



Australian Mobile
Telecommunications
Association

AMTA Submission:

Five-year spectrum outlook

2012-2016

**The ACMA's spectrum demand analysis and
strategic direction for the next five years**

August 2012

Introduction

The Australian Mobile Telecommunications Association (AMTA) is the peak industry body representing Australia's mobile telecommunications industry. Its mission is to promote an environmentally, socially and economically responsible, successful and sustainable mobile telecommunications industry in Australia, with members including the mobile Carriage Service Providers (CSPs), handset manufacturers, network equipment suppliers, retail outlets and other suppliers to the industry. For more details about AMTA, see <http://www.amta.org.au>.

AMTA supports the Australian Communication and Media Authority (ACMA) in its efforts to plan for Australia's future spectrum requirements and welcomes this opportunity to comment on the ACMA's *Five-year Spectrum Outlook 2012-2016* (Outlook) as part of the preparation for the publication of the ACMA's *Five year Spectrum Outlook 2013-2017*.

The demand for spectrum for mobile broadband

The exponential global growth in demand pressures from increasing consumer mobile data, smartphone and M2M traffic has been well documented, with mobile telecommunications widely recognised as an enabler of the digital economy.

Ericsson's latest Traffic and Market Report forecasts global data traffic to grow 15 times by the end of 2017. The Report also predicts that smartphone subscriptions will exceed 3 billion in the same timeframe and that 4G coverage will extend to 50% of the world's population.¹

Ericsson's Report identifies the trend towards mobile and explains that this is driven primarily by consumer demand for anywhere, anytime connectivity as well as use of video, cloud-based services and the internet. The Report also notes that M2M connectivity is increasingly a key driver of demand.

Australian mobile carriers have all announced plans to roll-out LTE.

While mobile broadband is increasingly driving demand for spectrum, it is also a driver of economic productivity and the mobile telecommunications industry makes a substantial contribution to the Australian economy. A study by Network Strategies forecast that the gross productivity benefits of mobile broadband from 2013-2020 would be \$143 billion.²

AMTA has recently commissioned Deloitte Access Economics to research the economic and social impact of mobile on Australia's economy, including productivity benefits achieved between 2009 and 2011. It is anticipated that the study will demonstrate that mobile is indeed a significant driver and enabler of the digital economy and that the demand pressures on spectrum use from increasing mobile traffic need to be met to ensure that social and economic benefits can continue to be realised.

We are in an environment where the expectations of end-users are rising. This places increasing pressure on mobile network operators to ensure they have the capacity to meet

¹ Ericsson Traffic and Market Report "On the pulse of the networked society" June 2012

² Network Strategies Report 29028, *The future deployment of mobile broadband services*, 15 June 2010

consumer demand for faster speed and bandwidth-hungry mobile data applications and services.

AMTA believes that to maximise the benefits of mobility in a digital economy we must get spectrum policy settings right.

AMTA believes that there is a need for closer consultation and partnership between industry, Government and the regulator to identify spectrum requirements and develop a spectrum policy roadmap that includes long-term arrangements to meet those requirements.

As a part of that process, AMTA considers the ACMA's Outlook to be a useful outline of the ACMA's work program that also informs both Government and industry about the supply and demand for spectrum resources in the short to medium term.

Priorities for Spectrum Planning

AMTA considers that the following issues should be considered as priorities by the ACMA in the context of its analysis of future spectrum arrangements for mobile broadband in the period leading up to 2020:

1. Determining Demand for Spectrum

AMTA believes that the ACMA's 2011 analysis of spectrum demand as presented in the "Towards 2020 – future spectrum requirements for mobile broadband" (Towards 2020 paper) requires a more comprehensive and transparent analysis of baseline demand to support forecasts of future spectrum needs for the mobile sector.

In our response to last year's Outlook, AMTA requested that the initial demand forecasts presented in the Towards 2020 paper be followed up by more detailed discussions with industry regarding estimated future spectrum needs for mobile broadband. AMTA still believes that this is needed and notes that the Towards 2020 paper was intended to start a conversation about future spectrum requirements for mobile broadband, rather than define those needs.³

More specifically, AMTA is concerned that the "300 MHz" proposed in the Towards 2020 paper is being interpreted as a "given" regarding future requirements for mobile broadband (from 2014), rather than being seen as a starting point for further consultation as was intended. AMTA's submission on the Towards 2020 paper stated:

"Some preliminary work undertaken by AMTA members suggests the quantum of spectrum needed from 2014 could be well in excess of the 300MHz proposed by the ACMA.

In addition, AMTA has concerns that the ACMA has:

- *overestimated the level of spectrum that is currently available for mobile broadband;*
- *not taken full account of the metropolitan versus regional variation in spectrum availability;*

³ ACMA [media release](#), 2011 for Towards 2020 paper

- *overestimated the improvements and efficiencies that can be achieved with technological advances;*
- *overestimated the extent to which the radius of cells can be reasonable reduced; and*
- *underestimated the growth in demand for mobile broadband.*

AMTA would like to assist the ACMA in its analysis and intends to undertake its own research on baseline and forecast demand for mobile broadband.”⁴

Please note that AMTA is still considering undertaking research on the baseline and forecast demand for mobile broadband and also looks forward to the ACMA’s response to submissions received regarding its Towards 2020 paper, expected later in 2012.

AMTA notes that the ACMA released its discussion paper, “Planning for mobile broadband within the 1.5 GHz mobile band” and that AMTA submitted comments on the discussion paper, jointly with Communications Alliance.⁵

AMTA also notes that the ACMA’s plans for how an extra 300 MHz will be identified post-2014 are still unclear. AMTA notes that the executive summary of the Towards 2020 paper stated,

“The submissions and comments received from stakeholders in relation to the issues raised in this paper will assist the ACMA in developing a forward work plan that will focus on particular frequency bands and associated planning and regulatory issues. The ACMA will consult on the proposed work plan at a later date.”⁶

AMTA’s members would very much like to be involved in further consultation with the ACMA on the amount of spectrum needed post-2014 as well as how that spectrum will be identified.

2. Priorities for the ACMA’s spectrum work plan

Digital Dividend restack process

AMTA sees the restack process for 700 MHz band as the ACMA’s priority for the remainder of 2012. AMTA notes that the ACMA is working towards a target date of 31 Dec 2012 to complete Television Licence Area Plans (TLAPs) and AMTA believes that the TLAPs must be completed by this deadline to provide some level of certainty for Digital Dividend auction bidders.

Any delays to the ACMA’s program to finalise the TLAPs will impact the finalisation of the restack project for the 700 MHz band and ultimately the information available to bidders ahead of the April 2013 Digital Dividend auction.

⁴ [AMTA submission](#) on Towards 2020 paper p 3

⁵ [AMTA/Communications Alliance Submission](#) on ACMA’s “Planning for mobile broadband within the 1.5 GHz mobile band” July 2012.

⁶ ACMA - *Towards 2020 – Future spectrum requirements for mobile broadband*, May 2011 p3

The Digital Dividend auction is expected to attract strong interest from the mobile industry and involve substantial levels of capital investment. However, bidder preparations, including valuations, are highly dependent on the information available and the level of certainty about the products for sale at auction as well as any related conditions.

2.5 GHz mid-band gap

AMTA also sees the planning and allocation of the 2.5GHz band as a priority, including the conversion of apparatus licences held by broadcasters in the 2.5 GHz mid-band gap to spectrum licences.

As stated in AMTA's 18 March 2010 submission to the ACMA's Review of the 2.5 GHz Band, we are supportive of the ACMA's efforts to facilitate the 2.5 GHz band moving to its highest value use. And as part of these efforts, we also support ENG services continuing to use the mid-band gap within the 2.5 GHz band for the medium term.

Since the World Radio Conference 2000 the 2.5 GHz band has been internationally harmonised for IMT use. AMTA suggests that Australia must consider the international arrangements in the re-planning and licensing of the 2.5 GHz band, and in particular, build maximum flexibility into the licensing arrangements for the mid-band gap.

That said, AMTA supports the ACMA's conversion plan for the 'mid-band gap', (2570 to 2620 MHz), to be allocated for use by Television Outside Broadcast (TOB) use in the medium term as well as provide an opportunity for potential future TDD use.

For this reason, TOB spectrum licences in the mid-band gap could be issued for a term of 15 years, in alignment with other licences in the band. However, we would strongly recommend that this is subject to the licences being technology neutral rather than conditioned only for TOB services. AMTA also suggests that there should be a review of the allocation part way through the term of the 15 year spectrum licences.

AMTA maintains that it is desirable to identify spectrum to meet the future requirements of mobile broadband and that as there is potential for TOB services to migrate, at least in part, to mobile broadband services and other emerging technologies using other bands, it would be wise to make the spectrum licences for the mid-band gap technology neutral.

Finally, AMTA supports the ACMA setting co-ordination criteria for collection stations for broadcasters operating in the 2.5MHz mid-band gap, as well as the proposed registration process for collection station locations as this will assist in network planning and the management of potential interference.

1. 5 GHz review

As per the joint AMTA-Communications Alliance response to the ACMA's 1.5 GHz consultation⁷, AMTA recommends that the ACMA undertake a second round of industry consultation to reassess the options for mobile broadband within the 1.5 GHz band to take

⁷ [Planning for mobile broadband within the 1.5 GHz mobile band](#) ACMA IFC 15/2012

into account other spectrum options that may have not been apparent during the initial review.

In particular, AMTA recommends that the ACMA consider an expansion of the study to take account of the latest emerging developments in Europe, including consideration of a wider frequency range which encompasses the 1310 – 1400 MHz and 1427 – 1517 MHz segments.

AMTA also recommends further consultation by the ACMA to explore options for opening up access to both Frequency Division Duplex (FDD) and/or UMD technologies based upon the latest European developments, with further work required to identify the feasibility of coordination and alternative platforms including costs and transitional arrangements for existing fixed links used for USO voice and other services.

AMTA requests that the ACMA take into account existing or planned Mobile Satellite Services (MSS) operating above 1518 MHz and does not rule out some allocation for Broadcasting Satellite Services (Sound) (BSS(S)) subject to further international study and future demand for these services.

3. Review and reform of the *Radiocommunications Act 1992*

AMTA understands that the ACMA and the Department of Broadband, Communications and the Digital Economy (DBCDE) are both trialling changes in how they engage with industry. For example, via DBCDE's recently launched Spectrum Square, and AMTA suggests that there is value in looking at more efficient ways to engage with industry, such as, the value of having more roundtable discussions and less consultation or discussion papers.

AMTA would also appreciate further detail on how the ACMA's work-plan aligns with DBCDE's consideration of the Convergence Review's recommendations with regard to spectrum management and allocations and the consultation process being undertaken by the Spectrum Square forum.

Further, AMTA believes that the priority for DBCDE and the ACMA should be to move towards a review of the *Radiocommunications Act 1992* (the Act) and the *Broadcasting Services Act 1992* in order to properly address the recommendations regarding spectrum management and allocation from the Convergence Review.

AMTA believes that a broad review of these Acts will provide a vehicle for addressing other issues and assist in setting priorities for the ACMA's work plan well beyond 2020.

While AMTA believes that the current spectrum principles contained in the Act are still relevant, the challenge lies in working out how to apply the principles more efficiently and in a more timely way. For example, it has been acknowledged by all parties that the recent spectrum licence re-issue processes were unnecessarily complex. AMTA suggests that a review of the Act could assist in ensuring that this process is revised prior to the next expiry of spectrum licences.

AMTA believes that we need to put a review of the Act on the agenda now; so that a review can be commenced after the Digital Dividend spectrum auctions are completed.

4. Emerging technologies

LTE

LTE and LTE-Advanced are internationally accepted technologies which in AMTA's opinion are likely to be the most commercially viable of the emerging technologies and provide the greatest benefit over the period leading up to 2020

The deployment of LTE and LTE Advanced systems over the next decade will be a significant step forward in terms of achieving more efficient use of spectrum and meeting customer expectations for the supply of mobile broadband services. It is critical that sufficient spectrum be made available to allow for the roll-out of competitive LTE and LTE Advanced services.

Other emerging technologies are less likely to gain widespread deployment by 2020. For example, cognitive radio is still in the early stages of development and is unlikely to be adopted on a wide scale by 2020.

Demand off-loading technologies, such as Femtocells, have been deployed by some mobile network operators however the impact these emerging technologies will have on meeting future demand is expected to be small.

AMTA also notes that broadcast usage off-loading as used, for example, via Connected TV sets over NBN, that could potentially increase the supply of spectrum for mobile use has not been analysed. A strategic long term analysis, following on from the Towards 2020 paper, would greatly benefit from including all significant and realistic spectrum supply and demand scenarios.

AMTA's view is that emerging technologies are unlikely to reduce the need for new spectrum allocations for mobile broadband, particularly given that many of these technologies will require additional spectrum in order to be deployed and some emerging applications, such as video, require substantially higher bandwidth per end user.

Smart Infrastructure – M2M

AMTA appreciates the benefits of smart infrastructure and understands that M2M is a driver of spectrum demand. AMTA is open to examining more closely the best way of supporting the growth of smart infrastructure in Australia.

While it is probable that some smart infrastructure services may require or benefit from dedicated spectrum, it is more than likely that many others would be cost-effectively supported on existing and future mobile broadband networks.

AMTA therefore questions the viability and economic sense in building dedicated or duplicated infrastructure, along with dedicated spectrum allocations, for these types of services unless there are demonstrated specific or niche requirements which cannot reasonably be replicated on commercial networks.

5. International work program

AMTA maintains that international harmonisation should be an underlying objective in the Outlook's analysis. Consideration of international harmonisation needs to fit within a framework for identifying and prioritising future spectrum releases that is established through ongoing consultation with stakeholders.

AMTA suggests that the Outlook should specifically reference the ACMA's role in actively monitoring spectrum and technology harmonisation developments in international forums like the ITU, APT, 3GPP, GSMA, and IEEE and seek to influence outcomes where this is appropriate.

AMTA suggests that, as a priority, the ACMA should target decision-making forums.

AMTA members agree that Australia should be a visible presence at international conferences and that there is value in having the ACMA advocate for the Digital Dividend in such forums.

AMTA suggests that unless there is a concerted effort to develop a roadmap for the future of Australian telecommunications, especially the mobile and broadband sectors, then it is difficult to map out any kind of plan for effective and strategic international engagement. Without a strategic plan the outcome is random or ad hoc engagement.

AMTA would therefore like to see a more defined vision of future developments and we are interested in pursuing a more structured approach to international engagement that encompasses the broader Australian mobile industry situation, opportunities, ambitions and policy objectives.

Australia has taken the lead on the Digital Dividend and should continue to take a lead. AMTA suggests that this could also be put on the agenda for bilateral discussions with other countries in the region. AMTA notes that this will require the ACMA and DBDE to work in co-ordination with DFAT and other relevant Departments and government agencies so that there is a co-ordinated whole of government approach.

AMTA believes that there may also be value in pursuing bilateral discussions with countries outside the Asia-Pacific region such as Chile and Colombia. Colombia has recently announced that it will adopt the APT band-plan for 700 MHz and it anticipates that other countries in Latin America will follow suit.⁸ And in North America, Mexico and the USA have had discussions around the possibility of either or both countries adopting the APT band-plan for 700 MHz with Cofetel (Mexico's Comision Federal de Telecomunicaciones) clearly stating that its research shows that adopting the APT plan would have the greatest economic and social benefit for Mexico.⁹

⁸ Clasificación temática 4G Colombia adoptará el estándar APT para el desarrollo de la tecnología de 4G <http://www.ane.gov.co/noticias.shtml?apc=daxx-1-&x=2454>

⁹ Comision Federal de Telecomunicaciones – Press Release 23/2012 – Mexico City, June 12, 2012 – “Mexico and the United States achieve significant agreements under the high level Consultative Commission on Telecommunications.”

Conclusion

AMTA welcomes the opportunity to comment on the Outlook.

AMTA considers the Outlook to be an important integral step in the process of defining a spectrum policy roadmap for Australia.

Please contact Lisa Brown, Policy Manager, AMTA on 0405 57 00 59 or at lisa.brown@amta.org if you have any questions about this submission.