KACIFIC

the heart of broadband

KACIFIC BROADBAND SATELLITES GROUP
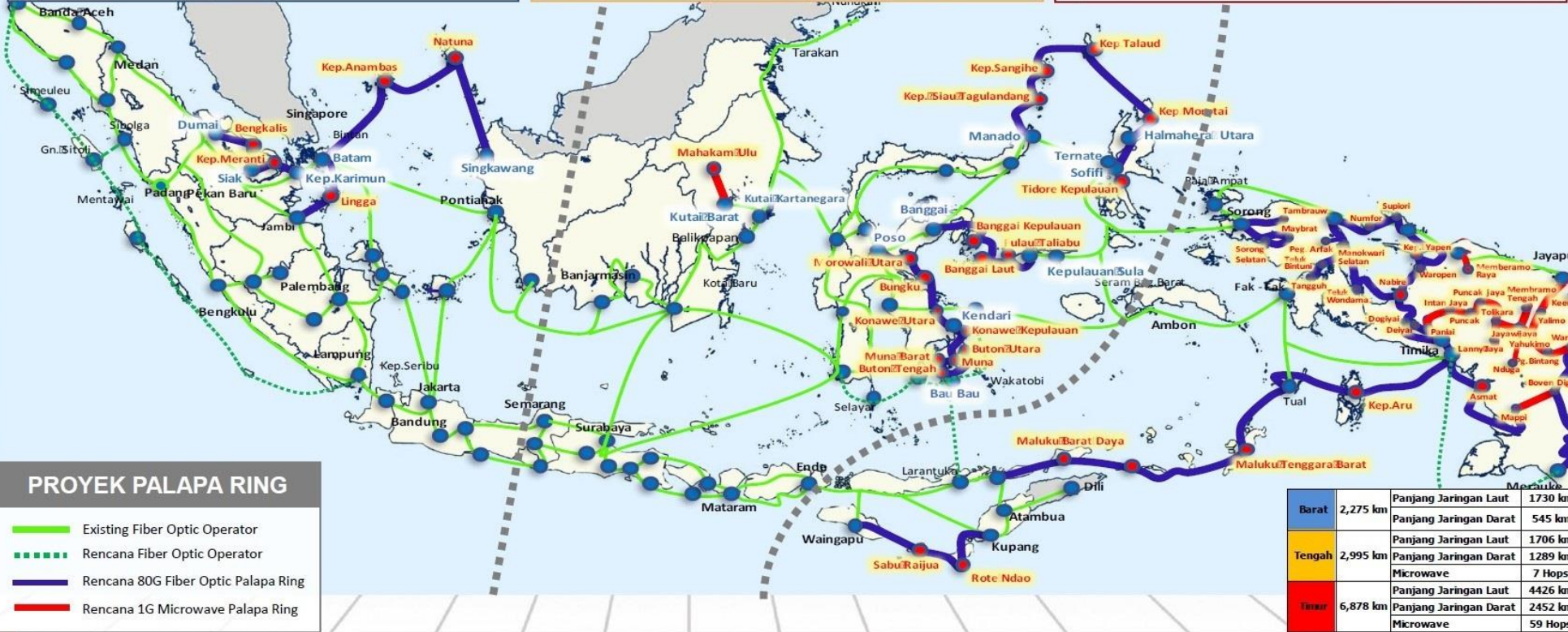
CONNECTIVITY IN INDONESIA

The Palapa Ring project has been completed 100% but there are still a lot of blankspot areas in Indonesia

INTERNET IN INDONESIA
In Numbers

204.7 Mio
Internet Users
We Are Social

84.000 Desa
Without Internet
KOMINFO & Kemenkeu, Juli 2022

73.7%
Population Conected
We Are Social

SAWIT PLANTATION
INDONESIA

Luas Perkebunan Kelapa Sawit di Indonesia
Tahun 2017-2022

■ Juta Hektare

Data points on line chart:
- 2017: 14
- 2018: 14,3
- 2019: 14,5
- 2020: 14,9
- 2021: 15,1
- 2022: 16,38
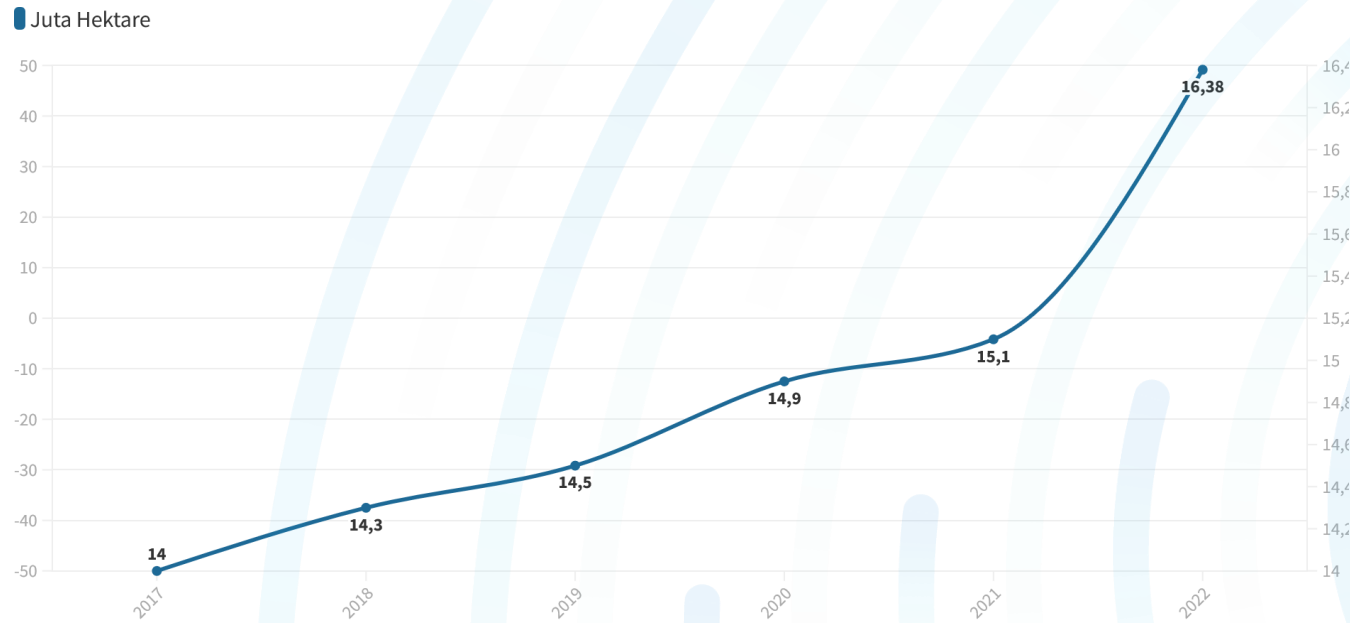
Sumber : Kementerian Pertanian

GoodStats

Sawit Plantation Area by Province

- Riau 18%
- Kalimantan Barat 13%
- Kalimantan Tengah 13%
- Sumatera Utara 9%
- Kalimantan Timur 8%
- Seumatera Selatan 8%
- Jambi 7%
- Aceh 3%
- Lainnya 15%
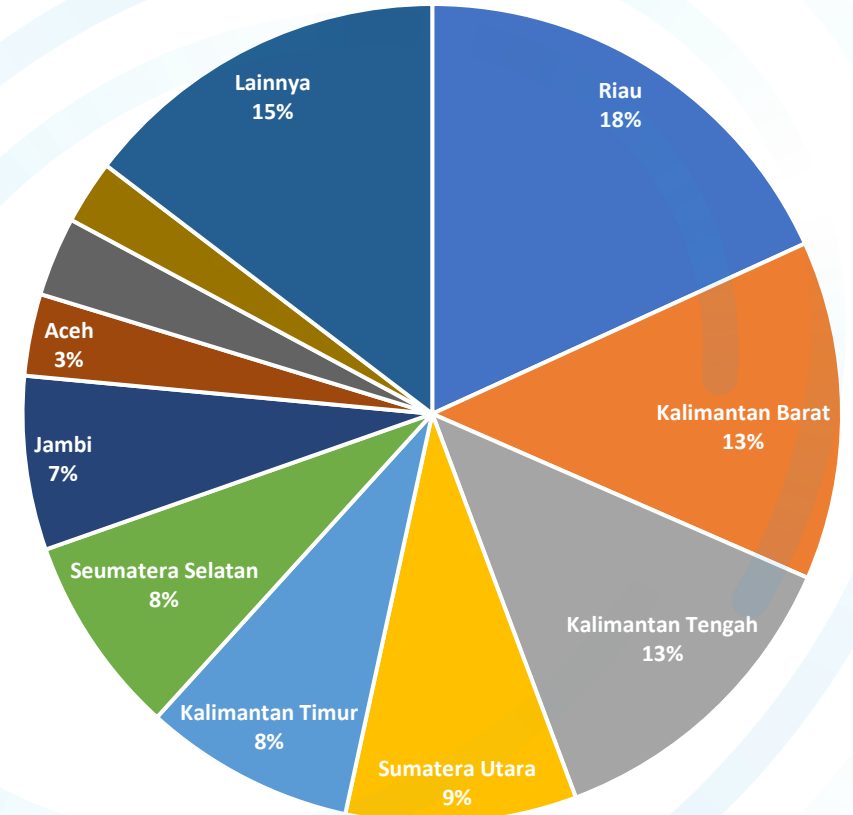
COMMUNICATION TECHNOLOGY
(Media & Infrastructure)

Infrastructure & Media in Telecommunication Network

- Physical (Wire)
  - Coaxial
  - Twisted Pair
    - UTP (Unshielded Twisted Pair)
    - FTP (Foiled Twisted Pair)
    - STP (Shielded Twisted Pair)
  - Fiber Optic
- Wireless
  - Terrestrial
    - Radio Coverage Base
    - Radio Point to Point
  - Satellit
    - LEO
    - MEO
    - GEO
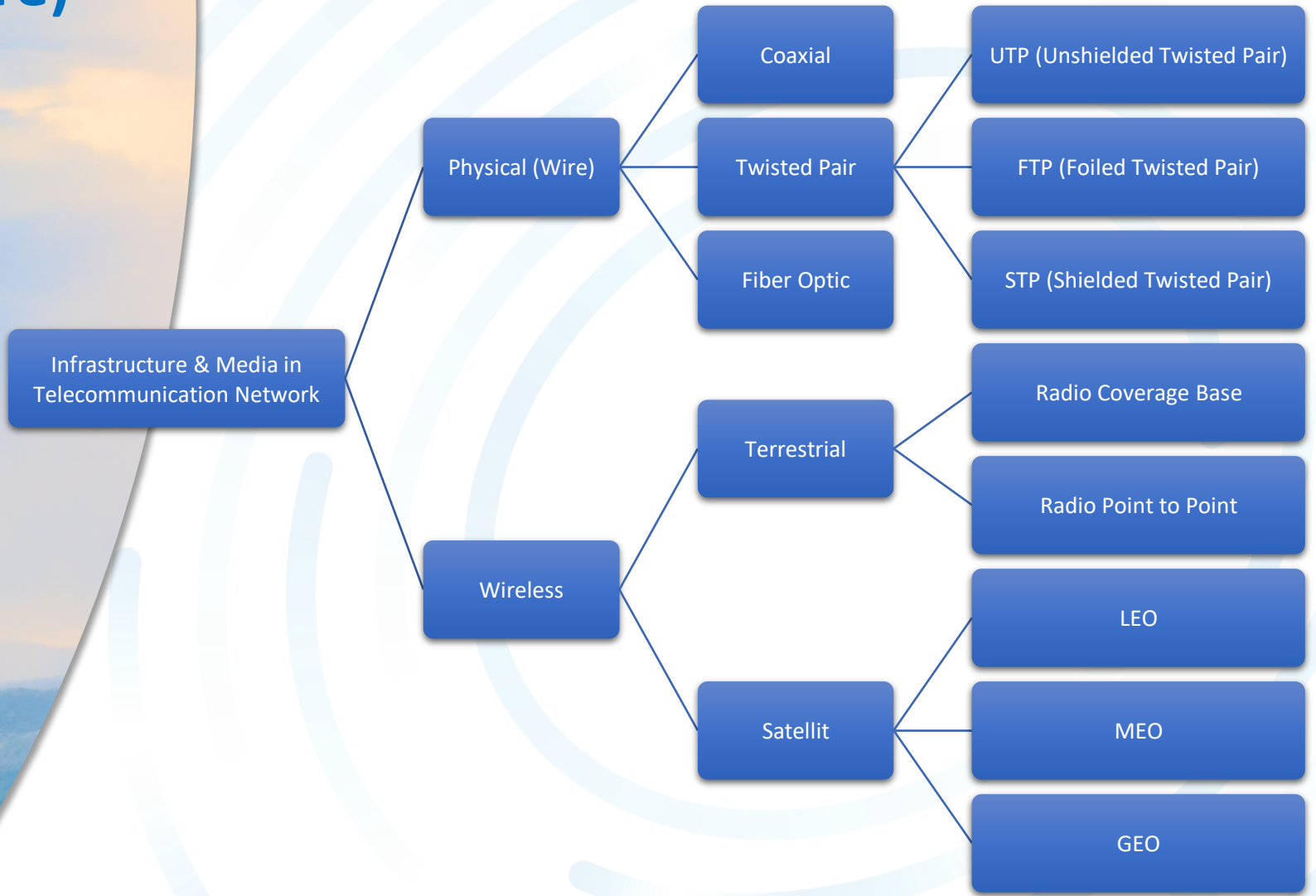
Why Satellites?

- Satellites can overcome several things that can become obstacles to terrestrial telecommunications systems whether it's time, distance, or even the complexity of the content.

- With satellite, remote areas can easily have the same communication system as in cities and can connect with other areas more quickly.

- Satellites have a wide coverage area, thus, large bandwidth and faster installation with diverse service characteristics.

- Indonesia needs satellites because it consists of several islands and diverse geographical contours, which will be very difficult for terrestrial communication systems to cover the entire territory.

- Satellite is also a solution for equal distribution of telecommunication access to remote areas of Indonesia.

INTERNET SATELLITE

EFFECTIVE & EFFICIENT CONNECTIVITY (Case Study)

Fiber Optic, Point To Point Radio, and **Satellite Connections** have their **respective advantages**. Depending on the **application, conditions, and needs** in the field
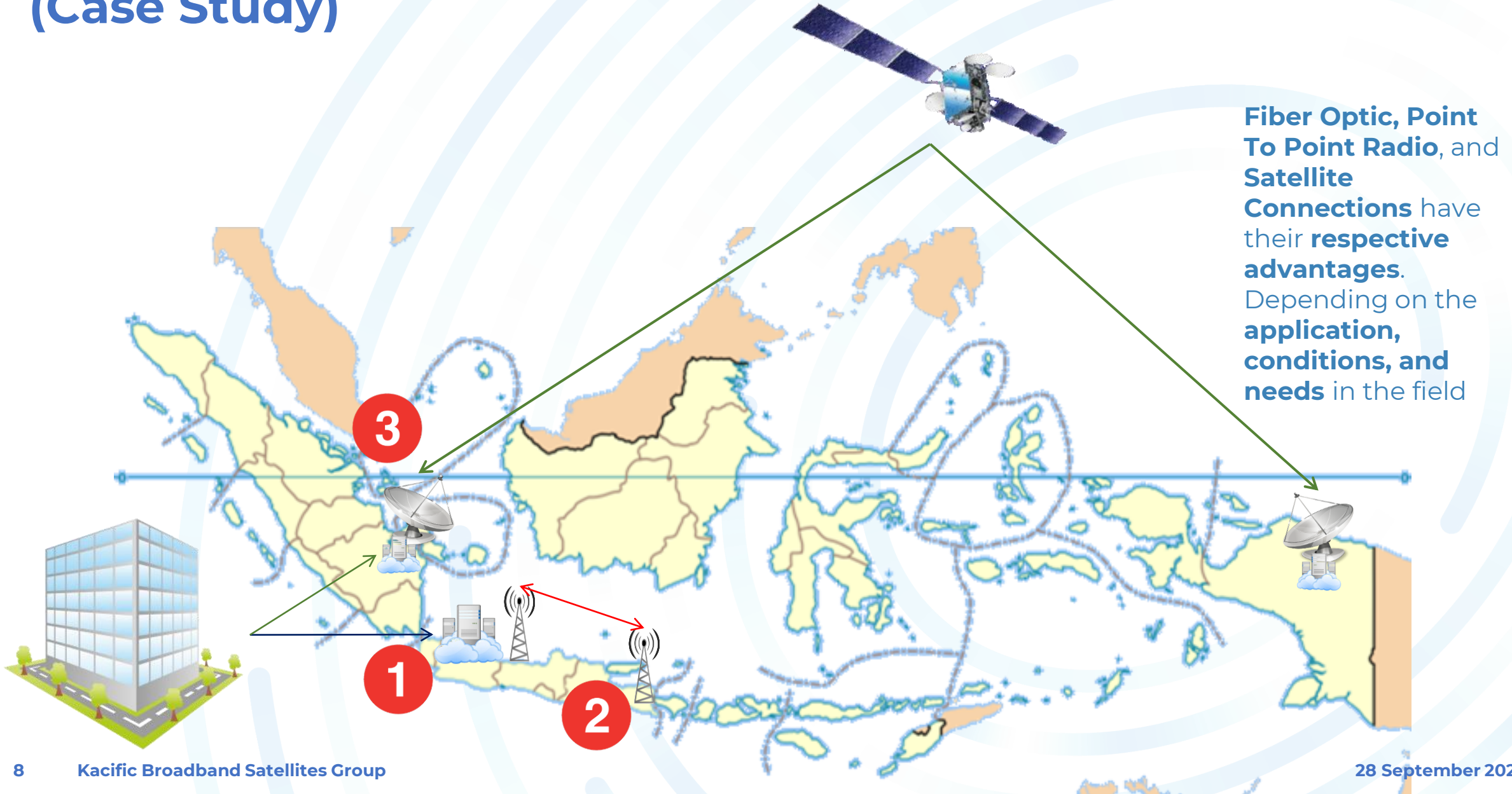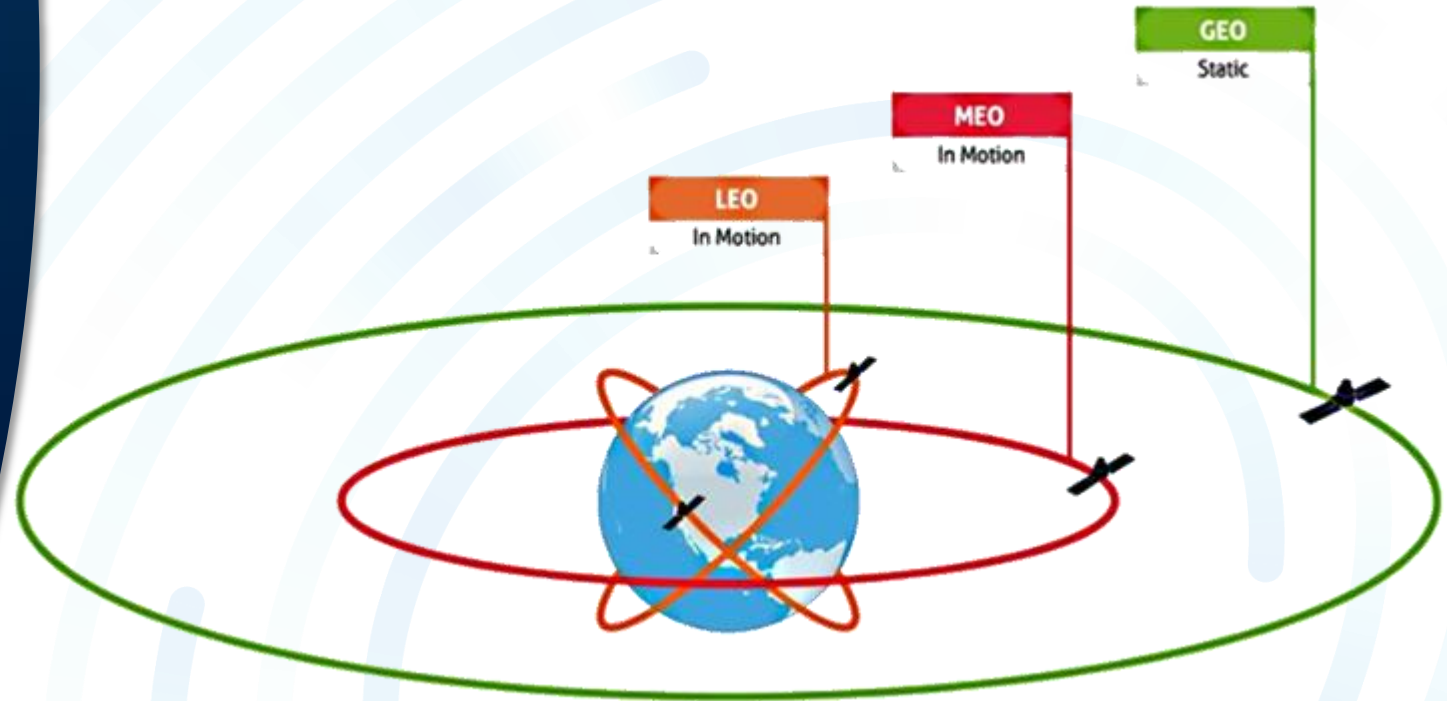
SATELLITE ORBITS

Parameter		LEO	MEO	GEO
Orbit altitude	≈	1,000 km	10,000 km	36,000 km
Orbit period	≈	105 min	6.5 h	24 h
Satellite visibility	≈	17 min	130 min	24 h
Satellites required	≈	40–70	10–15	3–5
Signal delay (2-way)		6.6 ms	66 ms	240 ms
Free space loss at 150 MHz		136 dB	(156 dB)	(167 dB)
at 1.5 GHz		156 dB	176 dB	187 dB
Global coverage		Yes	Yes	No
System complexity		Med./high	Low/med.	Low

TECHNOLOGY

KA-BAND

Kacific1 uses high-frequency Ka-band spectrum and technology. The concentrated spot beams are high power, resulting in availabilities between 99.1% and 99.9%.
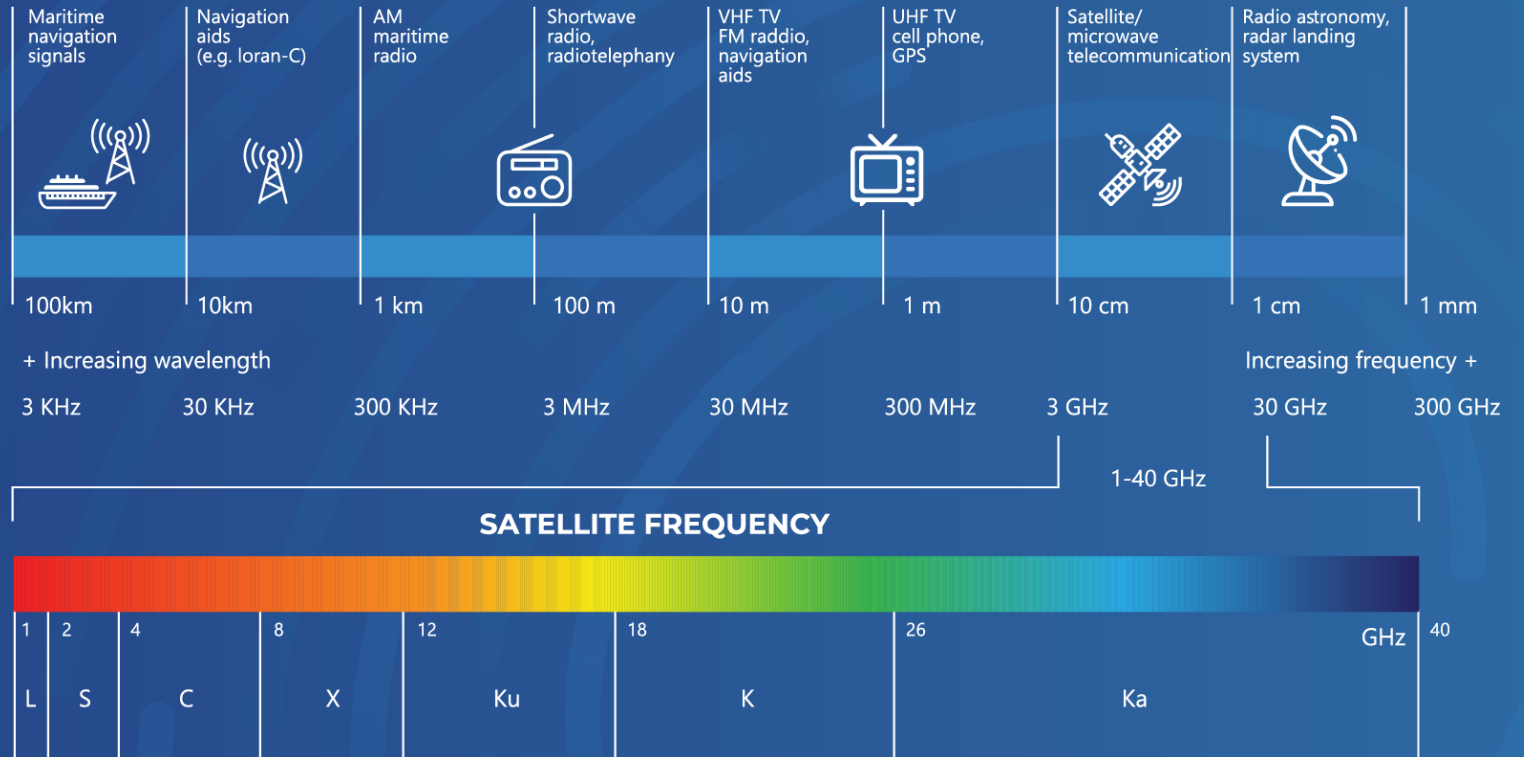
TECHNICAL SPECIFICATIONS

Maritime navigation signals	Navigation aids (e.g. loran-C)	AM maritime radio	Shortwave radio, radiotelephany	VHF TV FM raddio, navigation aids	UHF TV cell phone, GPS	Satellite/ microwave telecommunication	Radio astronomy, radar landing system

100km	10km	1 km	100 m	10 m	1 m	10 cm	1 cm	1 mm

+ Increasing wavelength

Increasing frequency +

3 KHz	30 KHz	300 KHz	3 MHz	30 MHz	300 MHz	3 GHz	30 GHz	300 GHz

1-40 GHz

SATELLITE FREQUENCY

1	2	4	8	12	18	26	40 GHz
L	S	C	X	Ku	K	Ka	

| Designed and manufactured by Boeing	56 high throughput spot beams	Delivering up to 60 Gbps of broadband capacity	550 to 600 ms latency	Ka-band system	Geostationary orbit 35,786km above equator	13 kw of electric power

TECHNOLOGY

HIGH THROUGHPUT

Kacific1 is a High Throughput Satellite (HTS) which reuses the same spectrum (frequencies) multiple times in 56 spot beams. Total HTS throughput is much higher than traditional FSS satellites, which can use the spectrum only once. This results in greater spectral efficiency and therefore lower cost per bandwidth.
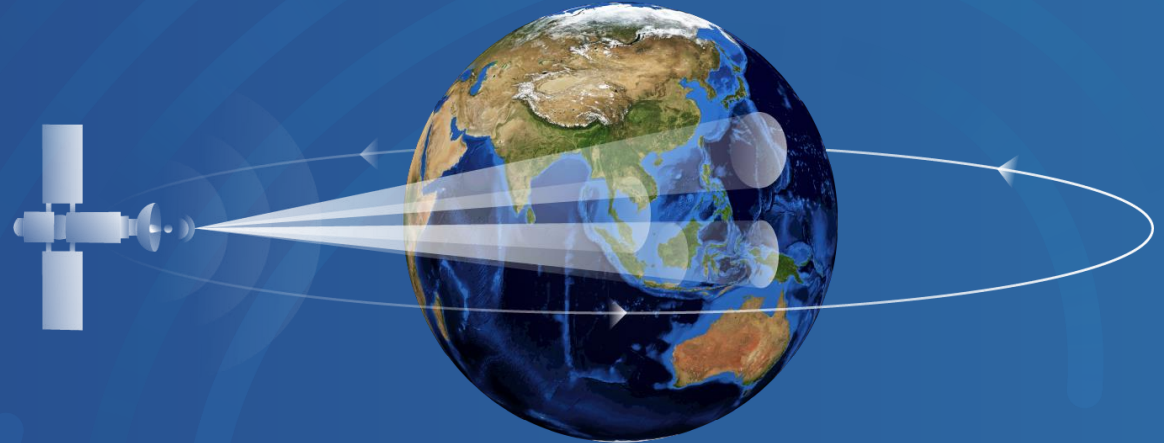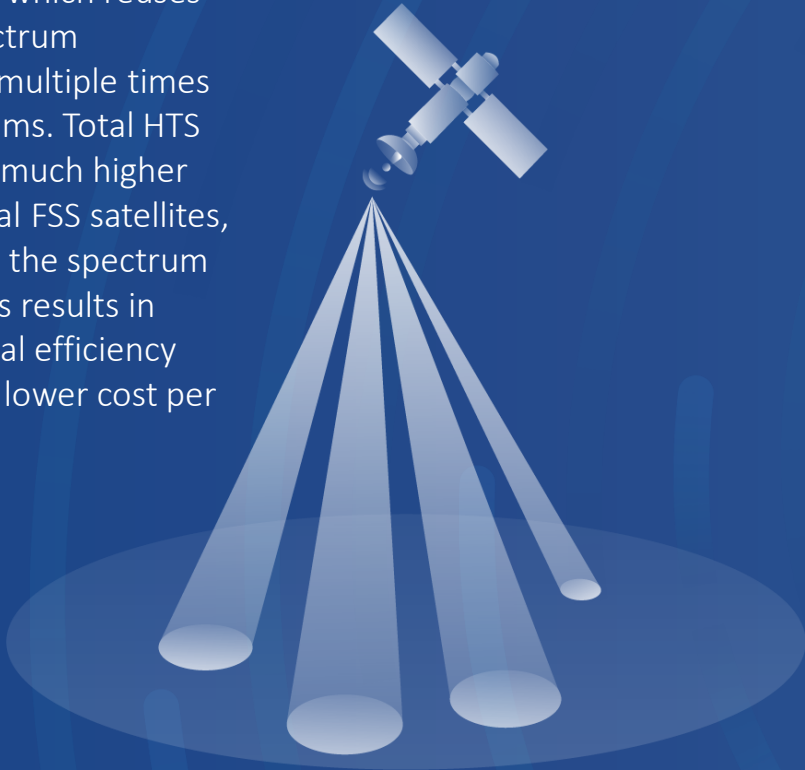
GEOSTATIONARY

Satellites placed in geostationary orbit offer a very stable and consistent service and user experience. The signal only requires a simple antenna, with no moving parts for reception and transmission. Geostationary satellite latency is suitable for nearly all regular internet usage, such as video streaming, voice calls over IP, general browsing and even for distribution via 3G or 4G networks.

ABOUT US

Kacific Broadband Satellites Group is a next-generation broadband satellite operator that provides universal access at an affordable cost using proven satellite technologies.

Founded in 2013, Kacific is backed by a group of experienced investors in international telecommunications infrastructure.

On 16 December 2019, Kacific launched its first satellite, Kacific1. The satellite became operational on 27 January 2020 and provides more than 50Gbps of internet capacity throughout South East Asia and the Pacific.

INDONESIAN COVERAGE
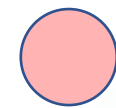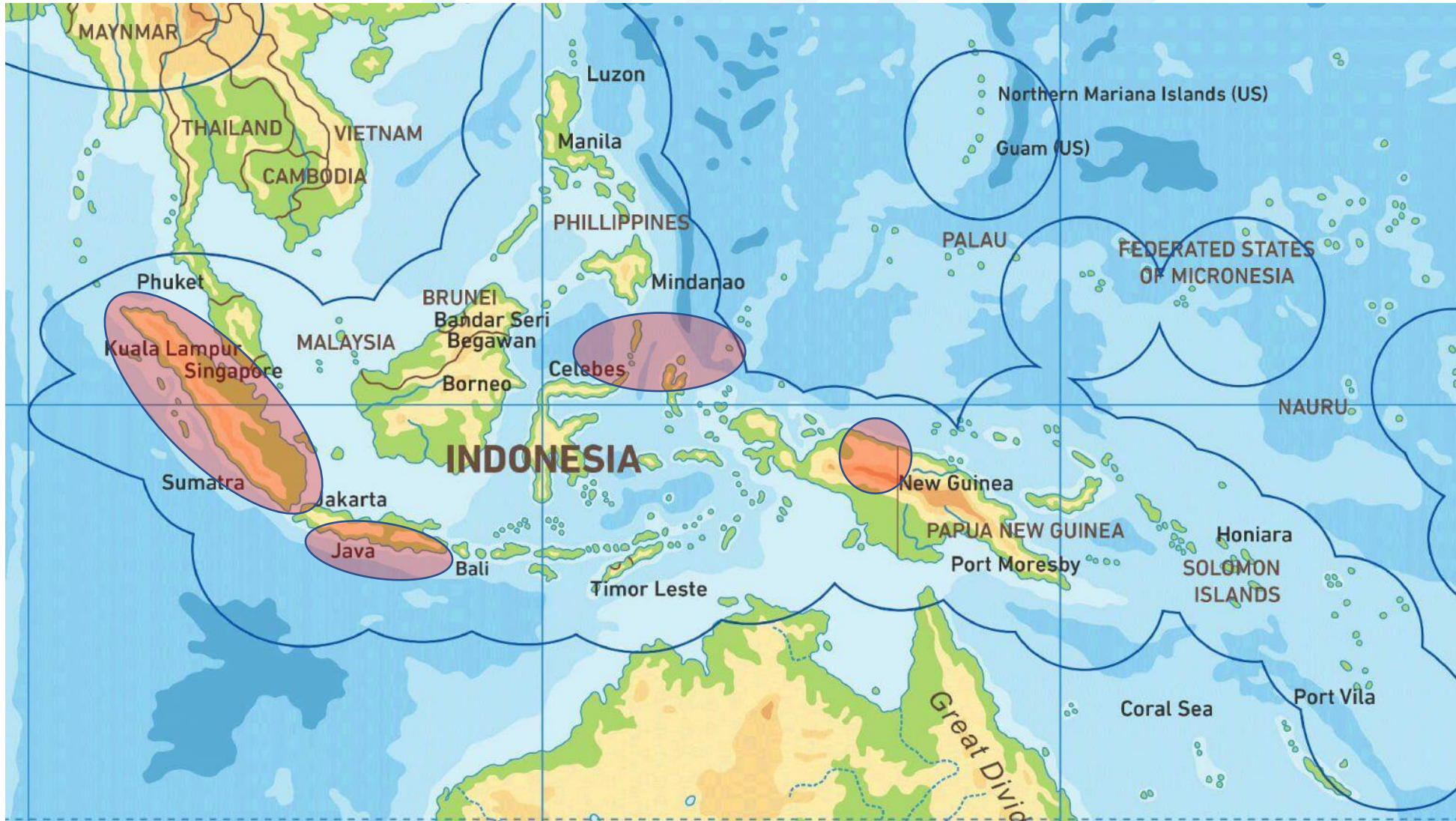

We still have sufficient capacity in **Java**, **Sumatera**, **North Sulawesi**, **North Maluku,** & **Jayapura**

KACIFIC1

Next generation satellite technology.
Launched on 16 December 2019.
Operational since 27 January 2020.

High Throughput Satellite
(HTS) payload

56 spot beams place capacity over
selected islands and land mass

Transmitting over high-
powered Ka-band

Gateways in Australia, The
Philippines, and Indonesia

KACIFIC

GROWING PRESENCE IN ASIA-PACIFIC
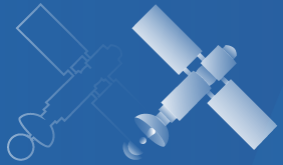
1 Active Satellite

25 Countries

39M Users

SAT-1

Petro1

TELEGLOBAL
brings the world closer

PRIMACOM
Communication Solution

Transpacific Broadband
Group Inc.

BAMBU NET
BROADBAND SATELLITE INTERNET
POWERED BY KLOCHE

vodafone

Digicel

Satellite order schedule

K2 Order 2022 — Launch 2025 — K3 Order 2023 — Launch 2026 — K4 Order 2025 — K5 Order 2026 — 2x K6 & K7 Order 2027 — 3x K8, K9 & K10 Order 2028

MARKET APPLICATIONS

Every geography. Every nation. Every community.

SUSTAINABLE DEVELOPMENT GOALS

Education

Community Broadband

GOVERNMENT OFFICE

Government Services
Universal Service Obligation

Tourism and Events

Economic Development

Healthcare

3G / LTE / 5G Backhaul

Disaster Response and Relief

GigStarter

Easy. Affordable. Broadband everywhere.

Powerful satellite service

Paid per terminal per month

75cm, 1.2m, or 1.8m satellite dishes

Fully managed service including teleport

RESIDENTIAL
Up to 40 Mbps access speeds
(up to 30 Mbps downlink +10 Mbps uplink)

ENTERPRISE
Up to 120 Mbps access speeds
(up to 100 Mbps downlink + 20 Mbps uplink)

Community WiFi

More customers, less cost with
voucher-enabled WiFi hotspots

Your own WiFi Access Point:
a wireless router with a built-
in voucher billing system.

Leverages Kacific WiFi
server system deployed
throughout Asia-Pacific

Up to 85 Mbps access
speeds
(up to 70 Mbps downlink +
15 Mbps uplink)

Lightly contended
with low congestion

Fully managed service
including teleport

75cm or 1.2m
Satellite dish

GigWiFi

The best of GigStarter & Community WiFi

Powerful satellite broadband

Paid per month per site

Up to 55 Mbps access speeds (up to 50 Mbps downlink + 5 Mbps uplink)

1.2 m or 1.8m satellite dish

Your own WiFi Access Point: a wireless router with a built-in voucher billing system

24/7 online server access for WiFi voucher

CCTV and Remote Data Collection

Protect your premises , no matter where.

Rapidly deployed and effortlessly scaled network

Powerful 75cm or 1.2m fixed or transportable satellite dishes

Comes with secured cloud data storage or dedicated physical data storage of secured location

Flexible plans available: security monitoring with or without internet bundle

Internet of Things

Connect & monitor with on-site high-speed Internet.

- 10 MBPS
  (5 Mbps downlink + 5 Mbps uplink)

Easy, rapid installation

Pay-as-you-go plan

75cm, 1m or 1.2m satellite dish

CommsBox

Be prepared. Respond faster.

All-in-one
boxed solution

Connects 5 users

High-speed internet
on-demand with
powerful broadband
satellite service

Up to 55 Mbps access speeds
(up to 50 Mbps downlink + 5
Mbps uplink)

Rapidly deployed and
effortlessly scaled

Reliable, on-demand
connectivity

Each Kacific CommsBox includes:
- Small, self-installing satellite dish in a self-contained case
- Preconfigured and connected modem and satellite electronics
- Solar-power energy pack
- User tablets for customer-friendly operation
- WiFi set up
- A sealed, shock-resistant, fire-resistant, buoyant and transportable all-inclusive container

Enterprise Backup

Stay connected 24/7 with local internet back-up.

High-speed internet on-demand with powerful broadband satellite service

Can be deployed anywhere in city, suburban or rural branches requirements

No hidden costs, works like an insurance policy on your connectivity

Built into your existing solution

Satellite dish sizes – 75cm, 1.2m, 1.8m or larger

Highly secure and stable connection

KACIFIC SERVE CONNECTIONS FOR CSTS MINE LOCATIONS IN TANGGUH - PAPUA

Stay connected 24/7 with a large capacity broadband internet connection in hard-to-reach locations on terrestrial telecommunications networks

Challenge

Providing high quality universal broadband access at affordable prices throughout Indonesia for 8,000 to 8,000. 10,000 internet users at gas exploration sites in Papua

Solution

Kacific1 satellite can support connections with speeds above 180 Mbps which can serve all internet users in that location for 7/24

Results

Communication and coordination of work becomes smoother and can increase company efficiency due to more affordable service prices

Membangun Indonesia

Kisah dari Tanah Sumatera

BAKTI

Universal Service Obligation (USO) Fund to connect Villages , Hospital & Government Facilities in Indonesia

Project
Deployed 2,575 sites through two ISP providers in Indonesia to participate in Bakti project.

Olocal partners in Indonesia have engaged with dozen of installers in different parts of Indonesia to deploy the broadband network in 5 months.

Project commenced in July 2021 and 5,150 Mbps is provisioned across the network. The internet connectivity service is provided at 10Mbps in speed for each site.

Duration
Four years part of the Universal Service Obligation fund to connect crucial remote areas.

Outcome
Access to reliable connectivity for communities, healthcare centers & Government facilities in underserved and unserved areas.

SINGAPORE

Kacific Broadband Satellites Ltd
127 Jalan Sultan, 199012 Singapore
Tel: +65 67 34 37 83
info@kacific.com

AUSTRALIA

Kacific Australia Pty Ltd
Level 21, 68 Pitt Street, Sydney
NSW 2000, Australia
info@kacific.com

VANUATU

Kacific Broadband Satellites International Limited
Govant Building
BP 1276 Port Vila, Vanuatu
info@kacific.com

New Zealand

Kacific New Zealand Limited
Level 3, 44 Victoria Street
Wellington Central
Wellington 6011, New Zealand