

ACMA Consultation on draft spectrum reallocation recommendation for the 26 GHz band (IFC: 14/2019)

Introduction

The ACMA has released a consultation paper on its draft spectrum reallocation recommendation for the 26GHz band in cities and regional centres.

Vocus Group Limited is a specialist fibre network services provider operating Australia's second largest inter-capital network as well as backhaul fibre connecting most regional centres in Australia. Vocus also operates an extensive and modern network in New Zealand, connecting the country's capitals and most regional centres. In total, the Vocus terrestrial network is c.30,000 route-km of high performance, high availability fibre-optic cable, supported by 4,600km of submarine cable connecting Singapore, Indonesia and Australia and 2,100km of submarine cable between Port Hedland and Darwin and connecting offshore oil and gas facilities in the Timor Sea. Vocus owns a portfolio of brands catering to enterprise, government, wholesale, small business and residential customers across Australia and New Zealand.

Vocus welcomes the opportunity to respond to the ACMA's consultation paper.

The ACMA's draft recommendation

The ACMA intends to conduct a price-based allocation of the reallocated spectrum. The ACMA's preliminary view is that any spectrum licences issued in the 26 GHz band should commence as soon as possible after allocation. The ACMA also proposes that the licences be issued for a 15-year term.

The ACMA has prepared a draft recommendation that the minister make a spectrum reallocation declaration for the specified parts of the spectrum in the 26 GHz band:

Element of draft recommendation	The ACMA's proposed recommendation
Licence type	Spectrum licences
Parts of the spectrum	25.1–27.5 GHz in 34 specified cities and regional centres
Reallocation period	Two-and-a-half years
Reallocation deadline	12 months before the end of the reallocation period

Vocus supports the proposed licence term of 15 years. A 15-year term is necessary to support a sound case for investment in innovative 5G services that will provide benefits across industry, businesses and consumers.

Vocus submits that the spectrum licence should also include conditions mandating wholesale access to MVNOs, for the reasons outlined below.

Wholesale MVNO access obligations

The ACMA has noted that the anticipated use of the band is wide-area wireless broadband through either mobile or fixed network operator deployments. A combination of 5G and fixed access, such as that provided by Vocus, with network slicing presents a significant disruptive opportunity for Australia's economy. Enterprises will be able to take advantage of these technologies to implement connectivity in a wide range of use cases and locations with slices tailored to the particular use case.

At Vocus, we want to partner with industry to enable this innovation so that a wide range of services can be provided. Vocus is prepared to pay a fair price for wholesale access to 5G spectrum. However, we are concerned that the MNOs could delay access to 5G technology to MVNOs, without inclusion of conditions in spectrum licences requiring they provide immediate wholesale access. Vocus submits that a condition to the ACMA's allocation of the wider 26 GHz band spectrum should be that successful bidders are required to make the spectrum available for MVNOs immediately.

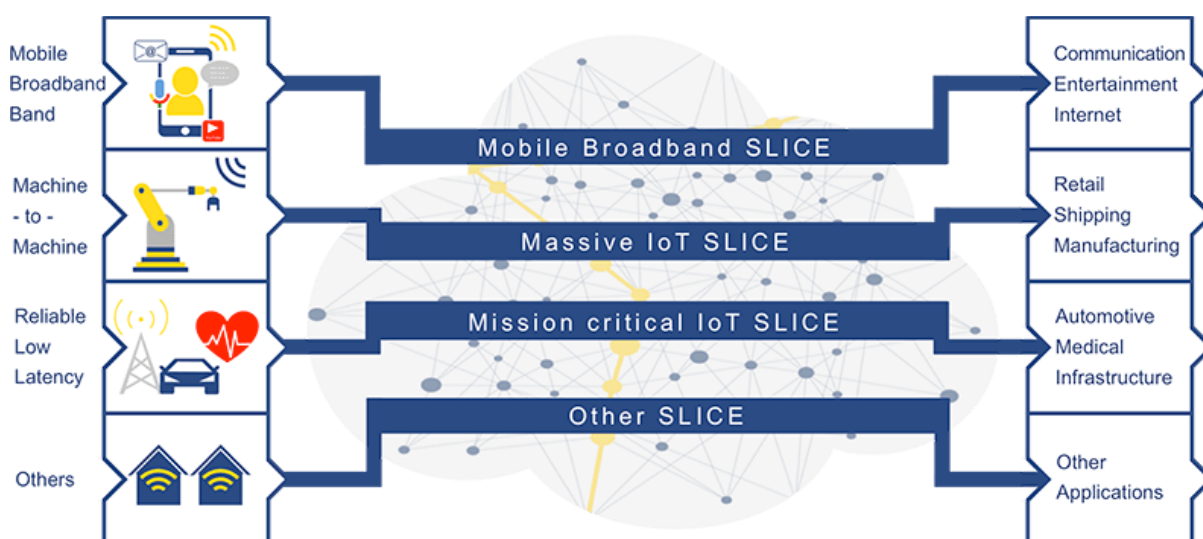
Network slicing

The properties of 5G spectrum in the millimetre-wave bands allow for new forms of spectrum sharing.

Vocus submits that the ACMA should impose conditions on the spectrum licence that require successful applicants to provide wholesale MVNO access based on network slicing, along with other appropriate terms and conditions. Such conditions would promote competition and innovation, with network slicing across 5G and fixed networks opening up new use cases for enterprises.

Network slicing also creates opportunities for MVNOs to differentiate and compete as it allows multiple logical networks to be created on top of a common shared physical infrastructure. These 'slices' or separate sub-networks are customisable and can be tailored to meet the demands of their customers and diverse use cases with different performance requirements.¹ Key slice parameters include bandwidth capacity and speed; latency, number of device connections, reliability, mobility and power consumption.² For example, a network slice could be customised for IoT devices at a construction site, factory, mine or hospital or for higher security for government uses.³

*Network slicing diagram:*⁴



¹ Ericsson on network slicing, website accessed 17 May 2019: <https://www.ericsson.com/en/digital-services/trending/network-slicing>

² How 5G will enable the next wave of innovation across multiple verticals, Zia Bhadiar, CommsDay Summit, Sydney, 9 April 2019. (Slides accessible at <https://www.slideshare.net/CommsDay/pwc-strategy-on-5g>)

³ '5G – enabling the future economy, Department of Communications & the Arts, 12 October 2017, <https://www.communications.gov.au/departmental-news/5g-enabling-future-economy>

⁴ Squire Technologies Blog, Architecture Evolution – Network Slicing and 5G - <https://www.squire-technologies.co.uk/blog/tag/sdn>

Public benefit of wholesale MVNO access obligations in spectrum licences

The object of the *Radiocommunications Act 1992* is to provide for management of the radiofrequency spectrum to (among other goals):

- maximise, by ensuring the efficient allocation and use of the spectrum, the overall public benefit derived from using the radiofrequency spectrum
- provide a responsive and flexible approach to meeting the needs of users of the spectrum
- encourage the use of efficient radiocommunication technologies so that a wide range of services of an adequate quality can be provided
- support the communications policy objectives of the Commonwealth Government.

Vocus submits that the inclusion of wholesale MVNO access obligations in spectrum licenses will assist in best maximising the overall public benefit from use of the wider 26 GHz band; enable a wide range of services to be provided and support the communications policy objectives of promoting competition and innovation in downstream retail markets.

Promotion of competition should be an important consideration in spectrum allocation. The ACCC in the final report of its Communications Market Study noted that promotion of competition should be an explicit objective in the proposed new Radiocommunications Bill. The ACCC found that:

Spectrum allocation and management is increasingly important for communications markets. The value of spectrum lies in the economic and social benefits it supports, rather than in any revenue return to the Budget.⁵

Inclusion of wholesale MVNO access obligations in the terms of spectrum licences is vital to achieving the most pro-competitive and efficient use of the spectrum. It is widely recognised that MVNOs enhance competition. As the ACCC noted in its ACCC Communications Market Report 2017–18, MVNOs provide competition to the three MNOs and serve sections of the market that the MNOs may not necessarily cater to or target. (As at June 2018, MVNOs comprise 13 per cent of the market.⁶)

Not providing any safeguards for MVNOs in spectrum licence conditions may reduce competition, impede innovation, and therefore reduce the overall public benefit derived from using the spectrum. Without immediate access to 5G spectrum, MVNOs will not be able to offer competitive and innovative services, to the detriment of consumers' interests as well as businesses in an IoT world.

The ACCC has also highlighted that the deployment of 5G networks is expected to have wide-spread public and economic benefits for industry and consumers. Indeed, this wider 26 GHz band spectrum is most likely to enable new 'revolutionary' use cases of 5G beyond mobile broadband. At present, there are three main use cases anticipated for 5G: enhanced mobile broadband, ultra-reliable, low latency wireless communications, and massive machine-to-machine communications.⁷

Given virtualised infrastructure, network slicing enables the efficient use of radiocommunications technologies and provides the flexibility for MVNOs to collaborate with industry and respond to the needs of niche markets. If MVNO have timely access to 5G spectrum, they could enable innovation by running 'mini-networks' configured for customers in specific industry verticals or to fit a wide range of new use cases.

For the overall public benefit of the spectrum to be maximised, alternatives to the MNOs are needed, as they cannot cover all customer segments and the wide range of use cases. Given the barriers to entry into the mobile market, mandating wholesale MVNO access obligations is a lever available to the ACMA to maximise the public benefit of the spectrum, enable a wide range of services to be provided, promote competition and encourage investment in disruptive technologies.

⁵ ACCC Communications Market Study Final Report, April 2018, page 160

⁶ ACCC Communications Market Report 2017-18, February 2019, page 7

⁷ ACCC Statement of Issues, TPG Telecom – proposed merger with Vodafone, 13 December 2018

International developments

Further to the precedents for wholesale MVNO access to spectrum to which the ACMA has been previously referred, we draw the ACMA's attention to more recent studies and developments.

In November 2018, a European Parliament study made a number of recommendations to promote competition and innovation in the mobile market. These recommendations included promoting sharing of future 5G networks with open access to all service providers:

... Major EU opportunities for MVNOs may come from access to IMR networks for M2M/IoT applications on 5G networks so all players should have the same open access, at a wholesale level, to ensure competition. That implies no restrictions on wholesale access to 5G networking, and not being blocked by traditional incumbent operators promising to invest in new infrastructure.⁸

In December 2018, the Body of European Regulators for Electronic Communications (BEREC) published a report on practices on spectrum authorisation, award procedures and coverage obligations with a view to considering their suitability to 5G.⁹ The report notes that regulators may use several measures to safeguard competition and to address competition concerns, and that these include:

Wholesale access obligations can facilitate market entry of mobile network operators (e.g. national roaming and access obligations to sites and masts and other critical infrastructure that cannot be replicated by other operator) and MVNO / service providers to allow competing at the retail level.

The report notes that some regulators are considering implementing competition measures for future award procedures. Where regulators have implemented competition measures, the most common were national roaming (in some cases limited for a specific period), access obligations for MVNOs, sharing agreements or extended duration of coverage obligations for new entrants.

In Germany, the Bundesnetzagentur (BNetzA) imposed 5G spectrum conditions on the auction conducted in March 2019 including an obligation on mobile carriers to allow service providers and MVNOs to access 5G networks on a non-discriminatory basis.¹⁰

On 7 May 2019, Singapore's communications regulator IMDA issued a second public consultation paper to consult on the appropriate regulatory frameworks and policies for 5G.¹¹ In this paper, the IMDA proposes to impose certain obligations and requirements on MNOs who are awarded the 3.5 GHz and mmWave spectrum. These obligations include wholesale arrangements, specifically that *"spectrum right holders shall provide 5G wholesale services to other mobile service providers, specifically to any MNOs and MVNOs, upon request."*

Please direct any questions regarding this submission to:

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3 June 2019

⁸ Roaming: one year after implementation, European Parliament Policy Department for Economic, Scientific and Quality of Life Policies, November 2018

⁹ BEREC report on practices on spectrum authorization, award procedures and coverage obligations with a view to considering their suitability to 5G, 6 December 2018

¹⁰ Germany's 5G – the bidders and what's involved, DW, 31 January 2019 (<https://www.dw.com/en/germanys-5g-the-bidders-and-whats-involved/a-47301598>)

¹¹ Second public consultation on 5G Mobile Services and Networks, IMDA, 7 May 2019