



**Cambium Networks™**

**Meeting Underserved Markets**  
Roy Wittert – Regional Sales Director

**NEWS**

Australia's digital divide means 2.8 million people remain 'highly excluded' fr...

## Australia's digital divide means 2.8 million people remain 'highly excluded' from internet access

By regional social affairs reporter [Erin Parke](#)

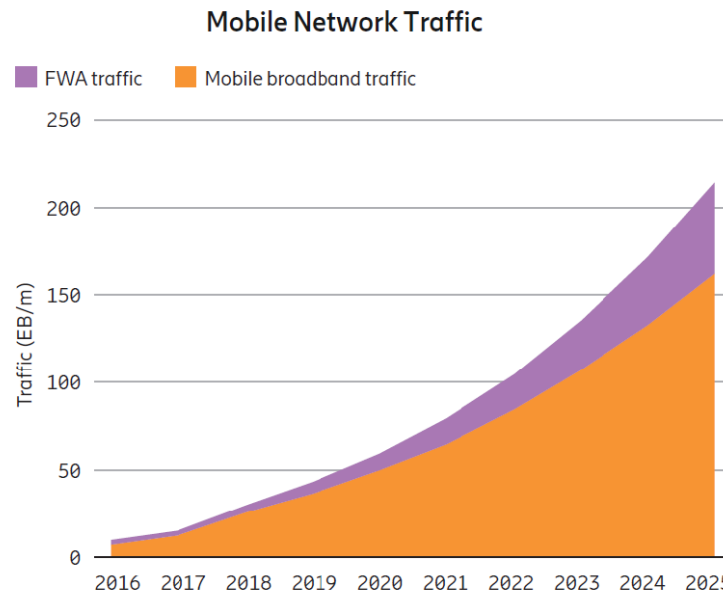
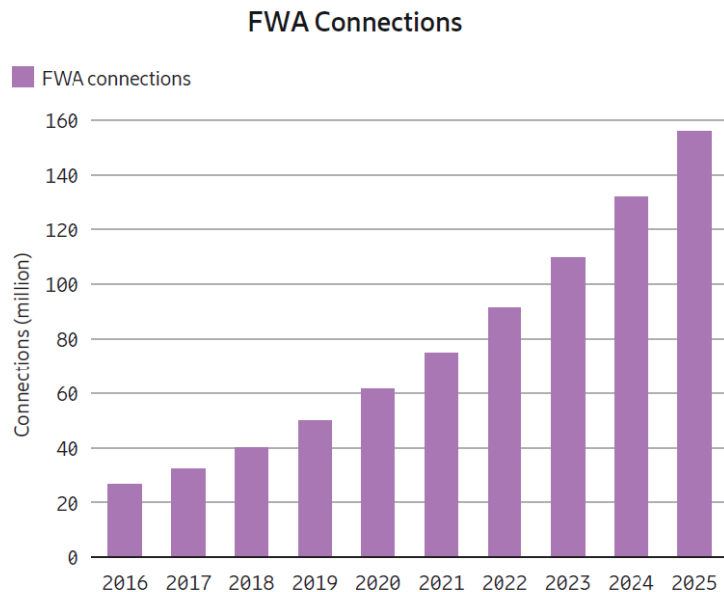
Posted Sun 16 Oct 2022 at 7:16am, updated Mon 17 Oct 2022 at 10:15am



# Fixed Wireless Access Addressing Lack of Access and Lack of Sufficient Access



FWA connections to threefold and reach close to 160 million by end of 2025

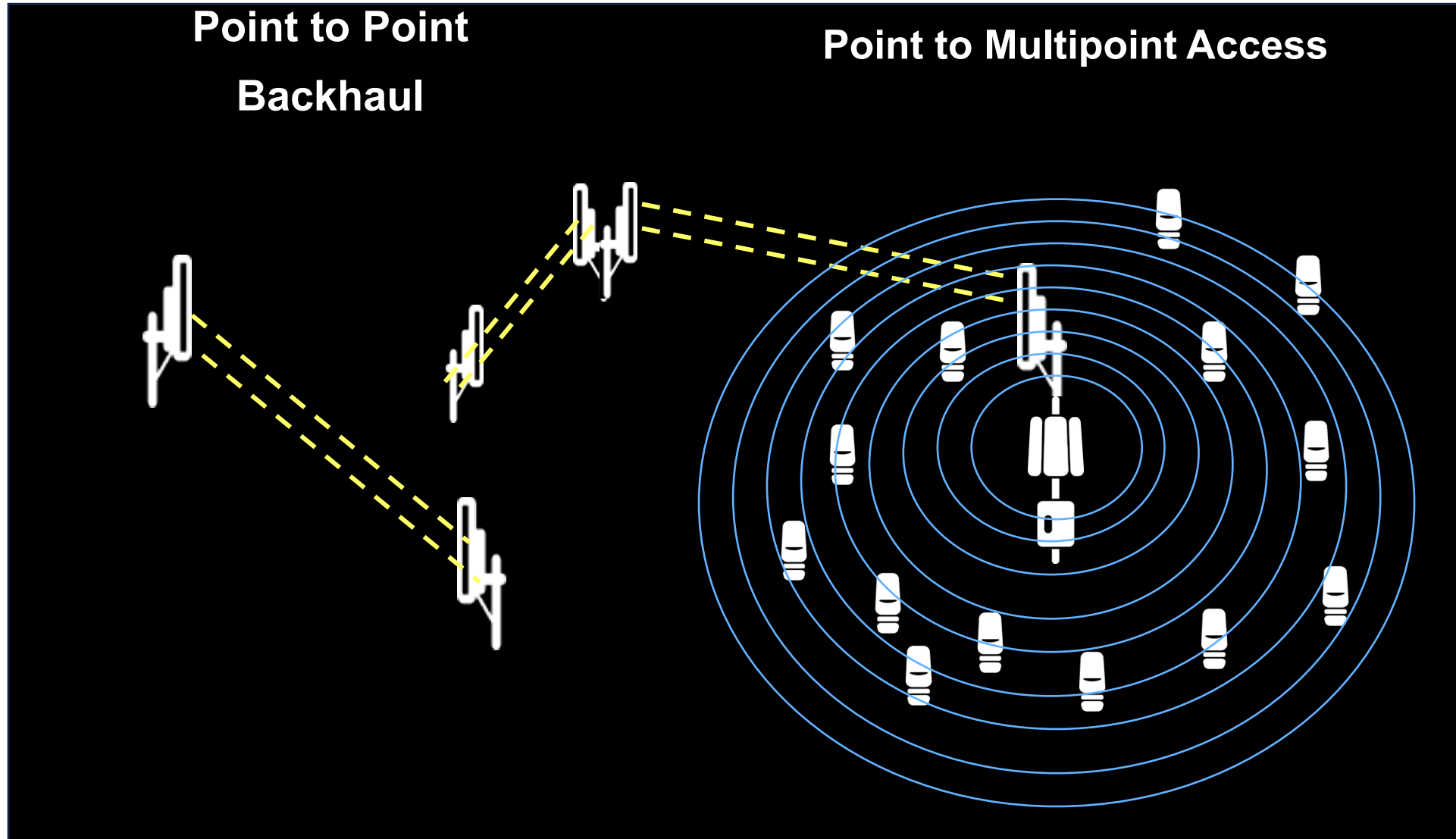


Source: Ericsson Mobility Report June 2020.

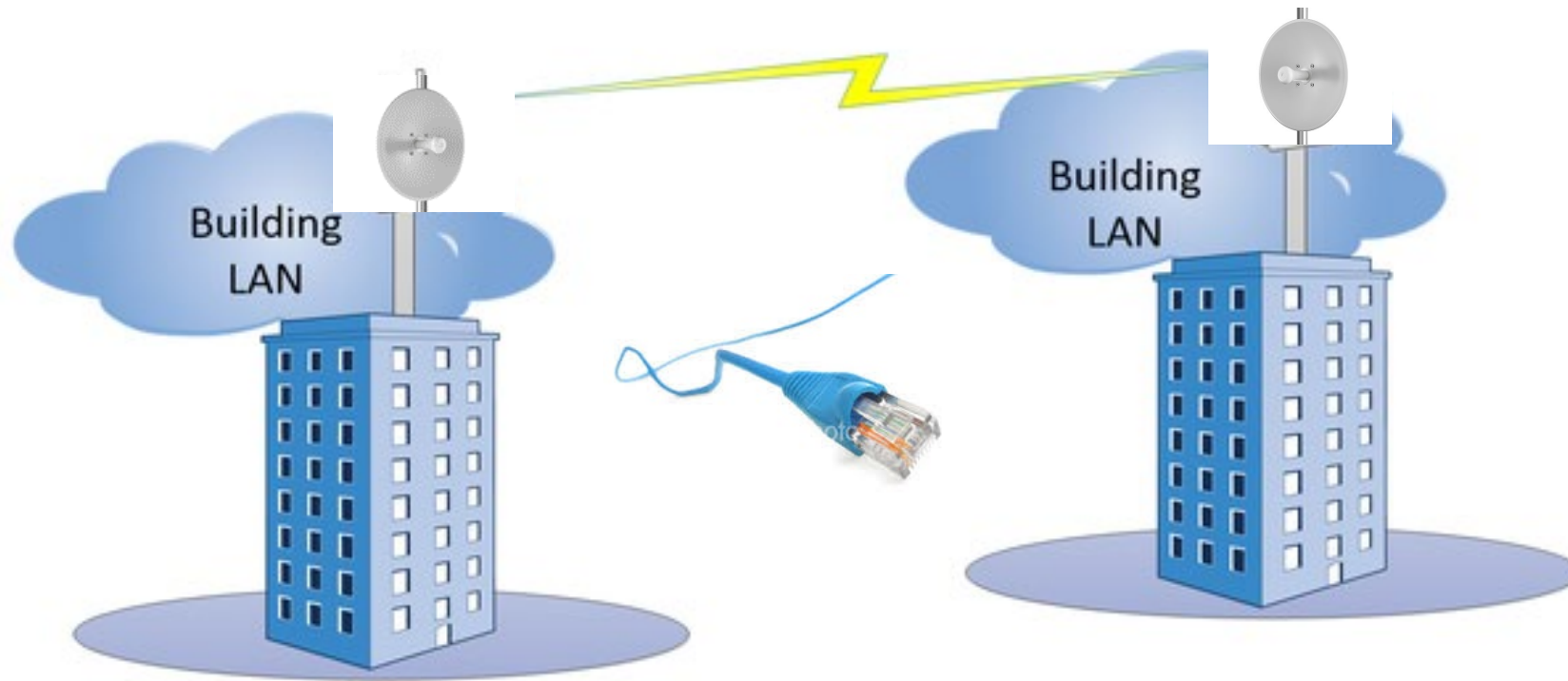


# What is Fixed Wireless Broadband?

It's NOT WiFi and it's not Mobile BB (It can be LTE)



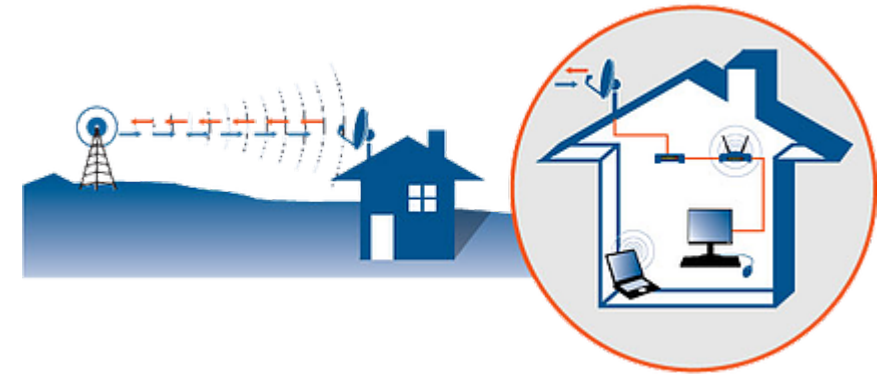
# Just think of a fixed wireless link a “blue cable in the sky”



- Secure
- Reliable
- High bandwidth
- Layer 2 – Ethernet Bridge

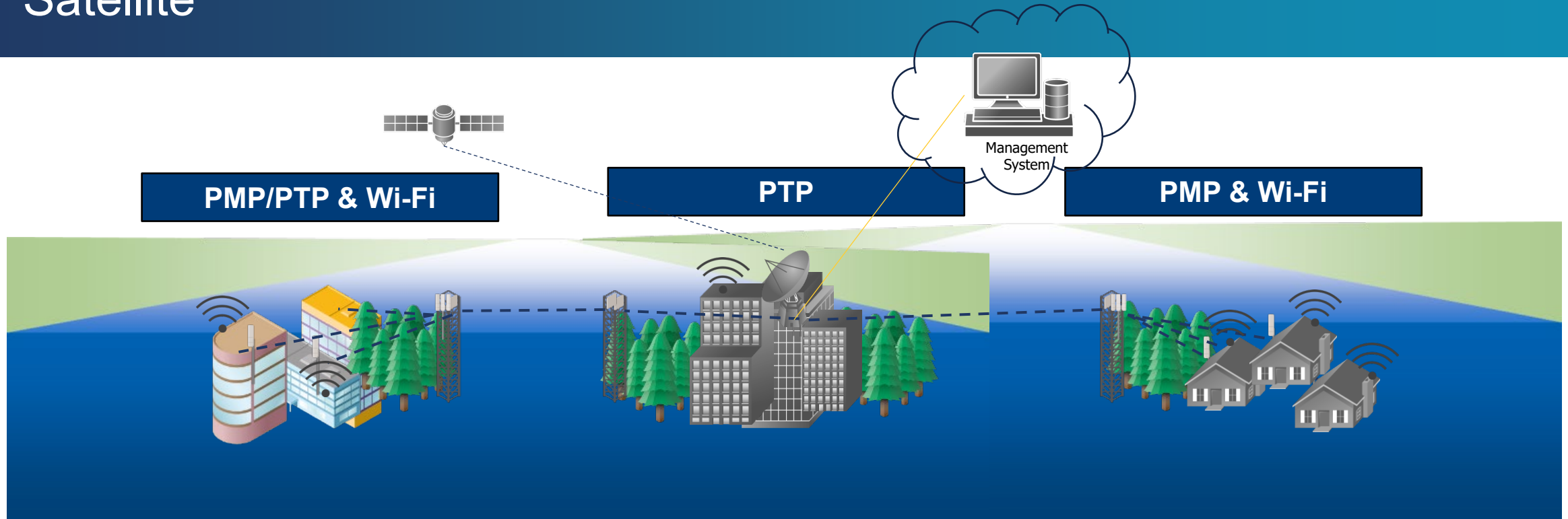


- **Tremendously Lower Investment**
  - Cost per home passed is dollars rather than thousands
  - Lower cost per home acquired
- **Quick Construction**
  - Offer service in days rather than months
- **Quickly Connect Customers**
  - No need to trench for every customer
- **Reach**
  - Difficult to reach or remote places can be reached more easily.



**Return On Investment in Months rather than Years**

# Broadband Extension - Combining Fixed Wireless with Satellite



- **Applications**

- vSAT broadband service extension
- vSAT replacement
- Island broadband connectivity
- Remote Communities

- **Solution**

- PMP/PTP
- PTP
- PTP
- PMP/PTP

- **Benefits**

- Versatility to deploy broadband connection precisely where it is needed
- Low latency, highly available connectivity over long distances
- Efficient and simple management with single management system solution

- 900MHz – Class Licensed in some countries
  - (ISM – 915MHz -928MHz in Aust and NZ)
  - Limited use in Pacific, mostly allocated for MBB.
- 2.3GHz – 2.7GHz – Licensed Band (IMT) – was one of the old WiMAX bands.
  - Little to no availability in Australia for BWA. Telstra, Optus, Dense Air, Channel 7. 9 and 10.
- 3GHz – 3.3 to 4.2GHz - emerging 3.7-4.2GHz – Licensed Band (IMT)
  - 3.3GHz - 3.4GHz – harmonized by ITU @ WRC 2015 for IMT. Consultation in NZ. ACMA – observing.
  - 3.4GHz - 4.0 GHz - Remote Areas
  - 3.7 to 3.9GHz – excise areas from 2023?
- 5GHz - mostly Class Licensed. (5.1GHz -5.3GHz Consultation for BWA @1W?)
- 6GHz – WiFi 6E, but also my WBB (1200MHz of new potential spectrum)
- 26/28GHz - 24.25GHz – 29.5GHz - 5G mmWave – Fixed, Mobile and Satellite.
- 60GHz - FCC, ACMA – Terragraph Mesh developed by Facebook around 802.11ay std.



# Point to Multipoint Options - target ranges

Subscriber Bandwidth

>1 Gbps

400 Mbps

200 Mbps

Tower Location

Subscriber Density

60 GHz cnWave

28 GHz cnWave

3/5 GHz PMP 450

5 GHz ePMP 3000 & Force 3xx

2.3GHz -2.7GHz  
3.4GHz - 3.8GHz  
cnRanger (LTE)

Indoor Wi-Fi

Outdoor Wi-Fi

Home Gateway

300 m

5 km

10 km

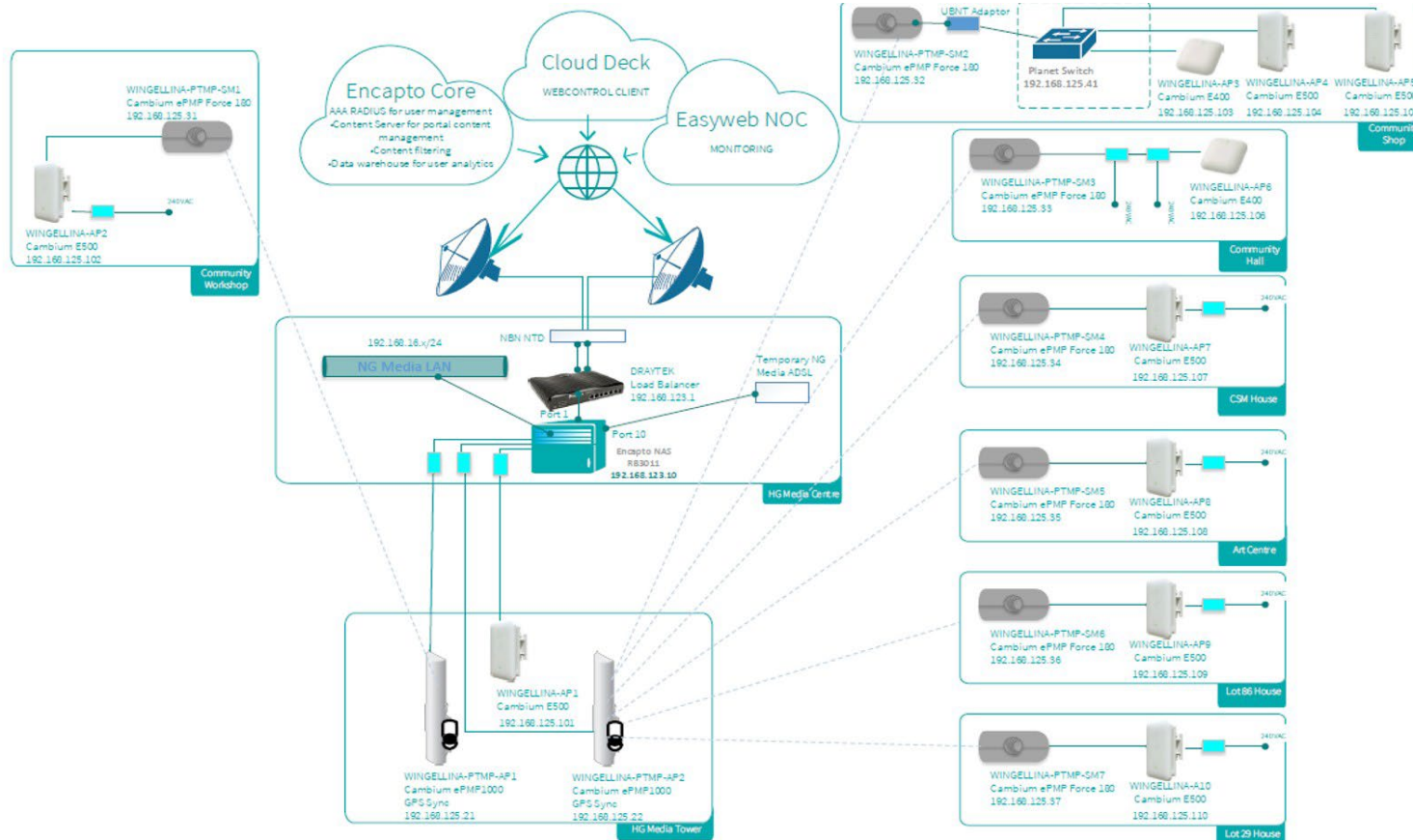
cnMatrix™ Switch

KPI			
Technology	802.11ay Terragraph	5G NR	cnMedusa MU-MIMO → 5G NR
Sector Capacity	> 15 Gbps	> 3 Gbps	> 1 Gbps
Subscribers per Sector	30	240	238

Management



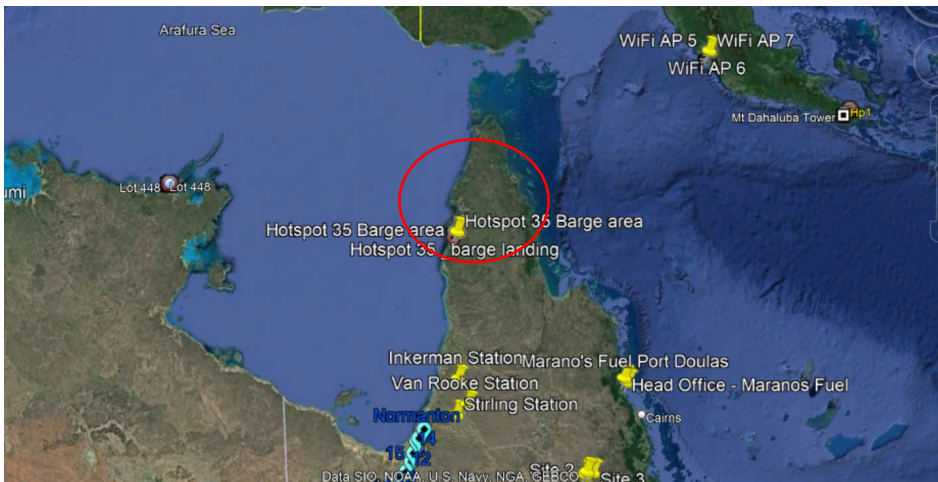
# EasyWeb Digital - Wingellina – Community Wi-Fi





# APN (Active8Me) Arakun Community Wi-Fi

- APN - Aurakun Community WiFi
- Distributed WiFi APs connected with 60GHz cnWave Backhaul.
- Dual SkyMuster links





# APN (Active8Me) - Remote WA - Fixed Wireless and Wi-Fi





# Vodafone Fiji – 26 Remote Schools and Clinics – Wi-Fi and Satellite by Kacific



Your location e.g. street, (lat, lon)  
fiji Search!

All Satellites | Motorized Systems | Multi-LNB  
Setups  
150.1E JCSAT-18 (KACIFIC 1)

Map | Satellite

Options  
 show obstacle (line of sight checker)

Your Location  
Latitude: -16.7993°  
Longitude: 179.0105°

Satellite Data  
Name: 150.1E JCSAT-18 (KACIFIC 1)  
Distance: 36987km

Dish Setup Data  
Elevation: 51.5°  
Azimuth (true): 297.6°  
Azimuth (magn.): 285.2°  
LNB Skew [?]: -58.0°

Google

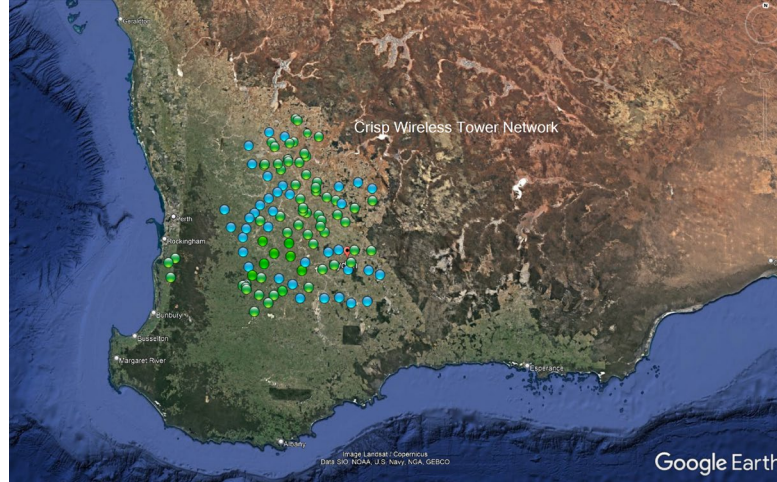
Keyboard shortcuts | Imagery ©2021 Maxar Technologies | Terms of Use

Google earth

This screenshot shows a satellite setup tool interface. It displays the location of the school in Fiji, the selected satellite (150.1E JCSAT-18), and various technical parameters for the dish setup, including elevation, azimuth, and LNB skew. A satellite dish icon is visible on the map.







We aim to help you by removing barriers and reducing input costs which can help you increase profits.

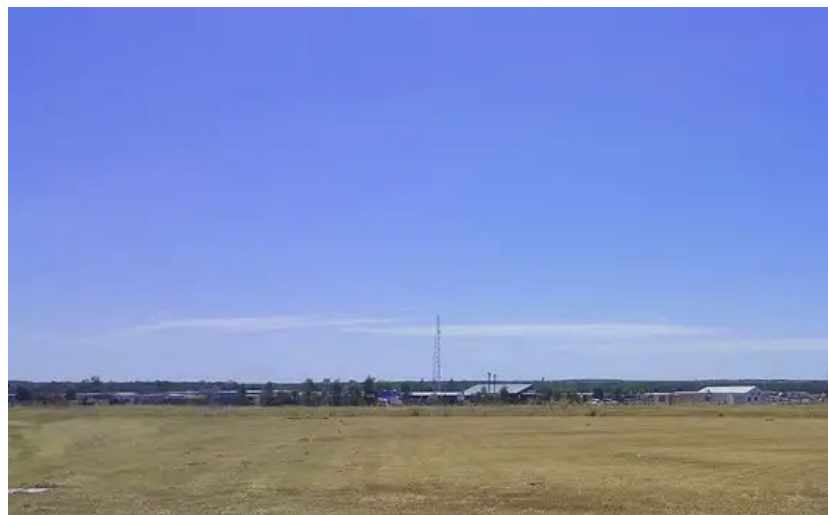
- You will be able to do business better – Pay BAS online, run eftpos machines, manage websites, access cloud based accounting systems, pay tax and superannuation.
- Farming businesses will be able to monitor markets in real time to access better prices, install wi-fi on farm, plus monitor stock and water points through CCTV.
- Access to education opportunities will be at your fingertips - you can study easily from home.
- Health Centres across the region are connected and able to access client records immediately.
- Shires are enjoying new levels of video conferencing so they don't have to travel as much for meetings.
- Community Resource Centres (the CRC Network) are continuing to provide important local service with super fast and reliable internet thanks to CRISP Wireless.
- CRISP Wireless does NOT have Peak and Off Peak times



Shire of Balonne

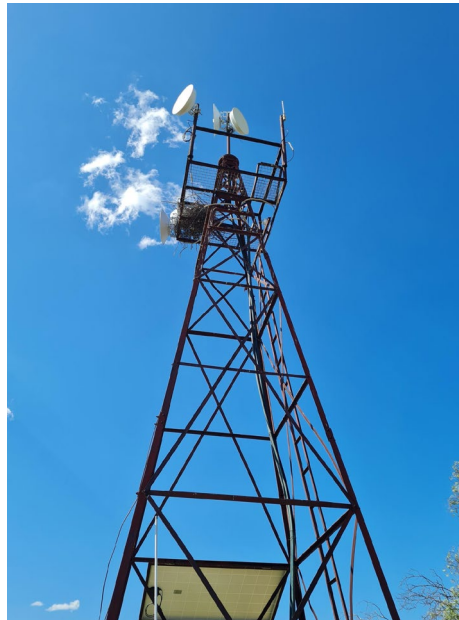
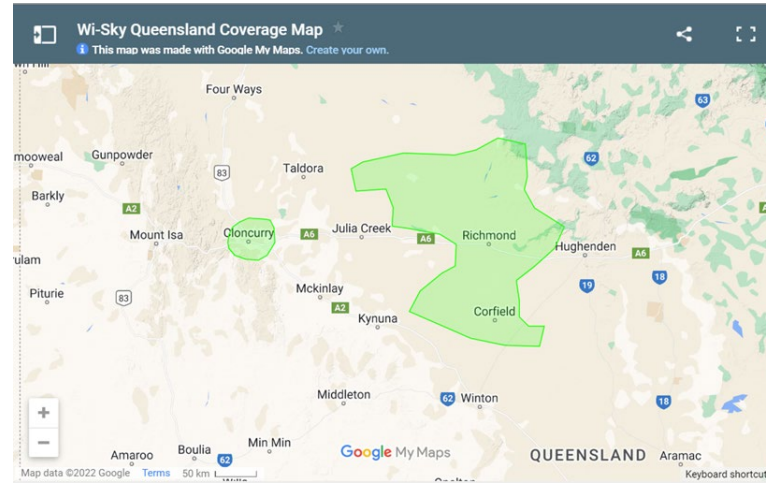
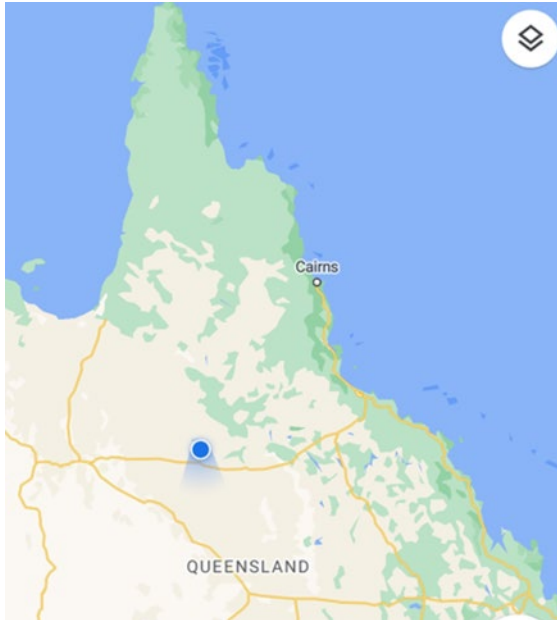








# Wi-Sky QLD - Fixed Wireless PTP/PMP and Wi-Fi



# Remote Community in need...





Q&A



Cambium Networks™

Q&A