



# TelSoc

## Telecommunications & the Digital Economy

Published on *TelSoc* (<https://telsoc.org>)

Home > Editorial: Regional Communications and the Role of Satellites

### Editorial: Regional Communications and the Role of Satellites

[Leith Campbell](#) <sup>[1]</sup>

RMIT University

---

**JTDE - Vol 10, No 1 - March 2022** <sup>[2]</sup>

<sup>[3]</sup>

★ 68 <sup>[4]</sup>

#### Abstract

This editorial comes in two parts: some remarks on the role of satellites for regional telecommunications; and a brief introduction to the papers in this issue.

### Regional Communications and Satellites

Now that Starlink's satellite-based Internet access is available in Australia and New Zealand ([Fogg, 2022](#) <sup>[5]</sup>) and OneWeb has agreements with Field Solutions Holdings, Vocus and Telstra ([Pritchard-Kelly & Costa, 2022](#) <sup>[6]</sup>, p. 22), are we about to see a revolution in Internet access in regional Australia? There is growing demand and some dissatisfaction with other offerings.

The latest triennial review by the Australian Government of regional and rural communications has recently been published ([Australian Government, 2021<sup>\[7\]</sup>](#)). It recognizes that telecommunications continues to be a significant infrastructure issue for regional Australia in the face of a “step change in demand”. It notes that, while Australia’s National Broadband Network (NBN) provides a “baseline level of connectivity”, mobile coverage remains inconsistent – described as a “patchwork quilt’ of connectivity”; also known as “salt and pepper connectivity” in the Agri-Tech report ([Waters & Koch, 2022<sup>\[8\]</sup>](#)) from the Australian Broadband Advisory Committee.

One way of providing data communications coverage everywhere is by using earth-orbiting satellites. The NBN, whose role is to provide wholesale broadband connections to business and residential premises, uses geostationary satellites to provide service to about 100,000 premises (out of a potential 400,000 planned connections). This satellite service, called Sky Muster, came in for particular criticism:

Although Sky Muster Plus has improved access to data, Sky Muster users are frustrated by insufficient data allowances, high latency and reliability issues ([Australian Government, 2021<sup>\[7\]</sup>](#), Key finding 9, p. 7).

Geostationary satellites have long been used for communications – the first commercial one is now a museum piece ([Intelsat, 2022<sup>\[9\]</sup>](#)) – but they are not suitable for voice communications because of high signal latency. They have provided – and will continue to provide – global data communications. The stated policy of NBN Co in 2021 was to consider replacing the Sky Muster satellites when they reach the end of their nominal operating lives ([Campbell, 2021<sup>\[10\]</sup>](#)).

Partly in response to the criticisms in the Regional Telecommunications Review, and in line with general network development, the Australian Government and NBN Co have announced a further extension of the NBN Fixed Wireless Access footprint to provide a terrestrial substitute for some Sky Muster services ([Davey & Spears, 2022<sup>\[11\]</sup>](#)).

Meanwhile, new constellations of low-earth-orbit satellites (LEOs) are being deployed. As an example, this issue of the *Journal* contains an article on OneWeb’s plans ([Pritchard-Kelly & Costa, 2022<sup>\[6\]</sup>](#)). The Regional Telecommunications Review devotes several pages (notably pp. 61–62) to the subject of LEOs. Its key finding is:

There are emerging technology options to meet the demand for data but their service performance has not yet been validated ([Australian Government, 2021<sup>\[7\]</sup>](#), Finding 11, p. 61).

There are also some potential barriers to the future deployment of LEOs described in another paper ([Canning, 2022<sup>\[12\]</sup>](#)) in the current issue.

Starlink Internet access in Australia costs AUD 1,039 upfront for equipment and shipping, plus AUD 139 per month ([Starlink, 2022<sup>\[13\]</sup>](#)). It is available in many parts of Australia, including the east-coast capital cities and Adelaide, but not yet Perth. It is unlikely to be price-competitive within the NBN fixed-line footprint, but it may be attractive in less densely populated areas and for other reasons. Performance is still being assessed.

On the use of satellites for regional communications, the Regional Telecommunications Review concludes:

Nonetheless, it has been suggested to the Committee a potential future state will involve the complementary and interoperable use of both geosynchronous and LEO satellites based on their respective advantages and the specific usecase. Given the relative lack of maturity in the new satellite technology market, we consider that it is too early to make a definitive call on the role this technology will play in the Australian telecommunications landscape ([Australian Government, 2021](#) [7], p. 62).

It is a stated aim of the 5G/6G standards development path that there will be full integration between terrestrial and non-terrestrial systems for communications services ([Soldani, 2021](#) [14]). Whatever the final configuration of telecommunications service delivery, it is clear that data services delivered by LEOs and other satellite systems will be a major driver of global communications services over the next decade. They may first influence regional communications but their effects are also likely to extend into competition with terrestrial networks in more populated areas. Future issues of the *Journal* will no doubt cover the growing influence of space-based systems.

## In This Issue

This issue has a focus on public policy related to regional telecommunications. In addition, it includes papers on various topics in telecommunications operations and technology, an obituary, and an historical reprint.

Continuing our series of outputs from TelSoc's Broadband Futures Forums, we publish a Special Interest Paper, *Low Earth Orbit Satellite Systems: Comparisons with Geostationary and Other Satellite Systems, and their Significant Advantages*, from a Forum in August 2021.

In the Public Policy section itself, we publish an account from another Broadband Futures Forum, *The Broadband Futures Forum: The Australian Broadband Advisory Council Agri-Tech Expert Working Group Report*, held in October 2021. We also publish a commentary on the Agri-Tech Expert Working Group's report, *Australian AgTech: A Commentary on the Report of the Agri-Tech Expert Working Group June 2021*.

In the Telecommunications section, we have three papers covering a wide variety of topics. *Collaboration Principles between Telecommunication Operators and Over-The-Top (OTT) Platform Providers in the Context of the Indonesian Job Creation Regulation* considers the relationship between telecoms operators and over-the-top service providers in Indonesia. *Mobile Advertising Modelling for Telecommunications Industry: Focusing on the Boosting of Value Co-Creation* looks at the value of co-creation in mobile advertising. *Enhancements to the Deep Learning Signal Detection Model in Non-Orthogonal Multiple Access Receivers and Noisy Channels* describes improvements in signal detection from enhanced deep learning.

In the Biography and History of Telecommunications sections, we publish an obituary of Gavan Rosman and we reprint a paper from 1991 on the Iridium satellite network.

As always, we encourage you to consider submitting articles to the *Journal* and we welcome comments and suggestions on which topics or special issues would be of interest.

## References

- Australian Government. (2021). 2021 Regional Telecommunications Review: A step change in demand. Department of Infrastructure, Transport, Regional Development and Communications. Available at <https://www.infrastructure.gov.au/departments/media/publications/2021-regional-telecommunications-review-step-change-demand> <sup>[15]</sup>, accessed 21 March 2022.
- Campbell, L. H. (2021). The Broadband Futures Forum: Regional and Rural Broadband Access: City standards in 10 years? *Journal of Telecommunications and the Digital Economy*, 9(2), 1–10. <https://doi.org/10.18080/jtde.v9n2.400> <sup>[16]</sup>
- Canning, J. (2022). Australian AgTech: A Commentary on the Report of the Agri-Tech Expert Working Group June 2021. *Journal of Telecommunications and the Digital Economy*, 10(1), 34–49. <https://doi.org/10.18080/jtde.v10n1.464> <sup>[17]</sup>
- Davey, N., & Spears, G. (2022). \$750 million investment to 5G-enable nbn<sup>®</sup> Fixed Wireless to deliver faster speeds to regional Australia. NBN Media Centre, 22 March. Available at <https://www.nbnco.com.au/corporate-information/media-centre/media-statements/750-million-investment-to-5G-enable-nbn-fixed-wireless-to-deliver-faster-speeds-to-regional-australia> <sup>[18]</sup>, accessed 24 March 2022.
- Fogg, B. (2022). Starlink in Australia: SpaceX's satellite internet explained. Reviews.org, 6 February 2022. Available at <https://www.reviews.org/au/internet/starlink-satellite-internet-australia/> <sup>[19]</sup>, accessed 24 March 2022.
- Intelsat. (2022). Intelsat Donates 'Early Bird' Intelsat 1 Satellite to the Smithsonian. Newsroom, 23 March. Available at <https://www.intelsat.com/newsroom/intelsat-donates-early-bird-intelsat-1-satellite-to-the-smithsonian/> <sup>[20]</sup>, accessed 24 March 2022.
- Pritchard-Kelly, R., & Costa, J. (2022). Low Earth Orbit Satellite Systems: Comparisons with Geostationary and Other Satellite Systems, and their Significant Advantages. *Journal of Telecommunications and the Digital Economy*, 10(1), 1–22. <https://doi.org/10.18080/jtde.v10n1.552> <sup>[21]</sup>
- Soldani, D. (2021). 6G Fundamentals: Vision and Enabling Technologies: From 5G to 6G Trustworthy and Resilient Systems. *Journal of Telecommunications and the Digital Economy*, 9(3). <https://doi.org/10.18080/jtde.v9n3.418> <sup>[22]</sup>
- Starlink. (2022). Order Starlink. Available at <https://www.starlink.com/> <sup>[23]</sup>, accessed 24 March 2022.
- Waters, P., & Koch, A. (2022). The Broadband Futures Forum: The Australian Broadband Advisory Council Agri-Tech Expert Working Group Report. *Journal of Telecommunications and the Digital Economy*, 10(1), 23–33. <https://doi.org/10.18080/jtde.v10n1.553> <sup>[24]</sup>

#### Article PDF:

565-campbell-editorial-v10n1ppiii-vi.pdf <sup>[25]</sup>

---

#### Copyright notice:

Copyright is held by the Authors subject to the Journal Copyright notice. <sup>[26]</sup>

## Cite this article as:

Leith Campbell. 2022. *Editorial: Regional Communications and the Role of Satellites* JTDE, Vol 10, No 1, Article 565. <http://doi.org/10.18080/JTDE.v10n1.565> [27]. Published by Telecommunications Association Inc. ABN 34 732 327 053. <https://telsoc.org> [28]

---

**Source URL:**<https://telsoc.org/journal/jtde-v10-n1/a565>

### Links

[1] <https://telsoc.org/journal/author/leith-campbell> [2] <https://telsoc.org/journal/jtde-v10-n1> [3] <https://www.addtoany.com/share?url=https%3A%2F%2Ftelsoc.org%2Fjournal%2Fjtde-v10-n1%2Fa565&title=Editorial%3A%20Regional%20Communications%20and%20the%20Role%20of%20Satellites> [4] [https://telsoc.org/printpdf/3502?rate=JdliyBbi7y-X6pHfZTGN\\_hfvekJ1\\_TninGYghfjXGg](https://telsoc.org/printpdf/3502?rate=JdliyBbi7y-X6pHfZTGN_hfvekJ1_TninGYghfjXGg) [5] [https://telsoc.org/journal/jtde-v10-n1/a565#Fogg\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#Fogg_2022) [6] [https://telsoc.org/journal/jtde-v10-n1/a565#PritchardKelly\\_Costa\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#PritchardKelly_Costa_2022) [7] [https://telsoc.org/journal/jtde-v10-n1/a565#AusGov\\_2021](https://telsoc.org/journal/jtde-v10-n1/a565#AusGov_2021) [8] [https://telsoc.org/journal/jtde-v10-n1/a565#Waters\\_Koch\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#Waters_Koch_2022) [9] [https://telsoc.org/journal/jtde-v10-n1/a565#Intelsat\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#Intelsat_2022) [10] [https://telsoc.org/journal/jtde-v10-n1/a565#Campbell\\_2021](https://telsoc.org/journal/jtde-v10-n1/a565#Campbell_2021) [11] [https://telsoc.org/journal/jtde-v10-n1/a565#Davey\\_Spears\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#Davey_Spears_2022) [12] [https://telsoc.org/journal/jtde-v10-n1/a565#Canning\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#Canning_2022) [13] [https://telsoc.org/journal/jtde-v10-n1/a565#Starlink\\_2022](https://telsoc.org/journal/jtde-v10-n1/a565#Starlink_2022) [14] [https://telsoc.org/journal/jtde-v10-n1/a565#Soldani\\_2021](https://telsoc.org/journal/jtde-v10-n1/a565#Soldani_2021) [15] <https://www.infrastructure.gov.au/departments/media/publications/2021-regional-telecommunications-review-step-change-demand> [16] <https://doi.org/10.18080/jtde.v9n2.400> [17] <https://doi.org/10.18080/jtde.v10n1.464> [18] <https://www.nbnco.com.au/corporate-information/media-centre/media-statements/750-million-investment-to-5G-enable-nbn-fixed-wireless-to-deliver-faster-speeds-to-regional-australia> [19] <https://www.reviews.org.au/internet/starlink-satellite-internet-australia/> [20] <https://www.intelsat.com/newsroom/intelsat-donates-early-bird-intelsat-1-satellite-to-the-smithsonian/> [21] <https://doi.org/10.18080/jtde.v10n1.552> [22] <https://doi.org/10.18080/jtde.v9n3.418> [23] <https://www.starlink.com/> [24] <https://doi.org/10.18080/jtde.v10n1.553> [25] [https://telsoc.org/sites/default/files/journal\\_article/565-campbell-editorial-v10n1ppiii-vi.pdf](https://telsoc.org/sites/default/files/journal_article/565-campbell-editorial-v10n1ppiii-vi.pdf) [26] <https://telsoc.org/copyright> [27] <http://doi.org/10.18080/jtde.v10n1.565> [28] <https://telsoc.org>