Digital Transformation – potential for impact

Solomon Islands – state of play

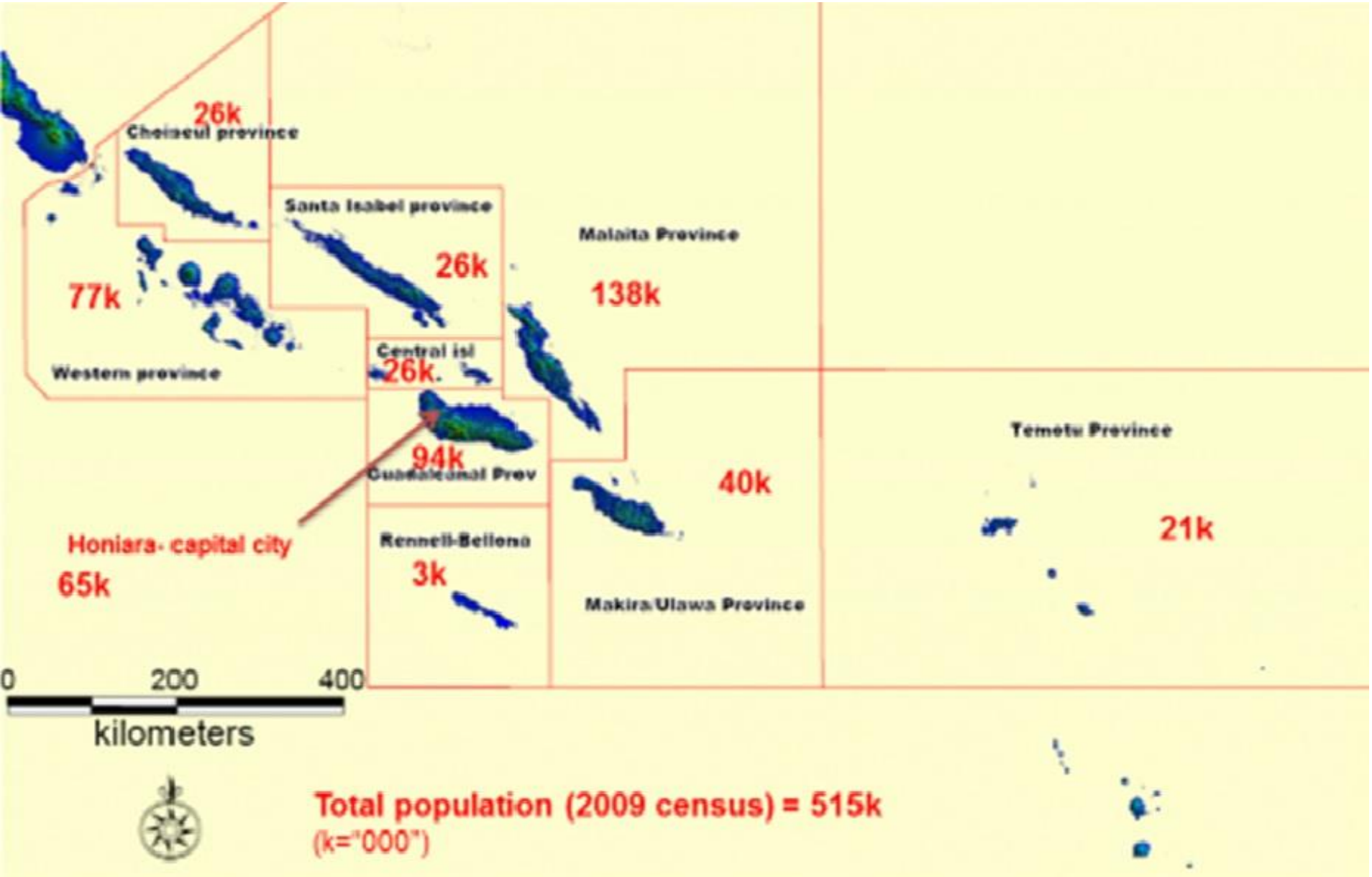
TELECOMMUNICATIONS COMMISSION SOLOMON ISLANDS

Expert Group Meeting Session 3

Leveraging Frontier Technologies in LDCs SIDS and LLDCs for SDG

(4 – 5 June 2019, Songdo, Incheon, Republic of Korea)

Solomon Islands Map



Telecommunications Sector evolution

1983 - Solomon Telekom established (*monopoly*)

1997 - Internet service provided by Solomon Telekom

2003 - Mobile network service provided by Solomon Telekom

2009 - Gov't Policy – Introduce private sector led competition

2009 - Telecommunications Act 2009 passed by Parliament

2010 - 15 year exclusive license to Solomon Telekom (*incumbent*) ended

2010 - TCSI established with transitional funding for 5 years from World Bank ICT Project

2010 - Second operator enters the market - Bmobile –Vodafone

2010 - 1st 3G Network by Solomon Telekom

2012 - 2nd 3G mobile services offered by Bmobile

2014 - National ICT /Broadcasting Policy completed (endorsed in 2017)

2015 - World Bank funding ends

2017 - 4G/LTE mobile services offered by Solomon Telekom

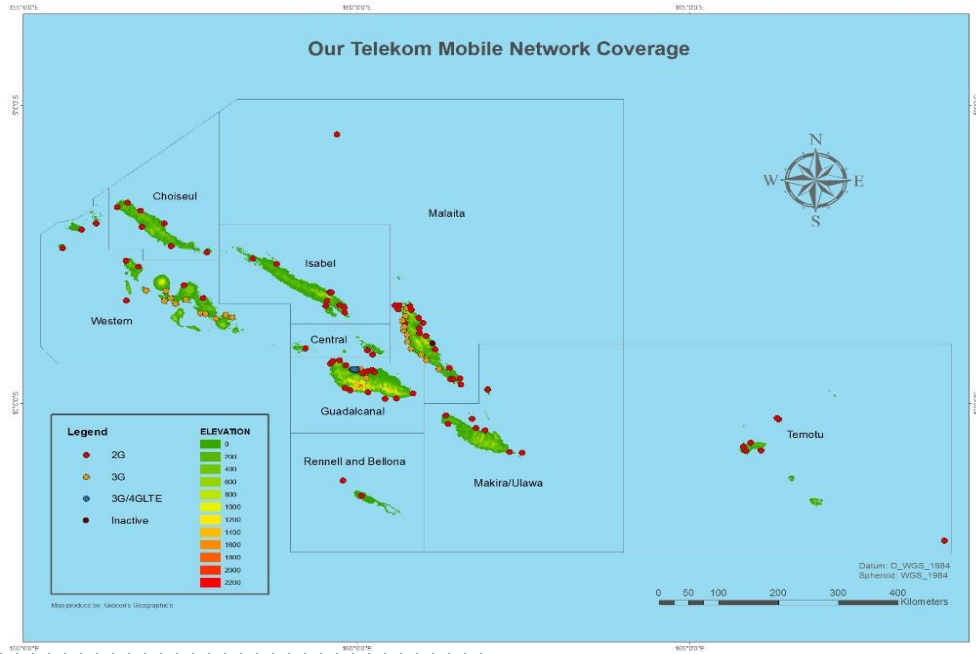
2019 - Submarine fiber optic cable (RFS 1 January 2020)

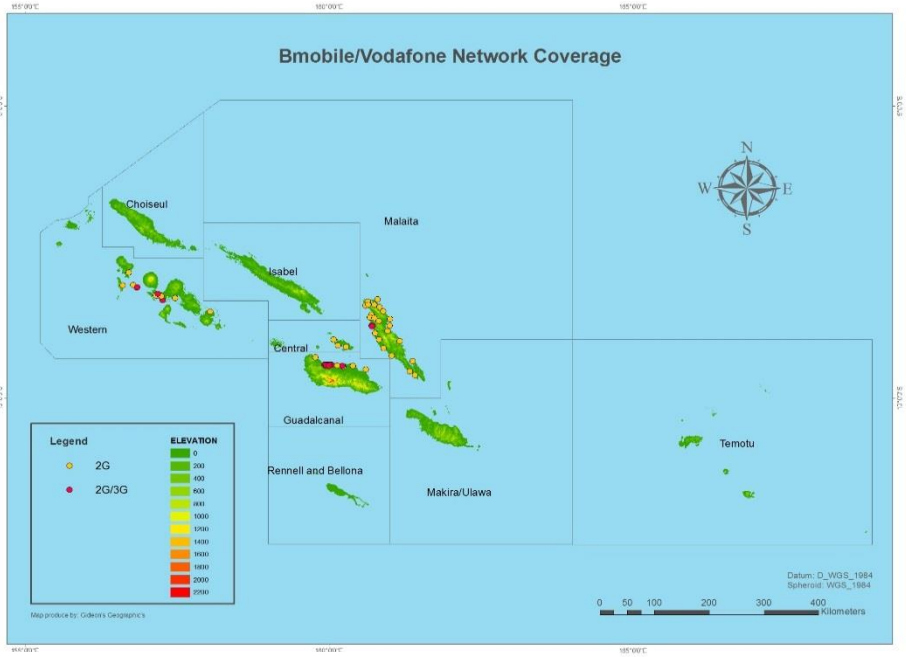
Market statistics as at December 2018

Indicator	2009	2018
	Actual	Actual
Mobile Subscribers	57,000	482,029
Mobile penetration (calculated)	8%	80%
Mobile coverage (calculated)	10%	95%
Fixed lines	8,800	7,430
Internet Subscribers		
Mobile (3G/4GLTE)	8,205	114,249
Wireless (hotspot)	127	79
ADSL	1,359	987
DSL	1,163	143
Internet Penetration		
Mobile (Broadband)	1.80%	20%
Fixed line (ADSL)	0.2%	0.16%
Internet providers (Active)	1	3
Number of mobile network service providers	1	2
Economy		
Gross Total Revenue (SBD) $million	106	380
Contribution to GDP	*	3%

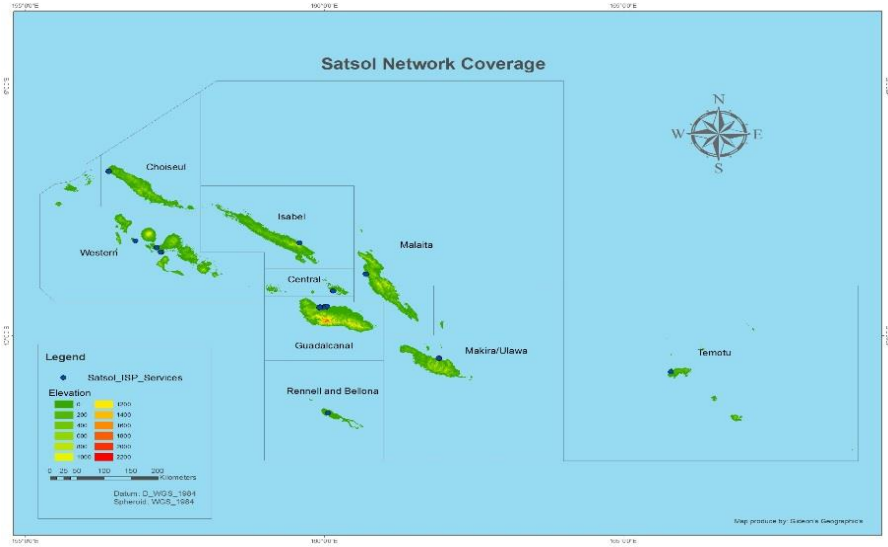
Connectivity, Access & Coverage

Mobile network Coverage



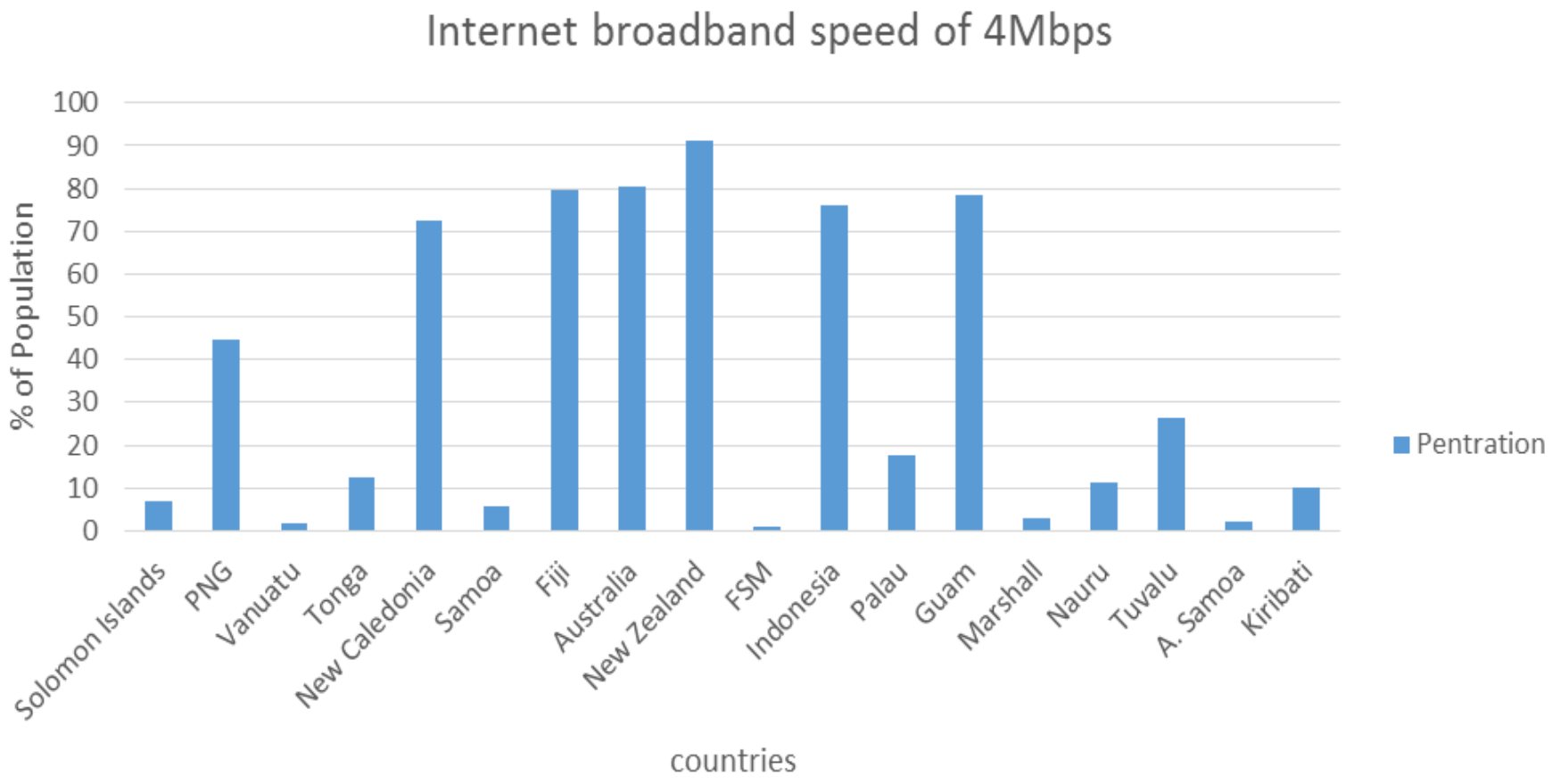


Fixed Wireless BB



Internet speed

Regional comparison – populations access to 4Mbps internet speed (Solomon Islands via satellite)



Telecommunications industry - Reality

- Mobile Network (3G/4GLTE) & Wireless Network higher latency
- Geography and land access higher cost
- Rural deployment very expensive with lower population density
- Province to Province hoping via satellite (trunking)
- International Connectivity only via Satellite (O3b majority)
- International bandwidth capacity is some 1Gbps
- Speed of internet approx. 1-5Mbps
- Very expensive as demand for data grows (bottleneck effect)
- 20 Class Licenses issued (inactive – operations expensive)
- Electricity coverage

Digital Transformation

TELECOMMUNICATIONS COMMISSION SOLOMON ISLANDS

Solomon Islands Transition
digital transformation and connectivity

Leveraging the Frontier Technology focusing on sustainable development growth (SDG)

Digital transformation - Gaps

Solomon Islands Transition – digital skills/creativity

1. Not connected/access to internet (80% of population in rural areas)
2. No submarine fiber optic cable
3. Satellite connectivity very expensive
4. Lack digital knowledge for mostly Girls/Boys in villages
5. Higher literacy rates

Digital transformation - Strategies

Solomon Islands Transition – digital inclusiveness/development

Events (collaboration)

1. Using the ITU events as the driver of the ICT sector
2. School talk on ICT careers
3. Talkback show on Radio & TV
4. ICT Careers week

Remove obstacles to collaboration

1. Promoting private sector engagement with academia & civil society
2. Reducing government involvement – private sector competition
3. Collaborating with energy providers – point of presence (pop) sites (Schools/Hospitals)
4. Pulling cable to other islands (economic participation)

Digital transformation - Strategies

Solomon Islands Transition – digital careers

ITU event – Girls in ICT

IT Skills, Carriers week for Girls

Competition in writing essays about ICT – Schools participation

Digital transformation - Strategies

Solomon Islands Transition – digital careers

ICT Week talk back show – TV & Radio

School Careers week

Digital transformation - Experiences

Solomon Islands Transition – digital connectivity

1. Market driven approach
2. Class licence enables competition across and between different technologies.
3. Accessing payroll and HR data in Provincial centers (SIG Network)
4. ANZ go-money, BSP Branchless, POB Wallet

Digital transformation - Challenges

Solomon Islands Transition – digital inclusiveness

1. Implementation of National ICT policy (Lack of multi discipline expertise) E.g Cybersecurity or Lawyers
2. Government processes
3. Land disputes (customary land tenure system) - constraints
4. 70 languages (causing digital skills implementation)
5. Over 900 islands (Six main islands)
6. Geography and Topography
7. Electricity grid
8. Low densely villages and remoteness

Digital transformation Initiatives/Policies

Solomon Islands Transition – digital development

Government support:

- **National ICT Policy (endorsed)**
- **Broadcasting Policy (endorsed)**
- **Competition and consumer Policy (endorsed)**
- **Cybersecurity working group (endorsed)**
- **National Development Strategy (201-2035)**

Public Private sector:

Established committee

- Information Technology Society Solomon Islands (ITSSI) - 2017
- Women in IT Solomon Islands (WITSI) - 2018
- Cybersecurity committee - 2019

Digital transformation Initiatives/Policies

Solomon Islands Transition – digital highlights/Environment

Solomon Islands National General Election April 2019

Facilitates the sending of mass SMS broadcasts to Our Telekom subscribers on important electoral matters

Royal Solomon Islands Police Force undergo training on the use of codan radios

The primary aim of this training is to equip officers with radio communication skills and knowledge on the basic technical and operations of the codan radio.

Solar hybrid power for Selwyn College

Digital transformation Risks

Solomon Islands Transition – digital risks

Fake tsunami warning sparks panic in Honiara

Political manoeuvring sparks riots in the Solomon Islands

* Follow the crowd no matter what the risk (let loose the negative impacts of ICT)

* A massive change in lifestyle behaviour of; youths, students, churches, men, women and even change of culture.

Digital Developments
Industry Progress.....

Network expansion (3G) in provinces – Solomon Telekom

Hybrid genset for BTS sites in rural – Bmobile Vodafone

Fixed wireless BB (Govt network) in provincial centres – Satsol

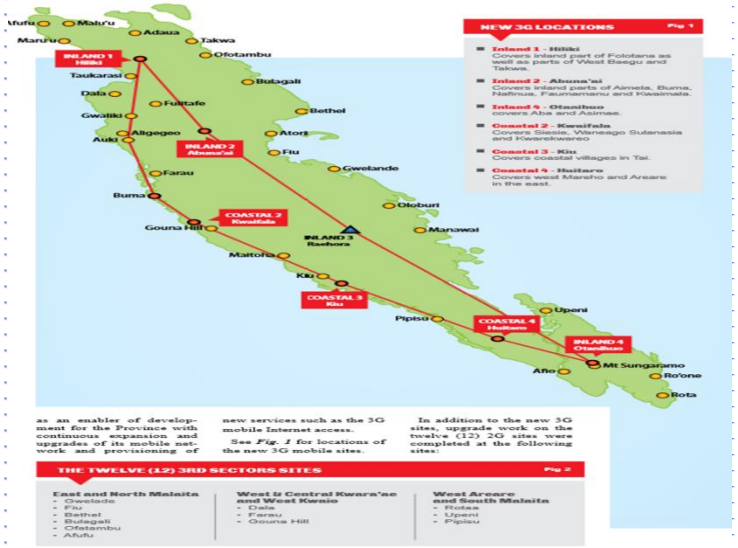
Submarine fiber optic cable:

International
- Coral Sea Cable (Sydney/PNG/Solomon Isl.)
- ICN2 (Port Vila/Honiara)

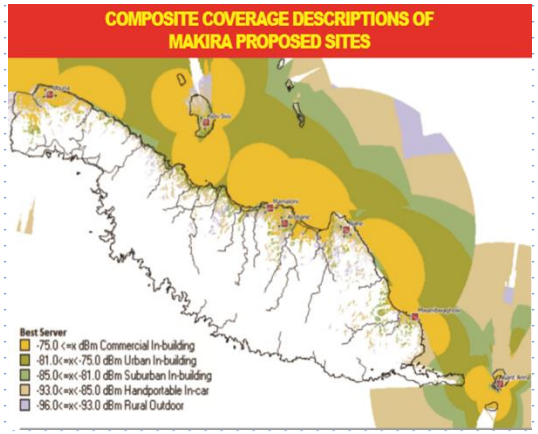
Domestic
- Domestic cable (SSC)

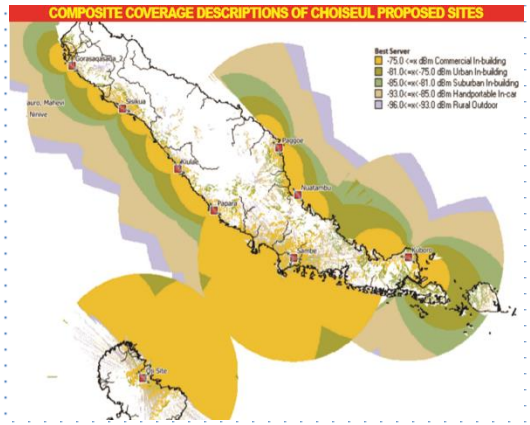
New Satellites constellations (HTS)

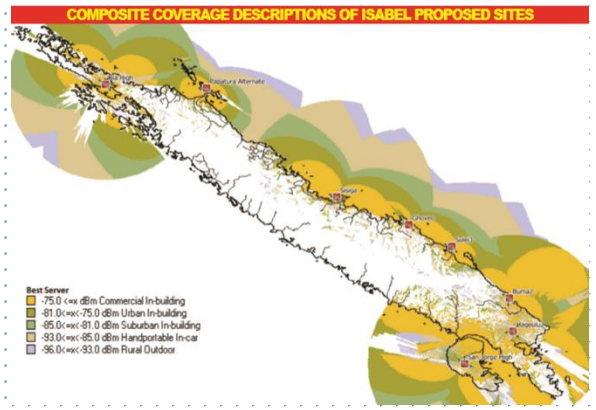
Upgrade 3G/4G Network (Our Telekom)



3G access upgrade to rural areas in progress 2018/19







Hybrid genset to power the BTS in rural areas (Bmobile vodafone)

Government Network - Satsol

- Metro Network (SIG Connect) currently installed- connecting all Government Ministries & agencies

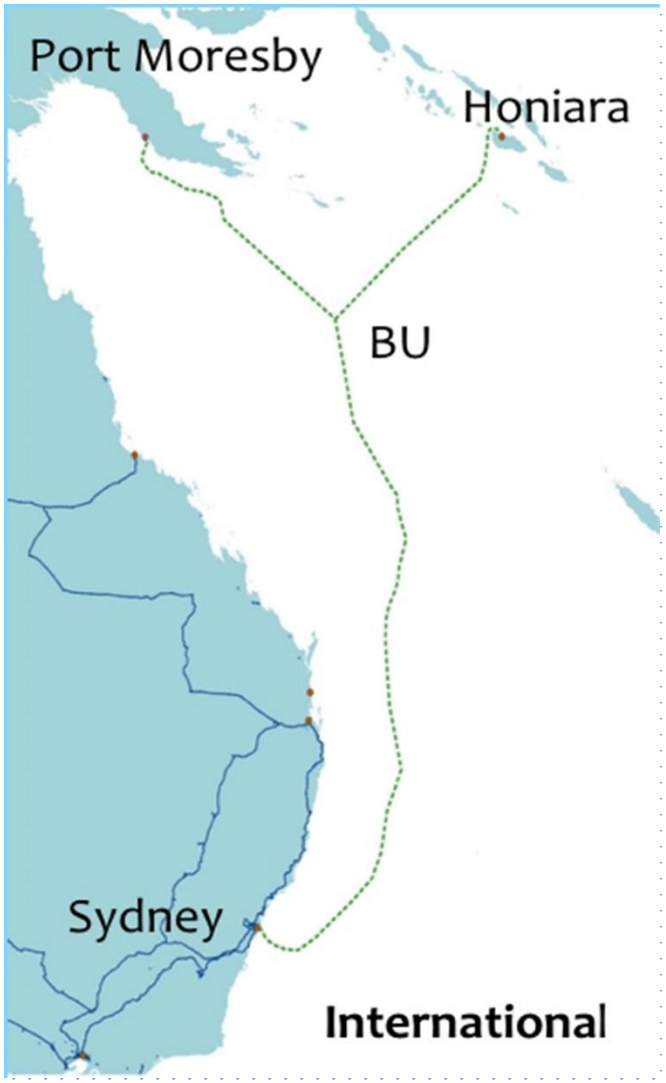
Coral Sea Cable

International Cable Network (CS2)

1. **Ownership –** Jointly owned by Australia, PNG, Solomon islands. Cost - USD$136m

2. **CS2 cable -** 4 fiber pair cable, then split at branching unit (BU) into two 2 fiber pair. From BU 2 pair branching cable extend and terminates in Honiara landing facility.

   - repeated powered cable.
   - 2 Terabits/s maximum capacity
   - 4,000km distance



SSC

Domestic Cable Network (SIDN)

1. **Ownership –** owned by Solomon islands through Solomon Islands Submarine Cable Company (SSC).
2. **SIDN Cable**
   - 3 landing points (Auki, Noro, Taro)
   - unpowered cable
   - 1-1.2 Terabits/s maximum capacity
3. **Landing station (LS)**
   - SMI area (digging in progress)
   - 4 fiber pair prefabricated LS

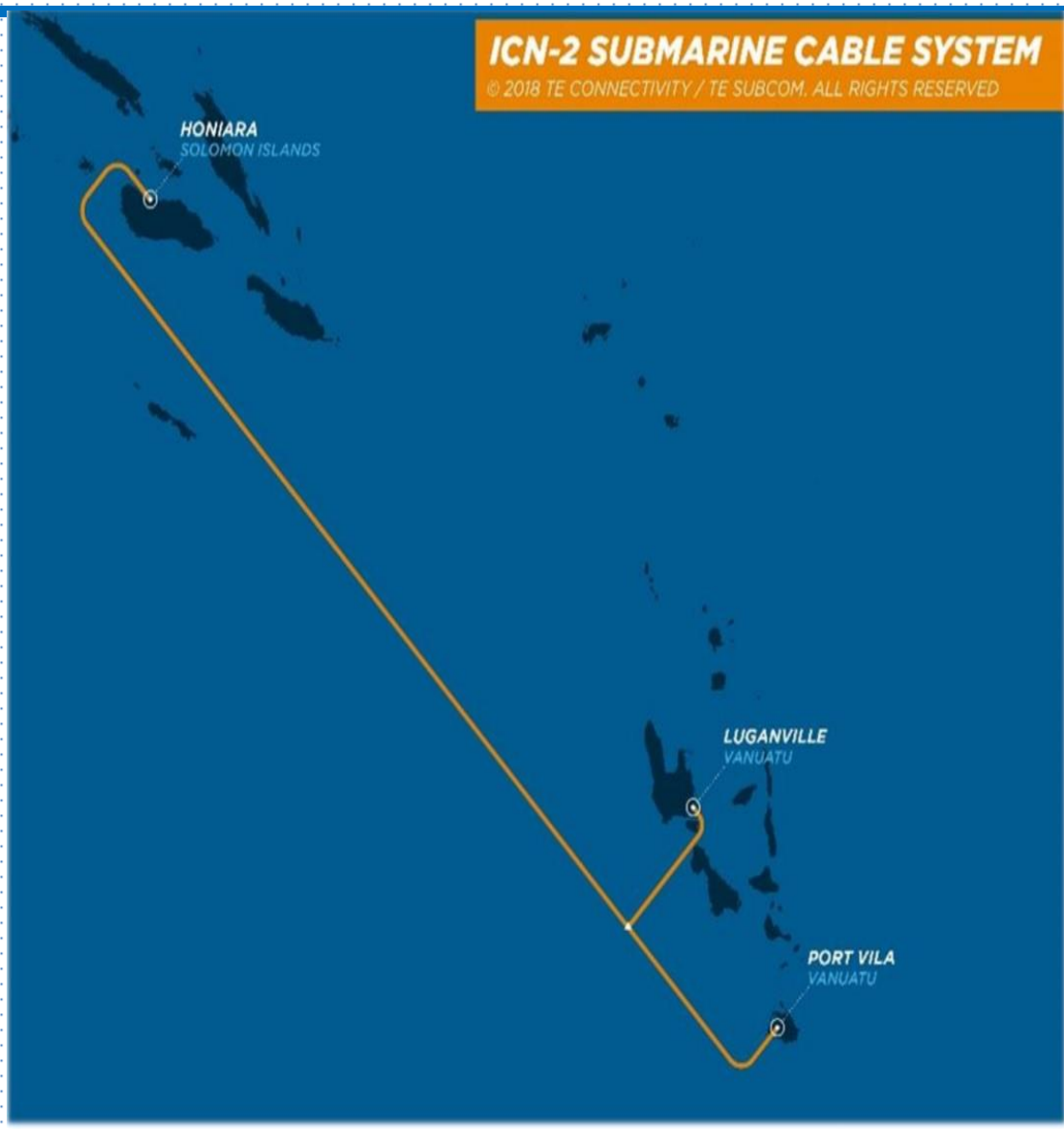
Interchange Cable Network (ICN2)

International Cable Network

1. **Ownership** – Interchange Group. Vanuatu based and Interchange Solomon Islands. Cost – USD39m

2. **Cable** - 2 fiber pair
   - Trunk repeated powered
   - 1 Terabits/s Maximum capacity
   - 1,630km distance

3. **Landing Station**
   - Ranadi Beach (behind our telekom ranadi office



Satellites (HTS)

Types of Satellites

1. O3b HTS – wholesale Ourtelekom/Bmobile/Satsol main internet backhaul
2. Kacific - in operation (Our telekom – 4G LTE)
3. OneWeb – Intelsat
4. Bilikiki – (LEO constellation)
5. Kurukuru – (LEO constellation)
6. JCSAT – C band & Ku Band Satsol

**Latency issues lower approx. 30milsecs….

Digital Developments

Industry Impacts

Economics & Social development in terms of:

- **Connectivity**
  - High speed internet will enable more access to internet in rural areas, faster delivery of Govt services through new digital platforms - (Education, Health, Tourism, etc)
  - New technology platforms (Digital financing, IOT, big data, mobile apps)
  - Data centres (undersea), Big data

- **Connectedness**
  - Access to data and resources, social media, investors, new investments

- **New skills**
  - Computer software engineering, automating processes, ICT equipment repairs, access to high end education
  - Redundancy of old skills, employment loss

- **Artificial intelligence (AI) – disruptive technology challenges**

Digital Developments

grows other sector & services:

*reduce transaction cost

*growth in tourism and foreign investments

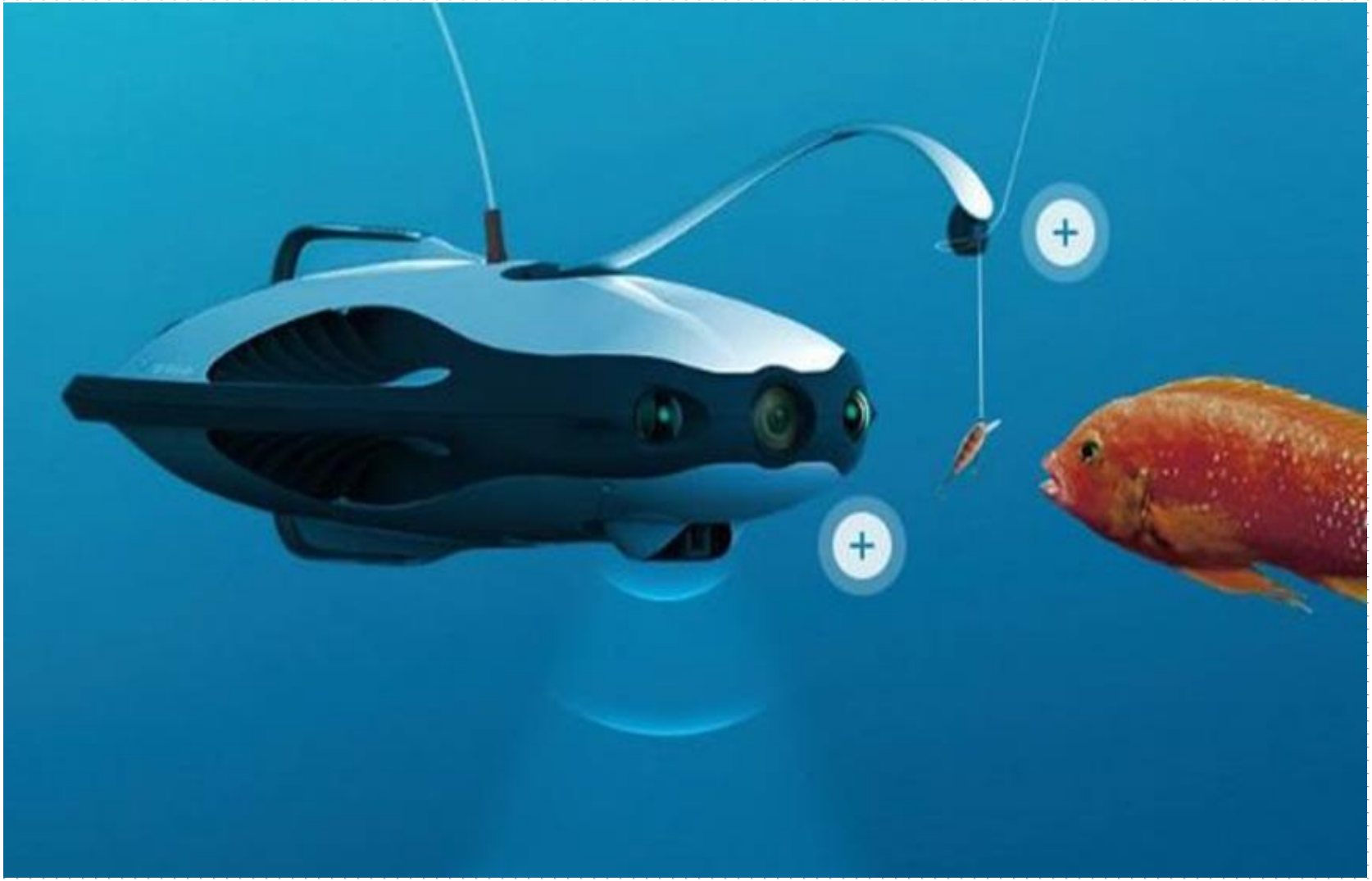
*growth in fisheries and ocean management

*disaster resilience solutions

*new platforms for e-health, e-education, e-government, e-commerce

*digital development & Livelihoods

Digital Developments
fisheries sector potentials



Mr. Haggai Arumae
Director Market, Competition & Finance
Email: haggai.arumae@tcsi.org.sb
Contact: Office Phone 23850,
Website: www.tcsi.org.sb
Location: Level 2 Alvaro Building

Thank you for listening