

SPECTRUM

THE FUNDAMENTAL ELEMENT OF MOBILE



5G Trials and Launches

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- **Delivering 5G for Australia – tactics and use cases**
- Golnar Khomami, Telstra Spectrum Specialist

Across Mobile Networks Globally*

2018 - 2024

30%

Growth YoY of mobile traffic

2024

~4.1B

Total number of IoT connections compared to ~300M in 2015

2024

35%

Mobile data traffic carried by 5G networks

Telstra Mobile Network

2009 - 2019

100x

Theoretical speed increase on the fastest device

2009 - 2019

93x

Mobile network traffic growth

The way we are using mobile networks is changing



Telstra's mobile network



Our network has more than

2.5M
km²

mobile network coverage



Our mobile network has the

largest coverage,

vastly more than any other mobile network in Australia



99.2%

of 4G coverage more than 8750 4G enabled sites

**CAT
M1**

3.0M
km²

of Cat M1 coverage



3.5M
km²

of NB IoT coverage

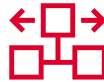
Launch and expansion of our 5G network



Commercial 5G launch in May 2019 using the 3.6 GHz band.

Included all seven Australian capital cities, plus three major regional centres: Gold Coast, Launceston and Toowoomba

Customers with 5G devices are achieving downloads speeds approximately twice as fast than comparable 4G devices in 5G areas



Over the next 12 months, 5G coverage will increase in area almost five-fold

Expand into 25 additional cities (major regional centres)

Further expansion of coverage in capital cities beyond the CBD



Future technology advances

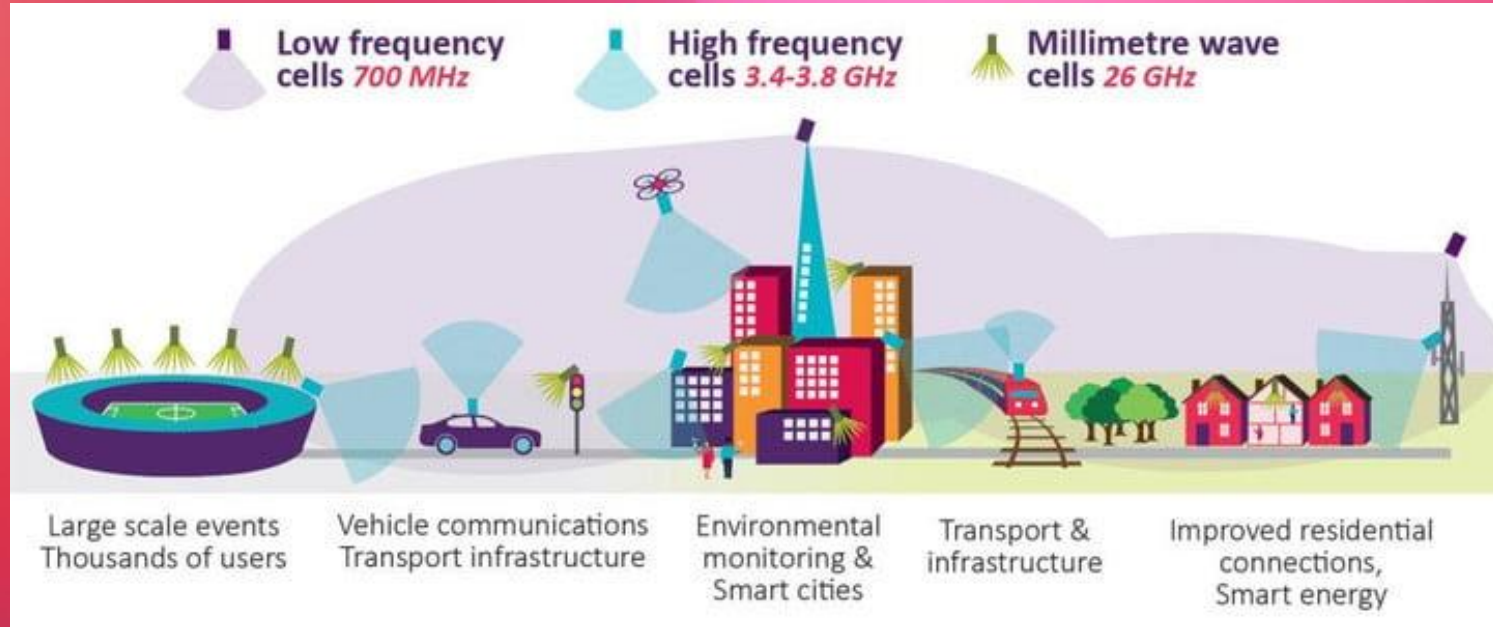
Repurpose some of our 850MHz spectrum from 3G technology to 5G

Spectrum (mmWave) auction in 2021

Next Generation Core network for network slicing and other advanced 5G services

Edge Computing to bring applications and services closer to our customers

- Diverse Use Cases lead to diverse spectrum requirements

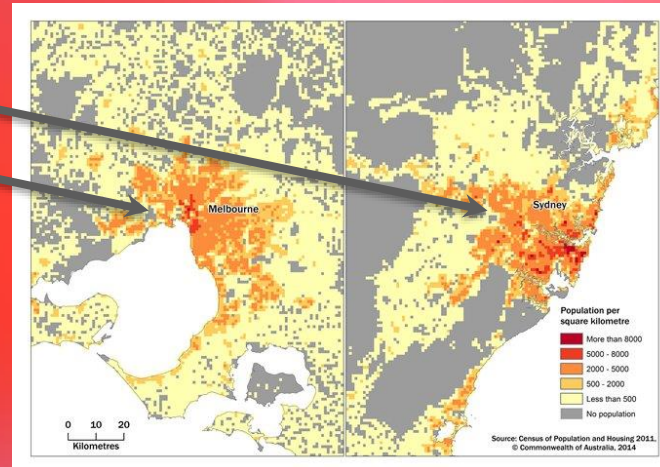
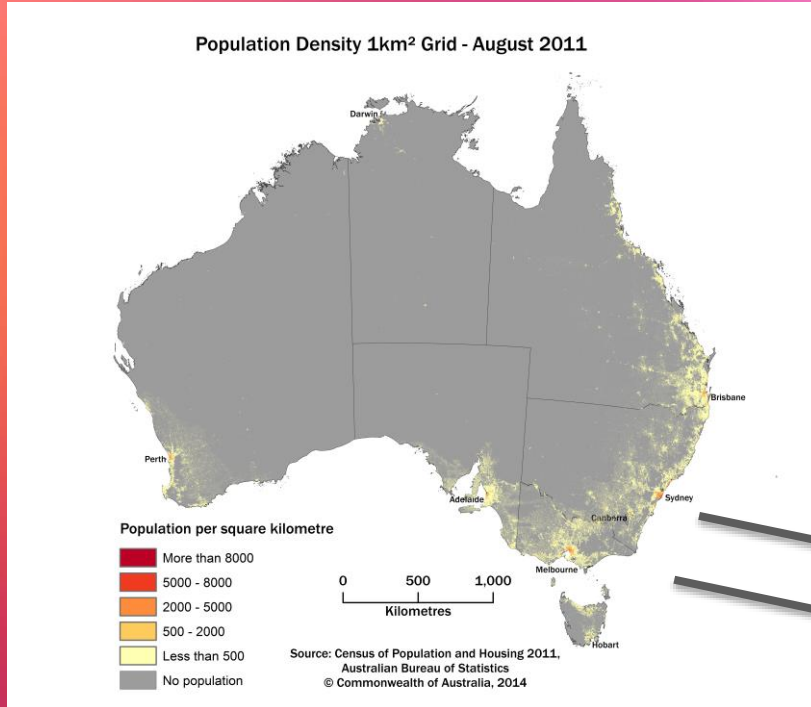


• A single spectrum band can't cover all use



At Telstra we need a combination of different spectrum bands for services in:

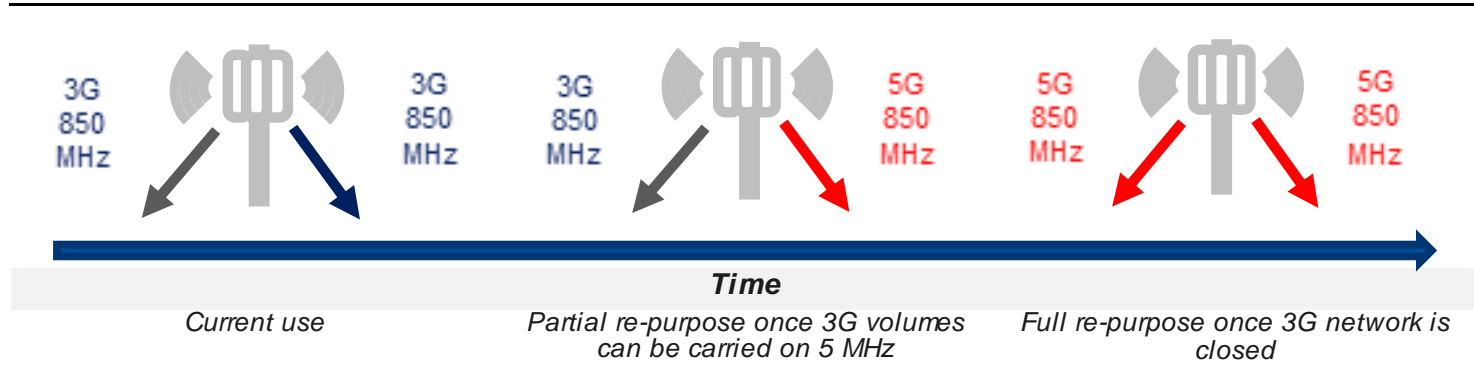
- Cities with dense population
- Regional and rural area with vast empty spaces





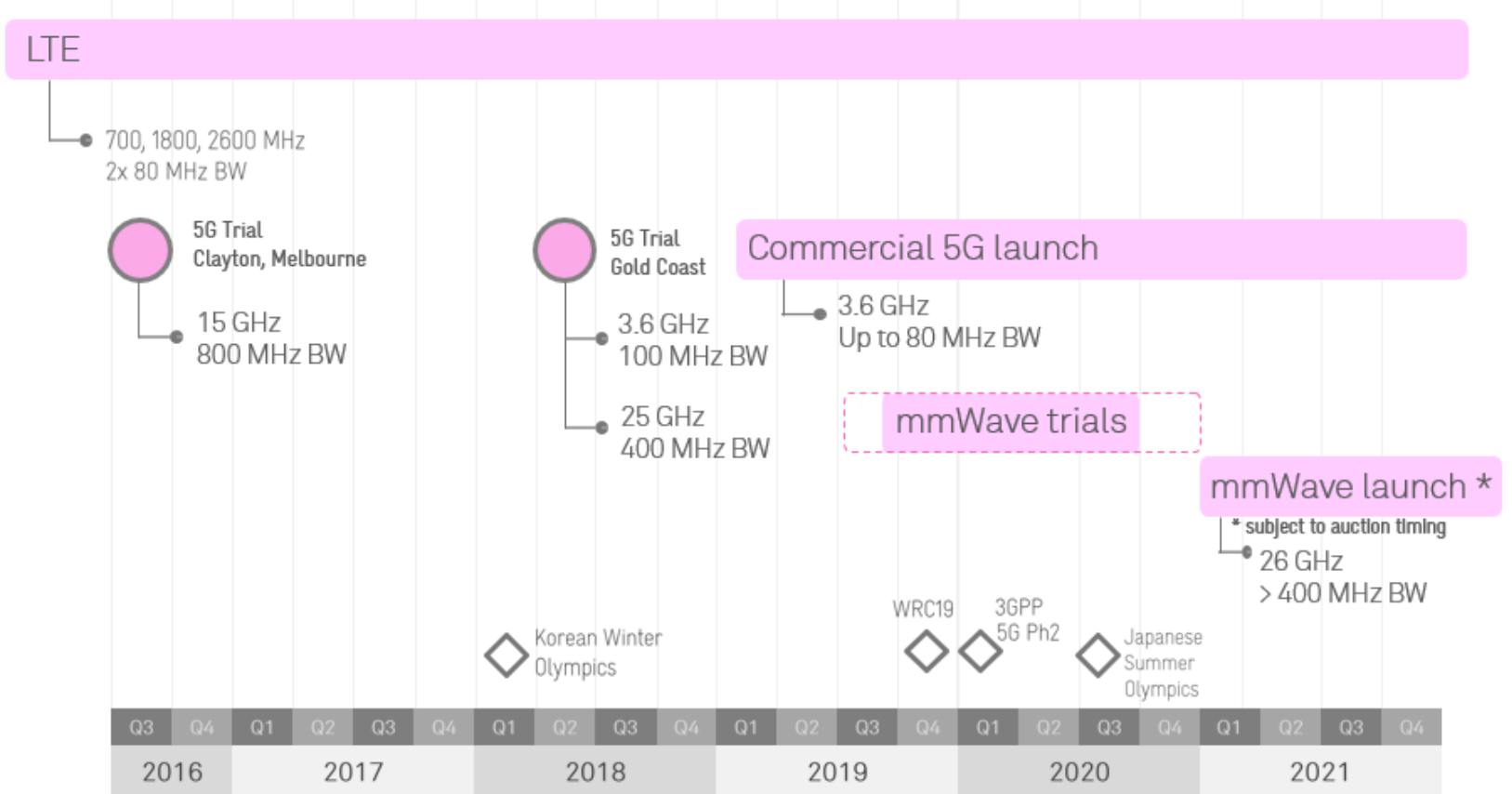
- **Frequency matters – coverage**
- The lower the frequency the more the coverage

As 3G traffic declines, we are able to progressively re-farm 3G (850MHz) spectrum to enable 5G without impacting our 3G customers



And this is made possible by modernising the equipment across our mobile network

Telstra 5G timeline





- **Exploring different use cases for 5G**



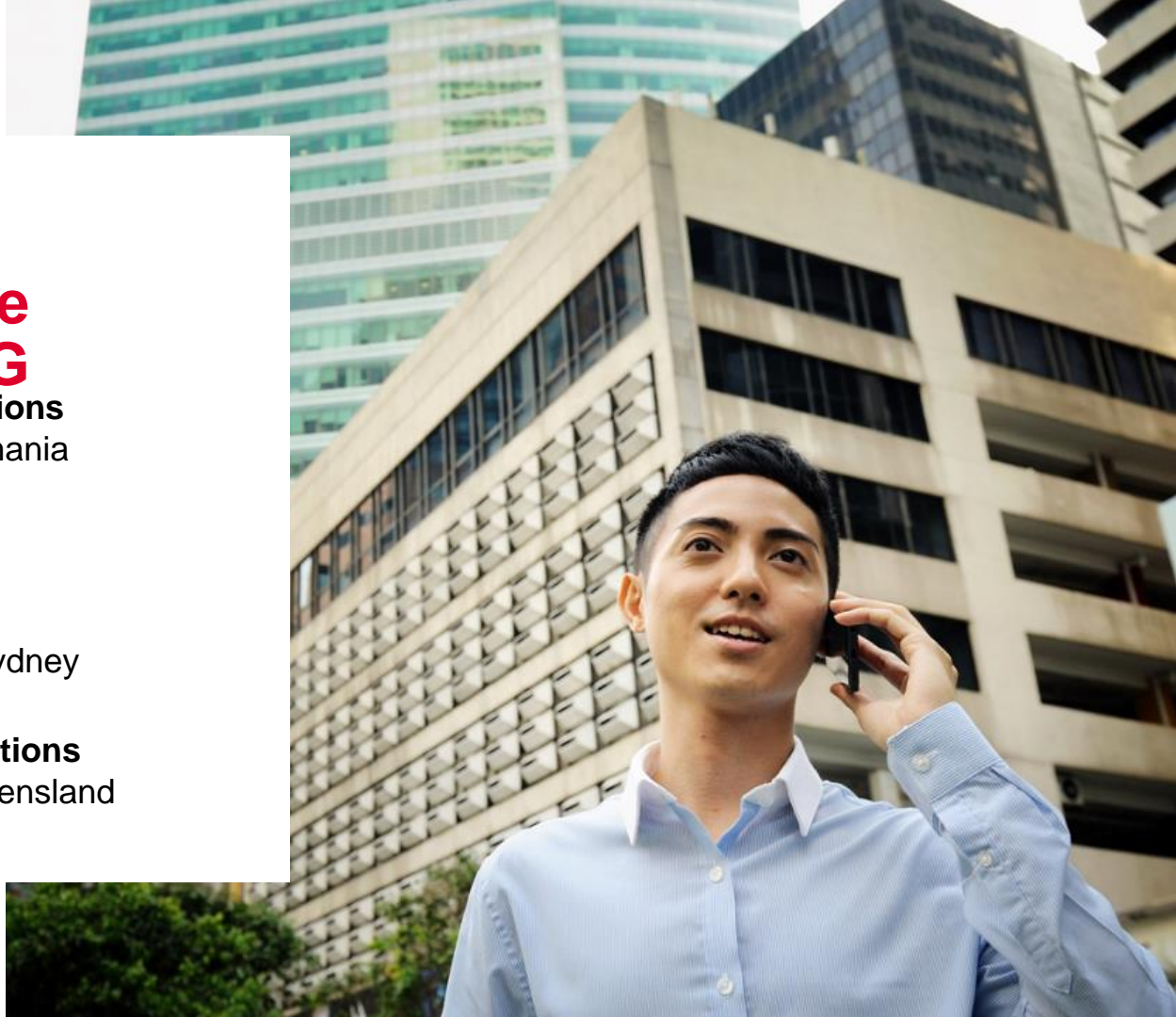
Smart city ambitions
Launceston, Tasmania



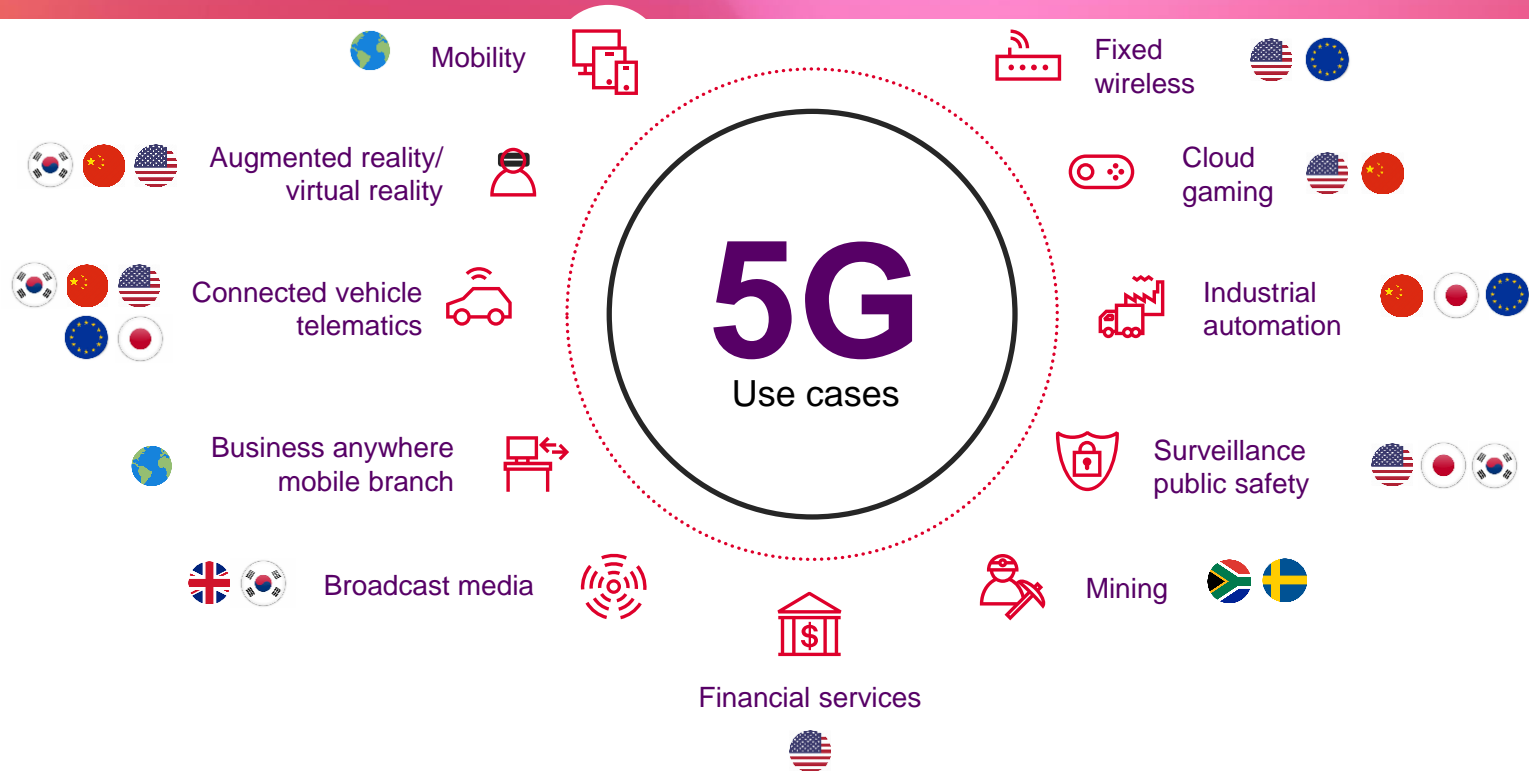
Edge computing advancements
Melbourne and Sydney



Agricultural solutions
Toowoomba, Queensland



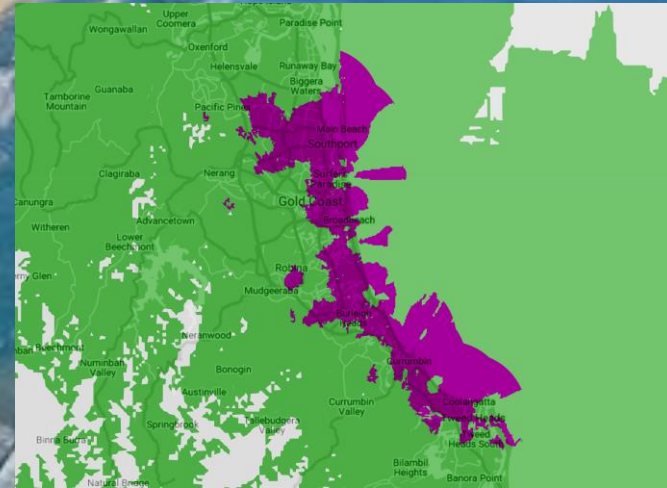
- We are globally aligned in exploring leading 5G use cases



- Telstra 5G Innovation Centre at the Gold Coast 



- Gold Coast 5G coverage



- Thank you

