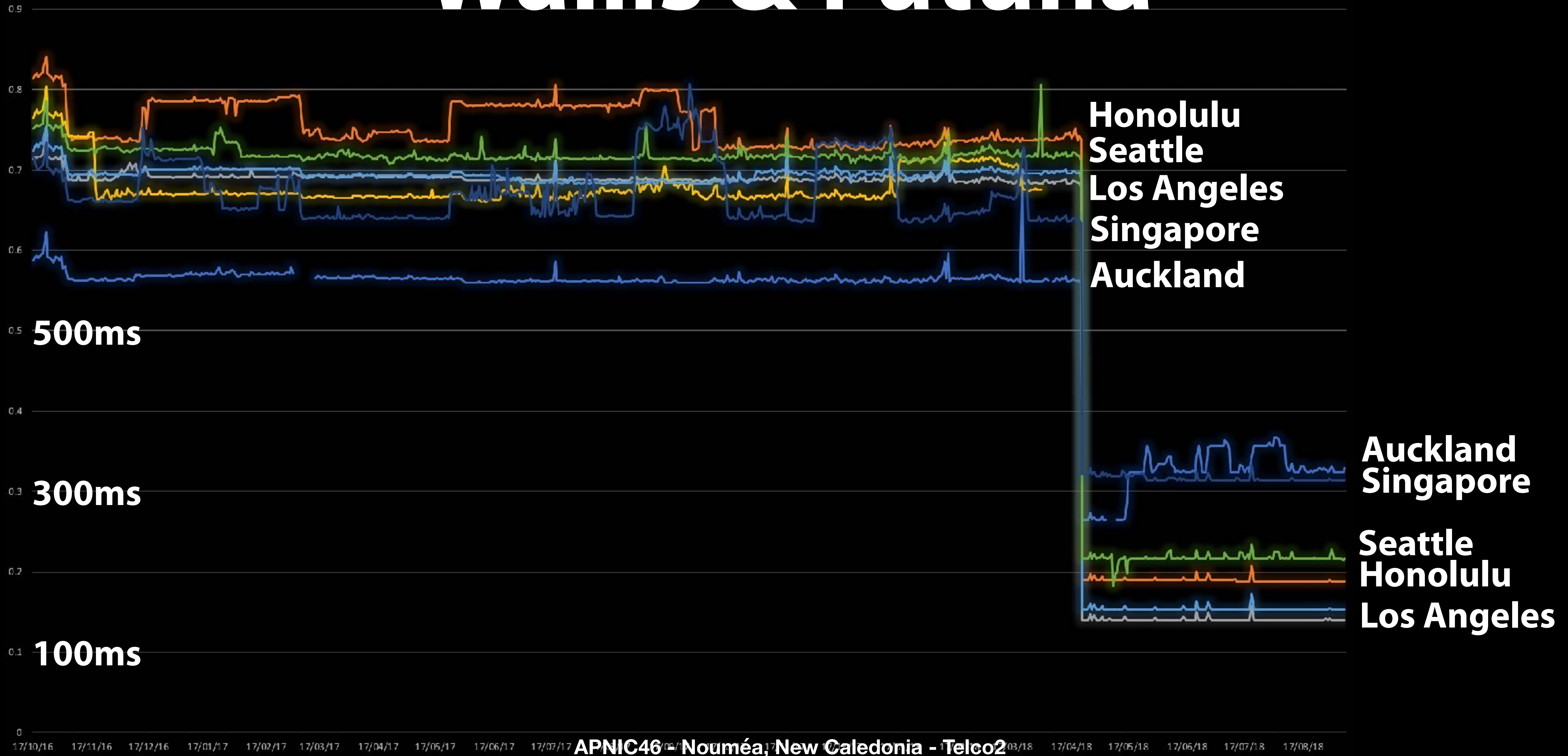
Wallis & Futuna



Wallis

Futuna

Wallis & Futuna





Tokyo

Los Angeles

150 ms

Honolulu

190 ms

Singapore

310 ms

Wallis

Auckland

320 ms

Wallis & Futuna



Tokyo

Los Angeles

102 ms

(150 ms)

Honolulu

54 ms

(190 ms)

Wallis

Auckland

51 ms

(320 ms)

Singapore

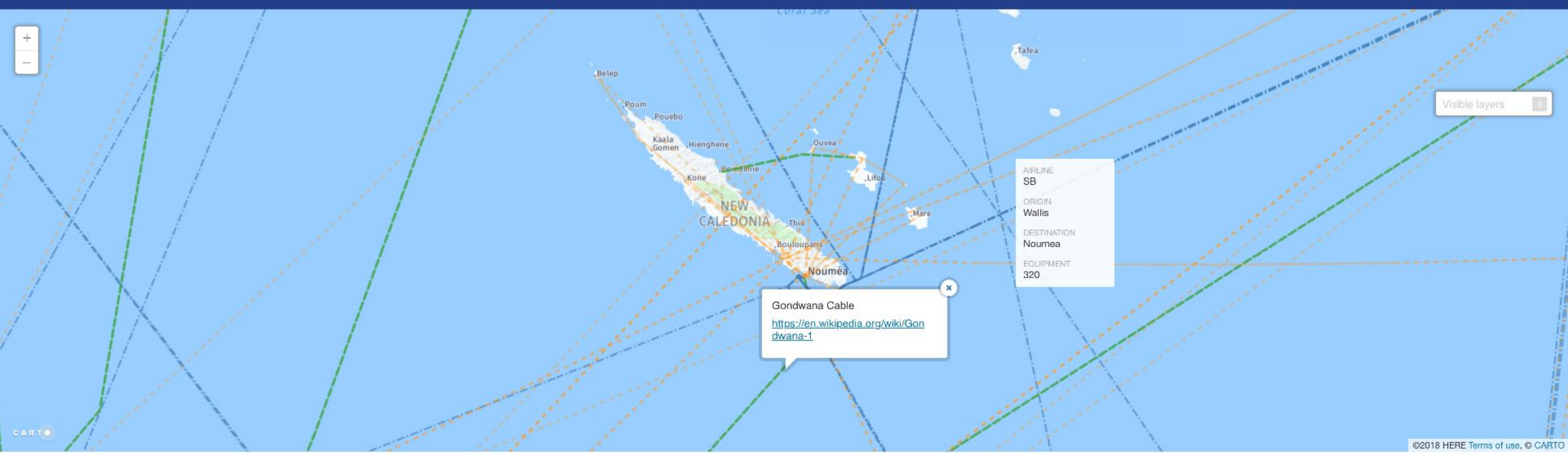
(310 ms)

150 ms

Wallis & Futuna

How Do We Fix This?

A Peering Strategy for the Pacific Islands



This site reviews the telecommunications environment of the Pacific Islands. It looks at each community's connectivity to the world: telecommunications, sea freight, air routes, and trade. It provides real-time statistics on provider market share. It considers the complexity of island telecommunications through the mythical nation of Avaiki. Over time it will be expanded to include data on carrier interconnections and performance to each market's major trading partners.



The Connected Pacific

<https://pacpeer.org/>

<https://jon.brewer.nz/>

