

## PUBLIC SUMMARY

### MEETING OF THE TECHNOLOGY DEVELOPMENT GROUP

Friday 15 July 2022

<b>Present:</b>	Andy Keeling	CE	Chief Executive (Chair)
	Mike Ramshaw	DDDCS	Deputy Director of Development & Commercial Services
	Ian Stewart	IS	Construction Sector
	Jack Ingledew	JI	SAERI (Representing PB)
	James Bates	JB	Falkland Islands Fishing Companies Association
	Justin McPhee	JMP	Sure
	Lewis Clifton	LC	Rural Business Association
	Pippa Christie	PC	Hydrocarbons Representative
	Stacy Bragger	SB	FIDC (Representing LE)
	Stephanie Middleton	SM	Falkland Islands Tourist Board
	Sarah Browning-Lee	SBL	BFSAI Representative (Representing SD)
<b>Apologies:</b>	Vacant	DDCS	Director of Development & Commercial Services
	Simon Young	aCR	Acting Communications Regulator
	Christian Williams	CW	Information Technology
	Gareth Goodwin	GG	Chamber Technology/Retail Lead
	Louise Ellis	LE	FIDC
	Paul Brickle	PB	SAERI
	Rachael Crowie	RC	Falkland Islands Tourist Board
	Stephen Dougan	SD	BFSAI
	Vacant	-	Community Representative
<b>Minutes:</b>	Meghan Law	EA	Executive Assistant & TDG Secretary

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#### 1.0 Confirmation of the Minutes of the Meeting Held on 11<sup>th</sup> March 2022

1.1 The minutes of the meeting held on the 11<sup>th</sup> March 2022 were confirmed as a true and accurate record.

#### 2.0 Matters Arising from the Minutes of the Meeting Held on the 11<sup>th</sup> March 2022

##### 2.1 Matters Arising: Sure Improvements Programme – Item 2.5

CE detailed the former action for DDCS to DDDCS regarding the inclusion of communications service requirements within planning and building applications. Action carried.

##### 2.2 Sector Presentation – Chamber of Commerce – Item 4.0

JMP commented that he can pull together data on the number of 4G subscribers in the Islands for the next meeting. Action carried.

##### 2.3 AOB: What is our purpose and what is our product?

LC queried when the presentation from FIG will take place (including how FIG define our connectivity and the Broadband Strategy). DDDCS commented that he is working with Sure currently and negotiations are still in process; therefore, an update will be provided at a later meeting.

#### 2.4 AOB: Communications Regulator

IS advised that the communications regulator email is still not working, as well as this there are mistakes on the FIG website. IS gave CE a print out of the issues. CE to follow up with the aCR.

### 3.0 **Sure Improvements Programme**

*Please see presentation attached.*

JMP outlined the 2022 project update for TDG members giving the following highlights:

- Capacity review continues between FIG and Sure. Commercial negotiations are now reaching close to agreement and more public information will be released when possible.
- Development of broadband continues through line shortening within the current access network. JMP noted that this is a multi-year project with main sites identified for priority as near Argos, the commercial sites to the rear of FIDF, south of the Bypass and Mink Park which will incorporate the Moody Brook area. JMP advised that in places line length will shorten from 4km to 500m.
- Public Wi-Fi is ongoing. Quotes have been sourced from vendors for additional hotspots. Updated systems for support and billing are being addressed so that usage will shift from time-based to volume-based, and packages can be purchased online. IS queried if this shift will also improve connectivity speed; JMP confirmed these improvements will have a positive effect on speeds. SM highlighted the issues with hotspots at the Jetty Centre; JMP advised these improvements will rectify the current problems but explained that the swap over will take some time so both systems will run in parallel until all over the services have been transferred over.
- Core networks continue to be modernised.

JMP gave a summary of fixed wireless access, echoing a presentation that was given at the RBA Farmers Week. JMP explained that Wi-Max was deployed in 2008, since then a significant mobile network has been installed from 2018 onwards. Sure are part of a small islands telecoms group which discuss the unique challenges in particular environments, one model that has been looked at by Sure Falklands is the Fixed Wireless Access Network (FWA) in Greenland. JMP explained that large cities in Greenland are connected via subsea cables however remote locations connect via FWA. FWA works by using the 4G network to replicate fixed lines and broadband services, this simplifies the technology extensively. Sure Falklands have been undertaking initial testing locally. JMP outlined the benefits to the FWA network.

IS commented that lines in Camp are still dropping on a regular basis, detailing a recent personal experience on West Falkland. JMP commented that often issues can arise from the daisy chain of sites back to Stanley and not the system that is immediately visible to the user. JMP added that often water/ice in the winter can impact on service quality. JMP advised that there is an ongoing programme to rectify those issues.

JMP shared updated 4G coverage maps; explaining that some areas have 2G coverage which is not shown on the map. JMP commented that it is possible to create a 'cell bubble' inside some buildings that would give coverage in close proximity to the accommodation. JMP commented that the main effort for 2022 is to focus on 4G installations.

JMP noted that an expansion to the 2G network has also taken place following funding from FIG. This was given priority following the introduction of two factor authentication for online payments from Standard Chartered Bank. FIG funded 3 news sites and 34 nano-BTS.

JMP updated TDG on internet utilisation, noting that the top 4 traffic types remain unchanged since beginning reporting. TDG discussed the increase in VPN use with suggestions that use could be from watching live sports, however as this data is anonymised the breakdown cannot be measured.

JMP noted that the typical 48-hour utilisation remains consistent in its total and in the regular pattern. LC queried what the ceiling capacity is, JMP informed all that it is 600M.

SBL queried if there are any challenges Sure face at MPC including infrastructure upgrades or area access. JMP commented that Sure and BFSAI have a close working relationship generally. JMP added that MOD infrastructure is used from the main Sure line so there are no issues for Sure, however noted that he is aware lines in to the shared accommodation blocks often see waiting lists.

LC queried if power output could be increased at the mountain top sites for the FWA network, and if so would it deliver wider signal spread? JMP commented that there are safety restrictions on coverage and the current limits are set within industry standards.

#### **4.0 Sector Presentation – RBA**

*Please see redacted presentation attached.*

LC displayed a presentation that he had formerly presented to the former TDG group, however it included comments in red to display what has changed in the last 4 years. LC noted the geographical location of the Falkland Islands and in particular those areas outside of Stanley; commenting that common complaints relate to telecoms resilience and reliability.

LC commented on the differences between the Terms of Reference in 2017 and the current version (last updated in 2021). LC felt that key issues had been missed in this group given that the focus has now become pinned down to broadband rather than the previously agreed wider factors in addition to broadband. LC felt that there was a disconnect and a need for a schematic mapping process was important to show the direction of the future.

LC displayed 2G coverage maps and responses from the public meeting 2018. LC queried if FIG have an agreed strategy or policy on the provision of resilient and reliable connectivity in the rural business environment; CE confirmed that there is not a strategy or policy at present. JMP commented that since 2018 Sure and FIG have worked together to invest heavily in communications. IS commented that the network both in Camp and Stanley still requires improvements in resilience and quality.

LC displayed the 4G coverage maps as shown by JMP to the TDG in December 2021, in particular noting that some tourism locations still do not have adequate coverage. LC commented that if more information on Sure's projects was in the public forum it would take 'heat out' for customers who at times feel frustrated with the service.

LC compared the business climate survey responses from 2018 and 2021 noting that telecommunications bandwidth (speed and quality), telecommunications cost, shortage of skilled labour and telecommunication package sizes are still identified as top issues. LC explained that he is not able to split the information down to purely rural responses, however indicated that sentiments will likely be the same for both Stanley and Camp.

LC detailed some comments from rural residents that he had collected in 2017, with some individuals providing an updated comment now. LC commented that largely feedback remains of the same trend. CE stated that the comparison of user comments was interesting given the investment since 2017 and queried if the 'sweet spot' is not being reached due to continual technology improvements. IS and EA commented on the difficulty in running businesses with the mobile network issues. IS commented that he has contacted Sure on several occasions, he commended the technicians for their assistance each time. IS stressed that the investments are great however they need to be practical and reliable consistently. JMP commented that the equipment in places is reaching its end of life and is in the plan to be updated.

LC commented that technology could be used more as an opportunity to deliver education to Camp children but it is not, this is frustrating for families. JMP commented that Sure gave free connection for educational purposes to the school however it has not been utilised. JMP commented that with COVID the world is beginning to have a change of behaviour and move towards remote connection opportunities more.

LC commented that the Regulator role is not being used by residents as it should be.

In summary LC commented that there needs to be a forward looking and lateral communications journey. LC expressed that a duty of care is required to safeguard those who work and live in remote locations. CE stated that it is a choice between large investment or having a look at what is in our control and continually incrementally improving those services, noting that the balance needs to be met proportionately.

IS queried if Starlink have approached the Islands noting that the technology will soon be taken up by regional maritime users; CE confirmed that Starlink have not been in contact with FIG.

*SBL and JI departed the meeting at 14:55hrs.*

## **5.0 Any Other Business**

### **5.1 Remainder of TDG Meetings**

CE commented that following the end of all sector presentations a final wrap up meeting corralling all of the feedback gathered so that a collective set of priorities can be identified and then presented to MLAs.

### **5.2 Communications Regulator**

IS queried if the post is going to be filled; CE explained that recruitment is still ongoing.

## **6.0 Confirmation of Date of Next Meeting**

- 6.1 It was agreed that the next meeting of the Technology Development Group will be held on the 30<sup>th</sup> September 2022, 13:30-15:30 in the Liberation Room, Secretariat. Sector presentations will be given by the BFSAI representative, retail representative and FIDC. Items for inclusion on the agenda should be submitted to the secretary by the 16<sup>th</sup> September 2022.

There being no other business the meeting closed at 15:04hrs.

# Sure Falklands

**TDG Briefing**

**July 22**



# 2022 Projects update

- Continue Camp upgrade work - FWA
- Capacity review
- Access Network expansion(Stanley) – line shortening
- Public Wi-Fi refresh
- Core Network Refresh
- Mobile Expansion 2G/4G
- 2G Mobile expansion
- BAU activity – buildings/vehicles etc

# Fixed Wireless Access

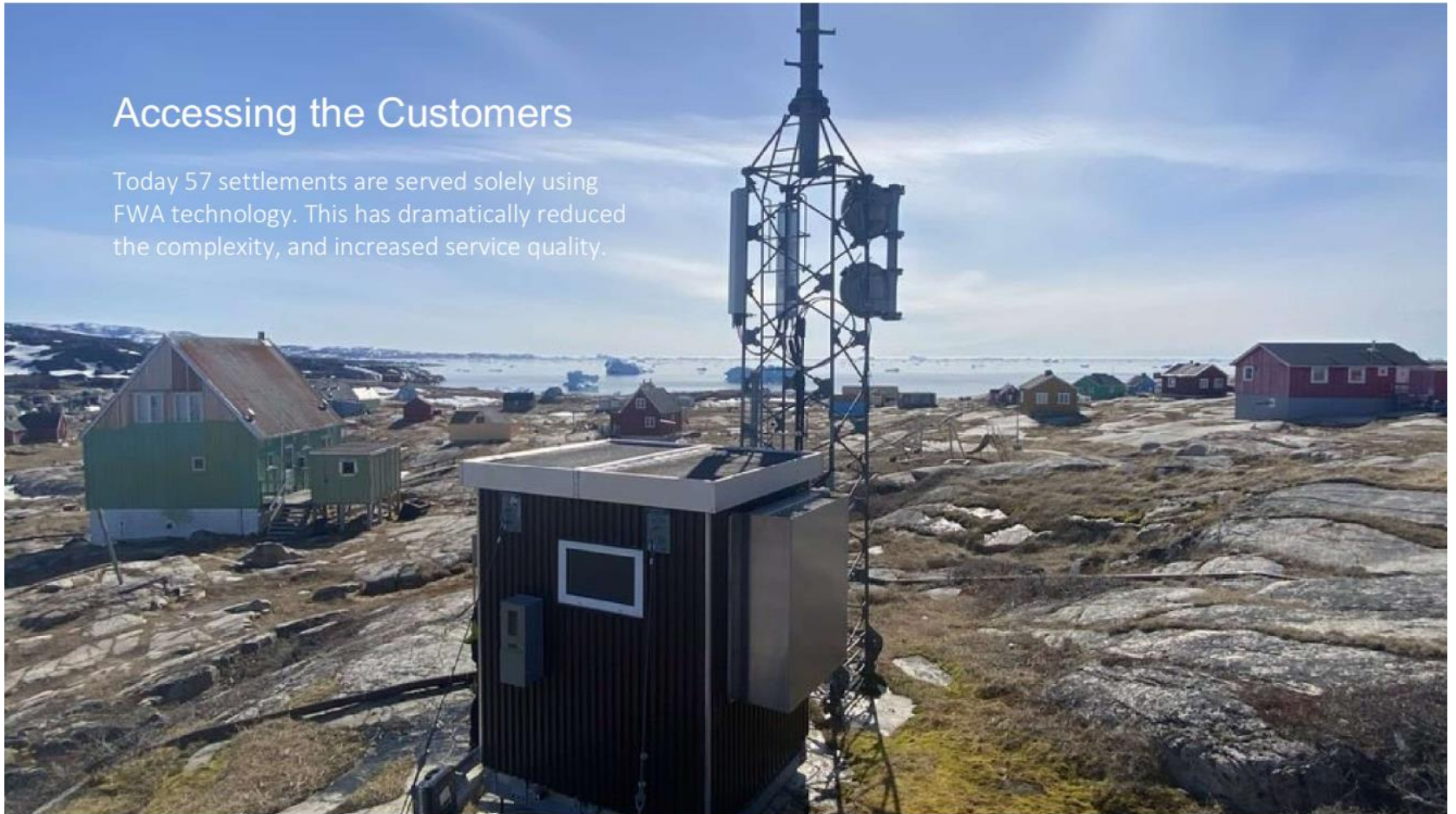
July 2022



# Greenland experience

## Accessing the Customers

Today 57 settlements are served solely using FWA technology. This has dramatically reduced the complexity, and increased service quality.

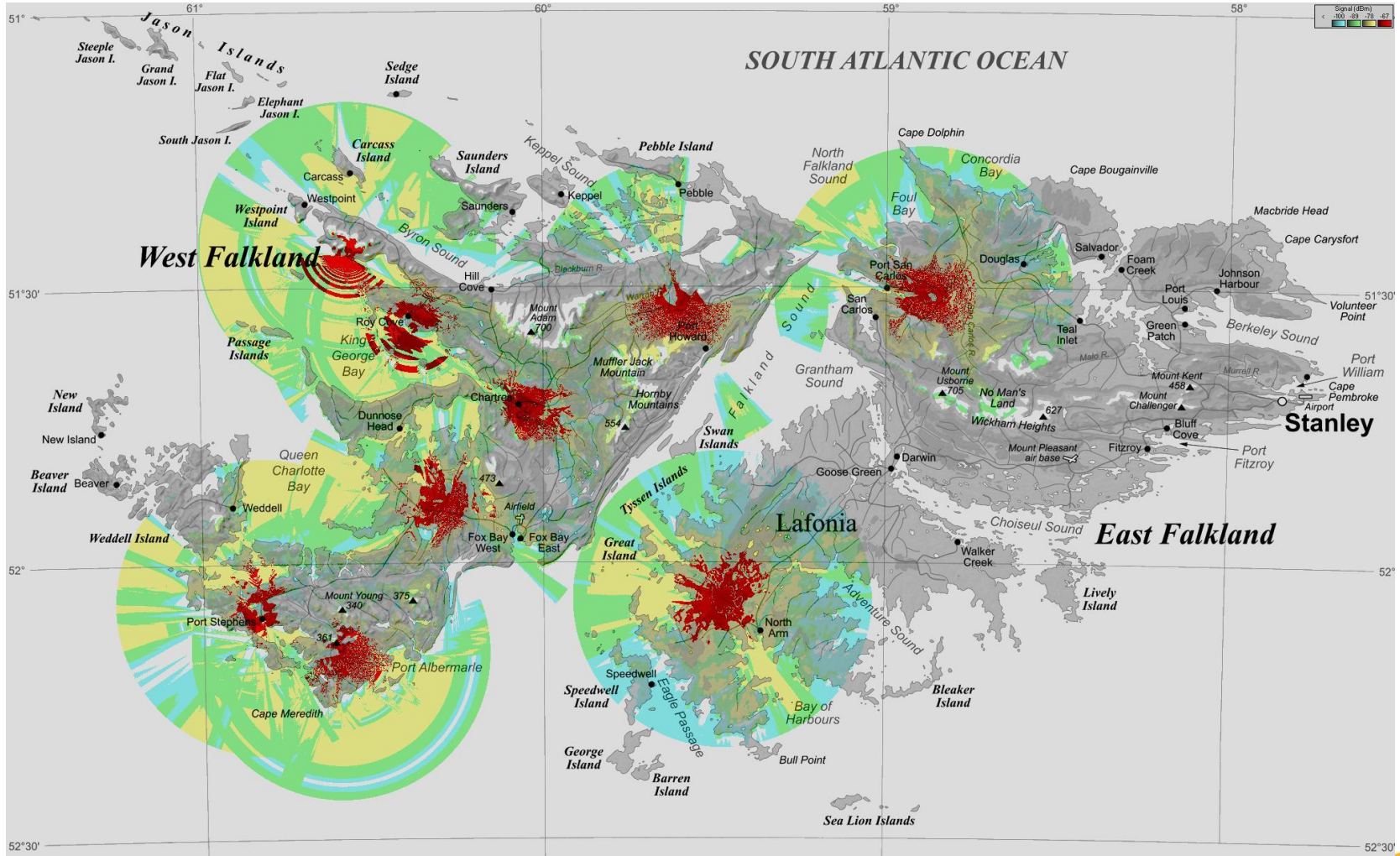




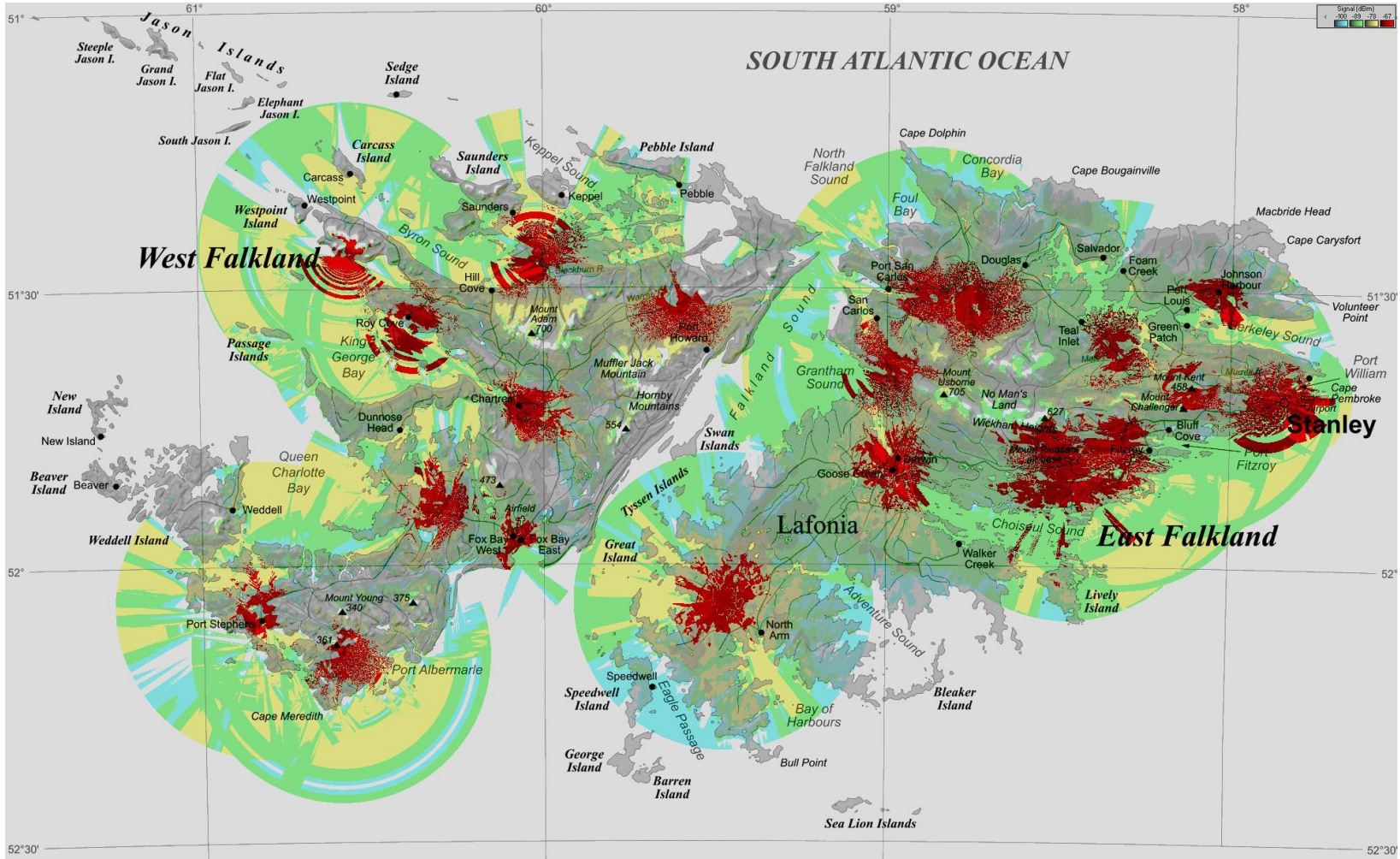
# Fixed Wireless Access

- WiMAX Replacement – move to 4G based solution
- 9 new 4G sites
- Simplified network
- Mobile & fixed coverage
- Higher throughput

# FWA – 9 new 4G Base Stations



# 4G Coverage – end of 2022

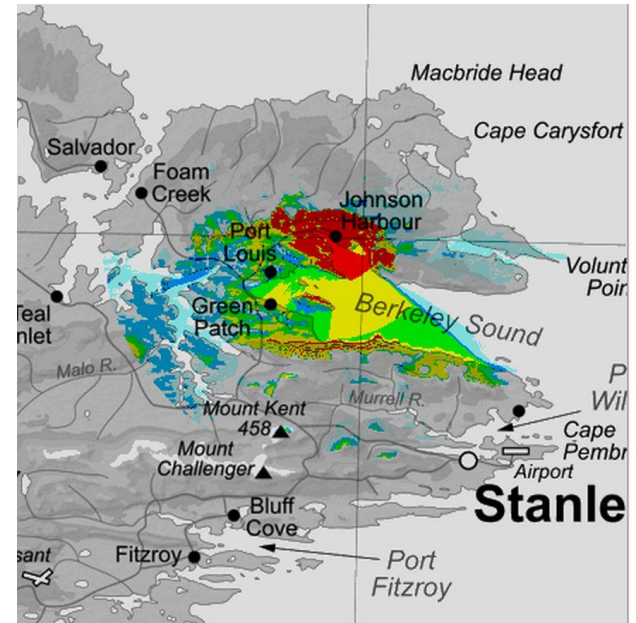
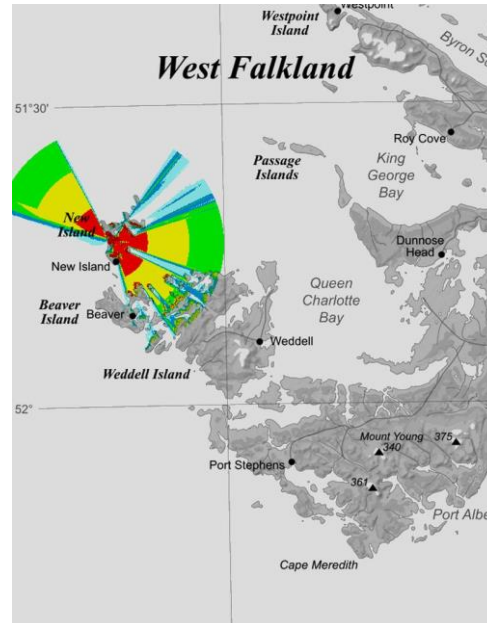
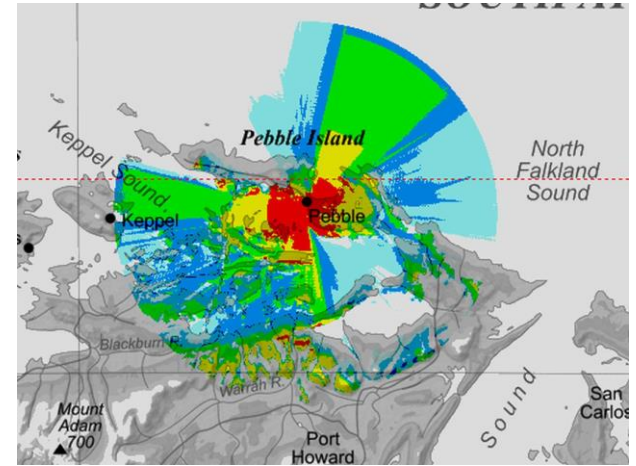


# 2G Expansion

FIG funded:

3 new sites

34 nano BTS - in home self installed



# Internet Utilisation



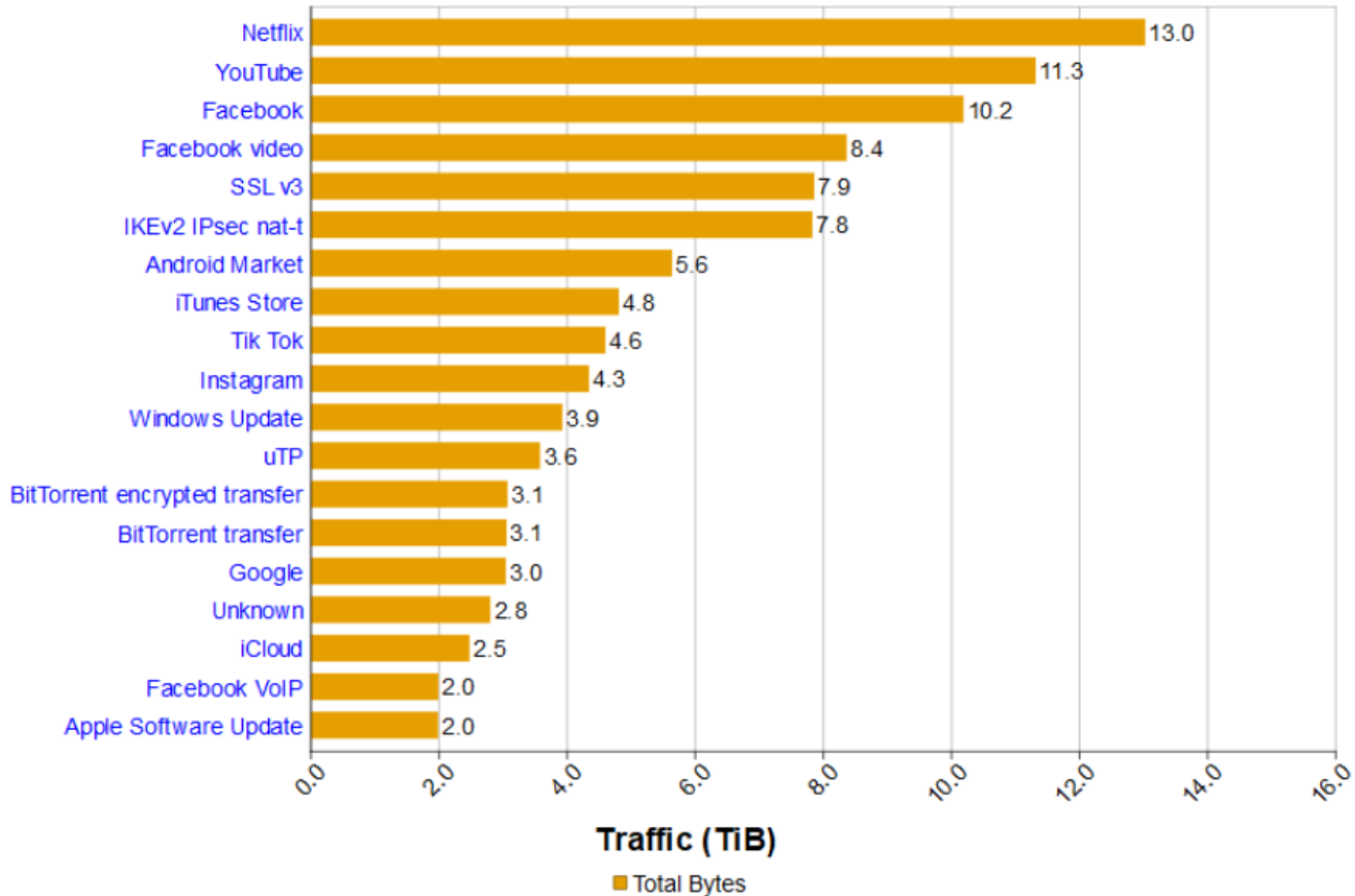
# Top Traffic Types – July 2022

Traffic Statistics – All Services / All Subscribers

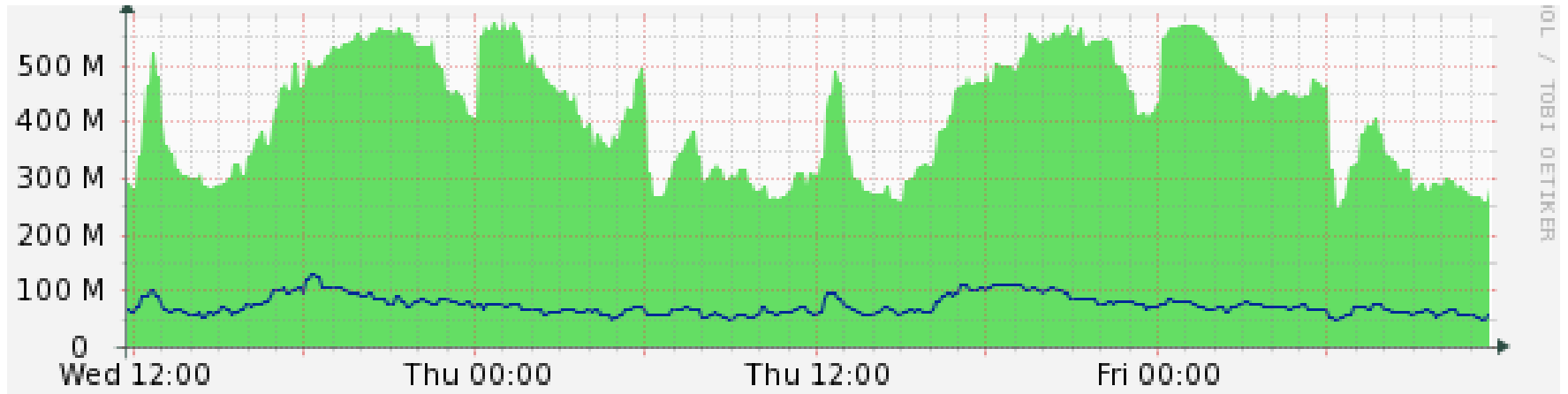
Jun 2022

Service

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(1131/1131 items)



# Typical 48-hour internet utilisation



Questions?





REDACTED VERSION

## The journey 2017 to date (?)

- setting the agenda
- promises of the 2017 ToR
- delivered(s)
- continuing frustrations
- ~~basics elements~~ **resilience** required
- the future - **conditioning capacity building**

# Falkland Islands – 4700sq miles

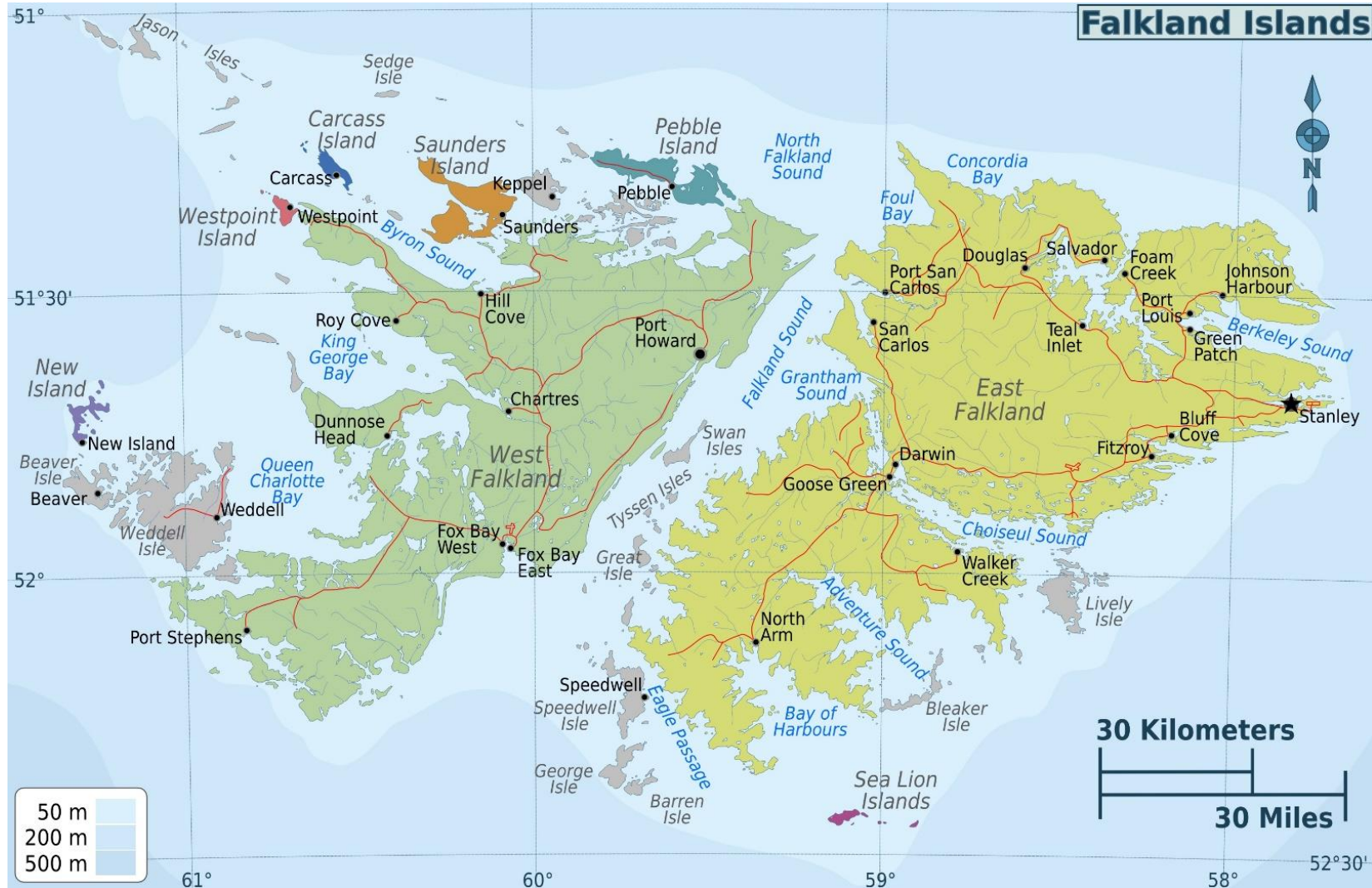
Key tourist locations

New, West Point, Carcass, Jason, Saunders, Keppel, Pebble, Sea Lion, George/Speedwell, Bleaker, Grave Cove, Concordia, Cape Dolphin

resilience and reliability

Filling in the gaps  
Delivering regionally a town centric service

2m emergency safety regional network  
**NOT ASSURED**



## FIGAS flights Friday 16<sup>th</sup> November 2018

Can all weather stations please be ready to pass weather at 08:00 Stanley time.

ISLANDER BRAVO DELTA	1 <sup>st</sup> FLIGHT	<u>CHECK-IN TIME: 0800</u>
STANLEY, MOUNT PLEASANT AIRPORT, <b>SEA LION ISLAND</b> AND STANLEY		
ISLANDER BRAVO DELTA	2 <sup>nd</sup> FLIGHT	<u>CHECK-IN TIME: 0950 TBC</u>
STANLEY, MOUNT PLEASANT AIRPORT, <b>BLEAKER ISLAND, ALBEMARLE, SPRING POINT, WEDDELL ISLAND,</b> <b>FOX BAY</b> AND STANLEY		
ISLANDER BRAVO DELTA	3 <sup>rd</sup> FLIGHT	<u>CHECK-IN TIME: 1600</u>
STANLEY, <b>PORT HOWARD</b> AND STANLEY		
ISLANDER BRAVO NOVEMBER	1 <sup>st</sup> FLIGHT	<u>CHECK-IN TIME: 0800</u>
STANLEY, <b>SEA LION ISLAND</b> AND STANLEY		
ISLANDER BRAVO NOVEMBER	2 <sup>nd</sup> FLIGHT	<u>CHECK-IN TIME: 0940 TBC</u>
STANLEY, MOUNT PLEASANT AIRPORT, <b>PEBBLE ISLAND, HILL COVE, CARCASS ISLAND, SAUNDERS ISLAND</b> AND STANLEY		

**Red** = Islands main tourist destinations/poor comms connectivity

**Blue** = West Falkland (no immediately available Emergency Rescue Services)

# TDG ToR October 2017 replaced with new 2021

## Purpose

- To develop a long-term vision for the technology needs of the Falkland Islands with **a particular focus on economic and social development.**
- To consider the future needs of the Falkland Islands in relation to both information and communications technology and broadcast media in the **short**, medium and long term and act as an advisory group to the government.
- To provide input into the FIG on FIG and business requirements and priorities for broadband in the short, medium and long term with a particular focus on economic and social development.

## Scope

The group shall consider the requirements of government **including health and education, business**, military and domestic users in the Falkland Islands, and oversee the development of a programme to make recommendations to the Falkland Islands Government on direction. **The focus of the TDG is broadband services to the Falkland Islands.**

## Objectives and milestones

- Develop an **audit of existing technology assets to create a baseline to work from.**
- Compile a list, reflecting views from each sector, of the principle issues surrounding current technology capacity.
- Develop an approach to **benchmarking technology in the Islands.**
- Identify short term opportunities to **maximise use of existing capacity** and technology resources.
- Consider how to ensure appropriate capacity and support for technology development.
- Consider the existing ordinance and review as necessary to ensure that it **supports our development needs.**
- Establish an understanding of technology in the home.
- Provide input to FIG on weaknesses or gaps in the broadband service
- Identify future potential business and domestic requirements for broadband
- Identify how emerging broadband technology and services could be exploited around the Falkland Islands

Oct2017 TDG meeting “RBA voiced the communication challenges (including radio and internet) faced due to the geographical spread of the Islands. Stated that despite the efforts of both FIG and SURE to improve communication links, rural areas still require more support.

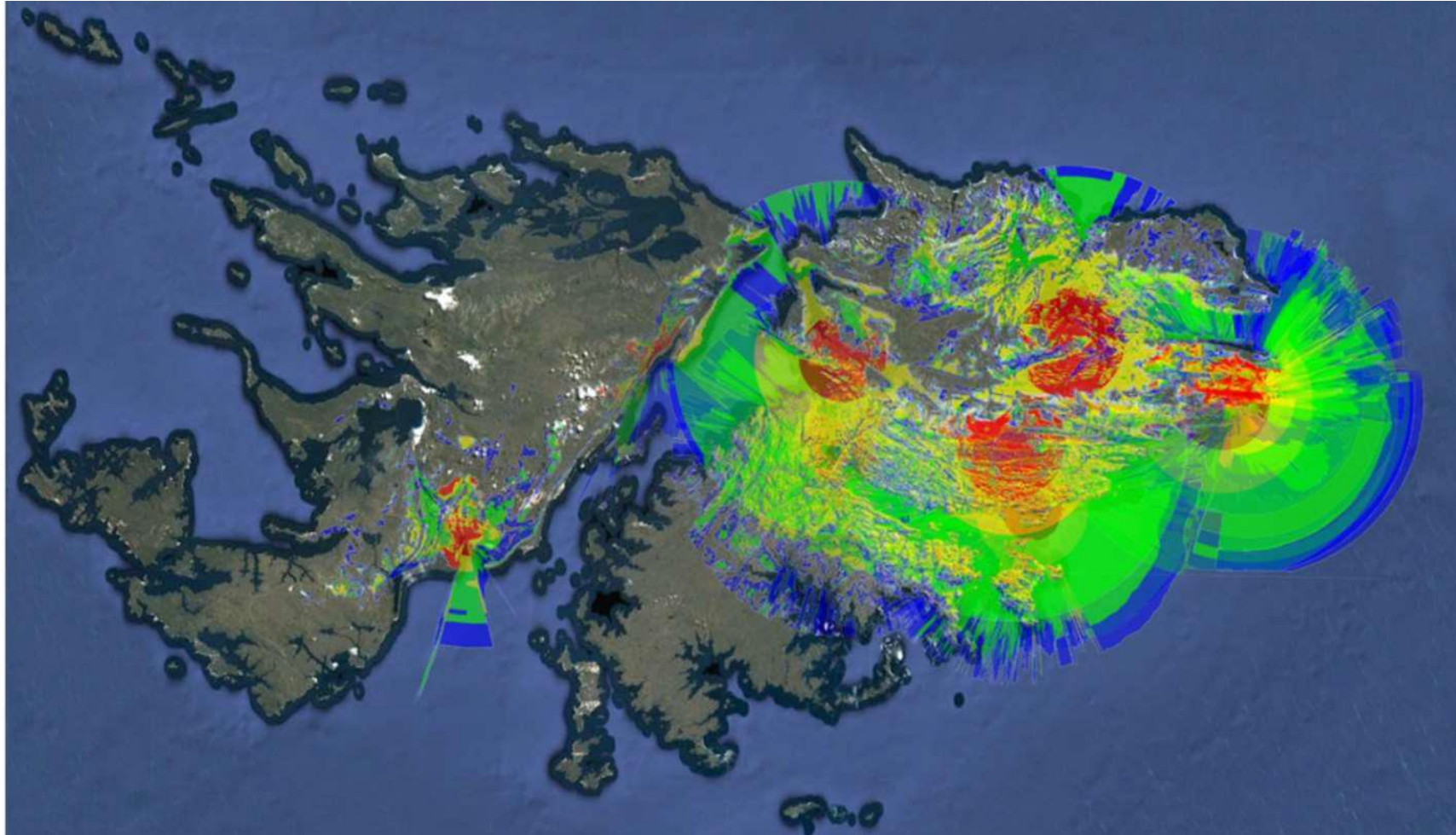
FIG CEO agreed that more investment and infrastructure was needed especially within the radio network but suggested that more time will be needed to find the best course of action.”

# Sure public statement February 2018

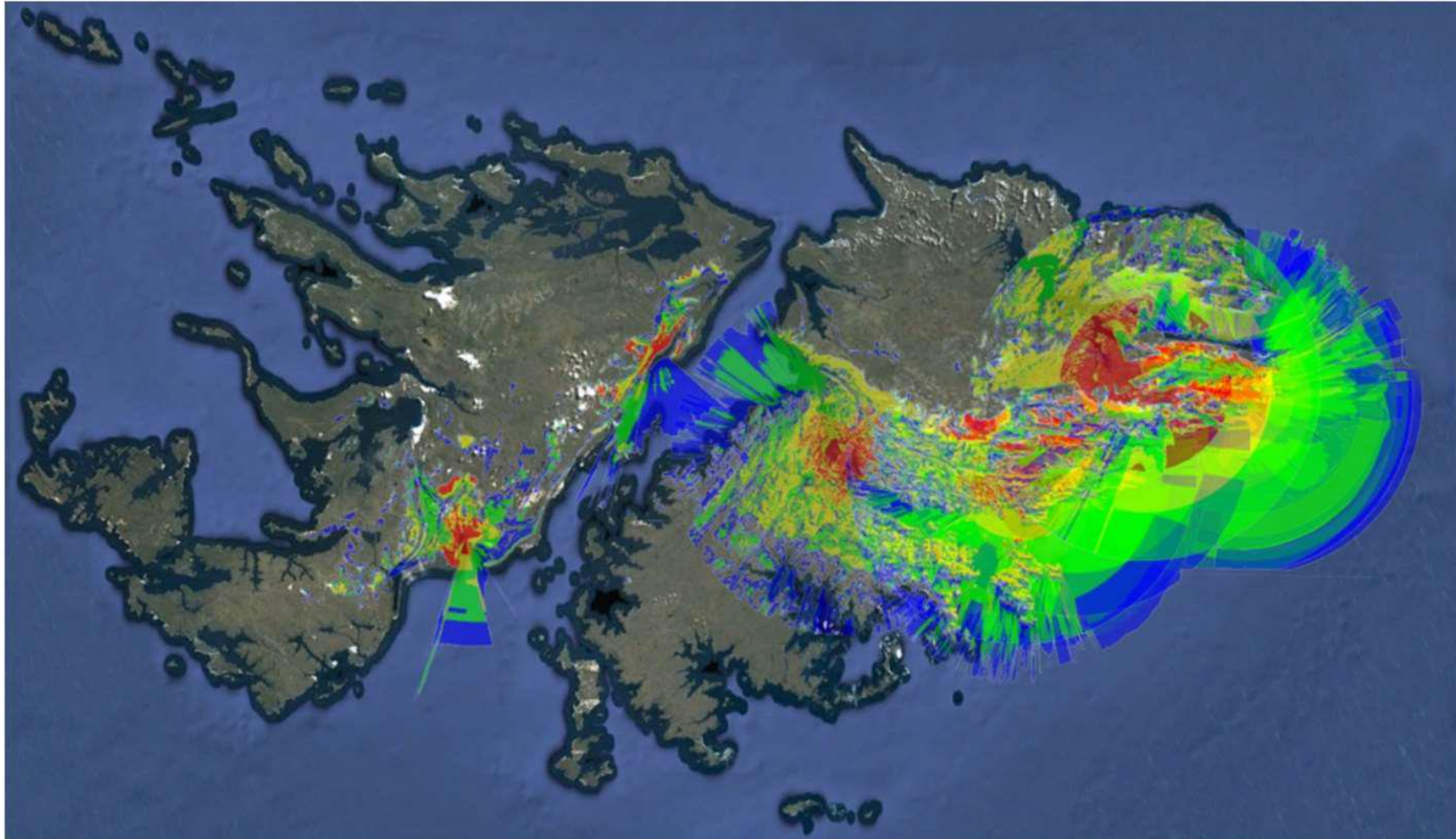
## Mobile Network Refresh 2017/2018

- Sure has committed to a **multi-million pound** investment in a new mixed 2G/4G **mobile network** to be launched in mid 2018
- Network has been ordered from Canadian Company and will arrive **beginning of March**
- Network will be **launched mid year**. Licence commitment to deliver by 7th October 2018
- Increase in 2G coverage with installation of **25 BTS sites** (currently **12**)
- **~98.5%** population will have coverage (**camp** increased from **62% to ~85%**)
- Introduction of **4G services** on **13 sites** in Stanley/MPA and & major camp settlements
- Sure have included some general enhancements to improve coverage based on experience
- **Missing a schematic mapping out progress**

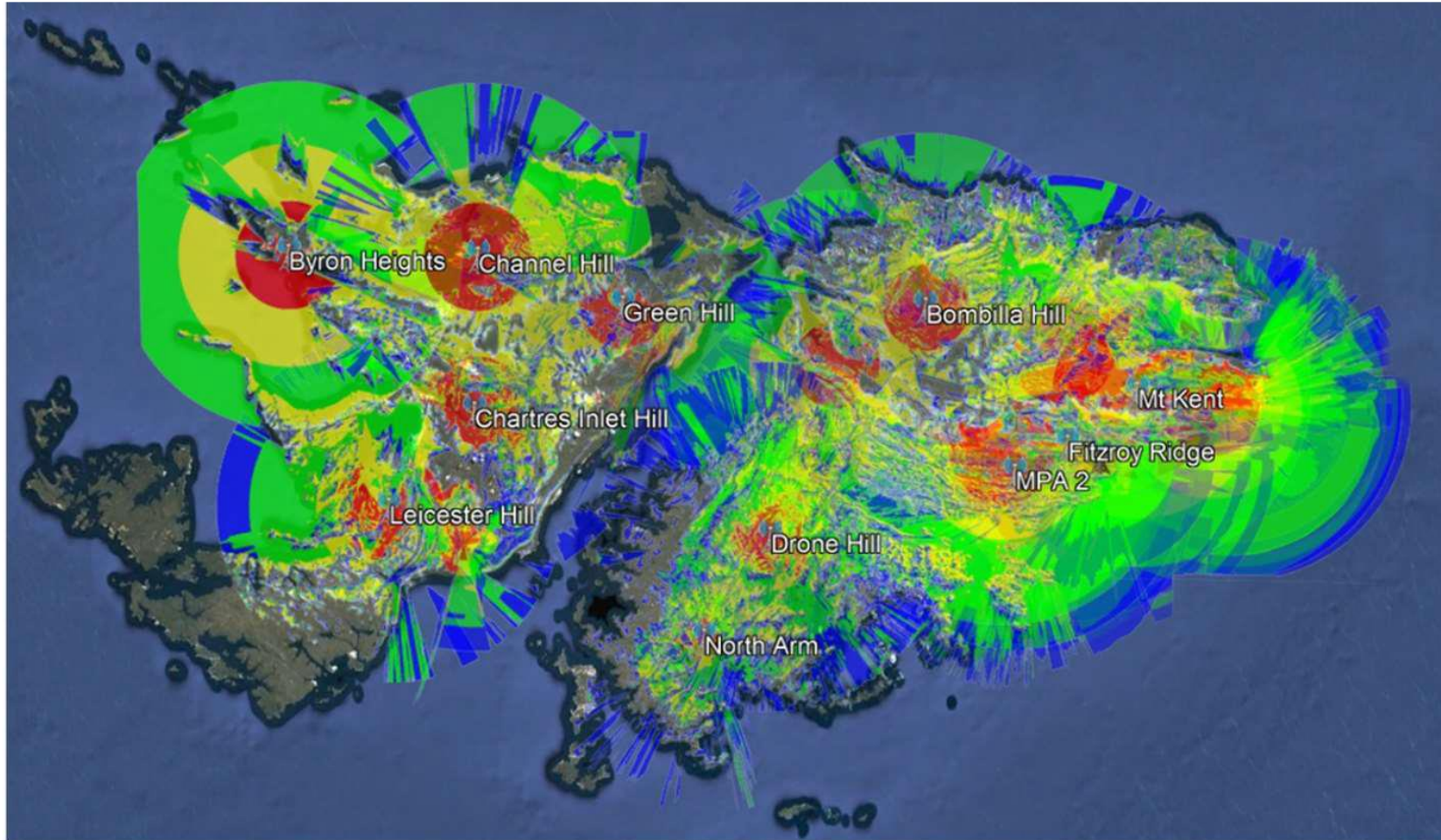
# Existing 2G Coverage – February 2018



# Declaration Feb2018 - New mobile 4G coverage



# Declaration Feb 2018 - New mobile 2G coverage





# Sure response to MLA Spink following RBA question at Feb2018 public meeting

We can look into this again in terms of a solution but the two main issues in serving the Port Stephens and west islands are firstly the terrain, a mobile site above Port Stephens would provide very limited coverage to Weddell island and a site on Weddell would not cover Port Stephens.

The second problem is the lack of customers in that area so any equipment deployed would be unlikely to recoup the annual operational and support costs let alone the cost of purchase.

We were clear with FIG in previous discussions that we could supply and operate additional rural sites if FIG wishes to fund them and we are still happy to provide this.

We can do some work on coverage options and costs with my team for you to consider. We had previously provided Rough order of Magnitude pricing between £20K for a well-established Sure site to £100K+ for a complete greenfield location with no existing infrastructure but can refresh these numbers based on some specific site options.

Does FIG have an agreed strategy or policy, on the provision of resilient and reliable connectivity in the Rural Businesses environment?

# FIG statement to RDS steering group 13Sep18

## Key investments 2018

Sure completed £3m investment in 2G and 4G

- 25 new 2G sites added went live June '18
- 14 new 4G mobile sites added, live in July
- Reviewing coverage to extremities and procured longer range hardware to improve service e.g. Fitzroy, Walker Creek

FIG/Sure 2G Expansion:

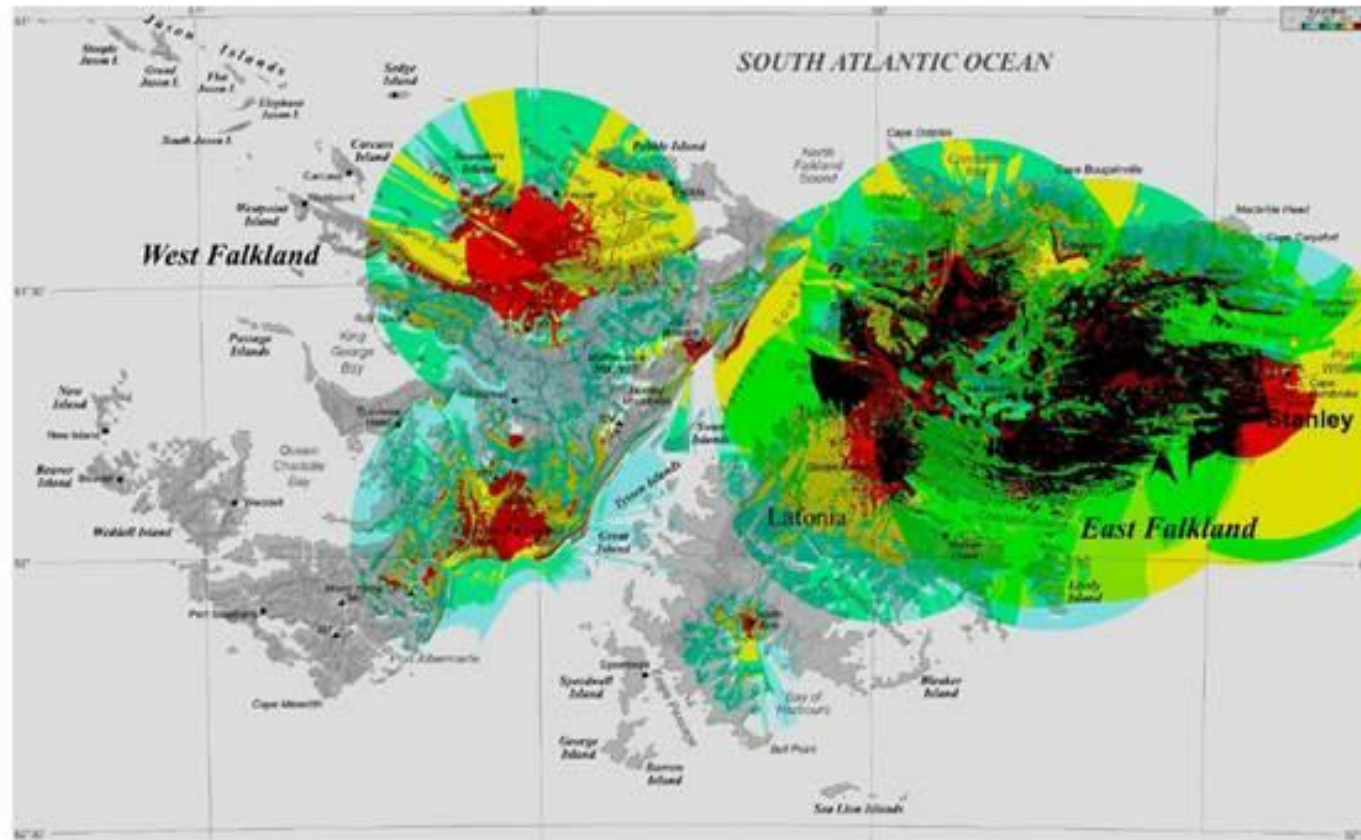
- Wreck Gate, Lafonia, incl Speedwell, South Lafonia, George & Great Island & southern part Falkland Sound;
- Mount Alice incl Albermarle
- Mount Ellen incl Port Stephens, South Harbour, Weddell Island Settlement
- Port San Carlos, San Carlos River road to New House and out to Elephant Beach & Cape Dolphin
- FIG assured - **Complete by year end**

Sure reviewing Camp Wimax infrastructure and swapping out poor network systems –phased rolling upgrade

**Sure's roll out impacted given global pandemic triggering equipment supply delays and servicing complications.**

# New 4G coverage December 2021

New total 4G Coverage with extra Sure sites



# Business Climate Survey

Select up to five barriers preventing growth of your business.

2018 Q18

2021 Q24

Ranking	Responses	%	Ranking	Responses	%
=1	Air Link to Chile (LATAM)	30.86%	1	Telecommunications - Bandwidth (Speed & Quality)	36.36%
=1	Telecommunications - Bandwidth (Speed & Quality)	30.86%	2	Air Link to Chile (LATAM)	34.85%
3	Shortage of Skilled Labour	29.63%	3	Telecommunications - Cost	24.24%
4	Telecommunications - Cost	27.16%	4		19.70%
5	Air Link to the UK (Airbridge)	24.69%	=5	Airlink to UK (Airbridge); Distance to markets; Internal politics; Shortage of skilled labour; Small local market	16.67%
6	Freight costs by Sea - Import	19.75%			
=7	Distance to Markets	18.52%			
=7	Shortage of Unskilled Labour	18.52%	=10	Housing; Taxation	15.15%
=9	Taxation	17.28%			
=9	Telecommunications - Package Size	17.28%	=12	Immigration Regs & System; Telecomms package size; and Warehouse availability	13.64%

RBA July 2018 week 100 attendees at joint MLA/FIG officials 3 hour meeting – communications failings the dominant issue.

RBA July 2022 75 attendees – less dominant issue, but clearly still much disappointment as expressed to MLAs

Rural comments – REDACTED

# The 2M emergency health and safety network

- EFI (far north) - We don't use 2m here - other than **working planes**. So no comment on this, but Sure have said best to dust down our 2m sets given the mobile coverage!
- WFI (north west) - 2m repeaters are non existent. What happened to the Government repeater that was on Byron Heights? At least when all else failed before we could still get though in an emergency. We no longer have this; great worry for ourselves let alone when you are major tourist destination.
- Stanley resident - We were driving to Albemarle the other week and were without radio, phone signal and miles from home. Certainly puts it all into perspective and made me appreciate quite how vulnerable folk are.
- WFI (north) - As for 2metre coverage for emergencies basically non existent, luckily for us we can normally reach Hill Cove or Saunders. We're becoming more isolated than ever before at times.
- EFI (northwest) - I have no problems with FIRS or 2M emergency network.

# Summary – just deliver the basics (please)

- Improvements on-going? **Currently how much and where/when?**
- Telecoms improvements **but a long way to go to deliver regional resilience**
- Sheep farming the business mainstay; Tourism bolted on. Reliable information, connectivity critical to ensuring “duty of care” deliverable by FIG to its citizens **(and tourists)**, but which is a **critical** requirement in the **economic and social development of Camp**.
- **On location field scientific connectivity increasingly important as a land management tool. Peatlands truthing not started. Carbon offsetting benefits?**
- Opportunity to deliver EDS, TDS and RDS across the rural area is heavily constrained, without 24/7 **assured resilience and connectivity. This impacts heavily on Camp Education deliverables, and maintaining social and economic stability. Does FIG want families to live, grow and prosper in Camp?**
- 2m – “health and safety” network – dysfunctional. Failing “duty of care”. **Improper citizenry “safe guarding”.**
- FIRS radio reception failings over the geographical area, and near coastal
- 3 services, telecoms, national radio reception & 2m all linked to ensure a delivered “basic” service to Camp