Submission to the Standing Committee on Industry, Innovation, Science and Resources Inquiry into Developing Australia's Space Industry

About Vocus

Vocus is an Australian-owned specialist fibre and network solutions provider operating Australia's second-largest intercapital network, and is a key enabler of the Australian satellite industry. In total, the Vocus terrestrial network comprises ~30,000km of secure, high-capacity fibre supported by the 4,600km Australia Singapore Cable and the 2,100km North West Cable System between Darwin and Port Hedland. As part of this network Vocus also owns and operates more than 300 facilities – known as Controlled Environment Vaults (CEVs) - which have emerged as critical ground infrastructure assets for global satellite operators seeking to provide services in Australia. Vocus owns a portfolio of brands catering to enterprise, Government, wholesale, small business and residential customers across Australia and New Zealand.

Terms of Reference

The House of Representatives Standing Committee on Industry, Innovation, Science and Resources inquire into and report on developing Australia's space industry, including:

- Development of space satellites, technology and equipment;
- International collaboration, engagement and missions;
- Commercialisation of research and development, including flow on benefits to other industry sectors;
- Future research capacity, workforce development and job creation; and
- Other related matters.

The Committee will focus on how the Australian Government can support and encourage the space industry while preserving and protecting the space environment.

Executive Summary

Vocus submits that the Australian Government should pursue policy and regulatory settings for the space and satellite sector that:

1. Develop and maintain sovereign capability;
2. Incentivise private-sector investment and local industry development; and
3. Improve telecommunications outcomes for households and businesses, especially in regional and remote Australia.

First, the major events of 2020 reinforced that communications networks are critical infrastructure which underpin other vital services in the modern economy. If we are to meet the Australian Space Agency's goal of tripling the size of the sector to $12 billion and creating up to another 20,000 jobs by 2030"[1], it is imperative that Government pursues policy goals which develop sovereign capability for both civil and Defence space applications.

Second, Australia is fortunate to have a burgeoning local space industry and a wealth of expertise which will attract private-sector investment. Government policy settings should be set in such a way as to promote and maximise private investment and develop private industry. Private sector investment is fundamental to enabling competition, building scale and developing

[1] ASA Communications Technologies and Services Roadmap 2021/2030

capability which will deliver the best outcomes for consumers, businesses and Government agencies.

Third, Australia's expansive landmass and low population density mean that satellite will always play a disproportionate role in supporting regional and remote telecommunications frameworks. The development of local space and satellite capability should be used to provide a foundation for reform of overlapping regional telecoms regulations and subsidy programs, including the Universal Service Obligation (USO), Regional Broadband Scheme (RBS), Mobile Black Spot Program (MBSP), Regional Connectivity Program (RCP), and numerous State Government programs. The technical and commercial developments in the global Low Earth Orbit (LEO) satellite market now mean that metro-equivalent services can be delivered to regional and remote communities at a much lower cost than traditional terrestrial and satellite technologies. While these programs have delivered tangible benefits to many regional communities, they have also created an inefficient tangle of cross-subsidies in regional areas which in many cases overlap and overbuild one another.

Developing and maintaining sovereign capability

Vocus submits that the Australian Government should continue to pursue policy settings for the space and satellite sector that are focussed on developing sovereign capability. Procurement policies will play an important role where sovereign capability considerations are given primary consideration above potential cost savings resulting from outsourced and/or imported capability.

Important measures of success will include the development of infrastructure and capability which is Australian-owned, Australian-operated, and compliant with relevant security obligations and standards.

Given the heightened amount of activity in the market – predominantly led by US and EU satellite operators – the Australian Government is likely to face decision points where it will be faster and more affordable to procure infrastructure and services developed overseas. While such an approach may deliver short-term results, policy settings and procurement frameworks should be tuned to develop long-term local capacity which builds Australian industry expertise and will position Australia to be an exporter of space and satellite products – as well as serving the local market.

In recent years Australia has demonstrated how communications infrastructure can play an important role in international development efforts, particularly in the Pacific. Examples include projects funded by the Australian Infrastructure Financing Facility for the Pacific (AIFFP) such as the Coral Sea Cable System to Papua New Guinea and the Solomon Islands, a submarine cable to Palau, and a proposed cable to Timor-Leste.

These cable backhaul assets represent key enabling infrastructure for the support of satellite access services in these markets.

Given the remote locations of many communities throughout the Pacific, Australia should seek opportunities to leverage locally-developed satellite infrastructure and expertise in international development efforts, promoting economic development and supporting local infrastructure, education, and access to global trade and promoting closer ties in the region.

Vocus, through its extensive terrestrial and international fibre network infrastructure, sits in the 'enabler' category of the Australian space industry. Vocus submits that policy settings which promote sovereign capability should also take into account the development of a healthy competitive ecosystem which will drive both product innovation and price outcomes.

Vocus submits that the Committee take into account the work of the current ASDEFCON and Defence Procurement Review announced in December 2020[2], along with changes to Australian Industry Capability (AIC) requirements designed to maximise opportunity for Australian industry involvement. While these processes are in the Defence space, the overarching aim of

[2] 4/12/20 Media Release: Morrison Government to cut red tape and strengthen Defence procurement

strengthening and enforcing local capability requirements should be equally encouraged in the civilian space industry.

Incentivising private investment and local industry development

Vocus submits that policy settings should be shaped to incentivise local private investment rather than prioritising or protecting Government agencies/enterprises.

Australia has a mixed track record of public investment in satellite, dating back to AUSSAT from the late 1970s which incurred losses throughout its life and was ultimately sold to Optus as part of being granted a carrier licence in 1991.

A contemporary example is NBN's two Sky Muster satellites: while they have delivered a step-change in broadband services available to people living in regional and remote Australia, they also required a significant public investment of ~$2 billion as well as ongoing cross-subsidies from both NBN's profitable operations and private telco operators (in the form of the Regional Broadband Scheme). These satellites were almost entirely designed, manufactured and constructed overseas, delivering only limited benefits to local capability (largely ground stations, backhaul fibre and control operations).

In future, Government should consider methods to support and incentivise local private-sector investment, using its purchasing power to develop local industry rather than directly funding a Government Business Enterprise (which may outsource much of its development overseas).

The Australian Government's Modern Manufacturing Strategy[3] prioritisation of the Space industry and the Australian Civil Space Strategy 2019-2028[4] are positive steps in this regard.

As the owner and operator of a nationally-scaled fibre network with extensive infrastructure assets in regional Australia, Vocus is now investing in additional fibre infrastructure and specialised satellite ground stations. In areas where private investment is economically unviable, Government should pursue policy solutions – such as the current Regional Connectivity Program co-investment approach - that incentivises or subsidises private operators to stimulate investment rather than prioritising public ownership of such infrastructure.

Improving telecommunications outcomes for regional and remote Australia

Vocus submits that the development of a local space and satellite industry should enable regulatory reforms which improve telecommunications outcomes for households and businesses, especially in regional and remote Australia.

Today, regional telecommunications networks are directly subsidised and cross-subsidised via a tangle of Government programs which regularly overlap and overbuild each other.

There is the Universal Service Obligation (USO), which sees Telstra paid around $250 million a year to maintain the voice-only Standard Telephone Service in regional Australia. This is partially a direct Government payment of $100 million a year, and partially via the Telecoms Industry Levy or 'TIL' which collects around $250 million a year for a range of public interest telecoms services including the USO.

Telstra contributes the largest share of the TIL – more than $150 million – effectivity paying itself to deliver the USO. But in 2019 NBN contributed more than $11 million to the TIL – and as NBN's revenues continue to grow in coming years, so will its share of the TIL. This means NBN will be paying Telstra tens of millions of dollars a year to keep its USO copper network operational in the same areas that NBN operates its own Fixed Wireless and Satellite networks.

At the same time, NBN's Fixed Wireless and Satellite networks are subsidised by commercial operators via the Regional Broadband Scheme (RBS). The RBS is expected to raise over $741 million in its first year of operation to offset NBN's regional network losses of $12.9 billion for

[3] https://www.industry.gov.au/data-and-publications/make-it-happen-the-australian-governments-modern-manufacturing-strategy
[4] https://publications.industry.gov.au/publications/advancing-space-australian-civil-space-strategy-2019-2028.pdf

the period of 2009-2040, with 95% of the total annual cost paid by NBN to itself and private operators contributing the remaining 5%.

As a result, Telstra pays for the majority of the USO itself, and NBN pays for the majority of the RBS itself – and Telstra and NBN are also increasingly paying each other to operate duplicative networks. Combined, the USO and the RBS cost ~$1 billion annually to subsidise networks serving the same users in the same areas of regional Australia.

Additionally, there have been six funding rounds of the Mobile Black Spot Program, which subsidises new mobile network coverage in many of the same areas that are already covered by the USO and RBS. There is also the Regional Connectivity Program which subsidises new local telecoms infrastructure in areas which already have NBN Fixed Wireless or Satellite.

There are also numerous State Government subsidy programs like NSW Gig State, Victoria's mobile coverage program, and the WA grainbelt fixed wireless program.

While each of these programs has delivered tangible benefits to many regional communities, they have also created a tangle of cross-subsidies which overlap and overbuild regional telecoms infrastructure.

The development of a local space and satellite industry provides an opportunity to consider a new contestable solution and a more efficient, coherent, and holistic approach to funding regional telecommunications. More than $1 billion a year is currently spent between Government and industry on regional telecommunications programs, some of which may be better invested into local satellite capability which could potentially deliver improved connectivity to regional Australia while simultaneously leveraging local industry and local expertise and providing Australian taxpayers with superior, lower-cost policy outcomes.

The imminent arrival of next-generation LEO Satellites is likely to make many of these existing programs and legacy technologies redundant.

This emerging LEO technology is so vastly superior to existing satellites that their performance is more comparable to terrestrial networks. The applications offered by LEOs are likely to replicate the offerings of 4G and 5G in several areas – and likely at much lower cost. Today, railway operators are installing private LTE networks for signalling – LEO satellites could provide this without requiring a single new base station to be built. Many of the IOT applications being promoted as dependent on 5G may be more economically served by LEOs, such as transport and logistics, autonomous vehicles, and other in-vehicle data applications.

We can expect to see a proliferation of new ground stations in regional areas to support these new LEO Sat fleets – meaning access to trusted, high-capacity, low-latency fibre in very remote areas will be critical to their success.

Conclusion & Recommendations

Vocus is grateful for the opportunity to contribute to the Committee's inquiry into developing Australia's space and satellite industry.

Vocus submits that the Australian Government should pursue policy settings for the sector that:

1. Develop and maintain sovereign capability;
2. Incentivise private-sector investment and local industry development; and
3. Improve telecommunications outcomes for households and businesses, especially in regional and remote Australia.

Please direct any questions regarding this submission to:

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