5G

Fact sheet

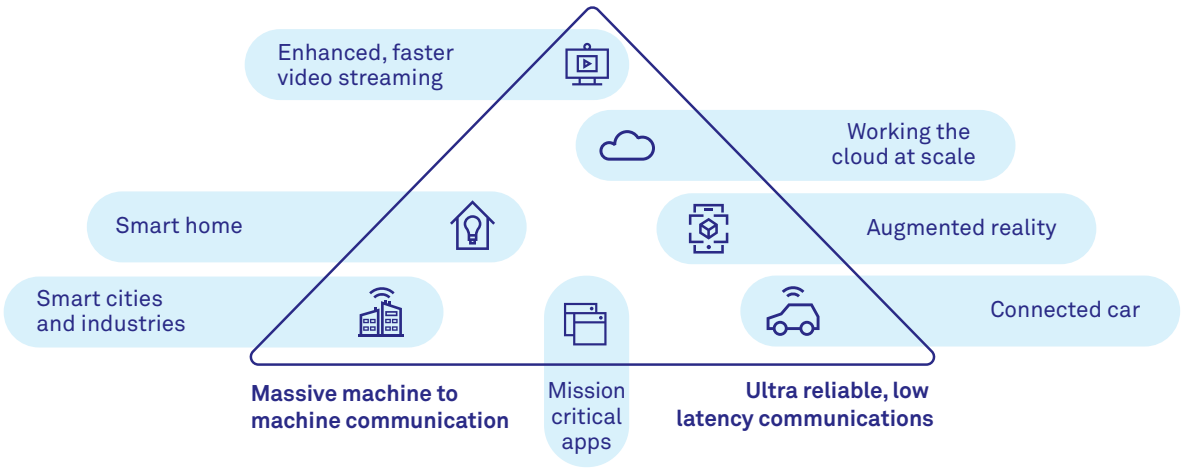
What is 5G?

5G stands for fifth generation and is the next major wave of mobile network technology.

The move from 4G to 5G is a step change, but also builds and refines features and capabilities first released under 4G.

Telstra is currently deploying 5G technology and the first devices were available for our customers to buy in May 2019.

Even faster mobile broadband speeds



What does 5G offer?

There are three main benefits of 5G.

1. **Additional bandwidth (speed)**

   Traffic on our mobile network is growing approximately 40% year on year on the back of the increased demand for video, driven by the speed available on 4G (4G is 10 times faster than 3G). When mature 5G will be at least 10 times faster than 4G (100 times faster than 3G) and be better at maintaining those speeds consistently.

2. **Greater scale**

   4G can manage several thousand connections per cell. The future demands of the Internet of Things will require millions of connections in each cell, made possible through 5G. As technology evolves, virtually everything that can be connected will be. There are predictions that 25 billion devices and systems will be connected worldwide by 2025. *Source GSMA*

3. **Ultra-reliable low latency**

   Latency is the amount of time it takes between a request for data being sent from a device to the moment that data is returned. 5G provides very low latency with very high reliability for specific use cases. Latency is the key to applications like autonomous vehicles, which will require much lower latency than current 4G technology can offer.

Why do we need 5G?

Each generation of mobile technology has changed the way we consume services. 3G was all about voice and data. 4G saw video on mobile become prevalent. 5G will unlock the potential to connect millions of things.

For example 5G will enable a future a set of technologies such as autonomous vehicles, virtual and augmented reality, artificial intelligence and machine learning, smart cities, factories and homes, and remote surgery and health care. While many of these technologies exist today, through 5G they will soon be mainstream.

All of these technologies rely on the quality of the underlying telecommunication networks. That is why 5G is so important to the technology innovation we are seeing today.

How is Telstra deploying 5G?

Telstra is currently deploying 5G technology on our existing base stations in capital cities and areas of high demand. Our 5G technology operates in conjunction with our existing 4G technology, however overtime this will evolve to a standalone technology standard.

Most of our 5G base stations operate on the 3.6 GHz frequency band. Some sites also operate at lower frequencies also used for 3G and 4G. Telstra have a Scientific Licence for mmWave spectrum.

We currently have mmWave testing sites in Southport, Parramatta and Melbourne with more to come soon.

While the rollout of mmWave technology is not due to officially begin until after the Government auction next year, these sites will be live and people living in these testing locations who own a Telstra 5G Wi-Fi Pro will be able to benefit from this new technology before anybody else.

Are there any health risks with 5G?

Telstra has conducted extensive electromagnetic emissions (EME) testing and analysis on the 5G network. The test results show EME levels are similar to the existing mobile technologies and well below the EME safety limits.

Independent health authorities here and overseas require carriers meet their safety standard so that you can use this technology safely. Over 50 years of scientific research exists into the possible health effects of the radio frequency signals used for mobile and wireless services including the frequencies used for 5G. In January 2020 Australia's Chief Medical Officer issued a **statement** to reassure all Australians that 5G is safe.

Where can I get further information on 5G and health?

More comprehensive information about 5G and EME is available from the following resources:

EMF Explained Series, which has been developed by the Australian Mobile Telecommunications Association (AMTA) in association with the GSMA and Mobile and Wireless Forum (MWF).

Electromagnetic energy (EME) – Information about EME, 5G and the safety of mobile phone networks.

Misinformation about Australia's 5G Network – Australian Government - Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

Chief Medical Officer advice on 5G safety

Telstra EME

Where to next for Telstra and 5G?

Telstra has 5G coverage in selected areas of 47 cities and regional towns across Australia. We're proud to have Australia's best 5G available to more than 10 million Australians who now live, work and pass through our network footprint every day. We're making sure we do everything we can to give Australians access to 5G as quickly as possible.

The benefits of moving from 4G to 5G

Spectrum
25x

Speed
10x

Capacity
10x

Latency
1/30th
of current pingtimes

Scale
10x
# of connected devices

Capacity
unit costs
down

Contact us

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