

1 August 2023

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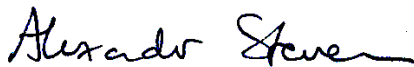
Dear Sir/Madam,

**Re: NTT's Comments re ACMA Consultation on Area-wide licenses in the 3.8 GHz band in metropolitan and regional Australia**

Please find attached the comments of NTT Limited ("**NTT**") in response to the Australian Communications and Media Authority ("**ACMA**") consultation paper on arrangements for allocating area-wide apparatus licences ("**AWLs**") in the 3.8 GHz band in metropolitan and regional Australia.

NTT appreciates the opportunity to provide these comments to the ACMA while respectfully retaining our rights to provide comments in reply on any issue not directly addressed in this response.

Sincerely,



Alex Steven  
Client Partner | Australia | NTT

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## **NTT Comments on the Technical Framework**

NTT does not have comments on the proposed technical framework at this stage.

## **NTT Comments on the Allocation Process**

### *Licence Duration*

In NTT's global experience, certainty of spectrum availability of at least 10 years is required to attract and allow entrants to build a sustainable business case for investment. In our view, the proposal to limit AWLs to 13 December 2030 is likely to have a negative impact on competition and investment.

Manufacturing and other similar sectors which have high capital-intensive investments in building these networks for critical operations would struggle to achieve a return on their investment in the proposed shorter duration of commitment of spectrum. The difficulty in repurposing the investment in spectrum-specific technologies is also a critical factor in determining the viability of both committing to a spectrum licence, and the reinvestment requirements given the shorter lifecycles of capital equipment. NTT suggest that a typical lifecycle for a new generation of technology in cellular world is 10 years.

### *Contrasting investment decisions*

As an overarching comment, the investment decisions of systems integration and service providers is guided by their clients' requirements. If NTT's clients can see the value in a new technology (in this case the services enabled by the applicable apparatus licences) then this informs NTT's investment decisions. In essence, NTT's investment decisions can be characterised as 'build based upon customer need'. This is in contrast to mobile network operators ("**MNOs**") and carriage service providers ("**CSPs**"), whose business model is built upon access to spectrum and a 'build it and they will come' investment decision characterisation.

### *Requirement for future certainty*

NTT's experience is that IT network and wireless infrastructure is typically procured with a lifespan or minimum commitment of 3 to 7 years. NTT believes that the ACMA should take this into account, as it would not be unreasonable to foresee a sharp reduction in license applications from 2025 onwards if there is uncertainty in the longevity of any application. Systems integration and service providers would need to see that spectrum is able to be licensed beyond the 14 December 2030 deadline so as not to discourage innovation and development of business-critical use cases, and also so that the cost benefit analysis for any applications of the AWLs can be assessed. To assist with optimising spectrum coverage, the ACMA may wish to consider a flexible approach to license renewal. For example, a consideration that the spectrum license could be renewed but to a different frequency band (that can be accommodated by the technology) would provide greater assurance to system integrators, and would likely promote investment in these technologies. NTT therefore suggests that this option is available on renewal.

### *Licence Renewal – Use it or Lose it*

NTT agrees with the position that any license renewal is at the ACMA's discretion. However, the current proposal would allow for an applicant to apply for a license and simply hold it without using it ("**spectrum squatting**").

NTT considers that spectrum squatting will limit the innovation that service providers such as NTT currently see our customers make in their use of discrete application over the spectrum. We consider that

in the absence of a requirement to use an allocated AWL, potential licensees may make strategic investments to 'lock out' competition by major organisations in advance of projects or use-cases being identified. This issue is further compounded by the up to 10 year licence period. This is a long time to hold back the innovation that may have occurred through the use of that spectrum during that period.

#### *Assessing spectrum usage and preventing spectrum squatting*

NTT respectfully recommends that the ACMA consider conducting deployment reviews during the license term, rather than just at the time of renewal as a mechanism to deter spectrum squatting.

NTT has experience from around the world where a 'use it or lose it' approach is used. For example, the German regulator (Bundesnetzagentur) require and assess whether allocated spectrum has been used within 1 year of the license being issued, otherwise it is forfeited and returned for re-allocation. NTT would welcome a similar approach by the ACMA.

NTT acknowledges that there would need to be a meaningful criterion for such assessment, for example it would likely be insufficient to have a single base station as sufficient to claim that the whole licensed area of a relevant spectrum has been "used. Alternately there could be a requirement that there is a percentage of coverage that needs to be met. Absent meaningful assessment criteria, sophisticated players may squat with minimal use, with the intent to prevent other more innovative players from using that spectrum.

Having a mechanism whereby spectrum can be allocated in relatively short period of time, and then renewed on a yearly basis, may assist in the monitoring of licence usage. NTT respectfully asks the ACMA to consider a yearly license fee (together with a level of assurance that the spectrum would continue to be available, for example a first right of refusal to renew) with a 2-to-3-year notification period if the spectrum will not be renewed, to make the necessary arrangements to move the spectrum licensed under this arrangement.

#### *Administrative allocation process*

NTT agree with the ACMA's proposed administrative approach to the allocation of AWLs (as opposed to a price-based allocation approach). NTT believes this will foster competition and innovation by attracting systems integrators and service providers (such as NTT) with smaller customer-driven use cases, in particular, customer use cases associated with Industry 4.0 initiatives.

#### *Option 1 – 2 stage administrative allocation process with prioritisation of new local area wireless broadband ("LA WBB") use cases.*

#### *Allocation limits – nil MHz*

NTT supports the proposed 6 month LA WBB priority period including the nil MHz limit applying to MNOs and NBN Co in the LA WBB priority period window. In NTT 's experience, this approach will foster greater engagement with new entrants who might not have otherwise participated or been able to compete with the resources of the MNOs and NBN Co. NTT believes that the alternative approach of a general allocation window with such restrictions will deter new entrants and in so doing, stifle innovation and competition.

However, as discussed under the section titled '*Licence Renewal – Use it or Lose it*', NTT is concerned that both options allow organisations to acquire spectrum with no obligation to make use of it, resulting in reduced competition, innovation, and adoption of private 5G use cases enabled by LA WBB. NTT's endorsement is subordinate to the greater concern about spectrum squatting discussed above.

NTT considers that the ACMA may wish to consider that preference be given to applicants who can demonstrate that the use cases they foresee and applicable to the commercial activities in the local area where they are applying for the license.

NTT notes that following the cessation of the nil MHz limit, a cross-band limit on all applicants would apply. NTT respectfully suggests that the ACMA consider a limitation that preserves bandwidth for organisations that are not MNOs and NBN Co, for example a 50 MHz window in the allocation band for private enterprise.

#### *Preference to be given to enterprise deployments*

NTT supports the proposal that during the initial application window, that the ACMA would consider applications from LA WBB, fixed point to point (“PTP”) and fixed satellite services (“FSS”) use cases, with WA WBB reserved for the second allocation window.

Globally NTT are seeing two approaches to enable Industry 4.0; The first approach is where MNOs are prevented from acquiring all or the majority of mid-band spectrum, to avoid the risk that it is simply added to their existing mid-band spectrum services without adding significant innovation and new service offerings. This limits the availability to NTT’s clients who are looking towards innovative Industry 4.0 style offerings that can be developed in conjunction with AWLs. The second approach NTT has observed in some countries is where dedicated spectrum is made available on condition that it is only to be used in enterprise (“Private 5G”) deployment. NTT considers the second approach would enable more innovation, enable advances in technology, enable Industry 4.0, and provide advancements in manufacturing and other operational technology areas. NTT respectfully requests that the ACMA give due consideration to Private 5G use cases rather than focusing on the more general application of fixed wireless broadband.

#### *Allocation quantum policy – 50/60/70 MHz*

NTT foresees that the ACMA’s 3 options for in-band allocation (50/60/70 MHz) may be insufficient for emerging Industry 4.0 high bandwidth use cases such as computer vision / machine vision where at 100 MHz spectrum is typically required. NTT suggests that the in-band allocation should allow for up to 100 MHz of spectrum.

#### *Cross-band allocation limit*

NTT agrees that a cross band limit would promote competition but asks that the ACMA consider a limitation that preserves bandwidth for organisations that are not MNOs and NBN Co, for example a 50 MHz window in the allocation band for private enterprise.

#### *License transfer and third-party authorisation limit*

NTT suggests that any license transfer and third-party authorisation must be in the context of the ‘use it or lose it’ approach noted elsewhere in this submission, to minimise the risks to innovation and competition.

## NTT Comments on the Questions from the ACCC

### *Use cases*

#### *1. What are the intended uses of 3.8–3.95 GHz band spectrum?*

Technology service providers like NTT work with their public and private sector clients to determine Industry 4.0 use cases where spectrum in this 5G 'mid-band' ("**5G mid band**") is used to enable secure, high speed, low latency network service with enhanced security connectivity, to enable machine-to-machine and human-to-machine functionality, previously constrained to wired connectivity services (together, "**Private 5G**" services). Also broader use with Operations Technology ("**OT**") digitalisation solutions, for example in the transport sector. These uses become an extension of the end-user's network to solve specific business challenges and the development of new business services that foster competition.

#### *2. In which geographic areas is the spectrum intended to be used?*

Spectrum in the 5G mid-band would be used in contained geographic areas associated with organisation's business operations, for example the land area associated with a distribution facility, factory and/or places such as airports and ports.

#### *3. How much spectrum is needed to support the intended use case?*

The spectrum associated with such uses cases varies by application and need. Use cases may include bandwidth intensive applications (such as computer vision and augmented reality applications), for which spectrum up to 100 MHz is required.

### *Downstream markets*

#### *1. What is the good or service that the 3.8–3.95 GHz spectrum can support the production of?*

NTT believes that this nominated spectrum will support the production of innovative Industry 4.0 information technology ("**IT**") and OT services, and solutions that will revolutionise the development of advanced technology applications such as AI surveillance, autonomous vehicles, and smart city innovation.

#### *2. Where is the good or service intended to be supplied to?*

NTT's client base of enterprise and public sector organisations will benefit from these services as we work with them to help develop competitive advantage, cost efficiencies, and innovative new products and services for their respective customers.

#### *3. Are there substitutes available to the good or service?*

NTT believes that this mid-band spectrum is a unique enabler of innovation (and by corollary, competition) with greater capacity in comparison to existing substitutes such as Wi-Fi and mmWave spectrum, which present technical challenges restricting the innovation potential.

*4. How could the spectrum allocation impact the state of competition and/or incentives to invest in downstream markets?*

Globally, NTT has seen adoption of this 5G mid band spectrum to deliver Private 5G solutions enabling business innovation and enhanced services, security and innovative applications used by its clients. As detailed in NTT's response to the ACMA's consultation paper, NTT believes that the spectrum allocation needs to cater for a process by which the allocation can be done with a requested AWL on an as-needed basis to enable specific applications, as opposed to the traditional auction-based approach for consumer spectrum services. Importantly, provisions need to be in place to prevent or deter organisations from holding spectrum without using it, and thereby stifling the innovation that might otherwise occur.

In NTT's experience, certainty of spectrum availability of at least 10 years is required to attract and allow entrants to build a sustainable business case for investment. The proposal to limit AWLs to 13 December 2030 is likely to have a negative impact on competition and investment.

As an overarching comment, the investment decisions of systems integration and service providers such as NTT is guided by their clients' requirements. If NTT's clients see the value in a new technology (in this case, Private 5G services) then this informs NTT's investment decisions. NTT's investment decisions can be characterised as 'build based upon customer need', in contrast to the MNOs and NBN Co whose business model and investment decision, as a consequence of their access to spectrum, is built upon a 'build it and they will come' approach.

*Alternative spectrum*

- 1. Do you consider that substitutable spectrum exists for the 3.8–3.95 GHz bands that can similarly enable the production of the goods or services in downstream markets? If so, what spectrum bands do you consider to be substitutable?*

Suitable spectrum for 5G mid-band / Private 5G applications should be consistent with global spectrum to allow Australia to benefit from standardisation across the global equipment manufacturers, and to prevent device ecosystem issues resulting from misalignment with global spectrum use designs.

*Pricing*

- 1. Do you have any comments on the suite of pricing arrangements proposed?*

NTT's only comment on the proposed tax ("**pricing**") arrangements is with the inclusion of the population of a geographic area as a material factor applied to the pricing.

NTT's proposed application of Private 5G solutions in this spectrum range will facilitate network and machine to machine interaction, as opposed to providing services to the population of the targeted area. Therefore, a more linear (flat) pricing model would be a simpler and more appealing pricing methodology. For example, if a client has two distribution warehouses, one in the CBD of a capital city and another in a regional setting, the pricing metric should be the same (or similar). Under the proposed model, spectrum for the CBD location would attract a significantly higher price than the regional location, but for the same solution and utilisation.