

○ CELEBRATING 75 YEARS OF THE *TELECOMMUNICATIONS JOURNAL OF AUSTRALIA*

REFLECTING 75 YEARS OF INNOVATION AND CHANGE IN THE AUSTRALIAN TELECOMMUNICATIONS INDUSTRY

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INTRODUCTION

In 1935, when this Journal was launched, improving wool and meat prices overseas were starting to pull Australia out of its Great Depression, but unemployment still exceeded 20%. There was no Keynesian (or Obama/Ruddite) stimulus spending practised here in that era: no Australian version of Roosevelt's contemporary New Deal to build important national infrastructure, despite the evident value of earlier make-work schemes for ex-servicemen, such as building the Great Ocean Road in Victoria after World War I. There was no national telecommunications project planned in the 1930s comparable to the 1870-72 Overland Telegraph Line, the 1960-62 Melbourne-Sydney coaxial cable or the 2010+ National Broadband Network.

And yet the first issues of TJA demonstrate the optimism amongst the engineering workforce of the Postmaster-General's Department ('the PMG') for national infrastructure building, despite Depression-induced initial cuts to staffing and budgets in the early 1930s. By 1935, telephone services had been extended from the populous east coast cities to Perth and Hobart; multi-carrier telegraphy and telephony were increasing the capacity and reducing the costs of long distance communications; and the benefits of automatic telephony were being extended far and wide, via the first rural automatic exchanges as well as the first PABXs for city businesses. In addition the PMG provided the technical infrastructure and support for national radio broadcasting (the Australian Broadcasting Commission); and the PMG's vital support with mail contracts underpinned the commercial viability of the first commercial airline services across Australia and to overseas (Moyal 1984, 141-150).

It is within the context of the high morale within the PMG, a morale built and sustained by the leadership of the legendary Director-General H.P. 'Horse Power' Brown since his appointment in 1923, that the launching of the *Telecommunication(s) Journal of Australia* in the middle of the Depression years can be understood. There had been a history of learned society activity – lectures, newsletters and Transactions – within the PMG and its State predecessors since 1874, starting with the Melbourne-based Telegraph Electrical Society, which reconvened itself as the Postal Electrical Society of Victoria (PESV) in 1908, reflecting the redeployment of most of its membership as employees of the recently created Postmaster-General's Department. It was not until 1959 that the PESV re-constituted itself as a truly national body, the Telecommunication Society of Australia (TSA).

To quote a former Editor-in-Chief of TJA, Mun Chin (1985):

In its early days (1874 to circa 1881) Transactions of the Society were published but not widely distributed. Few copies of the Transactions survived the passage of time. In 1932, following a major reconstruction of the Society, the new committee embarked on the publication of a Journal for national distribution – and the first Telecommunication Journal of Australia, as we know it, was issued in June 1935. Since that date the production of the Journal has never been interrupted.

This paper updates the author's earlier article on the 70th anniversary of TJA (Gerrand 2005a), to describe the evolution of the Journal, directly reflecting changes within the Australian telecommunications industry whose major innovations it has attempted to record, analyse and disseminate over the past eight decades.

THE PMG AND TELECOM MONOPOLY YEARS

From 1935 to June 1975 the Journal was published in the name of the PESV/TSA, but in practice was heavily subsidised by the Postmaster General's Department (PMG), apart from members' subscriptions and a small revenue flow from advertisements in the Journal. The Board of Editors, like the majority of the authors, were full-time employees of the PMG and carried out their editorial functions as part of their normal work duties. This was a significant in-kind investment by the PMG to the ongoing retraining and re-education of its technical workforce.

For more than forty years, the Journal served as a source of vital information about new technologies being adopted, new engineering processes and major engineering project achievements – essential to the engineers and technical officers of the PMG and, to some extent, to the technical staff in the local offices of its overseas equipment vendors. The style of the papers up until the late 1970s was tutorial, offering a great wealth of technical detail.

The projects, processes and technologies covered were the major building blocks supporting the PMG's telephony, telegraphy and radio and television broadcasting services. For example in the 1930s the Journal included comprehensive papers on laying the Victoria-Tasmania Submarine Telephone cable, the installation of rural radio stations (in support of the Australian Broadcasting Commission), and new developments in automatic telephony.

The authors were often the engineering managers responsible for the projects described, and many of them rose to very senior positions in the PMG. For example Frank (F.P.) O'Grady, the most prolific TJA author (with seven papers to his credit) during the entire PMG era, finished his career as Director General of the Department from September 1961 to December 1965. With characteristic confidence in advanced technology, he made many major investment decisions in extending and upgrading the national telecommunications infrastructure (Moyal 1984: 231–3).

As a further example of the Journal's training role, almost every issue from 1935 to 1971 published answers to technical exam questions for the PMG's electrical mechanics and engineers. Not only did the PMG carry out its own training of technicians, linesmen and tradesmen, but until 1950 it formally qualified many of its own professional engineers through its internally administered Open Engineers Exam. From 1950 it started actively recruiting university-trained engineers, and many of these were PMG employees who benefited from attending university full-time, funded by PMG engineering cadships won via competitive entry. By the 1970s the PMG

had begun to outsource much of its basic training of technicians to State Government funded Colleges of Technical and Further Education.

The PESV was reorganised by the PMG in 1959 as the Telecommunication Society of Australia (TSA), still unincorporated, operating as a subsidiary organisation controlled by the PMG. All twelve members of the TSA's Council of Control were constitutionally required to be officers of the Central Administration of the Australian Post Office, the business name adopted by the PMG (Turnbull 1974). The position of Editor-in-Chief of TJA, created in 1960, was then filled by a succession of engineers, all (until 1994) employees of the Australian Post Office (APO) and its successor Telecom Australia. Table 1 provides a list of all the journal's Editors-in-Chief up to the present. Neil McDonald, perhaps most famous as Project Manager for the Melbourne-Sydney coaxial cable project in 1960, was renowned within the Board of Editors for his skill in improving candidate papers by judicious editing (a talent shared by our current Executive Editor).

N.M. Macdonald	1960–64
V.J. White	1964–71
G. Moot	1972–77
L.M. Mitton	1977–81
R. Keighley	1981–83
Mun Chin	1983–88
Fred Cox	1989–90
John Costa	1990–92
Dick Danckert	1993–94
Peter Gerrand (with Blair Feenaghty as Executive Editor)	1994–present

Table 1 TJA Editors-in-Chief

The tradition of encouraging contributions during office hours to the TJA's Board of Editors continued when the telecommunications arm of the PMG became Telecom Australia in 1975, right up until 1991. In that year a new regulatory regime, established by the 1991 Telecommunications Act, created a more diverse and more competitive telecommunications industry with infrastructure competition as well as service-based competition to Telecom Australia. In that same year the TSA was converted into an independent company limited-by-guarantee, designed to serve this new industry.

THE ERA OF CARRIER COMPETITION

In 1991 the new Telecommunications Act opened the way to long-expected infrastructure-based competition to Telecom Australia by the newly licensed carriers Optus and (for mobile services) Vodafone. (Further legislative changes in 1997 opened the way to full competition.) This changed the attitude of many Telecom managers, wary now of all aspects of loss of commercial advantage, to participation in TJA either as an editor or author. However Telecom generously agreed to sign up as the Foundation Member of the now independent TSA, and hence as the major sponsor of its journal TJA.

After 1991 there was still a residual tradition within Telecom Australia's ranks of seeing value in contributing to the Journal as a member of the Editorial Board, but no longer was this widely sanctioned by the individual's supervisors as being part of their official duties. This made it very difficult for the Editor-in-Chief, who until 1994 was also the executive editor of the Journal.

The now independently incorporated TSA solved this problem in 1994 by creating a load-sharing combination of an Editor-in-Chief, an Executive Editor, an Editorial Advisory Board, and frequent use of Guest Editors. During 1994 to 2001 Professor Peter Gerrand was both Chairman of the TSA (1993–2003) and Editor-in-Chief, and Blair Feenaghty was both CEO of the Society and Executive Editor. From 2004 to 2007, both relinquished their formal roles with the parent TSA Board but continued in their roles with the Journal.

The Editorial Advisory Board, an evolution of the original TJA Editorial Advisory Board, meets quarterly to review the immediate past issue and plan future issues and other initiatives. Since 1994 the Board's membership has consciously been extended across the industry (across the carrier, vendor, consulting and academic sectors) and also across its many disciplines (engineering, research, telecommunication and intellectual property law, media studies, economics, etc). The current membership is listed on the 'about TJA' web page (<http://www.epress.monash.edu/tja/about.html>).

Guest Editors are selected by the Editorial Advisory Board to promote themes for individual future TJA issues. The role of a Guest Editor is to commission (without financial reward) a raft of authors on a major theme for a special issue. Since 1994 the Guest Editors, listed with their themes in Tables 3 to 5, have shaped the content of between one third and one half of all TJA issues.

In its 16 years of operation, this four-tier scheme has served its objectives well in avoiding any Editors from becoming excessively overloaded and, as a consequence, any issues of the Journal from becoming excessively delayed. The Journal, like the TSA itself, relies almost entirely on honorary contributions by authors and editors.

CHANGES IN CONTENT

Between 1989 and 1993 the Journal benefited from innovations in style and content by John Costa as both an editor and Editor-in-Chief (1990–92). As manager of Telecom's Engineer Development Program from 1983 to 1990 he produced a series of topical National Video Seminars using national broadband hook-ups between conference rooms, and used many of the seminar topics to generate aligned themes for TJA, as shown in Table 2. John also used graphics artists from Telecom Australia's former drafting group to produce more visually appealing TJA covers, especially the naïf cartoon illustrations of Kerri Stokes (from 1991 to 1997).

The content of the Journal has changed gradually but considerably since 1991, reflecting not only the readership's interests in the frequent changes in technology platforms, products and industry restructures, but also the constraints placed on authors since 1991 by heightened commercial competition, constraining them from revealing too many details of new products and technologies.

Year	Vol./No.	Theme
1989	39/2	The Intelligent Network
1989	39/3	The Paperless, Wireless, Peopleless Office
1990	40/1	Synchronous Digital Hierarchy
1990	40/2	Broadband ISDN
1990	40/3	Intelligent Buildings?
1991	41/1	Australia as a Player in the Global Telecommunications Industry
1991	41/3	Educational Telecommunications Beyond 2000 (Guest editor: Dr Geoffrey Jones)
1992	42/1	Intelligent Networking
1992	42/2	Access
1992	42/3	Benchmarking
1993	43/2	GSM mobile telephony
1993	43/3	Multimedia

Table 2 TJA's Special Themes 1989–1993

Year	Issue	Theme	Guest Editor
1994	44/1	Austel's new Numbering Plan	
1994	44/2	Australian telecommunications exports	Mark Kwetniak
1994	44/3	Post-1997 communications	John Costa
1995	45/1	Personal communications services	Reg Coutts
1995	45/2	The evolving network	Fred Symons
1995	45/3	Telecommunications manufacturing in Australia	Fred Symons
1996	46/1	Data Networks	Dennis Dorman
1996	46/2	Australian telecommunication research	Peter Gerrand
1996	46/3	Call centres and computer-telephony integration (CTI)	Peter Brown
1996	46/4	Improving the product development process	Carol Scott
1997	47/1	Global telecommunications reform	John de Ridder
1997	47/2	Australia and the Internet	
1997	47/3	Implementing Australia's recipe for deregulation	Rod Shogren
1997	47/4	Taming technology with project management	John Gerrand
1998	48/1	Telecommunications and the finance industry	
1998	48/2	Privacy in the information society	Wally Rothwell
1998	48/3 & 48/4	New uses of radio spectrum for the next millennium	John Costa
1999	49/2	Rural Communications	Marina Cavill
1999	49/3	Privatisation around the world	Dianne Northfield

Table 3 Themes and guest editors in the printed TJA 1994–1999

Indeed the heightened commercial restrictions on publishing were stated as one of the main reasons for the demise of TJA's sister journal *Australian Telecommunications Research* (1967–95) in early 1996 (Gerrand 1996). Since then TJA has endeavoured to fill the gap left by ATR, by commissioning overviews of the state of Australian telecommunications research amongst its major themes (in 1996 and 2001: see Tables 3 and 4) as well as in other articles.

Year	Issue	Theme	Guest Editor
2000	50/4	e-Commerce security	Martin Vaughan
2001	51/1	The digital dividing range	Reg Coutts
2001	51/3	Telecommunications oriented Cooperative Research Centres	Peter Gerrand
2002	52/2	The broadband revolution	
2002	52/2	Is regulation working?	Peter Darling
2002	52/3	Innovation	
2003	53/1	Unblocking the Internet	
2003	53/3	e-Government	John Rimmer
2003	53/4	Digital TV	Mark Armstrong
2004	54/3	TSA's 130 th anniversary	
2004	54/4	Australian trade in ICT	John Costa
2005	55/1	Best ATNAC papers	Farzad Safaei
2005	55/4	TJA 70 th Anniversary issue	
2006	56/1	Direct digital broadcasting	John Costa
2006	56/2	Telecommunications R&D in Australia	
2006	56/3	Broadband – joining the bits	Trevor Barr
2007	57/1	Voice over IP	

Table 4 Themes and guest editors in the printed TJA 2000–2007

In the 1990s it was still possible to obtain good overview papers from the major Australian carriers on important developments, such as their moves to Internet Protocol based infrastructure, but not on others, such as Telstra's vital infrastructure contribution to the success of the Sydney Olympics in 2000. Regrettably commercial imperatives seem to not have allowed sufficient priority for informing the industry or indeed posterity of such major achievements. As a result the Journal has relied more heavily since 2000 upon independent academics and consultants to provide good tutorial papers, whether on new developments in technologies, regulatory structures or intellectual property regimes.

In addition TJA has since 2000 become a significant publishing outlet for Australian media researchers, as well as university researchers in engineering and law wishing to have an impact on the broader telecommunications industry. To meet the needs of academics requiring 'DEST points' for publication to the benefit of their universities, the Journal was registered in 2002 with the federal Department of Education, Science and Training as an accredited academic journal with regular peer review of articles. Our Executive Editor reports that roughly half of the papers

offered to TJA are accepted for publication. All papers submitted, including invited papers, are subject to double-blind reviewing to ensure good quality control (and frequent improvements of the submitted drafts).

In terms of breadth of topics, the Editorial Advisory Board has interpreted the word 'telecommunications' very broadly to include its convergence with broadcasting and information technologies, including of course the Internet, and policy issues with digital content. The Board, aided by feedback from readers in surveys of TSA members, has attempted to provide a good balance between articles on technologies, industry personalities, industry regulation, and on customer experiences. In the latter case, TJA appears to be the only peer-reviewed journal within Australia providing regular coverage of academic studies of consumer needs and experiences in telecommunications.

Since 1993 the Journal has published in almost every issue an interview by freelance journalist Liz Fell with key personalities and decision makers in our industry. Liz's contributions to the industry over 20 years, in both broadcasting and print media, were honoured in 2003 with her designation as a Distinguished Fellow of the TSA.

Since 1996 the Journal has also benefited from splendid cartoons and cover illustrations by Robert Mason.

THE CHANGE FROM 'PRINTED AND POSTED' TO ONLINE PUBLISHING

In early 2007 TJA's publisher, the Telecommunication Society of Australia, decided to transfer its assets, including the Journal, to the Australian Computer Society, to ensure the ongoing viability of the Society's activities. The TSA was thus reborn in 2008 as the ACS-TSA, a Special Interest Group within the ACS. The outgoing Chairman of the former TSA, Professor Reg Coutts, became Chairman of the ACS's Telecommunications Board, with governance of the new ACS-TSA – and of TJA as its ongoing Journal.

In the same period the TJA Editorial Advisory Board set up a small Working Party, convened by John Costa, to investigate options in converting TJA to an online journal. The most pressing motivation was to reduce costs; the printed TJA in 2006 cost an average \$25,000 per issue, including postage. But a second motivation was to recognise the increasing trend of academic and learned society journals moving online, for ease of access by international readerships as well as greatly reducing the subscription and acquisition costs to university and corporate libraries. In effect the Board recognised that TJA has evolved into a rare type of publication: an industry journal that is simultaneously a multidisciplinary academic journal, and one that needs to meet the needs of both kinds of readers (and authors).

In a broader sense, the move to an online journal reflects also the practice of our potential readership, in both industry and academia, of seeking an increasing proportion of 'must read' content in digitised online form.

TJA's 2007 Working Party recommended use of the Atypon Premium publishing system, as licensed by Monash University's publishing arm Monash ePress (to be rebranded as Monash University Publishing in September 2010). This recommendation, which would provide a major cost saving to the parent Society, was accepted by the Boards of the outgoing TSA and incoming ACS-TSA. As a result all issues of TJA since Volume 57 Nos.2–3 (December 2007) have been published by Monash ePress, as a subscription-based online journal.

The only major disadvantage of the move has been the inability to find a cost-effective means of downloading entire issues in one file for printing, as requested by several members, so that they can have the traditional pleasure of reading the Journal like a book. Unfortunately this is a feature that is not provided by our publisher. Instead, individual articles are made readily downloadable: a fraction of each TJA issue is offered as free access, but the majority of articles are available to readers only via either ACS-TSA membership, direct subscriptions to the TJA website, or by using the online pay-per-view mechanism for individual articles. However as a matter of editorial policy, once back-issues become at least two years old, all their articles are converted to free access for any visitors to the website.

Apart from the significant cost savings, additional merits of the online medium have included:

1. a centralised platform to manage the reviewing process for articles;
2. the value of a University 'brand' to attract a number of academic authors;
3. the ease in automated linkage of articles to 'Google search' and to the academic citation databases;
4. the use of embedded hyperlinks in articles to reference websites as well as conventionally published articles; and
5. the provision of a daily updated online list of 'most read' articles.

In the past five years of the Journal, the Editorial Advisory Board has been broadened, including members based in China (Vince Pizzica of Alcatel-Lucent, who subsequently moved to France), Italy (Dr Roberto Saracco of Telecom Italia), New Zealand (Dr Murray Milner, formerly CTO of Telecom NZ) and Canada (Professor Catherine Middleton of Ryerson University). These invitations to join the Board have been part of a policy of broadening the attractiveness of the Journal internationally, to both authors and readers. TJA has benefited from the role of all of its Advisory Board members as expert authors, reviewers and sources of additional articles – especially in sourcing an increased number of topical articles from outside Australia.

Year	Issue	Theme	Guest Editor
2007	57/2-3	Broadband for the sustainable environment	
2008	58/1	Structural separation revisited	
2008	58/2-3	The wireless future	John Costa
2009	59/1	Broadband for the sustainable environment	
2009	59/2	Network neutrality, broadband and competition issues	
2009	59/3	Focus on end users	Trevor Barr
2010	60/1	Innovation issue	
2010	60/2	The NBN, Internet re-regulation, and assisting people with disabilities	
2010	60/3	The NBN, new business models for digital media, and celebrating the history of TJA	
2010	60/4	User behaviour in modern communications	Catherine Middleton

Table 5 The online TJA's themes 2007–2010

RECOGNITION OF BEST PAPERS

The Journal in all of its 75 years has relied upon volunteers to write its articles and columns, imbued by a sense of contribution to the good of the industry as a whole. In the days of the PMG and Australian Post Office, and even in the first 15 years of Telecom Australia, publication in the TJA was reportedly good for the author's career. Since 1991 this has regrettably not seemed to be the case with Australia's telecommunication carriers, although vendors have been pleased to see good visibility for their products via technical descriptions in the Journal. (The Editors have been careful to exclude marketing puff pieces.)

To encourage potential authors and reward the best contributors, Wally Rothwell, a member of the Editorial Advisory Board in the 1990s, personally initiated the funding of a prize for the best papers in each year of the Journal, a prize which still bears his name. Rothwell Prizes were awarded every year from 1998 to 2004, and the winners are listed in Table 6.

Year	Prize Winners (and shortened titles of their winning papers)
1998	Michael Hudson & Trevor Jordan (Digital Television) and Bill Kitchen & Andrew Hamilton (CDMA – a New Option)
1999	Peter Hormann (IP telephony) and David Giddy (Telstra's Data Mode of Operation Project)
2000	Michael Mack (Online Communities) and Simon Newstead (Beyond the DSLAM)
2001	Stuart Dunstan (Converged Voice and Data services) and Graeme Hugo (Some Demographic Dimensions of the Digital Divide)
2002	Yee Soon (Broadband Access Services Architecture) and Mitchell Landrigan & Kay Ong (Whither 3G? Regulatory and Investment)
2003	Peter Darling (Future Network Standards) and Ian Christofis (Myths of PKI)
2004	Peter Darling (Marriage of Telephony and the Internet), Greg Day (Mobile Commerce), Peter Gerrand (Structural Separation of Telstra)

Table 6 Co-winners of the Rothwell Prizes for best papers

MAJOR COMPETITIONS

A personal initiative by Robin Eckermann, the TSA's Charles Todd Orator in 2006, in which he offered \$1,000 to fund a prize (an offer immediately matched by Greg Crew) for the best paper offered to TJA demonstrating the benefits of applying broadband to sustain the environment, has blossomed. It has grown into the annual Eckermann-TJA Prize, now entirely funded by Alcatel-Lucent to the tune of \$20,000 in available prize money in 2009 and 2010, and consequently branded as the Alcatel-Lucent Broadband Challenge for the Sustainable Environment. These prizes have been awarded in 2008, 2009 and 2010 to date, and have generated many valuable additional papers for publication in the February issues of TJA.

In January 2009 the Hon. Bill Shorten MP, standing in for the Minister for Broadband in awarding the 2009 Broadband Challenge Prize, issued a challenge to industry to fund a similar annual prize for the best paper submitted to TJA demonstrating the beneficial application of

telecommunications to help people with disabilities (part of his portfolio responsibilities as a federal Parliamentary Secretary).

Telstra rose to the challenge, and generously sponsored the entire \$20,000 prize awarded in May 2010. Again, the competition led to several valuable papers being published, in this case in our May 2010 issue. Telstra has kindly agreed to sponsor this competition again in 2010–11.

FEEDBACK FROM READERS

Over its 75 year history TJA has had a significant international readership, mostly via subscriptions from the libraries of overseas telecommunication carriers and governmental agencies. From time to time organisations such as the USA's Federal Communications Commission and various Ministries from the Asia-Pacific region, as well as Australian government agencies, have requested additional copies particular issues (in the era of the printed TJA) or purchased articles online (more recently) to support their studies.

In 2004 the TSA conducted a website-based survey of its members' views and needs. Some 41% of respondents rated the Journal as being the best value of all the seven areas of the Society's activities. The next highest approval rating (22%) was for the lunchtime lectures. Given that a further 21% rated 'all of the above' as top value, that means that the Journal was seen as the *best or equal-best value* by 62% of all respondents. This is very encouraging, given the known high quality of the Society's lectures and industry events. More details of members' feedback were published in (Gerrand 2005b).

FUTURE EVOLUTION OF THE JOURNAL

These days our industry is well served by a number of daily – and sometimes free – online newsletters that serve the industry well in alerting us to announcements of new decisions and products. There is no point in the *Journal* trying to compete with these; nor do we have the resources to do so. Instead the Editors aim to continue positioning TJA as a 'journal of record', containing in-depth articles of long-lasting tutorial and informational value (especially on important policy issues), as well as providing interesting perspectives by and on key individuals in our industry.

It would be ideal to make the Journal 'open source' to all potential readers, but until such time as the parent society, now the ACS-TSA, has sufficient philanthropic sponsors to make this possible, we will need to remain an essentially subscription-based journal.

There is a particular challenge in remaining positioned as a multidisciplinary journal, which the journal has evolved to be, ever since the anticipation of industry competition in the late 1980s. In fact telecommunications policy cannot be adequately discussed without expert inputs from technologists, economists and lawyers – as well as from the media researchers investigating end-user experiences with traditional and new services. But the academic rewards systems in Australia (and in most developed countries today) allocates most 'career points' for publication in the discipline-specific international journals. This means that TJA remains heavily dependent on the civic-mindedness of experts, both in industry as well as in the universities, who are motivated to publish their ideas and recommendations to a broader audience, and especially to the decision makers who are influential in framing new regulatory legislation.

CONCLUSIONS

There is much to celebrate in the 75-year continuous tradition of TJA: a Journal that continues to be largely organised, written and edited by unpaid volunteers – scores of individuals who share, with the TSA membership, an ethos of contributing together to maintain a valuable flow of knowledge across our industry of new developments, as well as providing a 'journal of record' of the many significant achievements in Australian and indeed world telecommunications.

As evidenced by the accompanying set of republished historical articles in this issue, the changing contents of TJA reflect the evolution of the Australian telecommunications industry from its beginnings in the PMG era (when telecommunications was regarded as too important for the growth of the new nation to be left to the private sector) to the 1990s (when telecommunications was regarded as too important for the economy to be left to government) and beyond. Following the demonstrable failure of 'the market' (under the 1997 regulatory regime) to deliver internationally competitive national broadband services over the following decade, the pendulum has swung back a little in terms of the ideology of the day. But thanks to the convergence of telecommunications with first the IT industry (from the 1970s) and then the broadcasting sector (with the Internet's mainstream offerings of digitised content and streaming since the 1990s), the much-broadened industry has emerged with a whole raft of new services, not just new technology products. And the policy issues can only be meaningfully debated in multidisciplinary terms.

Well, that should ensure a satisfyingly rich set of TJA articles far into the future.

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Cite this article as: Gerrand, Peter. 2010. 'Celebrating 75 years of the *Telecommunications Journal of Australia*: Reflecting 75 years of innovation and change in the Australian telecommunication industry'. *Telecommunications Journal of Australia*. 60 (3): pp. 46.1 to 46.11. DOI: 10.2104/tja10046.