

5 June 2024



## **Submission to the ACMA**

Expiring spectrum licences:  
stage 2 - Information gathering,  
and views on uses of frequency  
bands and alternative licence  
conditions



---

The ACMA

Via the online 'Have your say' portal



5 June 2024

Dear Sir/Madam

The Australian Mobile Telecommunications Association (AMTA) welcomes the opportunity to provide this submission in response to Expiring spectrum licences: stage 2 Information gathering, and views on uses of frequency bands and alternative licence conditions.

This submission represents the views of the AMTA ESL Working Group which is made up of AMTA members that hold Expiring Spectrum Licences (ESL).

If you have any queries or comments in relation to the content of our submission, please contact [REDACTED]

## About AMTA

The AMTA is the peak industry body of Australia's mobile telecommunications industry. Our purpose is to be the trusted voice of industry, promoting the adoption, monetisation and sustainability of mobile telecommunications technology for the benefit of all Australians.

AMTA members include the mobile network service providers, handset manufacturers, network equipment suppliers, retail outlets and other suppliers to the industry.

---

## Introduction

AMTA welcomes the opportunity to make this submission to the Australian Communications and Media Authority's (ACMA's) Stage 2 consultation on Expiring Spectrum Licences (ESL). Existing arrangements for access to spectrum under ESLs have delivered unrivalled public benefit for the Australian economy and broader society. Industry investment has delivered three globally competitive national mobile networks and there are over 29 million mobile services plans in the market today.<sup>1</sup> Mobile communications are essential for Australian businesses and consumers and deliver billions of dollars of economic activity and many thousands of jobs each year.

Changes to arrangements that govern ESLs threaten to undermine the investment environment that has delivered this public benefit and the continuity of supply of services essential to Australians' daily lives.

The Minister has also identified continuity of service as a policy priority of the ESL process.<sup>2</sup> AMTA considers that a change in ESL arrangements may put at risk delivery of services to a significant number of people, which should weigh heavily in favour of the ACMA forming a view that ESL renewal is in the long-term public interest.<sup>3</sup>

AMTA's submission makes the following key points:

- Mobile networks make vital contributions to Australia's social wellbeing and economic prosperity. Mobile networks are also efficient and effective users of the spectrum, and mobile network operators (MNOs) are good stewards of spectrum as they continually re-farm spectrum to the latest and most efficient mobile generation.
- Service continuity, as cited in the Ministerial Policy Statement, relies on continued access to spectrum. Even partial removal of in-use spectrum will have a deleterious effect on mobile network users. As such, incumbent licensees must be afforded the opportunity to renew all their existing licence holdings.
- Incumbent MNO licensees manifestly and completely satisfy the public interest criteria, and we demonstrate this against each of the five Public Interest Criteria established by the ACMA.
- The earliest possible advice on licence renewal is required to underpin ongoing investment. We appreciate the ACMA cannot provide certainty of renewal, but we stress that the earliest possible timing for a decision on renewal is essential for investment certainty.
- The benefits arising from allowing incumbent ESL licensees to renew their spectrum are predictable and likely to occur based on the MNOs' track record. In contrast, the potential benefits from new entrants and / or alternative uses are much less certain.

---

<sup>1</sup> ACCC Internet Activity RKR data as at 30 June 2023, compiled, Dec 2023. See Excel Spreadsheet, Table 5. Available at: <https://www.accc.gov.au/by-industry/telecommunications-and-internet/telecommunications-industry-record-keeping-and-reporting-rules/internet-activity-record-keeping-rule/june-2023-report>

<sup>2</sup> Section 6 of the final Ministerial Policy Statement Instrument, 30 April 2024

<sup>3</sup> Consultation paper, p.41 in the section on Public Interest Criteria number 4, quoting the Explanatory Memorandum associated with the Modernisation Act

---

## Mobile networks make vital contributions to social and economic outcomes

Digital connectivity - enabled by mobile networks and services - is essential to Australia's future safety, security, and economic prosperity. Individuals rely on mobile networks to connect and interact with government, businesses, and each other on a daily basis. Businesses depend on mobile networks to grow, innovate, and adapt.

In this section of our submission, we briefly discuss the important economic, business, and social contribution mobile networks make to Australia. We conclude this section by stressing the important role spectrum plays in underpinning these benefits.

### Australia's economic prosperity

Mobile networks and services are essential to Australia's economic prosperity. The Australian Government recognises the importance of mobile services to Australia's future economic success in the global marketplace. The Department of Industry, Science and Resources (DISR) compiled a "list of critical technologies in the national interest"<sup>4</sup> that will help secure Australia's future. That list includes advanced radiofrequency communication technologies such as 5G and 6G, and we are pleased to see this recognition of the importance of current and future generations of mobile networks. Further to this point, the ACMA also states, "*Advanced radiofrequency communications, including 5G and 6G, are considered to be critical technologies that can impact Australia's national interest, including economic prosperity, national security and social cohesion. Encouraging uptake of these technologies across the economy, and encouraging local and international investment, would likely be conducive to the public interest.*"<sup>5</sup>

Mobile networks and services provide billions of dollars in uplift to the Australian economy and will continue to do so given the right investment environment. PwC has forecast the cumulative impact for 5G for Australia at \$110bn over the period 2023-2030.<sup>6</sup> In 2022, Deloitte Access Economics forecast that the cumulative benefit of 5G to the Australian economy over eight years through to 2030 would be \$94bn<sup>7</sup> if Australia is able to maintain its place in third position globally for the adoption of 5G technology. If, however, Australia was to chart the course predicted by the GSMA in terms of global ranking for 5G adoption, then it would only realise \$67bn; a shortfall of some \$27bn. AMTA notes that two years into the eight-year window Australia has fallen to eighth place as at Q1 2024.<sup>8</sup>

---

<sup>4</sup> List of critical technologies in the national interest, Advanced information and communications technologies. Advanced radiofrequency communications, including 5G and 6G. <https://www.industry.gov.au/publications/list-critical-technologies-national-interest/advanced-information-and-communication-technologies>

<sup>5</sup> Consultation paper, p.38

<sup>6</sup> PwC, The global economic impact of 5G. The cumulative 2023-2030 (8 years) economic benefit is US\$76bn (-AUD\$110bn). Available at <https://www.pwc.com/gx/en/industries/technology/publications/economic-impact-5g.html>, and then select for Australia.

<sup>7</sup> Assuming Australia maintained its third-place position in the global ranking for 5G adoption (or only \$67bn if Australia slipped to ninth place, as predicted in GSMA Intelligence forecast): Deloitte Access Economics / AMTA 2022 report in the Mobile Nation series, titled 5G Unleashed: Realising the potential of the next generation of mobile technology. Available at <https://amta.org.au/wp-content/uploads/2022/03/5G-Unleashed-Final-Report-combined-21-March-2022.pdf>

<sup>8</sup> GSMA Intelligence Database. Search Criteria: "Market Penetration, 5G Connections". Sourced, 30 May 2024. Available at: <https://data.gsmainelligence.com/data/custom-metrics-search>

---

The GSMA's July 2023 publication, *The Mobile Economy, Asia-Pacific 2023*<sup>9</sup> further corroborates this view. The report observes, “*Mobile connectivity continues to be at the core of digital innovation in Asia Pacific, enabling a wide range of transformative technologies for individuals and enterprises, and helping governments to deliver positive impacts for society.*” For Australia to keep pace with its regional and global peers it is important that we continue to support investment in our advanced and globally competitive mobile networks. This requires ongoing access to all existing ESL spectrum holdings.

Each of these reports highlight the importance of mobile networks to Australia's economic growth and prosperity. As we demonstrate through this submission, these mobile networks are underpinned by reliable, long-term access to spectrum.

### Supporting businesses with real-time information and secure services

Beyond the macro-economic benefits, mobile networks are essential to a vast array of businesses to conduct their business every day. EFTPOS terminals process electronic payment of goods and services anywhere a sales transaction can take place. Mobile devices use two-factor and multi-factor authentication for everything from access to online banking through to secure access inside corporate firewalls. Field services, from medical (e.g., locum services or telehealth) through to transport, construction, agriculture, mining, energy and water all rely on mobile networks to collect information from the field or for the field to access information from a central point.

In many of these examples, the quantity of data for each transaction is low, and it may be tempting to think that business transactions of this nature could continue undegraded even if some of the spectrum currently held by mobile operators were reallocated to new licensees for alternative purposes. It is important to note that in general, data traffic on a network is assigned a common priority, which is below voice traffic and other specially prioritised traffic types (such as traffic for emergency services). Thus, as a network becomes congested, it is all data traffic that suffers. Therefore, it is vital that all existing ESL spectrum is made available for incumbent licensees to renew (should they so choose).

### Social contribution

Mobile networks are essential to Australians' daily life, broader social cohesion and wellbeing, and access to other essential services, particularly in times of disaster. Mobile networks and services support people socially by enabling instantaneous and dependable connectivity, allowing individuals to stay in touch with family and friends regardless of distance. They also facilitate social interactions and community building through social media platforms, instant messaging, and video calls, fostering a sense of belonging and enhancing relationships.

Mobile networks also perform a critical role during disasters and emergencies, and we know that staying connected is especially important during these times. In addition to staying connected with family and friends, mobile communication enables rapid dissemination of vital information, such as emergency alerts, ensuring that affected individuals can act swiftly

---

<sup>9</sup> GSMA, *The Mobile Economy, Asia Pacific 2023*, July 2023. [www.gsma.com/mobileeconomy/wp-content/uploads/2023/07/Mobile-Economy-Report-Asia-Pacific-2023.pdf](http://www.gsma.com/mobileeconomy/wp-content/uploads/2023/07/Mobile-Economy-Report-Asia-Pacific-2023.pdf)

---

to protect themselves. It also facilitates coordination among emergency responders and relief organisations, enhancing the efficiency of rescue operations and resource distribution.

During times of natural disaster or emergency, people heavily rely on their mobile devices to seek vital information, stay updated with the latest news, and most importantly, to connect with their loved ones. This increased demand can put a significant strain on the network, potentially leading to congestion and degraded service.<sup>10</sup> Therefore, ensuring that mobile networks have sufficient spectrum is not just about providing a good customer experience under normal conditions; it's also about ensuring networks can handle the increased load during emergencies and continue to provide reliable service when people need it the most.

### Continuity of high-quality spectrum is essential

The success of Australia's digital future, global competitiveness, national social welfare, security and economic outcomes depends on the availability of high-quality mobile networks and services. Spectrum is essential to the deployment of mobile networks and the supply of mobile services. Mobile network operators require sufficient certainty of access to spectrum to support the long-term investment considerations that underpin operators' extensive network investment programs.

Making new mobile spectrum available is also essential to meet the growing demand from consumers for mobile data services. For example, mobile network data traffic globally grew 28 percent between Q4 2022 and Q4 2023.<sup>11</sup> However, the mobile sector has experienced long-term declines in returns on invested capital (ROIC). This is highlighted by the fact that mobile sector capital expenditure has remained constant at around \$5.4bn each year for the past four years, despite operating profits decreasing by 24% over the same period.<sup>12</sup>

In this context, the high levels of ongoing investment required to deliver the future economic and social benefits of 5G and 6G services raises the real prospect of a "digital investment gap".<sup>13</sup> MNOs require certainty of renewal and ongoing access to spectrum of sufficient quantity and quality to invest in the networks and services required for Australia's digital future and socio-economic prosperity.

### Mobile networks rely on continued access to spectrum

MNOs use their ESL spectrum to supply 3G, 4G and 5G services and will continue to need spectrum to provide 4G, 5G and eventually 6G services in the future. The availability of spectrum is crucial to the cost-effective deployment of national mobile networks and is a key factor in a MNO's network investment decision-making and deployment strategies. An insufficient quantity of spectrum means that coverage, capacity and capability objectives can only be delivered via more expensive site densification, impacting the quality and affordability of essential downstream services.

---

<sup>10</sup> Department of Infrastructure, Transport, Regional Development, Communications and the Arts, Telecommunications in emergencies and natural disasters. Available at <https://www.infrastructure.gov.au/media-technology-communications/phone/communications-emergencies/telecommunications-emergencies-natural-disasters>

<sup>11</sup> Ericsson Mobility Report November 2023. <https://www.ericsson.com/en/reports-and-papers/mobility-report>

<sup>12</sup> JPMorgan Australian Telecommunications Analyst note, 4 Oct 2023

<sup>13</sup> As per REPORT: State of the Australian Telecommunications Industry - Venture Insights

---

AMTA welcomes the ACMA's confirmation that it intends to examine use based largely on publicly available information - including the coverage maps that MNOs are required to supply to the ACCC under its Infrastructure record keeping rule (RKR). We also refer the ACMA to the RFNSA database, which details where a base station has been deployed and activated. In other words, where the spectrum is being used to make mobile services available. In combination, this information should be sufficient to establish use of ESL spectrum.

However, we have concerns that the ACMA intends to take a far more granular approach to examining use. For example, the ACMA has indicated that it intends to "examine information about how incumbents are using their spectrum in certain geographic areas" in developing its preliminary views.<sup>14</sup> The ACMA has also set out its reservations about the utility of coverage maps in determining "use".<sup>15</sup>

### Examination of use should reflect reality of network deployment

AMTA strongly cautions against an approach that does not take into consideration the realities of how spectrum is used in network deployment decision-making and the supply of national public mobile services.

MNOs deploy their spectrum assets in response to their customers' needs and their network deployment strategies to provide capacity, capability and coverage. For example, MNOs use spectrum to layer their networks, with low-band generally used for coverage and mid-bands for capacity and capability. There is a general industry wide and well-established deployment strategy of providing coverage first and capacity later. Therefore, an MNO's use of one band at a location is a strong indication that they will likely use other licensed bands at that same location (see further discussion on this point under "information gathering considerations" section below).

AMTA also emphasises that an absence of current use or site data (whether by geography or bandwidth) cannot be taken as an absence of need to access spectrum in the future. Adequately capturing plans for use will be critical in determining spectrum utilisation and the ACMA should consider appropriate means for determining this. In this context, AMTA strongly endorses the ACMA's statement that:

*"holding unused spectrum can also potentially provide licensees utility by providing greater flexibility to deploy or adjust services on a needs basis in the future, particularly in bands where significant new releases of spectrum are not expected over the term of a licence. In such cases, the length of time that the spectrum has not been used, or underused, would need to be considered in connection with technology and investment cycles, and anticipated future use of the spectrum"*<sup>16</sup>.

The potential for incorrect conclusions about use of spectrum that may flow from a more granular examination (for example, in a particular area following the ACMA's preliminary view),<sup>17</sup> is well illustrated by customer "usage data". A lack of uptake or evidence of "usage data" in a particular area should not determine that the spectrum is not being used, or

---

<sup>14</sup> ACMA's Expiring Spectrum Licences, Finalised framework and response to submissions, December 2023; p.9

<sup>15</sup> p.16 and 17 of the ACMA's Stage 2 consultation paper

<sup>16</sup> ACMA Stage 1 Consultation paper, p.20

<sup>17</sup> See page 18 where ACMA states that may use "information-gathering powers" under section 284S of the Act in the lead up to an application window

---

certainly that it will not be used in the future, by an ESL holder. The availability of the network in a particular area is crucial to customer experience.

Too granular an assessment of usage data will not give a fair indication of “use” of spectrum given that there may be areas where consumers simply do not take up a service. If consumers choose not to use an MNO’s network in certain areas this says nothing about potential future usage. Ultimately changes in usage data will inform investment decision-making – where it is evident that there is sustained increased use in an area, then a decision to upgrade or build out the network may follow.

### ACMA’s approach is a departure from previous ESL process

AMTA acknowledges that the Act does not provide for a presumption of renewal and all decisions on renewal applications are to be made on their merits. However, we disagree with the ACMA that its approach to considering the public interest in renewing spectrum is “broadly consistent with the previous ESL process”<sup>18</sup>.

As noted by the ACMA, the previous ESL renewal process simply required an incumbent to prove that the licence had been used in the provision of wireless broadband services (as a class of service identified under the Radiocommunications (Class of Services) Determination 2012), rather than potentially having to prove use within each geographic area of each ESL. As outlined above, we consider that a more granular assessment the ACMA appears to be inclined to take for this ESL process raises the risk that decisions on the public interest may be based on an erroneous assessment of ‘use’ that does not reflect how spectrum is used in network deployment.

In our view, too granular an examination of use may also constitute an unreasonable new condition on MNOs’ use of ESL spectrum, imposed after the licence was issued. When applied to ESLs, the effect of too granular an assessment may be akin to a “specified circumstances” renewal statement, enabling the ACMA to refuse to renew ESL spectrum due to “insufficient” use. [REDACTED]

[REDACTED] of “sufficiency” or “adequacy” of the use to which a licensee made of its ESL spectrum is not within scope. We also note that “renewal statements” only apply to spectrum licences issued after the commencement of the Modernisation Act.<sup>19</sup>

## Industry sustainability

Venture Insights<sup>20</sup>, has demonstrated that the mobile industry is experiencing flat ARPU, with a long-term decline in Return on Invested Capital (ROIC). For some MNOs ROIC is below the Weighted Average Cost of Capital (WACC). Research firm Tefficient demonstrated that mobile data usage per SIM has increased more than 40% in Australia over the last year resulting in average revenue per GB falling 27%.<sup>21</sup>

---

<sup>18</sup> ACMA Stage 2 Consultation paper, p.10

<sup>19</sup> as per section 65A of the Act

<sup>20</sup> Venture Insights State of the Telecommunications Industry June 2023

<sup>21</sup> Tefficient industry analysis #2 2023 Mobile data - full year 2022 - excluding M2M/IoT - ARPU Growth almost always slower than inflation; p.7. <https://tefficient.com/wp-content/uploads/2023/07/Tefficient-industry-analysis-2-2023-mobile-data-usage-and-revenue-2022-per-country-excl-M2M-14-July-2023.pdf>

---

In an editorial for CommsDay on 23 May 2024, Graham Lynch<sup>22</sup> set out the many challenges facing the sector, observing that "there are countless discussions on these issues, both formal and informal, but often in isolation from each other. What is not defined enough is the common thread: the declining sustainability of the telecom sector". He also noted that "most stakeholders across the community want better coverage, more capacity and less congestion" but operators are condemned when they try to adjust prices or costs to deliver the profit needed to enable these investments. In the broader context of the sector's financial health and in the interests of sustainable investment, high spectrum costs are unjustifiable. AMTA's submission to the ACMA's Stage 1 consultation paper highlighted that the financial sustainability of the sector must be considered in the ACMA's approach to ESLs.

We reiterate that the Government must take a holistic approach to all the requests upon the telecommunications industry, including: improving coverage and service quality; network resilience; cyber-security; supply-chain security in response to geopolitics; and its desire for revenue from spectrum renewal. When the Government collects revenue from ESL renewal fees, those funds are diverted from potential investment in programs aimed at achieving these other policy goals. The Government must adopt a comprehensive strategy to prioritise the requests of the telecommunications industry.

The annual cost of spectrum (amortised value) to the sector continues to increase. It is without doubt that the broader economic benefits of mobile use from low spectrum fees far exceed the benefits of increased Government revenue from higher spectrum fees. AMTA urges the ACMA and the Government to carefully consider the implications of high renewal prices on the long-term sustainability of a sector that operates critical infrastructure and supplies essential services.

## Public Interest Criteria

In this section of our submission, we set out how the historical, current and future use of ESL spectrum for the supply of essential mobile services satisfies the five public interest criteria established in Stage 1 of the ACMA's ESL process.

### Criteria 1: Facilitates Efficiency

This criterion is closely tied to the object of the Radiocommunications Act 1992 (the Act), to promote the long-term public interest derived from the use of the spectrum including by managing the spectrum in a manner that facilitates the efficient planning, allocation and use of the spectrum. Under this criterion, the ACMA seeks information on three types of efficiency; **productive**, **allocative** and **dynamic**. We consider public mobile networks, as opposed to other possible uses of the spectrum, satisfy all three types of efficiency.

Productive efficiency is a measure of how effectively a system operates, essentially, how effective that system is at producing a good or service. Dynamic efficiency is the ability to improve productive efficiency over time. Both types of efficiency are illustrated by the same point; namely, public mobile network operators continually upgrade their networks to the latest mobile generation as set by international standards organisations such as 3GPP. Use cases that remain on older technologies, for example, GSM-R, result in spectrum being used

---

<sup>22</sup> Communications Day 23 May 2024 - "It's not AI or the economy, it's the sustainability of the telecom sector at play."

---

inefficiently, thereby denying the spectrum from reaching its maximum productive efficiency and hence, utility. If the amount of traffic passed through spectrum can be considered a proxy for socio-economic value generated from spectrum, then mobile services are the most productively efficient users of spectrum.

We appreciate that upgrading radiocommunications networks of any type is an expensive task. In addition to upgrading the network itself (comprising the core, backhaul and radio access network including transmitters and antennas), end terminals also need to be upgraded. Where other bespoke network types may lack the business case to invest in upgrading, competition in the public mobile sector, both domestically between network operators and internationally to keep pace with global developments, drives Australian MNOs to continually invest in upgrading their networks. For this reason, we see public mobile networks advance by a generation every ten years, or so.

To this end, today's 5G networks are more than:

- 140x more spectrally efficient than the original AMPs (1G) and GSM (2G) mobile networks introduced in the 1980s and 1990s;
- 15x more spectrally efficient than 3G networks; and
- 4x more spectrally efficient than early 4G networks.

Another factor is that mobile network operators are well placed to maximise efficient use of their spectrum by virtue of their scale and public accessibility. Other spectrum users such as private networks or networks designed for a bespoke purpose such as Public Safety Mobile Broadband (PSMB), only use the spectrum for a single purpose. Public mobile networks facilitate dynamically efficient use of spectrum, because they support a wide range of different applications, such as voice calls, video streaming, and IoT devices, each of which have distinct data requirements and usage patterns, allowing the network to dynamically allocate resources where they are most needed.

In short, the continual upgrade of mobile networks to new generations of mobile technology and their functionality as a platform for a diverse range of use cases facilitates highly efficient use of ESL spectrum by leveraging the latest techniques to improve spectral efficiency and optimise the allocation of bandwidth. This maximises the utilisation of available spectrum, which maximally satisfies both the productive and dynamic efficiency criterion.

The existing use of ESL spectrum for wide area public mobile networks and services is also allocatively efficient. This is because ESL spectrum was allocated via auction or previously renewed and there exists a secondary market for spectrum. The bands that are the subject of ESL were allocated as far back as two decades ago. The market allocation method at the time allowed entities that were willing to pay to move the spectrum to its *highest value use* (as was required at the time) to obtain the spectrum and maximise its utility. Today, we strive for spectrum to be put to its *optimal use*, and the allocative efficiency is best maintained today by allowing incumbent licensees the opportunity to renew all their existing spectrum holdings, rather than only offering partial renewal and reallocating to other bespoke use cases. The existing market mechanisms under the Act will continue to facilitate allocatively efficient use of ESL spectrum.

---

## Criteria 2: Promotes investment and innovation

Over the past decade, MNOs have invested tens of billions of dollars in mobile network deployments, including expanding network coverage and upgrading to newer mobile generations.<sup>23</sup> The billions of dollars in investment made by industry in spectrum and network deployment was facilitated by the certainty and relative exclusivity of spectrum access afforded to spectrum licensees under existing ESL arrangements.

Investment in moving to newer mobile generations also demonstrates innovation, as each new mobile generation is an innovation in its own right. Each new generation delivers improved spectral efficiency (see above) and introduces new capabilities such as support for new device types (e.g., IoT devices in 3G) and lower latency and improved technical ability such as Narrowband IoT (NB-IoT) capability in 4G. Innovations in the network lead to further innovations in the way people and businesses use mobile networks, leading to new use cases and solutions.

Importantly, all the collective investments by the three MNOs have been made on the expectation that they will have ongoing access to spectrum resources needed to operate our networks.<sup>24</sup>

## Criteria 3: Enhances competition

The mobile sector remains the only sector of the telecommunications industry that has embraced competition – largely infrastructure-based competition that has driven one of the fastest 5G rollouts in the world.

MNOs compete in the national (retail and wholesale) mobile market as well as the market for Government & Enterprise services. Market competition is characterised by several factors relating to quality and availability of mobile services, as well as price.

In the retail market MNOs compete against each other with different service offerings targeting consumers and businesses, with an array of other services such as discounted or free access to streaming video platforms and sports channels for consumers, and data, hosting and business services for corporations.

All three MNOs supply wholesale services to Mobile Virtual Network Operators (MVNOs) that also compete in the retail market. Competition also occurs within the (passive) infrastructure market<sup>25</sup> between Mobile Network Infrastructure Providers (MNIPs).

---

<sup>23</sup> **Optus** invested \$22 billion between 2001 and 2019, with \$6 billion between 2015 and 2019. See Optus pre-budget submission, 2020-21, p.2. [https://treasury.gov.au/sites/default/files/2020-09/115786\\_OPTUS\\_0.pdf](https://treasury.gov.au/sites/default/files/2020-09/115786_OPTUS_0.pdf)  
**Telstra** has invested \$11 billion in recent years – see Investor Day Transcript, p.4 and p.6. <https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-g/2023-investor-day-video-transcript.pdf>  
**TPG** – TPG will invest approximately \$1b a year in capex from FY24 through to FY26, p.3. <https://wcsecure.weblink.com.au/pdf/TPG/02799971.pdf>

<sup>24</sup> Mobile network equipment is expected to have a life of between 10-25 years, depending on the nature of the equipment. Even for equipment that has a shorter life expectancy (say, 10 years) if this is deployed within the last few years of a spectrum licence's term, then the expected life of that equipment extends well beyond the licence expiry date.

<sup>25</sup> Amplitel – <https://www.amplitel.com.au/who-we-are>, Indara – <https://indara.com/about/>, and Waveconn – <https://waveconn.com/about-us/>

---

AMTA's 3G Closure website<sup>26</sup> lists 58 known retail brands, including the MNOs' main brands and channel partners. This range of mobile service providers (MSPs) would not be possible without the ability for each MSP to differentiate themselves and target different market segments and population demographics.

Data from the ACCC Communications Market Reports shows that between 2014 and 2022 mobile services retail prices in Australia declined by 79% in real terms. The use of ESL spectrum for wide area public mobile services has promoted competition for the long-term benefit of Australians. The best way to promote ongoing competition in mobile markets is to offer incumbent licensees the opportunity to renew all their ESL spectrum holdings.

#### Criteria 4: Balances public benefit and impacts

Mobile networks supply essential communications services to Australians across the country, providing access to emergency, education, health, social and government services among others. Being connected and having access to a reliable and affordable phone and internet service has become crucial for many people to work and connect to education, health and government services. The ongoing use of ESL spectrum will help enable continuity of supply of these essential services.

A 2020 blog post<sup>27</sup> by Ericsson's head of government and industry relations observes the critical importance of spectrum in providing benefit to the public during the early stages of the global COVID pandemic - highlighting the pivotal role mobile broadband played during the pandemic, and continues to play today, in enabling social connectivity, public safety and security and the supply of critical services for the public benefit.

ACMA has recognised telecommunications as essential services and that access to these services has become even more critical since the COVID-19 pandemic<sup>28</sup>. The Communications Minister has noted they are "*a necessity to support... access to critical services*". The Government's Statement of Expectations confirms that the ACMA "*has an important role to support industry and consumers in delivering and accessing essential communications services.*"<sup>29</sup>

Public mobile networks are national critical infrastructure. AMTA considers that given a change in existing ESL arrangements may put at risk the delivery of essential services "*to a significant number of people*", this risk weighs heavily in favour of the ACMA forming a view that ESL renewal is in the long term public interest.<sup>30</sup> Therefore, in considering possible alternative uses and use cases for ESL spectrum, the ACMA will need to satisfy itself that the new use can better satisfy the public interest.

---

<sup>26</sup> AMTA Mobile Service Provider Lookup - 3G Closure. <https://amta.org.au/3g-closure/service-providers/>

<sup>27</sup> Ericsson. What you need to know when approaching spectrum licensing. Blog post by Shiletsi Makhofane, Head of Government and Industry Relations, 20 Nov 2020. Available at: <https://www.ericsson.com/en/blog/2020/11/spectrum-licensing-what-you-need-to-know>

<sup>28</sup> ACMA, What consumers want - Consumer expectations for telecommunications safeguards A position paper for the telecommunications sector; July 2023

<sup>29</sup> Government's Statement of Expectations, December 2022

<sup>30</sup> ACMA's consultation paper (citing the Explanatory Memorandum to the Modernisation Act) p.41

---

## Criteria 5: Supports relevant policy objectives

The fifth and final public interest criteria is that the ongoing, renewed use of the spectrum must support relevant policy objectives and priorities, including regional, rural, and remote connectivity, investment and competition. The ACMA notes the Ministerial Policy Statement (MPS) as containing the relevant policy objectives and priorities for the ESL process. Much of the MPS overlaps with the public interest criteria defined by the ACMA, such as promoting competition and capacity for sustained investment and innovation. We address each of the remaining MPS objectives below.

### Supporting service continuity for end users, particularly where no alternative service is available.

Affording incumbent licensees the opportunity to renew existing licences, especially licences for low-band spectrum, is essential for service continuity in regional and rural parts of Australia. The reason low-band spectrum is important for service continuity is due to its ability to propagate over long distances and penetrate buildings effectively. As the ACCC notes in its Regional Mobile Infrastructure Inquiry (RMII) Final Report, “Typically, mobile network operators will use low-band spectrum in remoter areas as it is able to reach longer distances, and thereby provide a wider coverage area around a base station.”<sup>31</sup> Indeed, it is not just typical that MNOs will use mobile spectrum in remoter areas, but MNOs must use low-band spectrum, as it is the best spectrum for providing wide-area coverage.

As we have noted, geographically subdividing spectrum can also cause issues for service continuity, as the introduction of further licence boundaries increases the risk of interference and the costs and resources required to manage it. It ultimately leads to inefficient “dead-zones”, which are particularly detrimental to low band spectrum use due to its propagation characteristics. AMTA members caution against geographic sub-division of spectrum, especially low-band spectrum.

### Facilitating opportunities for new entrants and use cases, including for low earth orbit satellites.

Each of the AMTA members will make their views about facilitating opportunities for new entrants and use cases, including LEO satellites, known in their own submissions to this consultation. That said, we observe that MNOs will need national Frequency Division Duplex (FDD) spectrum licences to deliver the long-term benefits of “IMT satellite direct to mobile services”, particularly to areas outside the terrestrial footprint.

We refer to the ACMA’s consultation at the end of last year on regulatory issues for satellite direct-to-mobile services<sup>32</sup> through which the ACMA solicited stakeholder views on the introduction of LEO satellite DTM services, and most, if not all, AMTA members have provided views on the introduction of LEO satellite services through that consultation.

---

<sup>31</sup> ACCC Regional Mobile Infrastructure Inquiry Final Report, 23 October, 2023, p.53. Available at: <https://www.accc.gov.au/inquiries-and-consultations/regional-mobile-infrastructure-inquiry-2022-23/final-report>

<sup>32</sup> ACMA, Satellite direct-to-mobile services: regulatory issues, 9 Nov, 2023. See <https://www.acma.gov.au/consultations/2023-11/satellite-direct-mobile-services-regulatory-issues>

---

## Connectivity and investment in regional and remote areas to deliver improved services to end users.

Offering incumbent licensees the opportunity to renew their existing licences is the simplest and most effective way to fulfil the Government's policy objectives for maintaining and improving connectivity and investment in regional and remote areas. Allowing licensees the opportunity to renew their licences will provide certainty for infrastructure investment leading up to the expiry of the licences and underpin investment after their renewal.

## Consequences of contemplated changes

### Alternative licence conditions

AMTA members do not consider that there is a need for alternative licence conditions to be introduced into renewed ESLs. In summary, this is because existing ESL arrangements and mechanisms of spectrum access are fit for the purpose of delivering the deployment and efficiency objective identified by the Minister in her December 2023 letter to the ACMA. Further, and more fundamentally, we do not consider that a sufficient case for what the ACMA has itself described as a "substantial regulatory intervention"<sup>33</sup> into the national mobile market has been established. This is particularly concerning given the effect of such conditions on MNOs would be to undermine investment and reduce spectrum utility as a result of the inevitable increase in spectrum boundaries and interference.

### Lower band spectrum set asides

Many of the prospective licensees are asking for the ACMA to carve up low band spectrum. AMTA is firmly against this and note that the ACMA has publicly stated concerns about such an intervention in its response on the House of Representatives Standing Committees enquiry "Connecting the country: Mission critical". AMTA supports the statements that the ACMA made to this enquiry:

*"There are constraints on increasing the number of operators using low-band spectrum: Any approach to increase the number of operators using this spectrum is challenging as the 'wide area' benefits of the band can be lost by disaggregation into smaller frequency blocks of spectrum. ... Therefore, minimising the number of boundaries and avoiding boundaries through or near population centres is important to maximising the overall utility of the spectrum."*<sup>34</sup>

To elaborate, the introduction of boundaries leads to the following consequences:

- Geographic boundaries to minimise interference would result in this spectrum not being used in these areas - thus the efficient use of spectrum would be impacted.
- The lower the spectrum band the greater the propagation distance and hence the larger the area of unused spectrum would become.
- This would likely result in the reduction in the quality of service currently provided to those living on the outskirts of cities and regional centres.

---

<sup>33</sup> ACMA Consultation paper, p.28

<sup>34</sup> "Connecting the country: Mission critical"; Inquiry into co-investment in multi-carrier regional mobile infrastructure; House of Representatives Standing Committee on Communications and the Arts; para 2.24; p.17

---

The areas where prospective licensees wish to gain access to lower band spectrum are adjacent to existing MNO coverage provided by low band spectrum. Coverage isn't a proxy for propagation of low band RF signals, as generally coverage is limited by the customer's handset to communicate with the base-station, not the base-station's ability to reach the residence. The low band RF will reach far beyond the areas denoted by coverage.

An example of failed regulatory interventions to promote market entry is the German regulator BNetzA setting aside 100 MHz of 3500 MHz spectrum prior to the 2019 auction for the purposes of creating new opportunities for industry 4.0. The outcome was that the limited spectrum on offer meant that no operator was able to gain 100 MHz of spectrum and spectrum prices were elevated by 3B Euros. There was also minimal take-up of the campus licences with only 322 granted as of June 2023<sup>35</sup>.

### Breaking up spectrum licences puts future operation of national mobile networks at risk

As highlighted earlier in our submission, MNOs require access to spectrum on a national basis to deliver national mobile networks. The existing arrangements governing ESL have delivered significant public benefit by providing MNOs with sufficient certainty and exclusivity of spectrum access to support the billions of dollars of network investment made by industry to date. A refusal to offer ESL spectrum for renewal will undermine MNOs ability to continue to utilise spectrum to deliver national mobile networks and essential services for the long-term public benefit.

AMTA also refers the ACMA to our response to the Satellite Direct to Mobile consultation. The existing spectrum licence framework and the use of national licences will enable the introduction of innovative and ground-breaking use cases that would be denied if national spectrum licences were reduced to a patchwork of inefficiently allocated special interest and private enterprise networks.

### Information gathering considerations

The information provided by the MNOs in response to this consultation on the use of specific spectrum bands represents a point in time. The networks, in terms of sites and spectrum deployed at those sites, are fluid.

MNOs acquire spectrum licences with forward planning in mind noting that the spectrum licence is available for up to twenty years, so the deployment of the spectrum will take this into consideration.

If we consider a typical peri-urban development, an MNO may approach this in the following way:

- Provide an initial coverage layer utilising low band spectrum and some lower mid-band spectrum.
- Monitor demand and incrementally add more mid-band spectrum to the site.
- If populations migrate, or the area becomes an industrial centre, then add small sites that utilise mid-band spectrum to provide capacity infill.

---

<sup>35</sup> GSMA [Spectrum-Set-Asides-Germany.pdf \(gsma.com\)](https://www.gsma.com/spectrum-set-asides-germany/)

---

Considering a single point in time analysis on the utilisation of spectrum cannot be determinative of future use, particularly with respect to mid-band spectrum.

## Other matters

### Burden of proof

The importance of the ESL spectrum to ensuring Australians continue to have access to world class mobile networks cannot be understated. Together, AMTA members and other licensees provide vital telecommunications services enabling 26 million Australians to stay connected. The wrong decision could have disastrous consequences to consumers and businesses that rely on these services every day.

While AMTA understands the ACMA is seeking to invite the broadest level of participation in this Stage 2 process by stating “there is no particular ‘burden of proof’ on prospective alternative licensees to demonstrate that their proposed use of the spectrum is superior to that of an incumbent’s”<sup>36</sup>, it would not be reasonable for the ACMA to give equal weight in its consideration of the matter to: (1) a submission made by an incumbent licensee with detailed evidentiary support demonstrating efficient use of the ESL spectrum, and (2) a speculative and unsubstantiated submission by a prospective user claiming alternative uses of the ESL spectrum.

It is therefore paramount the ACMA give appropriate weighting to stakeholder submissions in its considerations. Some stakeholder submissions must be viewed cautiously and with scepticism.

Ultimately, the ACMA must demonstrate that the public benefits of any change to existing ESL arrangements outweigh the public benefits of existing use of ESLs. Therefore, a prospective licensee’s claim for spectrum access must show that the re-allocation of ESL spectrum is, on balance, of greater public benefit than renewal of that ESL spectrum. It also follows that, contrary to the ACMA’s stated view, AMTA considers that an “absence of submission” from prospective licensees must weigh heavily in favour of the ACMA’s forming the preliminary view that renewal of ESL is in the long-term public interest.

### The ACMA should be as definitive as possible as early as possible

We understand that the ACMA must follow due process, and that ESL holders will not have absolute certainty of renewal until the start of the Renewal Application Period (RAP). However, AMTA ESL holders would like a clear indication on the ACMA’s intention to renew, partially renew, or not renew all the expiring spectrum licences by mid-2025, in order to ensure investment planning and capital expenditure isn’t disrupted.

AMTA thanks the ACMA for providing the extra time to industry to respond to the stage two consultation.

---

<sup>36</sup> Page 14, ACMA Consultation Paper Stage 2

