



1 November 2019

Committee Secretary
House Standing Committee on Communications and the Arts
PO Box 6021
Parliament House
Canberra ACT 2600

Dear Committee Secretary,

Vodafone Hutchison Australia (VHA) is pleased to provide this submission to the House Standing Committee on Communications and the Arts' inquiry on the deployment, adoption and application of 5G in Australia. VHA also endorses the submission made jointly by the Australian Mobile Telecommunications Association (AMTA) and Communications Alliance (the Associations).

5G is set to become an integral part of the world and the way we live. We anticipate that 5G's transformative power will far exceed previous generations of mobile technology, delivering new opportunities and changing the way businesses, governments and industries operate.

5G will involve a new wave of infrastructure investment in Australia. As noted in the submission by the Associations, this will require a co-ordinated policy approach from all levels of government, working with industry and across key portfolios, to ensure that policy and regulatory settings support the efficient deployment of networks. This includes timely spectrum allocation and broad community support for and understanding of the economic and social benefits of 5G.

Further, while government decisions may need to be made for national security reasons for example, the implications of those decisions for infrastructure investment need to be understood and considered.

Applications of 5G

Vodafone Group has launched commercial 5G networks in five countries. As more countries evolve towards 5G an increasing range of benefits will be delivered to consumers. Vodafone has already begun to highlight the transformative potential of 5G with various demonstrations.

For example, Vodafone Germany teamed up with blind Paralympic skier, Noemi Ristau¹ to demonstrate the potential 5G can deliver for those living with blindness and vision impairment. Using a local wireless network, video and sound are transmitted from a smartphone camera attached to

¹ <https://www.youtube.com/watch?v=OwUZAVt4x6w>



Noemi's helmet as she descends the slopes, enabling her instructor to relay directions back to Noemi verbally.

The low latency of 5G technology meant Noemi was able to ski down on her own, projecting her experience and receiving guidance in real-time from her instructor. Using 5G technology in this way could help blind or visually impaired people with visual navigation in new or unfamiliar surroundings and increase accessibility to sporting activities.

Recently, Vodafone UK conducted the UK's first live holographic call using 5G technology. The low latency and high speeds of 5G made it possible to project a 3D holograph of someone who was more than 330kms away. This technology could transform the way families stay in touch or the remote working experience. It also delivers increased accessibility to education and healthcare for people living in remote areas.

5G will also advance the power of the Internet of Things (IoT), enabling more connections, at greater speeds, with more data able to be shared. IoT connectivity driven by 5G could allow a medical patient in an isolated area to be operated on by a surgeon in a city, using a smart surgical robot connected virtually to that surgeon's hands.

Capability, capacity and deployment of 5G

There needs to be a coordinated approach from government and the industry to enable efficient and timely deployment of 5G. This will ensure the opportunities 5G offers become a reality for all Australians.

For example, infrastructure deployment rules designed for legacy infrastructure are struggling to keep pace with 5G and the dense small-cell architecture it requires. Reforms to deployment rules are needed as a priority to ensure the timely and efficient deployment of network infrastructure with minimal impact on communities

In addition to timely and efficient deployment processes, delivery of 5G requires the timely and efficient delivery of sufficient quantities of new spectrum to market, particularly unused spectrum which is suitable for delivering 5G.

Spectrum is a finite resource that underpins mobile telecommunications and affects service quality and cost. The Australian Mobile Telecommunications Association (AMTA) estimates that each mobile operator will initially need around 100 MHz of mid band spectrum and 1GHz of mmWave spectrum for 5G to reach its full potential and deliver on what it is designed to do.



Government agencies from other parts of the world have for some time recognised the critical need for mid band spectrum to support 5G and responded by specifying targets for large quantities of this spectrum to be released. For instance, the European Commission decided back in 2014 to harmonise 400 MHz of spectrum in the 3400-3800 MHz frequency range for these purposes. Spain and Germany have already allocated the full 400MHz, Ireland has allocated 350 MHz and Finland 390 MHz.

By comparison, the Australian Communications and Media Authority (ACMA) has thus far allocated just 225 MHz, or roughly half of the amount of mid band spectrum made available in Europe. A further 75MHz of this vital spectrum currently sits unused by NBN Co. in metropolitan areas.

VHA welcomes the Minister's recent announcement of a path forward for reforms of the spectrum management framework to streamline the spectrum licence renewal processes, introduce greater flexibility in the licensing framework and reduce the timeframes for bringing spectrum to market.

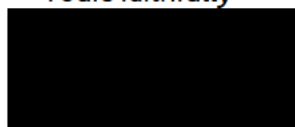
Health and Safety

As noted in the submission by the Associations, Industry is keenly aware that the deployment of 5G mobile networks has caused concern among some members of the community, both in Australia and overseas, in relation to health and safety.

It is important to recognise that Australia has some of the most comprehensive and stringent radio frequency safety and electromagnetic energy (EME) compliance requirements in the developed world. Pre-design risk assessments, publicly visible community environmental EME reports, and independently certified site-specific compliance assessments are just some of the requirements that apply to new radiocommunications facilities, technology upgrades to existing facilities, and ongoing site operation.

VHA is happy to discuss any aspect of this submission with the Committee.

Yours faithfully



Dan Lloyd
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