

Radiocommunications for bridging the Digital Divide: New Zealand

September 2016



Quick overview - NZ regulatory environment

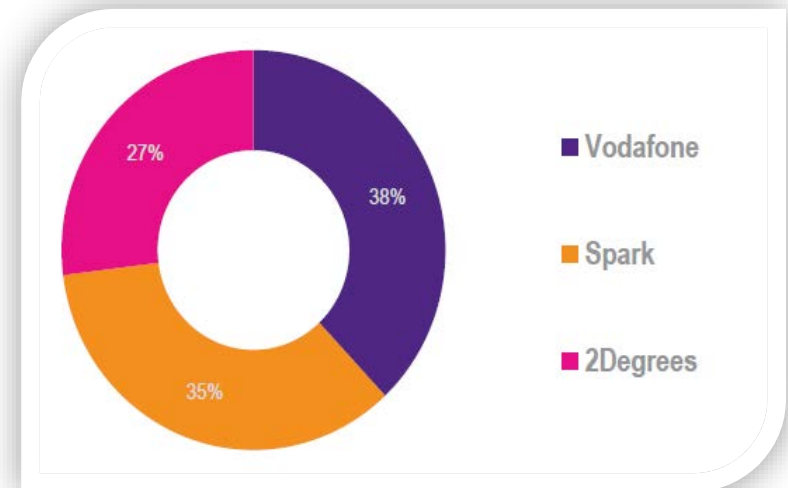
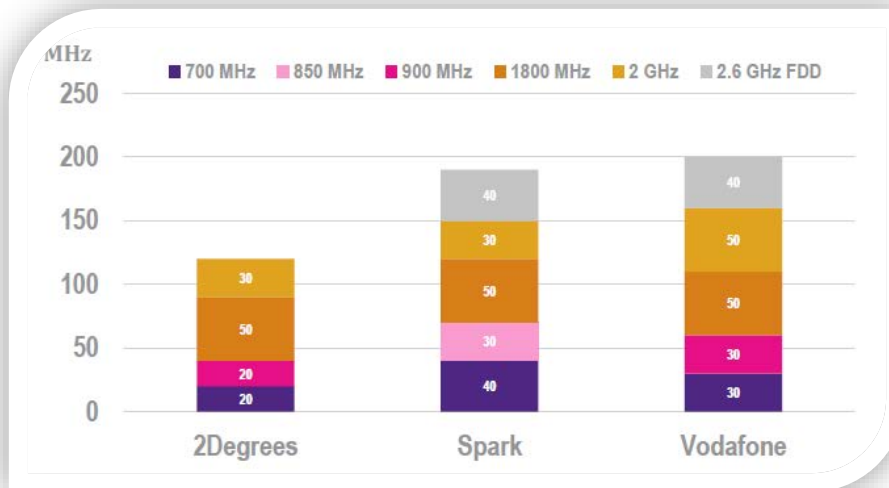
- **First** country to regulate spectrum: NZ Wireless Telegraph Act 1903
- **First** country to redefine spectrum regulation based on **property rights**: flexible and tradable spectrum rights (*management rights*), through the **Radiocommunications Act 1989**.
- **First** country to assign spectrum via market mechanism (**auction**) **1989**
- **NZ** has one of the most advanced frequency licensing systems, fully online





Quick overview - NZ regulatory environment

- Mobile broadband: 3 MNOs
- Mobile bands (MHz): 700, 850, 900, 1800, 2100, [2600, 3500 FWA]
- Coverage: 95% of the population covered by 4G LTE





Current connectivity programmes

Ultra-Fast Broadband (UFB):

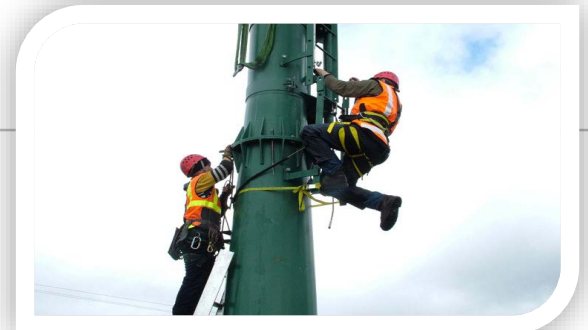
- Increase the percentage of access to fibre from 75% to at least 80% (100 Mbps - 1Gbps)

Rural Broadband Initiative (RBI):

- Increase rural broadband coverage to reach at least 90% of rural NZ with at least 5 Mbps (LTE)

Mobile Black Spot Fund (MBSF):

- Extend mobile coverage into black spot areas of main highways and key tourist areas





700 MHz band – major contributor

New Zealand has benefited from the implementation of the 700 MHz APT band plan for 4G LTE

- Decided to reallocate the band in **2009**
- Active participation in APT band plan ITU studies and WRC-12 was critical
- Auction for 700 MHz band held in **2013** (\$270 million)

NZ now enjoys country-wide coverage of 4G LTE 700

- Vital for rural coverage: **rural broadband internet** in areas without fibre
- Lower cost rollout, enhanced performance





The road ahead: new opportunity





IMT in 600 MHz: Benefits for Asia Pacific

Cover large rural areas at much lower cost

- Mobile broadband in 600 MHz can reach more unconnected areas
- Experience of APT 700 MHz **already a success**: uptake in Asia Pacific, Latin America, Africa, Middle East and now Europe.
- Low use of 600 MHz for broadcasting – easier to replan, higher value use.

Asia Pacific can successfully amplify broadband connectivity with LTE in 600 MHz + 700 MHz combined

Rural broadband internet is not an impossible challenge: economies of scale



HOW?

WHAT IS THE PLAN AHEAD IN 600 MHz?

Technically possible, economically very viable. Here is the plan:

RADIO SPECTRUM MANAGEMENT

Region 3
use:

Fixed, Mobile, Broadcasting

Currently for terrestrial TV

Proposed band for IMT (WRC-15
footnote)

Fixed, Mobile, Broadcasting

Traditionally for terrestrial TV*
but not in use in New Zealand

Guard band

4G/LTE 700 MHz

Mid-band gap

FDD

FDD

Option 1

Possible
band-plans

FDD

FDD

Option 2

502 510

610

617

622

652

663

668

698

MHz





What countries are already on board?



USA, Canada, Mexico, New Zealand...

Can Asia Pacific plan now to benefit sooner?



Next steps: Asia Pacific to get 600 MHz IMT

1) Regulators to join New Zealand in the ITU studies



Radiocommunication Study Groups

INTERNATIONAL TELECOMMUNICATION UNION

Received: 7 June 2016

Document 5D/162-E
7 June 2016
English only

SPECTRUM ASPECTS

Mexico and New Zealand

**PROPOSAL FOR THE REVISION OF RECOMMENDATION ITU-R M.1036-5
TO INCLUDE FREQUENCY ARRANGEMENT IN THE BAND 470-698 MHz**

1 Introduction

The frequency band 470-698 MHz, or parts thereof, was identified by WRC-15 through three new footnotes No. **5.295**, **5.296A** and **5.308A** for use by those administrations as listed wishing to implement terrestrial IMT systems. It is noted that *resolves 2* of Resolution **224 (Rev.WRC-15)** encourages “administrations to take into account results of the existing relevant ITU-R studies, when implementing IMT applications/svsystems”.

Next steps: Asia Pacific to get 600 MHz IMT

2) National plan for transition from Broadcasting to Mobile in UHF: INCLUDE 600 MHz for IMT





Next steps: Asia Pacific to get 600 MHz IMT

3) Need to add your country name to ITU contribution document – Deadline next week before WP5D meeting.
Document 5D/162-E

THANK YOU

cristian.gomez@mbie.govt.nz

