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Abstract

This editorial comes in three parts: encouragement to delve into the start of long-distance telecommunications in Australia; some remarks on telecommunications as infrastructure; and a brief introduction to the papers in this issue.

A Long History

Last year, 2022, we celebrated the 150th anniversary of the completion of the Overland Telegraph Line, an heroic construction project that enabled the Australian colonies to be in telegraphic communication with the British Empire. It was a foundational event in Australian communications, leading, as Moorhead (2023 [5]) points out in this issue, to each Australian colony joining the predecessor to today's International Telecommunication Union. Indeed, TelSoc (the Telecommunications Association, publisher of this *Journal*) traces its history back to the foundation of the Telegraph Electrical Society in 1874, triggered partly by the success of the Overland Telegraph ("History of TelSoc", 2020 [6]).

In this issue, we publish an important account of another aspect of the Overland Telegraph Line, namely the response of the local people through whose lands the Line passed (Jones, 2023 [7]). The Line eventually led to the alienation of all Aboriginal lands along its length by incoming settlers but, in the short term, there was evidence of curiosity, hostility, and a quest to acquire exotic but useful materials on the part of the original inhabitants. I recommend this account to all readers of the *Journal*.

Telecommunications as Infrastructure

In her Charles Todd Oration, delivered in October 2022, the Minister of Communications spoke of 'three transformational fixed-line telecommunications deployments in Australia', namely (Rowland, 2023 [8], p. 19):

> 'The Overland Telegraph in the 1870s…;
> The copper telephone network rolled out by the Postmaster General's Department last century; and
> The National Broadband Network, initiated by the Labor Government in 2009.'

This was a reminder, if one is needed, that telecommunications is largely about infrastructure, providing the facilities to permit others to communicate or to build new communications functions on its foundation. Given the earlier history of telecommunications being dominated by monolithic and vertically integrated network operators, the realization of telecommunications as infrastructure has had a major effect on the industry, a process that continues today.

One concern has been about "Over the Top" (OTT) players, such as streaming services, which use telecommunications networks to reach their customers without direct payments to the infrastructure providers. ("OTT" was probably coined originally as a pejorative term, but is now widely accepted.) A paper by Ramli *et al.* (2023 [9]) in this issue outlines the Indonesian government's response to the introduction of OTT platforms in that country. A significant issue has been compliance by foreign-operated platforms to local customs and regulations. No doubt the Indonesian example will be closely watched by other jurisdictions grappling with the same concerns.

While the separation of infrastructure from services is now largely complete in the fixed-line sphere, due to the dominance of the Internet, there is still further change coming to the mobile world. The mobile 5G standards represent a 'networking transformation through cloud computing' (Bruce Davie, quoted in Campbell (2021 [10])) that will potentially bring service interfaces deep inside telecommunications networks through managed edge clouds. This will be taken even further with 6G (Soldani, 2021 [11]). It will have a profound effect on how mobile networks are paid for and enhanced.

The essential importance of telecommunications infrastructure has been recognized by governments in cases of competitive or market failure, as in Australia's Mobile Blackspots program ([Rowland, 2023](#) [8], p. 26). One country, Malaysia, has taken this further, mandating a single operator, DNB (["5G for All", 2021](#) [12]), as the sole wholesale provider of 5G infrastructure. Whether or not this turns out to be good policy is not yet certain, but, whatever the case, it will serve as a key case-study on the future of telecommunications infrastructure.

For infrastructure projects to be most effective, they should arguably be implemented as part of a wider national strategy. For Malaysia, this is MyDIGITAL (["Mission", 2021](#) [13]). One further paper in this issue, from the TelSoc Broadband Futures Group ([2023](#) [14]), assesses what progress has been made in 2022 towards a Digital Communications Strategy for Australia.

In This Issue

We publish two notable items in this issue. The first is by Philip Jones of the South Australian Museum on *Aboriginal Interactions with the Overland Telegraph Line, 1870–1880*. This offers new perspectives on the construction of the Overland Telegraph Line, of which Australians are justly proud.

The second notable item is the speech made by the Honourable Michelle Rowland, MP, Australian Minister for Communications, as the *2022 Charles Todd Oration*. It lays out some policies and priorities for the government over the coming years.

In the Public Policy section, we add to the policy discussion with two papers. The TelSoc Broadband Futures Group provides the next in its series of annual reports, *Assessing Australia's Progress towards a National Digital Communications Strategy at December 2022*. We also include a paper from Indonesia on *New Regulation on Telecommunications and Over-the-Top Platforms in Indonesia*,

In the Digital Economy section, there are also two papers. *Individual Adaptation in the Face of Enterprise IT Changes in the Organization* looks at how people adapt to new IT systems in the workplace. *Electronic Communication of Entrepreneurs during the Covid-19 Pandemic in the Czech Republic* reports on how communication changed during the recent pandemic.

In the Telecommunications section, we have a paper that looks forward to the planning of future high-speed mobile networks, *Urban 5G MmWave Networks: Line-of-Sight Probabilities and Optimal Site Locations*.

The Biography section contains a tribute to Stewart Wallace, an Australian who had been involved in regulatory aspects of international radio spectrum and who died in 2022.

In the History of Telecommunications section, *Revisiting the 1965 Centenary of the International Telecommunication Union* introduces and reprints a short paper from the *Telecommunication Journal of Australia* originally published in 1965.

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.

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