



Parliamentary Joint Committee on Law Enforcement

Inquiry into the Impact of new and emerging information and communications technology

Submission by WISPAU

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The Association thanks the Joint Committee for the invitation to provide a submission in these matters.

Overview

The Association members provide broadband services to Regional Australians, flexibly addressing market conditions as they arise. The members of the Association are largely independent business entities with the expert knowledge required to address complex technological changes. Collectively we provide broadband services to over 200,000 customers in Regional Australia. This infrastructure was created without public funding.

The provision of an internet services is essential to maintain the commercial and social fabric of regional Australia. Our industry strives to meet this challenge but we face many obstacles, most notably Government policy.

There are five issues we wish to bring to the attention of the Parliament.

- Dynamic Spectrum License Management.
- Low Earth Orbit Satellite broadband services.
- Strengthening regional Australia commercially.
- A threat to National security.
- Specific assistance that will assist Regional Australia.

Dynamic Spectrum License Management and Spectrum sales.

It can be said that in 2017, the Regulator very nearly blew Regional Australia back into the technological dark ages.

In the final months of 2017, the Association was able to raise a voice against the proposal to sell off the 3.6GHz spectral band in Regional Australia. Members of Parliament subsequently requested further consideration of the effects upon regional Australia and this has stalled the auction for the time being.

As an alternative, providing enhanced economic, security and political outcomes, we offered the concept of the dynamic sharing model, currently being adopted throughout the world, this model is able to adapt readily and rapidly to Australian operational parameters.

We are greatly encouraged by support from the Department of Defence¹, and many in industry, but this support has not been extended from the regulator.

The Dynamic Spectrum Licensing Management (DSLIM) is a complex system of systems, integrating Engineering, Policy, Security, Economic and Political frameworks. We have developed three dimensional toolsets to facilitate modelling interactions to assist here.

¹ Defence spectrum Update www.milcis.com.au/s/2017-2-8c.pdf pps 9-14

It is often impossible to predict future configurations, structures, or behaviors of a complex system, given finite resources, but the sharing model is designed to evolve as required.

Systems that have been engineered to rule out any but deterministic behaviors are necessarily limited by the prescribed behaviors, and do not extend well into unplanned environments. In contrast, complex systems can be engineered to have sufficient adaptability to operate well in a changing environment, responding to change in appropriate and effective ways.²

A dynamic Spectrum sharing model offers a future for Regional Australia.

Low Earth Orbit Satellite broadband services.

The International roadmap suggests that 2025 is one target date for the implementation of many of the global seventh generation (7G) networks. There are more than 10,000³ satellites planned to be launched to implement these global networks⁴. Some of these services are available now in a limited form, some are planned for 2020 and beyond - they are being developed.

Seventh generation services will provide 100% coverage for voice and broadband services across the globe. In Regional Australia, the casual stockman, sitting on his horse, or attending to his business, will have some of the following choices:

- No coverage
- a Government service - slow and expensive,
- commercial terrestrial offerings from WISPAU members or
- the 7G networks.

The 7G networks may remove control of the Australian communications network from Australia.

Strengthening regional Australia commercially

Just as the evolution of the NBN and the associated restrictive legislation has removed some 60,000 jobs from our industry, the LEO networks will place equal and more pressure on the NBN.

In the US, Canada, South Africa, New Zealand we watch the WISP industry work actively with their regulatory bodies to debate and enhance existing services, creating solid efficient networks with a growing national workforce.

² INCOSE A complexity primer

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<https://www.fiercewireless.com/wireless/from-boeing-to-spacex-11-companies-looking-to-shake-up-satellite-pace>

https://www.commerce.senate.gov/public/_cache/files/6c08b6c2-fe74-4500-ae1d-a801f53fd279/655C5CBED75A50881172C1E9069D91E6.testimony-patricia-cooper---broadband-infrastructure-hearing.pdf

⁴ https://www.telesat.com/sites/default/files/news/telesat_leo_phase_1_success_release_-_final.pdf

In our nation, we are strangely viewed as competition to NBN schemes, therefore legislation is enacted to destroy any infrastructure propagation that could compete. Removing spectrum sharing access is a case in point.

The sharing models that we propose allow regional carriers to view a blackspot as an economic opportunity to implement a neutral host capability, supplying 5G broadband and Voice services to Tier 1 carriers to expand their networks. This is a market force in operation.

This can only have positive results; the creation of Regional opportunities, the rapid closing of the digital divide.

National security issues.

If spectrum is auctioned in a manner which provides exclusive access to huge areas of Australia for long time frames up to 20 years, that spectrum, this national asset, is effectively removed from the control of the parliament. This is the current policy.

If that licence is then transferred by company acquisition to an external entity, then that spectrum becomes available for exclusive access by foreign powers for the duration of the license.

In a similar scenario, the Darwin port infrastructure was sold, but the equivalent here is that a significant part of the entire national wharf infrastructure is sold into foreign hands. It is a scenario that we are unheedingly stumbling into.

The sharing models that we propose allow quantum license control, whereby policy can ensure that licence allocation and re-allocation in critical areas can be overseen by the Parliament within predefined parameters.

Specific assistance that will assist Regional Australia.

We ask the government to restart a dialog with the Australian regional Industries. The world dynamic sharing model offers a solution which can evolve.

*The initiation of a project begins with user need. Once a need is perceived and resources are committed to establish a project it is possible to define the parameters of an acquisition and supply relationship.*⁵

The industry does not have the ability to satisfy this need without assistance.

Correspondence from the Regulator and the Minister is not encouraging - sharing spectrum was rejected by the Regulator in favour of eliminating it from regional usage for a time period which is a significant part of the working lifetime of those leaving school now.

18 December 2017

*"I share your concerns about the availability of reliable broadband service in regional Australia, which is why the Government is committed to the ongoing rollout of the National Broadband Network. The NBN complements the networks provided by WISP-AU ..."*⁶

and

15 November 2017

*"We very much understand your strong interest in DSLM. The ACMA is also interested in exploring dynamic access approaches in suitable candidate bands. However, given the status of current considerations in the 3.6 GHz band, we don't believe further exploration of a hypothetical DSA approach is a priority in the context that we are actively consulting on a draft reallocation recommendation in this band. This work on 3.6 GHz is a very high priority for us."*⁷

The next step is to actually work together. We respectfully ask for your continued support.

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⁵ INCOSE Systems Engineering Handbook: A guide for System Life cycle Processes and Activities.

⁶ Letter from Minister Fifield to WISPAU 18 Dec 2017

⁷ Email reply from the ACMA to President Wispau 15 Nov 2017 with cc to Ministers office.