

Submission in Response to the  
“Broadcasting Services Amendment  
(Media Ownership) Bill 2006 and Related Bills”  
Inquiry of the Senate  
Environment, Communications,  
Information Technology and the Arts Committee

Submitted by



The Interactive Television Research Institute  
Murdoch University – Western Australia  
September 25, 2006

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## **1. Background**

The Interactive Television Research Institute is an independent non-profit interdisciplinary research centre based at Murdoch University in Perth, Western Australia. Our clients and research partners are global in character and include many of the world's leading advertising brands and media platforms. Such clients include British Sky Broadcasting (BSkyB), the BBC, Comcast, DirecTV, Turner Broadcasting, ESPN, the American Broadcasting Company and many others. All five Australian television networks as well as the pay TV industry have been sponsors of ITRI research. Globally, the Institute is increasingly recognised as one of the world's leading research centres in study of consumer behaviour associated with the evolving digital television industry.

Despite our global focus, we have maintained an active research agenda on issues specific to the Australian market. Recently, for example, we completed a three year study exploring how pre-school aged children respond to interactive television applications. This ARC funded project (in collaboration with the WA Department of Education, the Australian Broadcasting Corporation, Nickelodeon and the Nine Network) has seen over 500 children participate in research conducted in our Portable Audience Research Centre (PARC) – a portable lab housed in a caravan which visited 21 schools. We have also engaged in a number of studies exploring consumer responses to a wide range of digital TV applications. In terms of issues associated with Australia's digital policy, we remain active participants and have engaged in a number of policy studies – indeed, the 'beauty pageant' datacasting option put forth by the Australian Democrats was based, in part, on our submission to the Datacasting Review in advance of the 2000 legislation. In 2002 we also conducted a survey of the digital TV industry for the then Australian Broadcasting Authority. Currently, we maintain a panel of 3000 viewers who participate in our various studies on a regular basis.

The Institute collaborates with researchers throughout Australia and the world attracting significant funding from its industry partners as well as from the Australasian Cooperative Research Centre for Interaction Design (ACID) and from ARC grants. To date the Institute has attracted over \$5 million towards such research. ITRI researchers also present research findings at major industry conferences throughout the United States, Europe, Africa and Australasia.

The Institute's research facilities provide dedicated infrastructure for the study of interactive television viewing. Our labs on the Murdoch campus provides mock living rooms simulating the in-home experience of viewers. In this environment we test digital TV content – usually using research methods reflecting experimental design so as to compare linear and interactive approaches in a controlled environment where variables can be properly isolated. The lab's infrastructure includes a reference digital head end designed to modulate across satellite, cable and terrestrial platforms; advanced audience measurement tools including eye gaze monitoring (mapping viewer eye movement over the TV screen); biometric measurement tools (including galvanic skin response and heart rate) and perception analysers to map viewer's moment-by-moment reaction to content.

Given our particular area of expertise, we limit ourselves to discussion of the Broadcasting Legislation Amendment (Digital Television) Bill 2006 as this most immediately relates to our research.

## **2. Overview**

Throughout the course of the past year, Minister Helen Coonan has repeatedly made comments highlighting the unique nature of the current juncture for the television industry. At her address to the National Press Club on August 31<sup>st</sup>, 2005, for example, she referenced Cosser's observation that the current opportunity was akin to the building of the railroads in the 1900s – an opportunity that is 'not going to come along again.'<sup>1</sup> Her address to the inaugural ACMA conference highlighted her views that the interests of consumers are the end game translating into a need for new services and diversity.<sup>2</sup> More recently, in commenting on the release of the current discussion paper she noted:

This changing landscape means it is timely for the Government to review its approach to media regulation and provides an opportunity to develop a strategic framework for media reform in Australia that truly brings us in to the digital age.<sup>3</sup>

We commend the Minister's vision in this regard. Clearly, the shape of Australia's television landscape going into the future will depend heavily on decisions embodied in the proposed legislation. For this reason, we believe it is critical to ensure that the proposed legislation maximises the opportunity to get this right. We strongly believe that a failure to cultivate the right structure to the industry will have ramifications that will severely hamper our collective capacity to propagate Australian cultural identity and will constrain the capacity to exploit broadcasting infrastructure for the wider social good.

To help better explore the potential implications associated with the proposed legislation, we conducted a survey of 919 WA television viewers drawing from our TV Panel of 3000 viewers. Our panel has been recruited from a variety of sources including through lists acquired through marketing research firms, as well as direct mail and newspaper advertising recruitment drives. In many ways, our panel is better informed regarding future possibilities because they participate in regular studies where such scenarios are tested. In this way, the panel is better positioned to understand potential futures.

It is our hope that the results of this survey can help better inform the current legislative debate. Likewise, we refer you to our previous submissions (see appendices) to ACMA's "Future Use of Unassigned Television Channels"; DCITA's "Meeting the Digital Challenge"; and the House of Representative's Standing Committee on Communications, Information Technology and the Arts Inquiry into the Uptake of Digital Television in Australia ("Digital Television - Who's Buying It?"). Throughout these submissions we have explored various aspects of the proposed legislation in greater depth.

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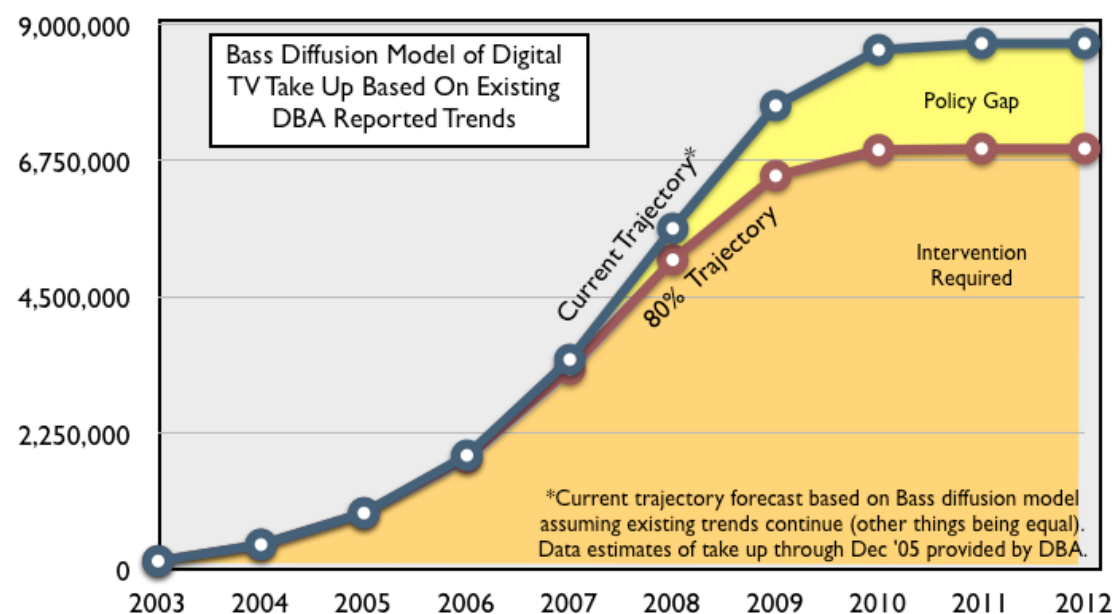
<sup>1</sup> Address by Senator Coonan to the National Press Club "The New Multimedia World", August 31, 2005.

<sup>2</sup> Opening address by Senator Coonan at the ACMA Broadcasting Conference, Canberra, November 9, 2005.

<sup>3</sup> Address by Senator Coonan to CEDA "Meeting the Digital Challenge: Reforming Australia's Media in the Digital Age", Sydney, March 14, 2006.

### 3. Digital Diffusion

In our submission to DCITA's "Meeting the Digital Challenge" policy paper, we prepared a Bass diffusion model of digital set-top-box (STB) penetration and demonstrated that based on current trends, the Minister's target for household adoption was indeed viable as current trends suggest that such penetration could reach almost all Australian households by 2012, as proposed by the Minister. At the same time, however, we cautioned that failure to meet critical penetration targets along the way would jeopardise the viability of analog switch-off on the proposed schedule. For this reason, we recommended automatic policy triggers should penetration fall short of the predicted forecast.



**Figure (1):** Bass Diffusion Model illustrating current trajectory of digital take up as well as alternative model assuming 80% take up in 2012.

Our primary concern with the proposed legislation is that it leaves little room for any future adjustments in the Government's strategy. If penetration fails to reach 55% by mid-2008, for example, it is unlikely that a 2012 analog switch-off could be facilitated. Under the proposed legislation, however, there will be little the Government will be able to do at that stage.

The issue is further complicated by a lack of clarity regarding the conditions under which analog switch-off would be facilitated. Will it be sufficient for all households to have at least one digital tuner? Or will switch-off have to wait until a strong majority of TV tuners in these households are digital rather than analog? Will the Government of the day be able to switch off analog knowing that millions of tuners (including the rapidly growing number of digital recorders with analog tuners) will suddenly become obsolete? Indeed, without a clear consumer proposition, the number of analog receivers being sold into the marketplace could continue to exceed digital sales, making it less likely that switch-off can be facilitated.

Although the proposed legislation clearly represents an improvement over the status quo, it has no mechanism to further stimulate the market should this be necessary. Indeed, it has the potential to actually discourage digital conversion because FTA broadcasters have no clear incentive to promote digital... particularly when success only brings them potential new competition.

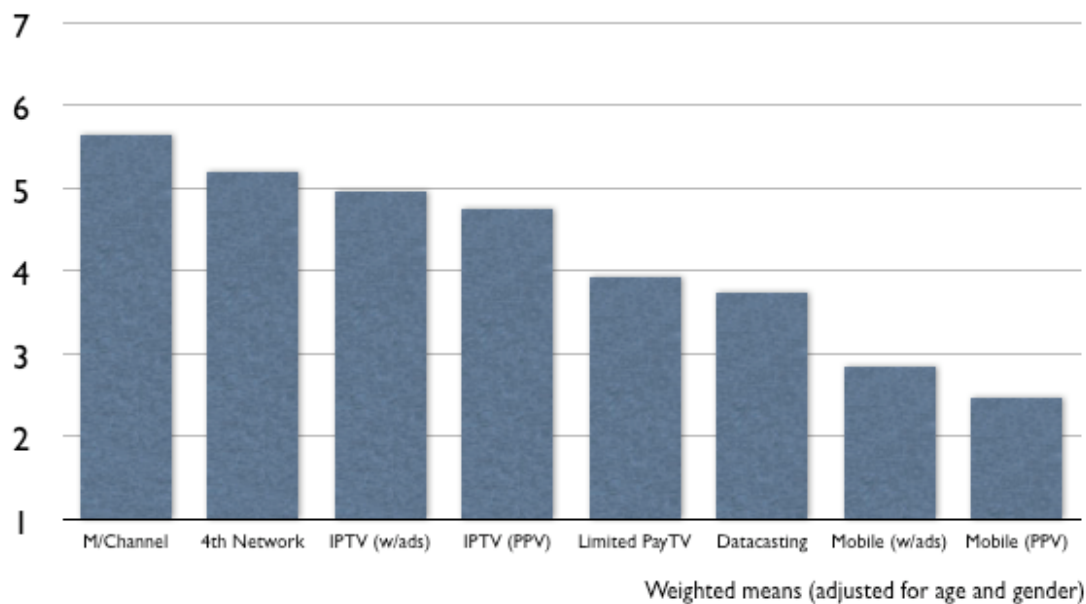
Our proposal, as articulated in our submission to the DCITA inquiry, was to hold one of the two datacasting channels in reserve until an assessment of the diffusion pattern could be more fully evaluated by mid-2008. If penetration remained below 55%, we recommended allowing a 4<sup>th</sup> network (digital only). This would give broadcasters clear incentive to promote digital (so as to protect themselves from competition) and would allow for policy intervention in the event that more aggressive stimulation of the market was required. So as to maximise the capacity of the FTA networks to meet this objective, we also recommend that the existing multi-channelling prohibitions be lifted immediately, leaving it to broadcasters to decide how they might best promote digital.

We also recommended using the second channel for a platform integrator, a party that could create a coherent and compelling platform rather than the current approach in which each network is, in effect, its own platform. Enhanced services (such as interactivity, interactive program guides, etc.) simply cannot evolve in the current environment. The provision of such services will be critical to seeing digital diffusion take-off at the tuner level because it better persuades the market to turn to digital, rather than analog, tuners for the rapidly evolving digital recorder market.

Under our recommendation, the use of a channel for mobile video applications would need to wait until the 2008 evaluation. If the diffusion rate remained on target, then allocation of the spectrum for this purpose could be allowed. But if it fell short of the 55% threshold, then the spectrum would be better used for a 4<sup>th</sup> network. Clearly, as it stands, the allocation of the spectrum for mobile video applications will have no effect on the larger digital conversion strategy as such mobile applications will not be viewable on television sets, thus failing to provide analog substitution.

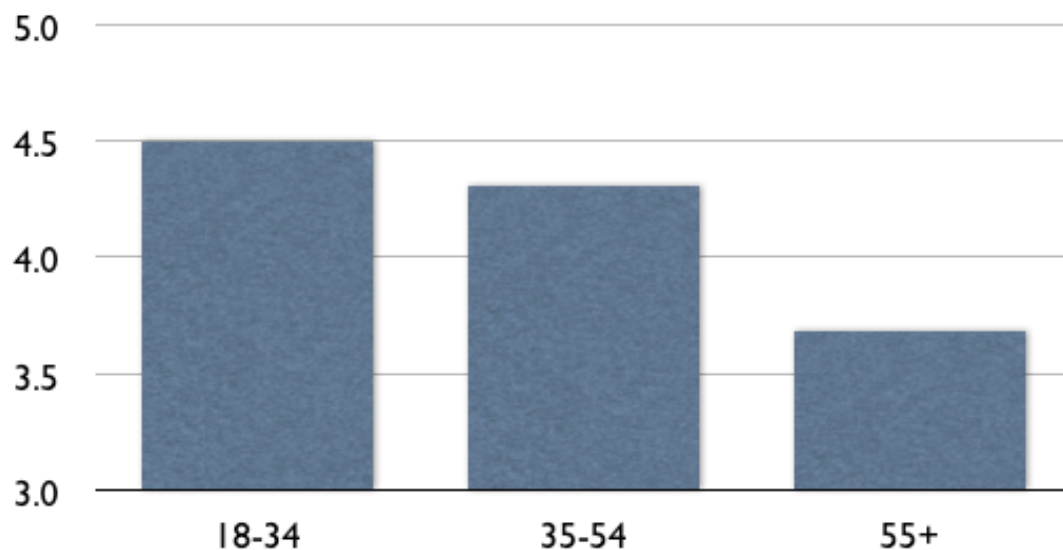
#### ***4. The ITRI Survey***

As mentioned earlier, in response to the current policy initiative, we decided to survey 919 of our TV Panel participants to explore the potential ramifications of the current proposed legislation. Participants were presented with eight future digital scenarios, and were asked to indicate how likely they would be to utilise the applications. Of all the scenarios, participants indicated that they were most likely to use multi-channelling, IPTV (with and without ads), and access to a 4<sup>th</sup> Network (digital only). Participants indicated that they were least likely to access pay-per-view content on mobile phone, and were also unlikely to access limited pay TV, data casting, and free mobile content with ads as illustrated in figure 2.



**Figure (2):** Likelihood of Adoption of Various Future Digital Scenarios

Most of the future scenarios were favoured by younger viewers (aged 18-34) and were least appealing to older viewers in the 55 and over category, as illustrated in figure 3. There were two exceptions to this. The 4<sup>th</sup> Network scenario was preferred by older participants, and multi-channelling was appealing to all age groups. This highlights the critical role that both multi-channelling and a 4<sup>th</sup> Network might play in reaching these more hard-to-reach demographic groups.

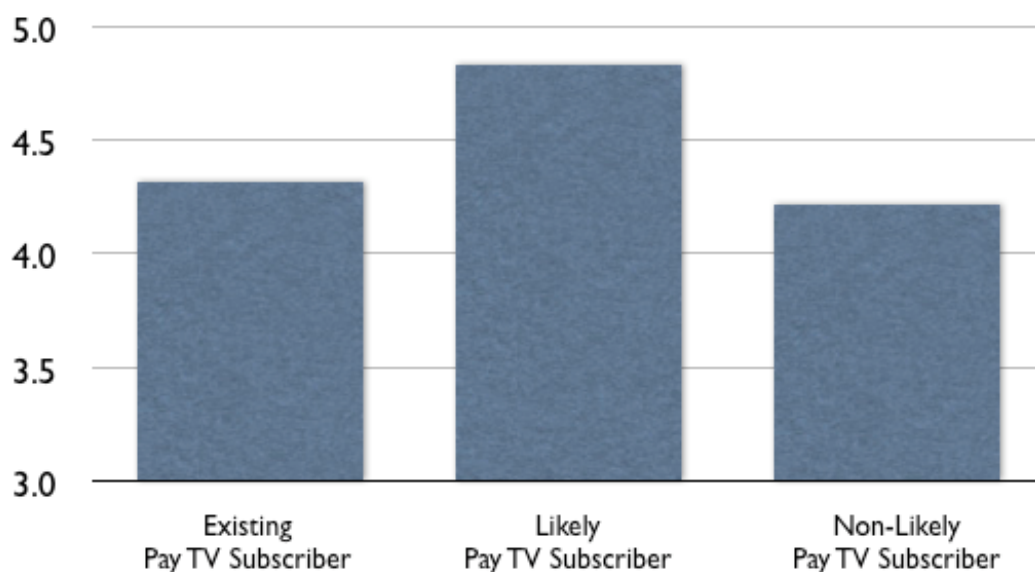


**Figure (3):** Likelihood of Adoption of Future Digital Scenarios by Age

Several key gender differences were observed. Women were twice more likely to say they were unsure whether they would get a digital receiver in the next 5 years than men (36% compared with 17%). While both men and women cite expense as the primary barrier to digital adoption, women are significantly more likely than men to cite lack of information about digital television as a reason not to get a digital receiver. These findings demonstrate that there is a need to provide women in

particular with information about digital technologies, and the services they will make available. Of the participants who do plan to get a digital receiver in the next 5 years, high definition video is significantly more important to men.

The findings also have implications for the pay TV industry. Participants who are likely to subscribe to Foxtel in the next 5 years are significantly more likely to utilise future digital services than current subscribers, and participants who are unlikely to subscribe, as illustrated in figure 4. This suggests that the policy may indeed impact Foxtel's capacity to market to this group in the immediate future.



**Figure (4):** Likelihood of Adoption of Future Digital Scenarios by Pay TV Subscription Status (over next five years)

While it is likely that almost any digital conversion strategy will adversely impact potential pay TV subscription, our concern with this potential trend is that it may dissuade subscription without, necessarily, facilitating digital conversion.

### **5. Recommendations**

On the basis of our research, we believe that although the proposed legislation represents an improvement over the status quo, it runs a risk of failing to deliver against its 2012 target and leaves little room to correct the digital household diffusion trend if it fails to deliver 55% by mid-2008.

As we have noted in our previous submissions, we recommend the following:

- a) One of the two datacasting channels be held in reserve until mid-2008. If a 55% digital household penetration rate has been achieved by then, the spectrum can be allocated either for datacasting or mobile video applications. If not, however, the spectrum should be allocated for the provision of a 4<sup>th</sup> network (digital only). This, we believe, can best stimulate the market to 'correct' the trend with a view to retaining the 2012 conversion target.
- b) The second datacasting channel be allocated for a platform integrator; a single party responsible for services that sit across channels. This will require

legislation to ensure that the party plays a common carrier role for all platform channels and that it have access to the necessary intellectual property (e.g. program listings) to be able to effectively deploy its services. Such a move provides viewers with a more coherent digital viewing experience and enables the provision of enhanced services such as a back channel (for interactive services), an interactive program guide, and the like. The EPG is particularly important if digital recorders in the market are to migrate from their existing trend (heavily analog) to digital tuners.

- c) As noted above, we recommend against allocating a channel for mobile video applications, at this time, as such services cannot be seen on television sets – hence, such services fail to provide analog substitution or act as drivers for digital conversion. As noted above, however, we believe this would be an appropriate use of the spectrum if a 55% digital household target was met by mid-2008.
- d) A key benefit of the above-noted recommendations is that it provides incentives to broadcasters to do all that they can to stimulate digital take up (so as to avoid potential competition from a 4<sup>th</sup> network). To facilitate this, as best as possible, we believe that most of the existing restrictions on broadcasters (such as the multi-channelling prohibition) should be removed immediately.

## ***6. Ramifications***

We believe that there are adverse ramifications if the policy fails to meet its stated objective (digital conversion).

Key markets which we export to globally are rapidly facilitating digital conversion. In these markets, the structure of the television industry is changing rapidly. Without a domestic market in line with these global developments, Australian content producers will be at significant disadvantage in attempting to export their products. This will, in turn, have a domino effect on domestic production. As the provisions of the Free Trade Agreement with the US treat digital content more liberally, regulatory provisions guaranteeing minimum local production quotas will become less effective. Moreover, the ease with which audiences will increasingly be able to access foreign content (using IPTV) will make it harder and harder to protect Australian cultural identity.

Whereas a strong digital market in Australia may generate new opportunities for export, failed policy in this arena will potentially erode our capacity to reinforce our cultural identity.

Moreover, global advertisers are hard at work in their attempts to reinvent television advertising models. As such models change, it will be important for Australian television networks to be well positioned to capitalise on these new opportunities. Unfortunately, however, the lack of more advanced digital services in the Free-to-Air market may result in structural constraints which will prohibit the deployment of such services in FTA broadcast space. This may result in marketing dollars shifting out of television altogether.



**7. Availability for Testimony**

As we hope the Committee will appreciate, our primary interest in sharing our research findings and our observations is in maximising the likelihood of facilitating digital conversion. We appreciate that the Committee may have questions on other aspects of our research or that its members may want further details associated with the findings noted in our submission.

Accordingly, we are happy to provide testimony before the committee should it so desire. Unfortunately, however, our Director will be in the United States during the two days of hearings associated with this legislation. He is happy, however, to participate via a phone link-up if you so desire.

If there is anything we can do to assist in your deliberations, please do not hesitate to ask. I can be reached via email at [varan@itri.tv](mailto:varan@itri.tv).

## **Appendix B**

Submission in Response to the  
“Future Use of Unassigned Television Channels”  
Discussion Paper of the  
Australian Communications and Media Authority

### **1. Background**

The Interactive Television Research Institute is an independent non-profit interdisciplinary research centre based at Murdoch University in Perth, Western Australia. Our clients and research partners are global in character and include many of the world’s leading advertising brands and media platforms. Such clients include British Sky Broadcasting (BSkyB), the BBC, DirecTV, Turner Broadcasting, ESPN and the American Broadcasting Company. Collectively, our advertising clients account for approximately a third of the US television ad spend. Many now view the Institute as providing one of the world’s leading research centre’s in study of consumer behaviour associated with the evolving digital television industry.

Despite our global focus, we have maintained an active research agenda on issues specific to the Australian market. Recently, for example, we completed a three year study exploring how pre-school aged children respond to interactive television applications. This ARC funded project (in collaboration with the WA Department of Education, the Australian Broadcasting Corporation, Nickelodeon and the Nine Network) has seen over 500 children participate in research conducted in our Portable Audience Research Centre (PARC) – a portable lab housed in a caravan which visited 21 schools. We have also engaged in a number of studies exploring consumer responses to a wide range of digital TV applications. In terms of issues associated with Australia’s digital policy, we remain active participants and have engaged in a number of policy studies – indeed, the ‘beauty pageant’ datacasting option put forth by the Australian Democrats was based, in part, on our submission to the Datacasting Review in advance of the 2000 legislation. In 2002 we also conducted a survey of the digital TV industry for the then Australian Broadcasting Authority. Currently, we maintain a panel of 3000 viewers who participate in our various studies on a regular basis.

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The Institute’s research facilities provide dedicated infrastructure for the study of interactive television viewing. Our labs on the Murdoch campus provides mock living rooms simulating the in-home experience of viewers. In this environment we test digital TV content – usually using research methods reflecting experimental design so as to compare linear and interactive approaches in a controlled environment where variables can be properly isolated. The lab’s infrastructure includes a reference

digital head end designed to modulate across satellite, cable and terrestrial platforms; advanced audience measurement tools including eye gaze monitoring (mapping viewer eye movement over the TV screen); biometric measurement tools (including galvanic skin response) and perception analysers to map viewer's moment-by-moment reaction to content.

ITRI has extensive experience associated with a range of questions raised throughout the discussion paper. The Institute's Director, Professor Duane Varan, was the principle consultant driving the Australian Datacasting Corporation's (ADC) bid for spectrum in the failed 2001 datacasting auction. In that capacity, he formulated their business case and strategy. In 2003 the Institute also applied for significant funding in the Australia Research Council's Linkage Infrastructure Equipment and Facilities (LIEF) grant scheme. Although this application was ultimately unsuccessful, significant work went into preparing the application including technical planning, community consultation, business planning, consumer research and content acquisition. We have also collaborated with researchers at the University of Wollongong and the CRC Desert Knowledge to design a datacasting solution appropriate to the needs of indigenous communities throughout the Australian outback. Such experiences help highlight the degree to which the Institute has taken an applied interest in potential applications for datacasting spectrum.

## ***2. The Primary Objective***

Before addressing the specific items raised for discussion, we wish to make some general comments on the wider task of identifying the best potential use for future use of the current unassigned channels.

Australia's digital TV legislation crafted 'datacasting' channels with very specific objectives. Then Minister Alston summarised this well when he identified three keys pillars to the digital equation: "The Government's objective is to ensure that the transition to digital TV is as smooth as possible for consumers and, at the same time, provides the right balance between new and existing players."<sup>4</sup>

The strong and active presence of such new players was a key dimension to Australia's digital conversion strategy, acting as a catalyst providing competitive tension for existing broadcasters, thereby stimulating consumer adoption. Without such competition there was a risk that existing FTA broadcasters might become complacent and fail to provide bold and innovative content through which to drive digital penetration.

Clearly, however, the Government's datacasting genre restrictions was overly restrictive and chilled market investment as was demonstrated by the failed datacasting auction. Rather than relax its restrictions or explore alternative approaches to datacasting regulation, the Government adopted an approach based on limited trials. This has clearly failed to provide the market with the type of competitive tension originally envisioned by the digital television legislation.

We make these observations because we believe it is important to keep the overall objective of driving digital take up at the forefront of considerations associated with

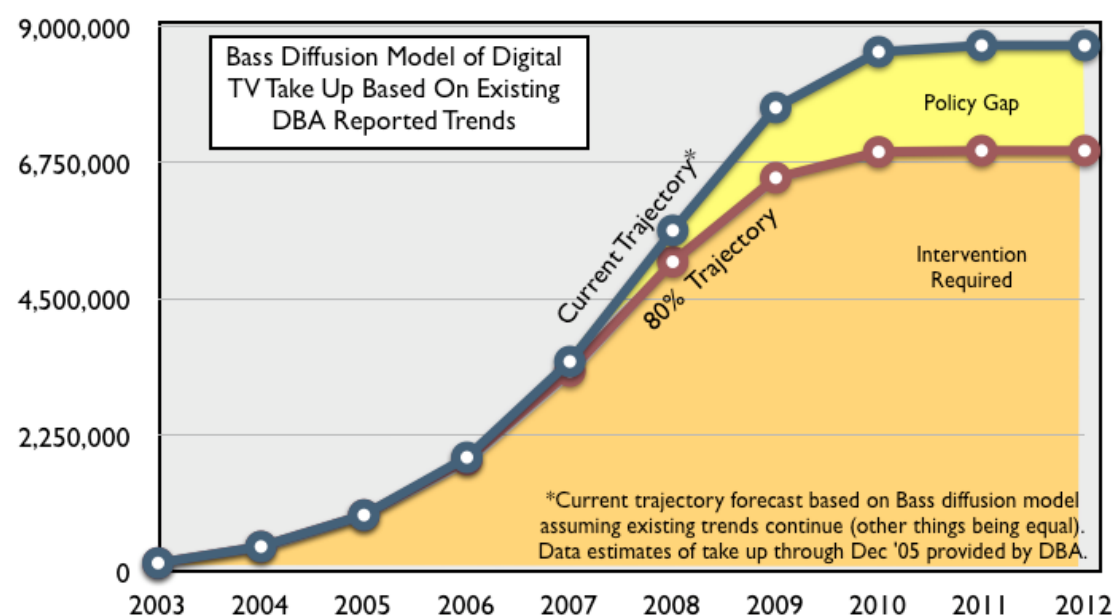
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<sup>4</sup> Remarks by Senator the Hon. Richard Alston, Minister for Communications, IT & the Arts, to the Digital Revolution Conference hosted by Gilbert and Tobin, June 14th 2000.

use of the spectrum in question. Monetary returns associated with allocation of the spectrum and alternative use for the spectrum (maximising spectrum efficiency) are secondary to this overarching objective. Accordingly, we believe, proposals to use the spectrum should be evaluated primarily on the basis of their capacity to help stimulate digital conversion. We will refer to this throughout our submission as the *‘primary objective’* associated with allocation of the spectrum. We believe it is critical throughout the exploration of possible use of the spectrum to keep the primary objective at the forefront of all considerations. The availability of the spectrum must be situated within a framework that stimulates digital conversion – which, in turn, necessitates that it provide a clear substitute for existing analogue transmission.

### 3. The ITRI-DCITA Submission

We have also included, as appendix ‘A’, a copy of the submission we recently made to the Department of Communications, Information Technology and the Arts (DCITA) in response to the discussion paper: “Meeting the Digital Challenge”. Figure (1) reproduces our Bass model of diffusion based on the current reported distribution of digital receivers in the Australian market.



**Figure (1):** Bass Diffusion Model illustrating current trajectory of digital take up as well as alternative model assuming 80% take up in 2012.

In our submission we note that the recent acceleration in uptake (which may have resulted from a significant drop in the price of receivers) has resulted in a trajectory which suggests that an analogue shut-down in 2012 may be feasible, other things being equal. However, we also note that the current uptake may reflect particular anomalies such as saturated take-up among households with poor analogue reception which may slow in the immediate years ahead. For this reason, we have advocated a major review in 2008 to test whether digital adoption remains on target for a 2012 conversion (this would require a 65% penetration by June, 2008). Our submission recommends intervention in the event that this milestone is not met. If this target is not met, there is a high likelihood that analogue switch-off in 2012 will not be feasible.

Accordingly, we have also recommended that the degree of intervention depend on the amount of the potential shortfall. Under our moderate intervention plan (with penetration above 55%) this might include, for example, easing of multichannelling restrictions. Where more aggressive intervention is required to stimulate the market, more drastic measures might be considered including, for example, the allocation of spectrum for a 4<sup>th</sup> commercial FTA commercial network (digital only).

In this way, we believe that a two step approach to the allocation of the unused spectrum maximising flexibility associated with possible use of the spectrum as it relates to the primary objective of stimulating digital conversion. This would see allocation of the first lot of channels in 2007 and a subsequent allocation in 2009 (following review in 2008). We will refer to these as the '2007 allocation' and the '2009 allocation' throughout this submission. Such an approach not only optimises the capacity to stimulate digital take up, but it also provides opportunity to again evaluate industry developments so as to identify the approach best suited to the Australian market.

The adoption of such a phased approach to policy, based on the degree to which key milestone adoption targets are met, inherently necessitates a staged approach to the allocation of spectrum. This would require partial allocation of spectrum as soon as practical with a second wave of spectrum held in reserve for allocation following the 2008 review at which time the specific category of service associated with the new spectrum can be determined based on the degree of intervention required.

We believe this approach will best meet the strategic interests associated with Australia's digital conversion challenge.

We will now comment on the specific issues raised in the discussion paper.

#### ***4. Category of Service***

The discussion paper seeks comment on whether the spectrum should be used for datacasting, open narrowcasting and/or subscription services.

It is difficult to assess the viability of use of the spectrum for datacasting services as it is not clear what restrictions will be imposed on the service. We note that there are clear business models associated with such services even within the Australian constraints, as was apparent in ADC's business model (which, unfortunately, remains confidential). ITRI's proposed Peel datacasting service also found a way of developing a service that complied within these restrictions. However, the collapse of the datacasting auction highlights the extent to which the market has clearly rejected the current genre-based restrictions model.

Consequently, Minister Coonan's comments indicating that a new datacasting regime would accompany media reform is reassuring. However, the lack of detail associated with such datacasting reform is disappointing because it is almost impossible to explore possible interest without more clearly defining exactly what the new datacasting regime would be. Certainly, one can envision 'high interest' for the spectrum where such restrictions are minimal and 'low interest' where it continues to

be restrictive. To maximise market interest, we recommend minimal restriction in this regard.

As we have argued in the past, because it is difficult to define datacasting, a better approach might be to allow the market to define it in advance of the allocation of the spectrum itself (as part of the allocation process). We will discuss the merits of such a ‘beauty pageant’ later in our submission. We do believe, however, that the current approach of soliciting such models through submissions in a discussion paper are unlikely to disclose the parameters associated with potential datacasting business models. Although this discussion paper has solicited views on how people might use the spectrum, it is highly unlikely that anyone with a good model would disclose that unless it was part of the actual bidding process itself.

With regards to narrowcasting services, it is entirely possible that a range of possible services targeting special interests groups (such as foreign language services) might provide some stimulation in digital uptake. We would maintain, however, that such systems should be required to integrate existing FTA channels on their platform (DVB-T), otherwise they will not promote the wider objectives associated with digital conversion. Accordingly, we maintain that this would also provide a viable use for the available spectrum provided it adopted standards accommodating FTA channels.

Likewise we believe that a subscription service could also stimulate digital take up provided that FTA channels were also available (free of cost) on subscriber’s receivers. This particular use, however, has to be weighed against other policy decisions of the Government associated with the balance it seeks between its anti-siphoning regime and pay TV policies.

In sum, we have no objections to any of the category of services under consideration, though we appreciate that in considering subscription services the Government will have to weigh this option against those associated with its overall subscription television and anti-siphoning policies. Our primary concern is that whatever category of service is adopted require that the service integrate access to FTA channels, otherwise analogue substitution is not achieved.

### ***5. Mode of Delivery***

The potential use of digital TV signals for mobile services provides an interesting potential application for use of the spectrum. Provision for such use of the spectrum would probably maximise the potential financial returns to the Commonwealth through an auction allocation. It could also provide the market with a wide range of new innovative content formats. This, in turn, could help stimulate content producers in a manner which could help improve their capacity to export such content.

In exploring such opportunities, however, we believe it is also important to ensure such services remain consistent with the original objectives associated with the digital legislation. If the primary objective is to stimulate digital conversion, then the approach to allocation of this particular spectrum for mobile purposes should be done in a manner which promotes analogue substitution. This implies, for example, that spectrum could be available for dual use (e.g. with part of the spectrum used for fixed or datacasting channels and part for mobile). Alternatively, an approach which ensured the allocation of both datacasting AND mobile services (two channels) might

be considered. But we maintain that allocation of spectrum for mobile television services alone will not promote digital conversion's primary objective as it will not provide inherent substitution of analogue transmission.

Consistent with our staged approach to spectrum allocation, this would imply that allocation of a full channel for dedicated mobile services alone should be held in reserve for our proposed 2009 allocation. We have no objections, however, to partial use of available channels for such mobile services in a 2007 allocation.

#### ***6. Other possible uses – Interactive Television***

We believe that there would be strong demand for use of the spectrum for interactive digital television content and applications provided excessive restrictions were not imposed on such services. Television advertisers are gradually shifting from marketing objectives centred on 'exposure' to those centred on 'engagement'. The provision of interactive services helps provide such advertisers with exciting new opportunities to refine television advertising models so as to better capitalise on consumer engagement. Clearly, the UK experience to date has demonstrated a strong latent demand among advertisers for such services. Our own research has consistently demonstrated the superiority of these new interactive advertising models.

We believe that significant change in audience measurement will take place over the course of the next 5 to 10 years which will demand metrics beyond those currently provided through sample-based ratings. This will, almost certainly, require methods of retrieving data back from actual audiences, necessitating a back-channel. The deployment of interactive services helps provide critical infrastructure which, we maintain, will be critical to terrestrial television's future business models. This will be all the more important as pay TV penetration grows in Australia and FTA channels find themselves more aggressively competing with the pay TV sector for advertising dollars. In this environment, FTA broadcasters unable to provide interactive services will be at significant disadvantage.

Our Peel Datacasting proposal included the use of RCT technology. Our attraction with the return system was primarily based on its potential to access such data retrieval metrics for our audience measurement systems. Given the relatively low datarate associated with such information flow, the RCT system was perfectly suited to our needs. A key barrier, of course, is the relative cost associated with potential deployment in receivers, primarily a function of the limited scale of manufacturing associated with the technology at the current time. For the purposes of audience measurement, however, we believe this cost would be subsidised by those seeking access to its data. We believe that the audience measurement task provides a potential anchor for the deployment of RCT, which then enables a limited range of other potential two-way interactive services.

Our submissions to both DCITA (appendix 'A') and to the Standing Committee on Communication, Information Technology and the Arts Digital Television Inquiry (appendix 'B') recommends that allocation of one of the two channels available in most markets be done in a manner which awards this provider a 'platform integration' role. Currently, Australia lacks such platform integration. In effect, there are currently five to six different platforms as each broadcaster maintains control over their own spectrum. If the 2007 channel recipient was committed to deploying

interactive services (a commitment currently lacking among existing FTA channels), they could provide access to their backchannel to all FTA broadcasters in a manner which could stimulate further innovation in the market. Clearly, under such an approach, competition regulation would need to be imposed to guarantee appropriate terms of access to the platform by existing FTA digital broadcasters.

### ***7. Use of spectrum for other purposes***

We appreciate that the unused spectrum could be used for applications unrelated to television. We caution against such allocation. Analogue shutdown will make available spectrum (the digital dividend) which is many folds larger than any spectrum currently available. We believe it is important to remain focused on the overall objectives associated with digital conversion – so that a much larger pool of spectrum can be released to the market in future years. Allocating spectrum for other purposes now may jeopardise significantly larger returns associated with the digital dividend in 2012.

### ***8. Demand for channel***

As noted earlier (see item 4), while we appreciate ACMA's intent in soliciting views on how potential spectrum will be used, we maintain that it is highly unlikely that compelling application for the spectrum will be 'floated' in submissions to a discussion paper – particularly where the primary approach to allocation under consideration is auction-based (which could have the effect of driving potential bidding prices upward).

Certainly we have previously expressed our desire to deploy a datacasting channel, primarily for research purposes, in a single test market. We note, for example, that the 2001 datacasting auction made available three channels for the Perth market even though only two were made available for the rest of the country. Our interest would primarily be in acquiring such 'third channel' spectrum if it were available in the market. However, we caution that despite our interest, we would be unable to afford to 'buy' such spectrum outright. Our funding would need to focus on transmission infrastructure and, most important, research infrastructure (including an active backchannel) through which to analyse viewer behaviour.

### ***9. Coverage Area***

Consistent with our recommendation for a pageant-based method of allocation, we believe that the question of national vs. local lot allocation should be resolved through pageant bids rather than upfront. Clearly there are a wide range of community considerations, including the availability of local content, that might be considered when allocating channels. It is impossible to determine which approach to coverage will inherently best meet such interests without seeing the specifics associated with any particular channel. It could be, for example, that a provider could supply a national network with a high degree of local content. By way of contrast, it is entirely possible that a local provider might supply a channel with almost no local content.

Accordingly, we recommend that the question of coverage area be a key criteria to be addressed by bidders in a pageant-based allocation process.

### ***10. Channel Allocation***



As noted above (in item 9), we believe that questions associated with whether channels should be allocated individually or as a package are best addressed in pageant-based bids. The same applies to questions associated with the amount of spectrum required. It is possible, for example, that based on bids received, allocation of channels with less than 7 MhZ are considered – but this can only be determined once the parameters of the proposed services are identified.

We would argue against both channels being linked to a single operator due to both the competition implications (such an approach lacks competitive tension which does not serve the best interests of stimulating consumer adoption) and the two-staged approach we have recommended earlier. However, we have no objections to 2007 channel recipients making a case for additional spectrum in our proposed 2009 allocation round. Naturally, competition issues might form a part of the criteria under which such second round applications are evaluated.

### ***11. What Should Be Allocated***

We believe that a pageant-based approach maximises the opportunity to best determine the technical configuration associated any specific allocation. Through such a process, the need for repeater channels or potentially new transmitter sites can best be considered. Likewise, questions associated with potential accommodation for both mobile and fixed (if required) can best be resolved.

### ***12. Competition Issues***

Consistent with our two staged approach to allocation, we believe that a single operator should be prevented from bidding for more than one channel in the 2007 allocation round. We would maintain that such operators may be allowed to make a case for competing for additional spectrum in a 2009 round, however this will have to be evaluated against other bids and with regard to potential competition constraints.

We maintain that while it is critical to continue imposing the prohibition on FTA broadcasters controlling the new spectrum (so as to introduce new drivers in digital take up), there is no need to inherently deny access to any other potential operator. In the case of Telstra, we believe that their market dominance should constitute a factor that is taken into consideration in our proposed pageant-based allocation process – but this must be weighed against other considerations.

We see no reason to impose inherent national coverage limits. The current limited take-up of digital imposes no immediate case for limiting such coverage, and by the time the take-up is large enough to pose such risk, there is likely to be available a wide range of other technologies (including IPTV services) mitigating such risk.

With regards to city vs. regional restrictions, we believe this question is best addressed by evaluation of pageant bids.

### ***13. Use it or Lose It License Conditions***

Given our two staged approach to allocation, we believe it is critical to impose ‘use it or lose it’ obligations on channel recipients that require full-scale deployment of the proposed service by January 1<sup>st</sup>, 2008 at the latest (but as soon as possible following allocation of the spectrum) so that the channel’s experience can be assessed in determining the nature of the 2009 allocation. The specific parameters of the

conditions associated with the channel (including whether the channel will be in continuous use and its minimum coverage area) should form part of the pageant bid such that it formulates a charter against which the 'use it or lose it' license conditions are determined (promise vs. performance).

Where an operator fails to appropriately deploy their service, consistent with their original bid, the spectrum should be re-allocated as part of the 2009 allocation round.

#### ***14. Digital Dividend***

We appreciate ACMA's concerns associated with potential issues associated with spectrum shifting of channels at a later date. We believe this further highlights the need to use the current allocation process to help stimulate platform integration which will better enable channel navigation in a manner which breaks dependency on channel numbers for marketing purposes. Without such integration, there are significant losses associated with the shift in channel as marketing of the new channels would almost certainly be built on channel numbers. With integration, however, it becomes easier to market identity around a brand visible through the interactive navigation path (on an interactive EPG, for example).

#### ***15. Method of Allocation***

As we have argued previously, an auction-based approach to allocation of the spectrum will not best meet the overall objectives associated with digital conversion.

The Radiocommunications Act of 1992 stipulates that spectrum should be managed so as to "maximise, by ensuring the efficient allocation and use of the spectrum, the overall public benefit derived from using the radiofrequency spectrum."<sup>5</sup> Two arguments which are usually made in support of an auction-based approach:

- a) That an auction delivers the most efficient manner of allocating spectrum
- b) That an auction maximises public benefit by delivering strong financial returns

With regards to former, there is no question that an auction is the most convenient method of allocating such spectrum as the government is then not tied up is having to make a selection and defend that decision among challengers. If, however, the merits of the auction centre on such capacity to 'naturally' identify winners, then the 2001 auction should not have been cancelled as it had 'naturally' identified the three operators prepared to provide datacasting services to the market.

Such efficiency in allocation not only applies to the initial allocation, however, but also to the likelihood that the spectrum will be put to good use (the process is not efficient if the 'winner' fails to get traction with their service). There have been numerous cases of late where this process has either produced the wrong operator (cash alone does not inherently result in the best providers accessing the channels)<sup>6</sup> or where the money invested in acquiring the spectrum compromised the capacity to then put it to good use.

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<sup>5</sup> Section 3, part 1.2, paragraph 3(a) of the Radiocommunications Act of 1992

<sup>6</sup> One can imagine, for example, a provider with significant cash winning spectrum but lacking the 'know how' or access to compelling content to then be able to put such spectrum to good use. The content side of the equation, in particular, makes television very different from telecom services.

In terms of maximising public benefit, first and foremost, it is not clear that an auction is the best path, in this case to delivering such returns. The biggest problem associated with datacasting is the lack of certainty it provides due to the restrictions which are imposed on the service. Even new restrictions will probably have this effect because they have to be cast wide so as to allow for a very broad range of possible contingencies. By way of contrast, however, a pageant provides potential operators with the certainty they need to deploy their own business plans. Such an approach maximises the potential latitude of business cases which might be considered, which in turn provides maximum value for the spectrum. We would maintain that such an approach will deliver greater financial returns to the government than an auction.

The capacity of a pageant to better identify operators best positioned to advance digital conversion also significantly improves the chances associated with a digital dividend in 2012, thereby maximising potential financial returns in the long run.

Also, we caution against reduction of ‘public benefit’ to financial returns to the government alone. As we have demonstrated in our research to date, there are a number of significant benefits to the community associated with new digital services. We have demonstrated, for example, that interactivity can significantly enhance the educational impact associated with children’s television programming. Likewise, there have been a number of pilot projects in the UK which have demonstrated strong capacity to use digital channels for government services (particularly health). There are also strong benefits to the community associated with the availability of local content, and further benefits associated with local access to such spectrum. An auction simply cannot guarantee that such benefits materialise.

As we have noted throughout this submission, the primary use envisioned for allocation of the spectrum to begin with was digital conversion (which then results in significantly more spectrum becoming available). An auction-based approach provides little reassurance that the spectrum will be put to good use in stimulating digital take-up. In this way the auction of television spectrum differs from that of telecom services because successful TV models depend heavily upon content and on demonstrated capacity to put that content to good use. We maintain that an auction provides a risky path which may not ensure that Australia gets its best chance in stimulating digital take-up.

In our submission to DCITA’s 2001 Digital Services Review (appendix ‘C’), we argued that a wide range of considerations (and not money alone) should be taken into account when awarding the datacasting spectrum. We compared a range of approaches, then being considered, against key evaluation criteria (which included financial returns to the government through the allocation of the spectrum). Figure (2) provides a reproduction of the evaluation matrix we produced comparing different approaches to datacasting regulation. A pageant approach was best suited to addressing the evaluation criteria.

	Genre Rules	ABA Reg.	Subscription	Interactive	Beauty Contest
Different to Television	1	3	4	5	2
Audience Share	1	4	2	5	3

Program Rights	1	3	5	4	2
Advertising Revenue	1	4	2	5	3
Serve Community Interest	2	3	5	4	1
Government services	2	3	5	2	1
Local content	1	4	5	4	2
Community Television	2	3	5	4	1
Broad Coverage	4	3	5	2	1
Financial Returns	5	4	2	1	3
Stimulate Digital Conversion	5	4	1	3	2
Compelling Content	5	4	1	3	2
Deliver Credible Player	5	4	2	3	1
Business Certainty	5	4	2	3	1
Different to Subscription TV	1	3	5	4	2
Complexity of Admin. Scheme	4	5	1	2	3
Total (less is best)	45	58	52	54	30
Overall Ranking	2	5	3	4	1

**Figure (2):** Datacasting Policy Framework matrix (lower scores are better)

We would recommend that in considering how the existing lot of unused channels be allocated, a similar decision matrix be developed for ACMA which responds to its specific criteria. We believe that such a process will demonstrate the inherent superiority of a pageant-based approach.

### 16. Compression Standards

Consistent with the views we have expressed earlier, we maintain that analogue substitution must be a clear priority associated with use of the new channels. While we appreciate the benefits associated with MPEG-4, particularly in significantly increasing the number available channels, we believe that stimulating digital take-up inherently demands that viewers be able to access FTA digital channels.

We have no objections to approaches which will result in receivers capable of receiving *both* MPEG-4 and MPEG-2. However, given the absence of mandatory standards in Australia, we are not sure how quality control over such receivers could be enforced to ensure that they were providing both compression systems. We do not believe it is in the best interests of the digital conversion strategy to see ‘MPEG-4 only’ set top boxes in the marketplace as this will not facilitate analogue shut-down.

In light of the limited capacity to enforce dual use (MPEG-4 and MPEG-2) receivers in the market, we maintain that channels should be required to use at least part of their spectrum for MPEG-2 streams.

### 17. Conclusion

Throughout this submission, we have shared our views across a wide range of issues. However, we believe that the crux of our submission boils down to three key principles:

- a) The new channels should be put to use in the interest of stimulating digital take-up in a manner which accelerates analogue shut-down.
- b) This is best facilitated in a two staged approach which has spectrum allocated in 2007 and 2009 rounds. This maximises the capacity to determine the degree of intervention required to further stimulate digital conversion should it appear unlikely that a 2012 analogue shut-down seems viable.
- c) A beauty pageant provides the best method of allocation of this spectrum. Consistent with this approach, key technical considerations including coverage area, transmission repeaters, channel size, and the like can best be resolved.

Please feel free to contact us if you require any additional comments or if we can be of any further service.

## **Appendix B**

Submission in Response to the  
“Meeting the Digital Challenge” Discussion Paper of the  
Department of Communications, Information Technology and the Art

Submitted by  
The Interactive Television Research Institute  
Murdoch University – Western Australia  
April 18, 2006

Prepared by  
Professor Duane Varan, Associate Professor Steve Bellman, Mrs. Anna Hynd

### **1. Background**

The Interactive Television Research Institute is an independent non-profit interdisciplinary research centre based at Murdoch University in Perth, Western Australia. Our clients and research partners are global in character and include many of the world’s leading advertising brands and media platforms. Such clients include global leaders in the deployment of digital services including British Sky Broadcasting (BSkyB), the BBC, DirecTV, Turner Broadcasting, ESPN and the American Broadcasting Company. Collectively, our advertising clients account for approximately a third of the US television ad spend. Many now view the Institute as providing one of the world’s leading research centre’s in study of consumer behaviour associated with the evolving digital television industry.

Despite our global focus, we have maintained an active research agenda on issues specific to the Australian market. Recently, for example, we completed a three year study exploring how pre-school aged children respond to interactive television applications. This ARC funded project (in collaboration with the WA Department of Education, the Australian Broadcasting Corporation, Nickelodeon and the Nine Network) has seen over 500 children participate in research conducted in our Portable Audience Research Centre (PARC) – a portable lab housed in a caravan which visited 21 schools. We have also engaged in a number of studies exploring consumer responses to a wide range of digital TV applications. In terms of issues associated with Australia’s digital policy, we remain active participants and have engaged in a number of policy studies – indeed, the ‘beauty pagent’ datacasting option put forth by the Australian Democrats was based, in part, on our submission to the Datacasting Review in advance of the 2000 legislation. In 2002 we also conducted a survey of the digital TV industry for the then Australian Broadcasting Authority. Currently, we maintain a panel of 3000 viewers who participate in our various studies on a regular basis.

The Institute collaborates with researchers throughout Australia and the world attracting significant funding from its industry partners as well as from the Australasian Cooperative Research Centre for Interaction Design (ACID) and from ARC grants. To date the Institute has attracted over \$5 million towards such research.

ITRI researchers also present research findings at major industry conferences throughout the United States, Europe, Africa and Australasia.

The Institute's research facilities provide dedicated infrastructure for the study of interactive television viewing. Our labs on the Murdoch campus provides mock living rooms simulating the in-home experience of viewers. In this environment we test digital TV content – usually using research methods reflecting experimental design so as to compare linear and interactive approaches in a controlled environment where variables can be properly isolated. The lab's infrastructure includes a reference digital head end designed to modulate across satellite, cable and terrestrial platforms; and advanced audience measurement tools including eye gaze monitoring (mapping viewer eye movement over the TV screen), biometric measurement tools (including galvanic skin response) and perception analysers to map viewer's moment-by-moment perceptions.

## ***2. Submission to the House Committee Inquiry***

In May, 2005, the Institute made a submission to the House of Representative's Standing Committee on Communications, Information Technology and the Arts Inquiry into the Uptake of Digital Television in Australia ("Digital Television - Who's Buying It?"). In that submission, we argued that Australia's digital conversion policy to date has failed to deliver on its original objectives and that it has largely defaulted into a policy protecting the status quo. The approach has reflected a series of concessions designed to appease particular segments of the industry – resulting in the cobbling together of a 'lose-lose' montage – penalising one market actor to compensate for the fact that another has been disadvantaged in some way. Such an approach, based on assuring mutual disadvantage, clearly fails to respond to consumer demand, inhibiting innovation and chilling market investment.

The submission highlights key failures of the policy to date including an unwillingness to correct the overly restrictive datacasting genre regime following clear market failure in the wake of the collapse of the datacasting auction; the lack of competitive tension (the policy envisioned significant competition between established and new broadcasters which never materialised due to the overly restrictive datacasting restrictions); the absence of any meaningful interactive services; the lack of a backchannel and integrated platform; the absence of mandatory standards across a wide range of issues including receiver standards; constraints which have limited the capacity of national broadcasters to provide the market with innovative services; and the lack of clear consumer incentives and drivers to stimulate digital take up.

The submission concluded with a series of recommendations including the adoption of mandatory standards, the articulation of a digital TV action plan, the release of spectrum for two new digital channels in each market, one of which would play the role of platform integrator/datacaster and the other of which would constitute a digital only 4<sup>th</sup> network, and to maximise flexibility for spectrum use (including allowance for multichanneling).

The focus of the submission was primarily to voice our concern that the existing policy would fail to meet its objectives by the 2008 target date. Rather than reiterate these again, we have included a copy of our submission as Appendix 'A'. A copy of

the testimony of ITRI's Director, Professor Duane Varan, at the Committee hearings held at the Institute is also available at <http://www.aph.gov.au/hansard/rep/commtee/R8604.pdf>.

### ***3. Moving Forward***

Throughout the course of the past year, Minister Helen Coonan has repeatedly made comments highlighting the unique nature of the current juncture. At her address to the National Press Club on August 31<sup>st</sup>, 2005, for example, she referenced Cosser's observation that the current opportunity was akin to the building of the railroads in the 1900s – an opportunity that is 'not going to come along again.'<sup>7</sup> Her address to the inaugural ACMA conference highlighted her views that the interests of consumers are the end game translating into a need for new services and diversity.<sup>8</sup> More recently, in commenting on the release of the current discussion paper she noted:

This changing landscape means it is timely for the Government to review its approach to media regulation and provides an opportunity to develop a strategic framework for media reform in Australia that truly brings us in to the digital age.<sup>9</sup>

We commend the Minister's vision in this regard. Clearly, if digital conversion is to be facilitated in the immediate future, a change of course is critical. In this context, we believe the measure to push back digital conversion to 2011-12 is prudent. Although we would have favoured a more aggressive approach to stimulating take up, we believe that proposed reforms provide a cautious approach which may yet prove to stimulate conversion against the newly proposed timeline. We caution, however, that for a 2012 end of simulcast to be met, it will be critical to meet key conversion milestones along the way. In this context, we would recommend further reforms should automatically trigger should the take up rate fall short.

### ***4. Forecasting Digital Take Up***

To explore the possible ramifications of the proposed policy we constructed a Bass diffusion model providing a forecast of digital take up going into the future based on Digital Broadcasting Australia's (DBA) data on take up to date (see figure 1). We caution that we cannot verify the degree to which the DBA accurately reflects market penetration but have used the DBA data as it is the only dataset we know of providing detailed year-by-year estimates through the end of 2005. As can be seen by DBA's data, the rate of digital take up has accelerated dramatically in the past year in particular. This may be the result of the dramatic decrease in set top box which are now available for as low as \$85.

On the basis of our Bass diffusion model forecast, other things being equal, the current take up trajectory should facilitate analogue switch-off by 2012. This assumes, however, that current market forces will continue to influence take up. It is possible, for example, that the current take up reflects a disproportionately high number of adopters who purchased digital receivers so as to improve poor reception. The ACMA 2005 Digital Media in Australian Homes survey found that 51% of

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<sup>7</sup> Address by Senator Coonan to the National Press Club "The New Multimedia World", August 31, 2005.

<sup>8</sup> Opening address by Senator Coonan at the ACMA Broadcasting Conference, Canberra, November 9, 2005.

<sup>9</sup> Address by Senator Coonan to CEDA "Meeting the Digital Challenge: Reforming Australia's Media in the Digital Age", Sydney, March 14, 2006.

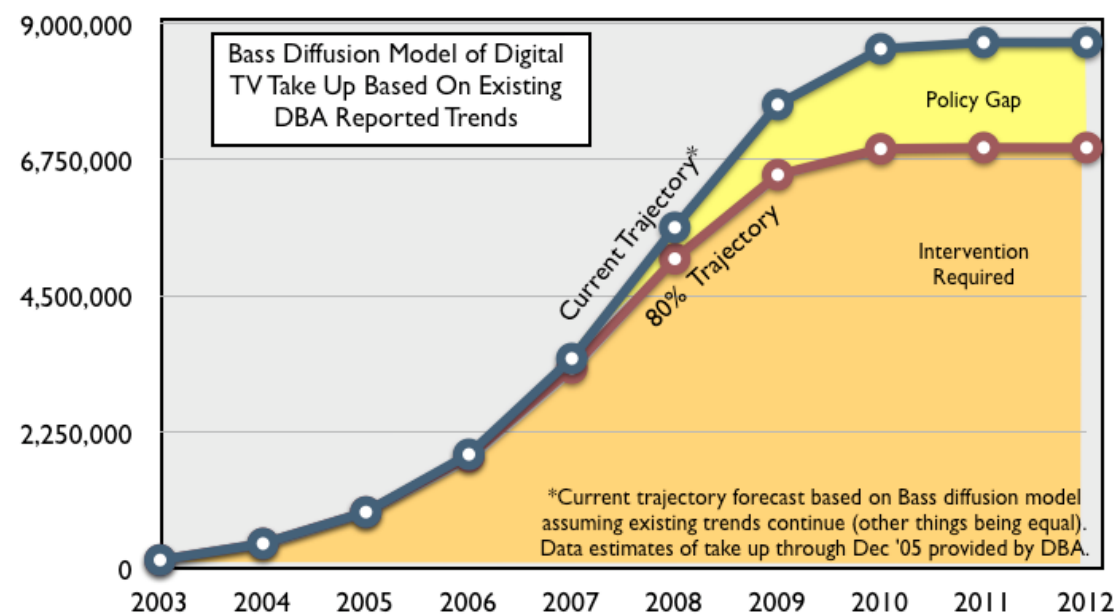


adopters indicated improved reception and better picture as their primary motive in adoption.<sup>10</sup> There could be saturation effects associated with diffusion among households with poor reception that will limit the extent to which the existing trajectory continues.

In this context, the proposed reforms (liberalisation of restrictions on national broadcasters, no longer requiring HD-SD simulcast resulting in a defacto multichannel, potential datacasting services, etc.) may counter potential deceleration. Likewise, the reforms may further stimulate take up. On this basis we believe this trajectory can be used as a baseline against which digital penetration can be assessed. If the trajectory can be maintained, analogue switch-off in 2012 appears viable. This would result in a take-up of approximately 65% by June, 2008 and almost full conversion by 2010 allowing the final two years to focus on a strategy to reach diffusion laggards.

We have also attempted to provide a model assuming an 80% take up by 2012 so as to articulate a policy sentiment gap at key milestones. On this basis, a 6% shortfall in 2008 (59% take up) should signal warning lights indicating that the 2012 digital conversion deadline will not be met, other things being equal.

**We recommend, on this basis, that the policy set automatic triggers for policy intervention in 2008 if take up is below 65% and in 2010 if take up is below 80%**



**Figure (1):** Bass Diffusion Model illustrating current trajectory of digital take up as well as alternative model assuming 80% take up in 2012.

We recommend further that such intervention be facilitated at two levels. If the take up by 2008 is at 65% or greater, we would view this as an indicator that the policy is on track to deliver analogue switch-off on schedule in 2012. We refer to this as the

<sup>10</sup> Loncar, T, Fairbrother, P and Daiziel, J. (2005). *Digital Media in Australian Homes*. Australian Communications and Media Authority Monograph 1.

**‘optimal trend’**. If in 2008 such take up is between 55% and 65%, (our critical marker is actually 59%) then some form of intervention will be required to accelerate take up. This constitutes our proposed **‘moderate intervention trend’**. If, however, penetration remains below 55%, we would recommend aggressive intervention so as to dramatically correct the trend as the policy is at high risk of failing to stimulate digital take up. We will refer to this final scenario as the **‘aggressive intervention trend’**.

We will explore potential remedies which might be triggered at each of these critical thresholds later in the submission.

### **5. Balancing Broadcaster vs. Consumer Interests**

At the outset, we think it is important to comment on consumer interests associated with adoption. Throughout the nine year history of digital television in Australia, successive ministers have articulated a need to balance between broadcaster and consumer interests. Minister Alston, for example, repeatedly highlighted the degree to which “ordinary Australian must be given a compelling reason to buy a new television set or a new set top box.”<sup>11</sup> Providing better pictures and sound was never seen as being compelling enough, in their own right, to stimulate conversion. As Minister Alston explained, “But at the end of the day, I don't think you'd buy it just for that (picture clarity), you'd buy it because of the enhancement and the datacasting...”<sup>12</sup> And again: “Well look I think your point is valid in the sense that people, at the end of the day, want a greater range of choice of programs, rather than just simply wanting pretty pictures.”<sup>13</sup> Minister Alston even cautioned against over-regulation cautioning that: “We must also avoid placing impediments on new and exciting technologies, denying consumers access to these services by imposing a regulatory regime that artificially constricts the development of the industry.”<sup>14</sup>

It is important to also note that the advent of digital television in Australia was supposed to bring with it a host of new digital players designed to stimulate consumer uptake. Minister Alston asserted: “The Government is confident that its decisions will ensure that Australians enjoy the best broadcasting in the world while introducing new information and entertainment options through the establishment of a thriving and viable datacasting industry.”<sup>15</sup> Alston recognised three keys pillars to the digital equation: “The Government's objective is to ensure that the transition to digital TV is as smooth as possible for consumers and, at the same time, provides the right balance between new and existing players.”<sup>16</sup> Yet it has been the interests of broadcasters, almost exclusively, that have proven to be the central focus on the policy to date.

The 1998 and 2000 digital conversion legislation recognised that existing broadcasters would need incentives to invest in digital infrastructure. For this reason, broadcasters were awarded certain concessions including the 4<sup>th</sup> network moratorium through the

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<sup>11</sup> Press release: “Success of Digital TV Will Rely on Consumer Choice”, June 30, 2000.

<sup>12</sup> Remarks by Senator the Hon. Richard Alston, Minister for Communications, IT & the Arts, to Radio 2UE Drive, 21 December, 1999

<sup>13</sup> *ibid*

<sup>14</sup> Remarks by Senator the Hon. Richard Alston, Minister for Communications, IT & the Arts, to the Annual General Meeting of the Federation of Australian Commercial Television Stations, 25 August, 1999.

<sup>15</sup> Press Release “Digital: New Choices, Better Services for Australians”, 21 December, 1999.

<sup>16</sup> Remarks by Senator the Hon. Richard Alston, Minister for Communications, IT & the Arts, to the Digital Revolution Conference hosted by Gilbert and Tobin, June 14th 2000.

end of 2006, the datacasting genre restrictions, the free loaning of digital spectrum and the like. We would argue that the necessary incentives have now been delivered to existing broadcasters. Indeed, such broadcasters have even received a bonus in the form of the absence of new competitors (datacasters) despite legislation requiring it. In this sense, the public has paid its debt... broadcasters have been given their fair go. In the path moving forward, the interests of consumers – who have been short-changed in this equation – should now prevail.

Accordingly, the question we raise is why the proposed policy framework continues to protect the interests of broadcasters above those of consumers? Clearly, consumers favour more content choice. The experience globally has demonstrated that such additional content is the main driver to digital uptake. Our 2002 survey soliciting the views of almost a third of those working in the digital television sector in Australia found that even the industry itself viewed multichannelling as the strongest driver.<sup>17</sup> Yet in Australia, both the advent of a fourth ‘digital only’ network and of multichannelling are prohibited.

A key contradiction in the proposed framework, we believe, is that many of the most compelling ‘drivers’ for digital uptake, from the consumer’s perspective, are provisioned for the end of the simulcast period. In this sense they appear out of sequence.

There is another flaw in the ‘driver following switchover’ argument... it provides clear incentive to stunt rather than champion digital conversion. Why should broadcasters stimulate take up when the end result is the introduction of greater competition? We believe that the policy acts as a disincentive rather than a stimulant.

This, we believe, justifies the automatic triggers we are proposing. If market trends fail to grow at an adequate pace or if market sentiment fails to respond to the proposed incentives and stimulators, then consumer drivers should be triggered so that consumer interests can better shape digital take up.

### **5. The ITRI Survey (2006)**

To help further explore the potential policy implications associated with the proposed framework, the Institute conducted a survey drawing from members in its TV Panel. This panel consists of 3000 viewers recruited to participate in ITRI’s on-going research. Most of these panellists were recruited through newspaper ads and direct mail initiatives although a substantial portion were recruited through a local market research firm.

For the purpose of this research, panel members were surveyed to solicit their views on a range of issues associated with digital conversion. Sample boosting for key variables (owners of digital receivers, owners of high definition receivers) helped provide adequate cell sizes for analysis. Unfortunately, the short time frame between the release of the discussion paper (March 14, 2006) and the closing date for submissions (April 18, 2006) made it impractical for us to provide final findings, as the research is still in progress. However, we are happy to provide the Department with preliminary findings based on completion of the first 662 respondents. This

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<sup>17</sup> Varan, D & Morrison, T (2003). *Digital Television in Australia: 2002 Industry Survey*, Australian Broadcasting Authority.

represents an approximate statistical error rate of plus or minus 4%. We also weighted the observations in our sample so that the percentage of high definition DTT receivers (3.7%), standard definition DTT receivers (13%) and Pay TV subscribers (24%) exactly matched the actual percentages for penetration in Australia (DTT receiver estimates were based on the 2005 ACMA “Digital Media in Australian Homes” survey).<sup>18</sup> It should be noted that as the TV Panellists are drawn exclusively from the Perth metro area, the sample is not nationally representative. Nonetheless, some interesting trends emerge.

We presented the respondents with a range of hypothetical scenarios associated with potential digital content distribution including an a) IPTV service without commercials but which charged \$2 for TV programs and \$4 for movies; b) a similar IPTV service which was free but included advertising; c) a 4<sup>th</sup> network available on digital receivers only; d) a mobile phone platform charging \$2 for TV programs and \$4 for movies; e) a similar mobile platform which was free but included advertising; f) a limited subscription TV system available using their existing TV aerial; and finally g) an interactive datacasting channel. Respondents were provided with descriptions of each of the above scenarios and selected their response using a 7 point semantic differential scale from highly unlikely to highly likely. Figure (2) illustrates the weighted means of respondents based on our preliminary data.

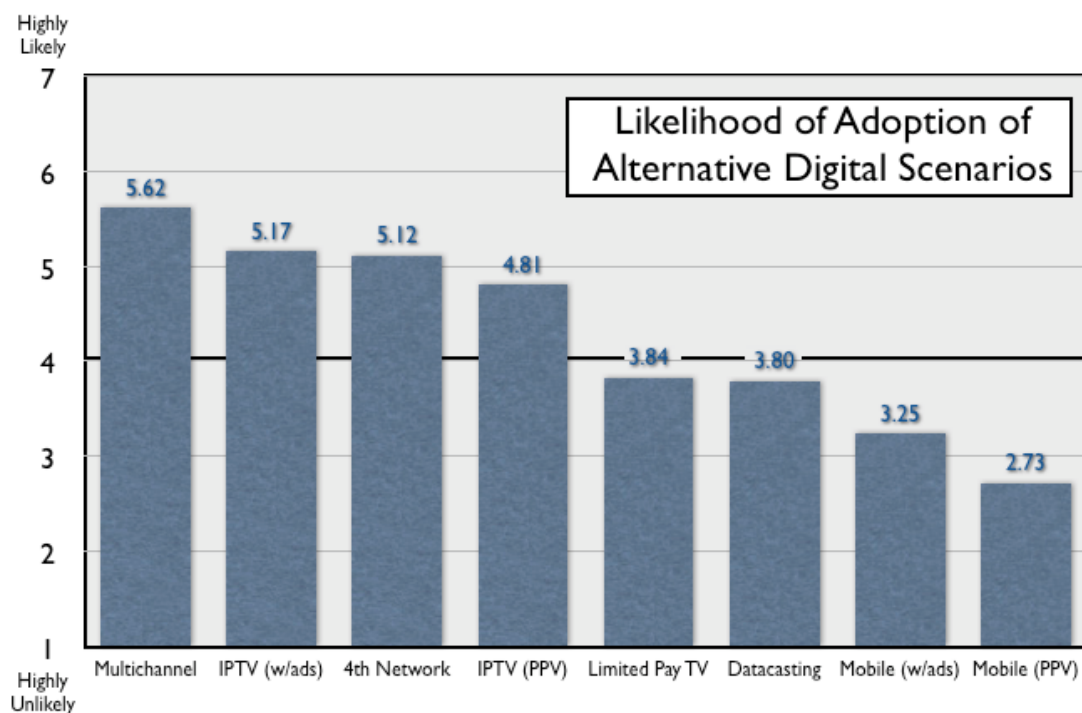


Figure (2): Weighted means reflecting likelihood of adoption of various digital scenarios.

As can be seen from the available data, the most compelling consumer drivers are multichannelling, IPTV (whether for free content with ads or for paid content) and the

<sup>18</sup> Loncar, T, Fairbrother, P and Daiziel, J. (2005). *Digital Media in Australian Homes*. Australian Communications and Media Authority Monograph 1.

availability of a digital only 4<sup>th</sup> network. None of the other options, including mobile video or datacasting, reflected positive consumer sentiment.

We divided our respondents into nine cells based on whether they had adopted digital receivers (further divided by high vs. standard definition receivers) and whether they were pay TV subscribers (or if not, whether they were likely to be in the next five years). This allowed us to explore the potential impact of these various scenarios on different consumer cohorts. Figure (3) provides a summary of means across the various sub-cells. Again, as the research is still in progress, it is not possible to draw definitive conclusions. Based on our existing data, however, some preliminary observations can be made.

	Likely Adoption	Pay TV Subscriber	Likely Future Subscriber	Not Likely Subscriber
HD Receiver	IPTV (PPV/Free)	4.87/4.60	6.25/6.00	3.55/4.20
	4th Network	4.87	6.38	5.35
	Mobile (PPV/Free)	2.60/2.50	2.50/2.50	2.35/2.40
	Multichannel	5.97	5.88	5.25
	Limited Pay TV	3.60	4.38	3.45
	Datacasting	3.80	4.75	3.25
SD Receiver	IPTV (PPV/Free)	5.00/4.92	6.20/6.30	5.66/5.15
	4th Network	4.50	6.60	6.27
	Mobile (PPV/Free)	1.75/1.92	3.30/5.00	2.31/2.00
	Multichannel	5.33	6.30	5.80
	Limited Pay TV	3.08	5.60	4.19
	Datacasting	4.25	3.70	3.54
No Receiver	IPTV (PPV/Free)	5.16/5.50	5.32/5.80	4.42/4.88
	4th Network	4.54	5.50	5.07
	Mobile (PPV/Free)	2.81/3.54	3.52/4.15	2.59/3.07
	Multichannel	5.63	5.74	5.58
	Limited Pay TV	3.84	5.09	3.47
	Datacasting	3.99	4.33	3.61

**Figure (3):** Table of means for adoption across the different digital scenarios broken down by pay TV subscription and digital TV receiver adoption (based on preliminary data).

The strongest responses to the adoption of IPTV services come from those who have not yet subscribed to a pay TV service but consider themselves likely to do so over the next five years and who have already adopted DTT receivers. This suggests that the strongest impact of IPTV will be in potentially preventing this cohort from subscribing to an existing pay TV provider.

An interesting trend also appears to be apparent with regard to the availability of a 4<sup>th</sup> digital only FTA network. Here, the impact associated with such a channel is marginal among existing pay TV subscribers but highest among those who consider themselves likely to subscribe in the next five years. Notwithstanding this trend, however, even with the availability of a 4<sup>th</sup> FTA network, this cohort still considers themselves likely to subscribe within the next five years (HD 5.25, SD 4.60, NR 5.22).

The pattern reflecting respondent enthusiasm for multichannelling is more evenly distributed reflecting positive sentiment across cells. The Limited Pay TV scenario provided positive appeal to likely future pay TV subscribers alone, suggesting that the potential effect of such a service would concentrate most on likely pay TV subscribers (effectively competing with existing providers for growth).

In exploring the potential impact of the various digital scenarios on existing pay TV subscribers, the available evidence shows no negative impact threatening existing subscriptions. It appears that existing subscribers perceive themselves as continuing in their loyalty despite the range of scenarios they were presented with.

### ***6. Optimal Trend***

As noted earlier, our Bass diffusion model predicts that there is a strong probability (other things being equal) that the existing digital adoption rate will meet a 2012 analogue switch-off target if current trends continue. In this context, the proposed reforms should further reinforce this trend.

We believe that a number of the proposed reforms should act to further stimulate the market. The removal of the genre restrictions on the multichannelling restrictions imposed on national broadcasters and the removal of the high definition / standard definition simulcast (which, in effect, allows for an HD multichannel) provide the market with significant opportunities to access new content.

We would have preferred to see specifics on the new rules associated with the datacasting regime. There certainly has been no shortage of reviews exploring this landscape... it is not clear why such detail is lacking in the proposed policy framework. Accordingly, it is not possible to predict which new players might emerge and what type of datacasting service they might offer. Hence, datacasting represents an unknown 'wildcard' in the conversion strategy... until such detail is provided it will be difficult to evaluate.

Under the optimal scenario, therefore, the current reforms may be sufficient to stimulate digital conversion in 2012.

### ***7. Moderate Intervention Trend***

Under a scenario where digital penetration is between 55% and 65% in mid-2008 (or below 80% by mid-2010), we recommend a moderate policy intervention. The primary change in policy we envision under this scenario is the removal of multichannel restrictions on FTA broadcasters. It is important to note that as the provision of such channels is optional (and not imposed on FTA broadcasters), there is a risk that it will not stimulate sufficient take up (in which case a more aggressive intervention may be required at the next two year review). Other intervention measures may also be considered at this juncture.

Broadcasters and the pay TV industry may argue that such competition (from a new 'digital only' broadcaster or from multichannelling) would significantly hurt their business models. As the Allen Consulting Group concludes with regards to such multichannelling: "... there is considerable scope to accommodate a reduction in industry-wide profitability before the operational viability of the industry at large is

threatened.”<sup>19</sup> Likewise, the Allen Consulting Group report considers the argument that quality would diminish ‘unfounded’.<sup>20</sup>

At any rate, by introducing a trigger for the implementation of commercial FTA multichannelling provisions, there are incentives for those who oppose such policy to help champion take up (to prevent such a trigger being activated).

### ***8. Aggressive Intervention Trend***

We maintain that a more aggressive intervention becomes necessary if, by 2008, DTT penetration remains below 55%. Our models predict that under this scenario, it will be unlikely that an analogue shut-down can be facilitated by 2012 necessitating further delay in bringing the simulcast period to a close.

We believe that under these circumstances, in addition to the changes suggested in a moderate intervention, a 4<sup>th</sup> ‘digital only’ FTA network should also be authorised as this will provide the best chance for stimulating take up (although multichannelling provides a more compelling proposition for consumers in our sample, the unpredictability of multichannelling activity by existing FTA networks makes this a less certain driver). Other measures to boost take up might also be considered.

### ***9. Implications of Recommendations on Spectrum Planning***

The three scenario mechanism we advocate imposes unique demands on existing spectrum planning. Assuming that the analysis of available spectrum conducted by the former Australian Broadcasting Authority is still relevant, most capital cities will only have capacity for two new digital channels.

We recommend that one of these channels be released for datacasting services. Consistent with our previous submissions, we believe that a beauty pageant represents the best means of allocating this spectrum. In this way, the task of differentiating a datacasting service from a FTA channel is left to aspirant datacasters (that such distinction is protected can then form a key consideration in the selection process).

We also recommend that new legislation be enacted that enables this datacaster to emerge as a platform integrator so that it can potentially deploy a backchannel, EPG and interactive applications that can be integrated across all channels. The lack of such platform integration, we believe, has retarded the evolution of digital interactive services in Australia. Common carrier provisions may need to be imposed on such a platform integrator to ensure that all channels have access to such services on equal terms.

As the intervention triggers may, potentially, necessitate the launching of a 4<sup>th</sup> network, we recommend that spectrum for the second of these two available channels be held in reserve until 2008. This provides the government with maximum flexibility. Not only can it then evaluate whether take up trends require such a network, but it can also review the performance of the then existing datacasters to evaluate whether to release an additional datacasting channel.

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<sup>19</sup> Allen Consulting Group (2004). *The Removal of Restrictions on Digital Multichannelling by Commercial Television Broadcasters: Potential Economic Impacts*. Report to the Department of Communications, Information Technology and the Arts.

<sup>20</sup> *ibid*

In those cities where more than two channels are available, we would recommend that additional datacasting services be allowed so as to maximise innovation in the market.

### ***10. The Role of Digital Pay TV***

In other countries, digital pay TV platforms have played a key role in facilitating digital conversion. Accordingly, statistics reflecting digital take up often aggregate DTT, digital satellite and digital cable take-up. A key question which remains unresolved is whether such aggregation is appropriate in the Australian context.

A key assumption in other markets is that if viewers can access FTA networks over a Pay TV platform then such viewers are no longer dependent upon their terrestrial FTA broadcast system. As Australia has no 'must-carry' provisions for FTA signals over Pay platforms, it cannot inherently be assumed that digital Pay platforms provide appropriate substitution. Of course, such 'must-carry' provisions don't have to trigger immediately... it is reasonable to argue that until switch-off is facilitated such a provision doesn't inherently have to feature as a part of the digital conversion strategy. But if the Government wishes to include digitisation across Pay TV platforms as part of its overall 'take up' strategy, it must provide a mechanism ensuring that the FTA signals are available at the time of digital switch over.

Given that other facets of provisions for the end of the simulcast period are outlined in the discussion paper, we would maintain that such 'must-carry' provisions should also be included. Alternatively, such Pay TV numbers should not be included in aggregated estimates of digital take up as they have no direct bearing on analogue switch off.

### ***11. The Digital Action Agenda***

We were delighted to see a proposed 'Digital Action Agenda' feature as a central component of the proposed framework. We believe this constitutes an important part of any strategy moving forward. However, the 'real' impact of such an agenda depends heavily on the extent to which such a body is given clear mandate and on the degree to which its views are respected within the industry (necessitating a high profile leaders group). We believe that it is critical that the composition of such a leaders group draws from across the full value chain of the evolving industry representing at least the interests of broadcasters (both commercial and national), consumers, new prospective players, manufacturers (importers/retailers), advertisers and content producers.

### ***12. Consumer Research as an Integral Part of the Action Agenda***

The first Digital Action Agenda in 1999 ('Thinking Outside the Box') highlighted both technological and consumer drivers in its strategy for digital conversion. Although technical matters soon consumed deliberations associated with implementing digital strategy, consumer issues were largely neglected. For most of the past nine years, there has been little quality research designed to help provide empirical analysis of emerging trends. ACMA's recent digital survey represents a refreshing development in this regard.



We believe the articulation of a research agenda which clearly lays out key questions which should form a central part of the Digital Action Agenda. Such research not only helps better inform evolving policy, but it provides for a better foundation through which to facilitate dialog with key stakeholders. We are happy to assist in facilitating the development of such a research agenda as part of the wider Digital Action Agenda.

### ***13. Quality of Digital Service***

We have focused most of our comments in this submission on the take up of digital television receivers. While the proposed policy may ultimately prove its capacity to stimulate digital take up even further, it is also important to comment on the qualitative character of Australia's digital service.

For the most part, the proposed policy framework seems likely to produce a digital market with minimal innovation (primarily limited to 'zapping' boxes). Accordingly, this will help transplant television's existing paradigm with minimal disruption. However, the structure of the global market is changing dramatically. The lack of mandatory standards and a common integrated platform significantly constrain the capacity for our market to introduce many of the most exciting features made possible through the digital revolution.

This represents a 'lost opportunity' moving forward. To some extent, the changes we've suggested help alleviate this problem in part – by creating an integrated platform, for example, enabling interactivity. Our primary concern in this regard is that the lack of such innovation in the Australian FTA environment will insulate Australian content producers from the very significant changes that are taking place throughout Europe and the United States. This will directly challenge our cultural exports which will, in turn, gradually erode the local cultural industries who depend on occasional exports to underwrite investment in the domestic sector.

### ***13. Conclusion***

Throughout the past five years, we have been strong critics of the Government's digital television strategy. We approached this review sceptical of its viability. Following a more detailed review of the "Meeting the Digital Challenge" framework accompanied by our own analysis of market trends and consumer sentiment, we now believe the proposed policy objectives are achievable within the newly proposed timeframe. We strongly suggest, however, that mechanisms be introduced which act to intervene in the event that the consumer take up falls short of the necessary adoption rate to facilitate conversion. As we have demonstrated, more conclusive evidence of this diffusion pattern should be available by 2008.

Assuming a 2012 analogue-digital switchover, this currently positions us at Year 9 of a 15 year roll out. In other words, we have come almost two-thirds of the journey. The Australian digital TV experience to date has been difficult. In all likelihood, the path ahead will be no easier.

We are now confident, however, that with good policy implementation and a flexible approach to the path ahead, an end to the simulcast period can be achieved by 2012.

We welcome the opportunity to provide the Department with any additional information we can which might further assist it in its attempts to craft a path moving forward. Please feel free to contact our director, Professor Duane Varan, at [varan@itri.tv](mailto:varan@itri.tv) if we can be of any further service.

## ***Appendix C***

Submission to the  
Standing Committee on Communication, Information Technology and the Arts  
Digital Television Inquiry

Submitted by  
The Interactive Television Research Institute  
Murdoch University, Perth – Western Australia  
May 3<sup>rd</sup>, 2005

### ***Background***

The Interactive Television Research Institute is an independent non-profit interdisciplinary research centre based at Murdoch University in Perth, Western Australia. Our clients and research partners are global in character and include many of the world's leading advertising brands and media platforms. In the United States, for example, our advertising clients account for over one third of the US TV advertising spend. Many now view the Institute as providing one of the world's leading research centre's in study of viewing behaviour associated with the evolving digital television industry.

Despite our global focus, we have maintained an active research agenda on issues specific to the Australian market. Currently, for example, we are in the final stages of a three year project exploring how pre-school aged children respond to interactive television applications. This ARC funded project (in collaboration with the WA Department of Education, the ABC, Nickelodeon and the Nine Network) has seen almost 500 children participate in research conducted in our Portable Audience Research Centre (PARC) – a portable lab housed in a caravan which visited 21 schools. We have also engaged in a wide range of studies exploring consumer responses to a wide range of digital TV applications. In terms of issues associated with Australia's digital policy, we remain active participants and have engaged in a number of policy studies – indeed, the 'beauty pagent' datacasting option put forth by the Australian Democrats was based, in part, on our submission to the Datacasting Review.

The Institute's research facilities provide dedicated infrastructure for the study of interactive television viewing. Our labs on the Murdoch campus provides mock living rooms simulating the in-home experience of viewers. In this environment we test digital TV content – usually using research methods reflecting experimental design so as to compare linear and interactive approaches in a controlled environment where variables can be properly isolated. This includes a reference digital head end designed to modulate across satellite, cable and terrestrial platforms; and advanced audience measurement tools including eye gaze monitoring (mapping viewer eye movement over the TV screen) and perception analysers to map viewer's moment-by-moment perceptions.

Given the many submissions the Committee will undoubtedly face on this issue, we will keep our comments short. We are happy to expand upon any of the issues noted

below and are keen to provide the supporting research, where appropriate, if the Committee so wishes. Likewise, the Institute's Director, Professor Duane Varan, is happy to testify directly to the Inquiry if it please the Committee.

### ***Australia's Digital TV Roll Out***

There is no question that television market's globally have experienced a range of challenges associated with the roll out of terrestrial digital TV platforms. Given the wide range of parties which are integral to effectively facilitating this transition and the inherent technical complexities associated with the technologies, this is understandable. Indeed, we believe it represents the single biggest challenge facing the broadcast industry since its inception – significantly more complex, for example, than the transition to colour.

In some regards, Australia's policy to date has been successful on a number of levels. The necessary transmission infrastructure, at least for most of the capital cities, is largely in place. Australia's decision to adopt the DVB digital standard (as opposed, for example to the ATSC standard which could have been adopted given the high definition character of Australia's roll out) has proven itself, by global measures, to have been the best available option. There are now a wide range of digital TV receivers in the market, by some estimates in excess of 10% of households – and these are available at relatively low cost. This is further supported by regular promotional campaigns supported by broadcasters informing viewers of the potential benefits associated with digital television. These achievements should not be discounted.

Despite these gains, however, Australia's digital policy has not lived up to its potential. Indeed, we believe that on many levels (these will be elaborated on), the policy is failing to live up to its obligations. Our view is that the policy is falling short in significant measure and will not – on its current trajectory – advance Parliament's intention to shut down analog TV in the foreseeable future. It is also our view that the failure is not a primary function of market factors, per se, but is a direct result of poor policy. Our policy concerns and their potential impact on the market will be addressed in specific terms in this submission.

### ***A Policy Protecting the Status Quo***

As noted earlier, crafting an effective policy facilitating digital migration is no easy feat. Not only are there a wide range of technical issues to navigate through, but there are a wide range of market actors whose participation is critical to the effective implementation of television's new value chain. Beyond technical considerations, there are also a wide range of commercial considerations essential to making any approach sustainable. The guiding principles for policy are also often ambiguous as the prevailing principles of the past (e.g. spectrum scarcity) don't quite fit the new landscape. And it is always difficult to anticipate consumer demand in advance – requiring planning for a future that hasn't yet arrived.

It's clear that any transition strategy would have its own challenges. What is problematic about the approach in Australia is not that digital migration is complex... it's that the process has so clearly shifted from its original stated objectives. Rather than usher in a new age – the policy is attempting to replicate the analog paradigm in a digital universe. The situation is less a reflection of the original legislative intent... rather, it has resulted from the manner in which the policy has been implemented.

At every juncture, the policy has navigated a path forward by making ad hoc concessions designed to appease particular segments of the television industry. What has been cobbled together is a 'lose-lose' montage - penalising one market actor to compensate for the fact that another has been disadvantaged in some way. It is a path forward whose premise is based on mutual disadvantage. Rather than maximise the capacity to respond to audience demand (critical in navigating into an uncertain future), the policy inhibits market innovation and chills investment.

This situation cultivates an environment where the only clear 'win' is associated with preservation of the status-quo. In other words, the policy framework effectively is designed (whether or not by intent) to migrate the existing paradigm of television – complete with its existing value chain and players – across to digital with minimal disruption. This approach is problematic on three levels. First, it fails to capitalise on the many advantages which digital affords. Second, as a result, there is less incentive for consumers to adopt – significantly delaying analog shut off (thereby maximising spectrum efficiency). Third, it fails to stimulate market adaptation in the television sector – which will be critical to preserving Australia's capacity to maintain strong cultural industries going into the future (this theme will be elaborated on later in the submission).

It is important, therefore, to question what the intent of the digital migration legislation is. If it is simply to move the existing broadcasters from analog to digital and preserve television's existing paradigm, then the best path forward would be to adopt a plan similar to the FCC in the United States and require digital tuners in all TV sets by a particular target date. Over the course of 15 years, a migration would naturally be facilitated. The current policy framework serves this direction well... in this environment the transition process is relatively straightforward and simple. The relative cost of this to consumers would also be minimal as television production globally has largely been commoditised – resulting in significant downward pressure on price which, in effect, absorbs perceived negative consumer sentiment (as costs appear to remain stable, in relative terms).

If, however, Australia is to benefit from the full range of benefits enabled by digital and if the Australian market is to adapt to global change in this arena, a more sophisticated policy is required. At this level, Australia's policy falls short. Specifically, we raise concerns with regards to the following:

#### *Datacasting*

Perhaps the single area where the policy has most visibly failed has been in the inability to effectively introduce datacasting in Australia's digital television landscape. The failure of the datacasting auctions was a clear indictment on the market's rejection of the specific model of datacasting put forth by the Government.

Australia's datacasting regime is a classic textbook example of poor digital television policy. In fact, we would assert that, taken in isolation (independent of the rest of Australia's digital policy), it is the single worst digital policy implemented in any national digital transition strategy globally. The idea that a

legal standard could possibly be based on subjective differentiation between ‘informative’ and ‘entertaining’ content is nothing short of ridiculous.

What is even more remarkable, however, is that faced with clear evidence that the standard was non-viable (following the collapse of the auction), the Government chose to continue to adhere to the standard rather than attempt to adapt it to respond to the market. This, we believe, constitutes a fundamental flaw in the digital framework as a whole. It is also a reflection of the process through which the policy is being implemented; highlighting its inability to adapt to market demand.

The original legislation crafted an environment where datacasting was introduced as a vital stimulant to accelerate digital adoption by consumers. The datacasting fiasco has, in effect, left a void in what was supposed to be one of the critical drivers. This, we believe, is the single biggest failure of the policy to date.

#### Competition Implications

A key feature of the digital legislation was a degree of ‘competitive tension’ designed to balance the interests of incumbent and new television players. This recognised, we believe, that incumbents would best be motivated to facilitate the transition where there was competition in the character of the digital service itself. It also responded to on-going pressure to diversify media control in Australia.

The datacasting fiasco has resulted in an environment where there is no competition within the terrestrial digital platform. In this context, key decisions reflecting the character of the platform and its key features are left to incumbents alone – who have minimal incentive to facilitate change. This suggests that, others things being equal, the path moving forward will continue to reflect minimal change – retarding the introduction of the full range of possibilities enabled by digital and thereby slowing digital take-up.

At a level of principle, there are also serious questions here about the degree to which the policy is inhibiting diversity of voice in Australia’s television landscape. The existing situation, dominated by three commercial networks, has been justified in Australia on the basis of spectrum scarcity. A good part of that scarcity has been further replicated by the decision to adopt high definition television. However, the legislation allowed for competition – and the spectrum required to deliver against this was identified. The failure to introduce such competition is, therefore, a further reflection of the failure of the policy to diversify Australia’s television sector.

#### Interactive Services

While the digitisation of television enables better sound and picture, it also enables a wide range of interactive services. This includes enhancements to television programming as well as stand-alone applications. Our research has consistently demonstrated that such interactivity can significantly enhance the viewing experience. Such services also introduce new business models.

In research exploring the impact of interactive advertising, for example, we have demonstrated that interactive ads deliver impact equal to seeing a linear ad repeated three times (see attachment 'A'). For media planners, this represents a significant opportunity as attracting repeat exposure gets more and more challenging in a fragmented audience viewing environment. This helps explain why, for example, advertisers in the UK have so enthusiastically adopted interactive ads despite the cost premium associated with such advertising.

Potential new revenue streams are particularly important for broadcasters because the economics associated with television are shifting from 'economies of scale' to 'economies of scope'. In other words, increasingly in the future, a broadcaster's profits will be made based on their capacity to leverage their content assets across platforms rather than on the basis of the size of the audience on any single platform at any single point in time. In this context, a key challenge for broadcasters is to diversify revenue streams – breaking the almost exclusive dependency they currently maintain on a single model of advertising (the 30 second commercial).

Interactivity, therefore, is critical to embracing television's new business models. But by its very nature, such interactivity is disruptive to the existing business practise. In this context, other things being equal, broadcasters have more invested in the status quo than in change.

The advent of the Personal Video Recorder ultimately forces this transition in the market as the existing 30 second commercial model rapidly erodes outside of those programming opportunities still able to reproduce critical mass. Advertisers, therefore, are keen to explore new advertising models based on viewer 'engagement' rather than viewer 'exposure' alone. In time, we believe, a fundamental shift occurs – and this will increasingly require a capacity to facilitate interactive content.

While it is not the role of Government to 'pick winners', the issues associated with the lack of interactivity in the current broadcast landscape reflect policy decisions – rather than market forces. By inhibiting datacasting, for example, a critical stimulant for interactive services has been lacking. Ultimately, the failure for Australia's digital policy to effectively cultivate interactive services is another example of selling consumer's short on the digital proposition.

#### *Backchannel and Integrated Platforms*

A wide range of interactive services reflecting digital's promise require a backchannel facilitating two way interaction with the viewing audience. This has implications for both receiver standards (to be discussed separately) and a significant investment in the back-end technology necessary to facilitate such transactions.

The situation in Australia is such that a backchannel of any meaningful kind is difficult to evolve given the fragmented nature of the platform. As each broadcaster is in complete control of their own spectrum, it is not possible to create a single unified system optimising the experience for viewers.

For example, if a viewer watched an interactive ad on the Seven network and chose to interact – and then switched to channel Nine and chose to interact again (in both cases we'll assume this required a two way transaction as opposed to a frontchannel interaction) – this would require two separate calls. For advertisers, this could also mean having to deliver to two different requirements and potentially paying additional premiums for access across two platforms.

Although there have been parties interested in exploring commercial models based on distributing free or subsidised set top box receivers in return for facilitation of the platform, the inability to aggregate across interactive services on the platform significantly chills investment in this regard.

In the UK, by way of contrast, regulators have separated the platform and individual channels across that platform. Although Freeview hasn't yet attempted to exploit a backchannel (though it has the capacity to do this), this disaggregation of channel and platform enables a wide range of services which make the platform, as a whole, a significantly more attractive proposition for viewers. For example, an EPG sitting across the platform provides a more integrated and fulfilling experience for the viewer than the Australian approach of having separate EPG's for each channel.

Again, the issue is not to mandate any particular market response... but to facilitate the provision of an integrated platform capable of responding to a wide range of commercial opportunities associated with the backchannel. Australia's existing policy framework largely inhibits the cultivation of such a platform.

#### *Receiver Standards*

Although Australia has over-regulated many aspects of the industry, we believe it has under-regulated questions associated with standards. On one level, this creates a chaotic environment with a large range of devices sold in the market with no assurance that they meet minimum standards.

When the digital proposition is limited to 'zapping boxes' – as is currently the case – this introduces a minimal risk to the market. Primarily this risk is associated with a loss of consumer confidence in digital due to poor performance of digital receivers. However, as more sophisticated receivers are introduced following the provision of more advanced digital services this creates a chaotic environment as all providers are held to the lowest common denominator. This, in practise, further compromises the digital proposition for viewers.

Mandating digital standards and developing a compliance scheme should be an integral feature in Australia's digital policy framework.

#### *Role of National Broadcasters*

It is clear that the provision of either enhanced or additional content is a key driver for digital uptake. The experience in the UK demonstrates that when digital penetration is low, channels have little incentive to provide such content. But as digital adoption approaches a critical threshold (let's assume this begins to become significant at 33% penetration), channels begin having incentive to make such content available.



So a key question is how new content features as part of the digital proposition prior to it featuring significant enough audience scale. This is a chicken or the egg question. New content drives uptake. But critical scale is required to provide the necessary incentive to get content in the first place.

In the UK, the national broadcaster (the BBC) has fulfilled this role. The provision of the BBC's digital content (both its additional channels and its interactive enhancements) have clearly stimulated digital adoption – indeed, in terrestrial space it is probably the main market driver. This has also played a significant role in 'training' viewers for the new interactive landscape.

In Australia, however, national broadcasters have largely been inhibited from driving such innovation – not only through limited budgeting but, perhaps more importantly, through legislation barring them from providing specific content genres across their new services. Although a second ABC channel is back on air (and there is good evidence that this is stimulating digital adoption), the policy has largely failed to facilitate an active role for national broadcasters in pioneering innovation in the digital market. This is not due to a lack of desire, on the part of the national broadcasters, to fulfil such a role. Rather, it is a result of the policy framework itself.

### ***Policy Rationale***

The concerns we voice highlight the degree to which – at a level of principle – the overall objectives associated with the policy remain unclear. Where these principles are clearly articulated, the implementation of policy tends to better steer the transition process.

In other markets the policy rationales are clear. In the US, for example, digital migration is driven primarily by spectrum scarcity. In the UK, competition policy has largely driven the digital conversion agenda. In South Korea, digital policy has responded to market opportunities associated with the export of television production and reception equipment building a base through which to strengthen local industry. What drives policy in Australia?

Here the issues of spectrum scarcity, with some notable exceptions, are for the most part not a driving force. For most of Australia, there is no where near the type of scarcity that is driving change in the American or European markets. Australia also has a limited electronics equipment manufacturing industry – so this seems an unlikely rationale. Although there are significant competition issues in Australia, the chaotic approach to digital here hardly reflects any type of consistent or coherent competition framework. In this sense, digital conversion policy lacks a compelling driving principle.

We would suggest that the main driver for change in Australia should be the need to harmonize the television industry to fundamental change taking place globally. This, we believe, is important in helping provide a buffer for this transition and in protecting Australia's cultural exports (which in turn has a profound effect on our own domestic television production capacity).

In terms of buffering change... there is no question that the landscape associated with the structure of the television market is in a period of unparalleled change. We can provide a more detailed discussion of the nature of this change, if the Committee wishes. In brief, each of the fundamental pillars associated with broadcasting's golden triangle (delivering mutual value to channels, advertisers and viewers) is experiencing significant disruption. The relationship between viewer and advertising is disrupted by technologies empowering viewers to avoid ads; advertising and channel relationships are being challenged by increasing demand for accountability (reflecting a shift from above to below the line media); and the relationship between channel and viewer is being transformed by growing audience fragmentation (this trend has not yet impacted Australia due to low pay-TV take up).

A range of technologies are further accelerating the process of market disruption because of their capacity to operate outside the parameters of this golden triangle. IPTV (television delivered over broadband) transcends national borders – accelerating fragmentation (particularly among key viewing cohorts). PVR's disrupt ad models – particular where there is measurement of its time-shifting character (as will be the case in the United States in early 2006). There will be indirect effects associated with the transition as well. For example, the pace of change associated with the PVR market will probably be much more rapid in the United States than here in Australia. Even though the shift plays out on distant shores, it will impact the media planning strategies of the global brands – which account for almost half of the Australian TV ad spend. Hence, even before the effects have fully played out in Australia, they will begin impacting the structure of the market.

Although it is reasonable to argue that broadcasters should be left to their own device to adapt to this shifting landscape, the implications associated with this transition do not limit the potential fallout to broadcasters alone. Australia's cultural and advertising industries are also put at risk. Hence, decisions by one segment of the market (broadcasters) are currently shaping the capacity of other vital segments (e.g. content producers) to respond to such fundamental market change.

It is also important to note the degree to which Australia's success in the export of cultural products are put at risk. Australia's television exports transcend its relative market scale. Such exports have been instrumental in lifting the quality of Australian television content as a whole – because the few sparks of success bring with them windfalls that underwrite significant losses enabling significant investment in television production.

However, as Australia insulates itself from changes playing out in other regions – particularly in the US and European markets – its capacity to effectively export to these markets diminishes over time. This in turn erodes the quality of Australia's domestic television content sector as well. The negative fallout of all this is further impacted by the increasing availability of international content (distributed through IPTV), further diminishing Australia's cultural industrial capacity.

Currently, Australia's digital conversion strategy has minimal (if any) consideration for such factors. There is, for example, no provision in the content quota scheme rewarding the significant risk associated with interactive television content. We believe that articulating the need to develop a competitive digital television content

sector provides a meaningful principle (among others) to help shape Australia's digital conversion strategy.

### ***Consumer Incentive***

It is our view that the interest of consumers has not been a driving factor in facilitating the conversion to digital. While better sound and picture provide some level of incentive, there are clear consumer drivers which are specifically inhibited by Australia's digital conversion policy.

We've attached a copy of a survey we conducted on behalf of the Australian Broadcasting Authority (see attachment 'B'). This survey attempted to get a snapshot of the views of those directly engaged in the digital television sector. At the time, we managed to solicit the views of approximately one third of those in the industry who had any direct experience with digital. In many ways, this reflects a candid view of these opinions. Given the exposure the study received following its distribution, it is unlikely that those surveyed would again be so candid in sharing their views.

What stands out in the ABA survey is the degree to which the opportunities which those in the industry believe consumers will respond best to (such as multicasting) are the very drivers inhibited by policy. The converse is also apparent... the policy's key drivers – such as high definition – are seen as providing the least incentive. This highlights the degree to which even those in the industry itself see a discrepancy between the services they provide and those they believe consumers are most interested in.

Rather than engage in a debate about what the best driver might be, the best approach (given that spectrum has already been allocated for high definition) is to allow market forces to decide. This is not possible, however, if key market opportunities are denied. The best approach for consumers, it would appear, would be one maximising flexibility – so that broadcasters and datacasters were free to compete using a variety of drivers to test which consumers respond to best.

### ***Future Options***

On the basis of this discussion, the Institute would make the following recommendations to help accelerate digital conversion:

1. **Digital Television Standards**

As noted above, there is a need for a government process designed to mandate specific parameters of the digital conversion process. This does not have to be extensive and span all aspects of the industry – but it must ensure that a minimum technical standard (particularly at the level of set top box) is met. This is not about a single issue (e.g. MHP) – it reflects an on-going need to adapt to constantly changing market forces. Although allowing industry itself to self-regulate is an option, there is no forum which facilitates this from a position of true competitive neutrality. Also, self-regulation has demonstrated, over the past few years, that it moves at a snail's pace, a position inconsistent with the ambitions of accelerated digital conversion.

2. **Digital Television Commission**

In the UK there were significant market advances following the demise of ITV Digital resulting in the articulation of the Digital TV Action Plan. This included a high profile 'Stakeholders Group' linking key policymakers and industry representatives. We believe that Australia would benefit from the creation of an entity given explicit mandate over digital conversion in a forum facilitating close interaction with industry. Naturally, such a group should reflect the diversity of market agents central to any effective transition including broadcasters, datacasters, equipment manufacturers, advertisers, policymakers and academics.

### 3. Datacasting Channels

We recommend the introduction of two datacasting channels, whose scope would be mandated as follows:

#### a. Platform channel

As noted earlier, in the UK the Government withstood significant incumbent pressure and separated the platform from its various channels. This has resulted in an integrated channel (Freeview) capable of presenting viewers with a superior digital proposition. By way of contrast, the American approach (similar to Australia's) of awarding licenses individually provides no coherent integrated platform framework.

We recommend a hybrid approach allowing individual channels full control over their spectrum, but also enabling the creating of a datacasting channel to provide integrated services across the platform. This would provide clear market incentive for an emerging market actor to invest in significant backchannel infrastructure. It might also provide for new distribution models based on maximising distribution of appropriately enabled set top boxes.

The front end of this channel should be an Electronic Program Guide designed to facilitate an integrated viewing experience for viewers. Access to data associated with this guide may be an issue requiring further legal specification. Similarly, provisions associated with fair royalties to platform channels (the cost of 'clipping the ticket') may need to be specified so as to enable interactive transactions through use of the platform.

We are keen to assist the Committee in further exploring this option, if it is of interest to the Committee. We believe it will attract significant investment, provide a more cohesive digital terrestrial platform and accelerate adoption by viewers.

#### b. Digital channel

We would recommend that the second channel be allocated for the provision of a 4<sup>th</sup> commercial TV network – limited to digital spectrum alone. We would recommend no artificial constraints be imposed on the provision of this channel (i.e. datacasting inhibitions), but rather suggest that by limiting its availability to digital alone there is sufficient market incentive for the channel to help stimulate digital take up.

4. Flexible Spectrum Usage

As noted earlier, we believe that digital take up is maximised by ‘win-win’ rather than ‘lose-lose’ inhibitions. Rather than build a strategy based on creating mutual disadvantage for all, we believe an effective policy must stimulate the market with clear incentives for all.

Accordingly, we recommending removing most of the current restrictions and allow the market to itself decide which factors best contribute to digital take up. We would encourage continuation with high definition – but allowing broadcasters the flexibility to use their spectrum for multiple channels, enhancement or other television applications. We would encourage the removal of datacasting restrictions and have provided you with our views as to how the spectrum might best be used. We would also recommend re-visiting a range of prohibitions imposed on the pay-TV sector as the removal of many of the digital restrictions directly impacts them without providing them with new opportunities moving forward. This may require a separate inquiry.

The principle we advocate here is one of maximum market flexibility so as to allow the market to better identify potential opportunities. However, we caution that without the introduction of new players, who are not invested in the current television paradigm in Australia, the necessary competitive tension may be lacking to fully exploit such opportunity.

***Conclusion***

As a non-profit independent research centre based in Australia, the Interactive Television Research Institute is keen to assist, in whatever way it can, the needs of the Committee. We believe that the current review plays an important role in shaping the very structure of Australia’s television landscape for decades to come. We are happy to provide the Committee with any further research or background information available to us (subject to our own Confidentiality constraints). Likewise, as noted earlier, our Director would be please to testify at the Inquiry if it please the Committee.

We wish the Committee well in its deliberations.

## **Appendix C**

Submission to the  
Department of Communications, Information Technology and the Arts  
Digital Services Review

Submitted by  
The Interactive Television Research Institute  
Murdoch University, Perth – Western Australia  
January 24, 2001

### **1. Overview**

In response to your call for submissions associated with the current datacasting review, I am happy to submit my views on behalf of the Interactive Television Research Institute at Murdoch University. I fully appreciate the challenging task you face in identifying a viable policy solution as crafting an effective framework remains a major challenge for policymakers worldwide. It is clear, however, that the existing regime is unlikely to deliver the Commonwealth's policy objectives, hence a change to the scheme seems well timed.

I should caution that the very short window allowed for making this submission, particularly falling over the holiday period as it did, has significantly inhibited my capacity to more fully develop the range of arguments presented herein. As it is, I am forced to develop this submission while traveling overseas. Although I have not been able to more fully develop and document my arguments in the manner I would have preferred, given this short window, I am happy to elaborate on any of the points raised should the Department value additional insight.

#### **1(a). Personal Background**

As Director of the Interactive Television Research Institute at Murdoch University, I follow the issues associated with the emergence of a viable digital television industry in Australia closely. I am regularly invited to address international digital television conferences and work closely with major industry players worldwide. Although much of my work focuses on consumer research and business models associated with interactive television technologies, I have also been invited to address international audiences on the policy implications associated with the emerging medium. This has given me wide exposure to the policy frameworks adopted by other countries and the range of issues which policymakers worldwide are struggling with.

As an educator, I also train students in both the applied and strategic facets of interactive television. My students have developed interactive television proofs of concept for major global brands including Nike, Pizza Hut and Telecom New Zealand; in close collaboration with these advertiser's agencies including FCB, Singleton Ogilvy and Mather, Carat Interactive, and Saatchi and Saatchi New Zealand. Our honours and post-graduate students have also completed significant studies exploring a wide range of consumer responses associated with iTV. Our

research is unique globally in that we have an analytical focus which has helped us better understand consumer motivation associated with iTV usage. The quality of our approach to both teaching and research has resulting in a range of awards including a Prime Minister's Award for University Teacher of the Year (2001) and an Asia-Pacific ITT Award of Excellence.

I have also provided a range of consulting services to major players in the emerging digital television landscape. Such consultancies have spanned the full iTV value chain including training and research conducted for advertising agencies, pay TV platforms, telcos, broadcasters, government agencies, market researchers, advertisers, industry associations and prospective datacasters. With regards to the latter I should mention that I was the principle consultant to the Australian Datacasting Corporation (ADC) which was one of the three remaining participants in the datacasting auction prior to its cancellation. I wish to clarify, however, that my current submission is not a reflection of the views of ADC (indeed, many of my views here are not a reflection of ADC's best interest) and is based purely on what, in my capacity at the University, I believe best serves the wider community interest. I share this background information with you to highlight my familiarity with the issues associated with this submission.

## 2. Options for Change

Each of the options for change under consideration have their own relative challenges and strengths. It is difficult to fully assess the potential impact associated with each because I believe there is a lack of clarity as to what the full range of policy objectives associated with the regime really are. Even those objectives which have been specifically identified in the legislation, such as the distinction to broadcast services, are vague as it is not clear what dimensions of broadcasting the legislation is intended to protect in the first place [see discussion under section 6(a)].

I believe any attempt to evaluate such options should articulate the principles the policy is intended to serve and weigh the different approaches relative to these criteria. I have attempted exactly such an approach under section 2(f) of this submission. Before providing this overview, however, I will first comment on each of the options under consideration.

### 2(a): Option 1: Liberalise the genre rules

There is no question that the current genre rules severely constrain viable business models associated with interactive television services. This should not be misconstrued as arguing that there are NO viable models under the regime. My work for the Australian Datacasting Corporation, for example, did identify a viable business plan for datacasting under the existing regulations – but I must say that outside of this very specific model I have not seen models which I believe would attract investors. Clearly there are few viable models under the regime.

There are at least two problems associated with the genre rules. First, the scope of the rules is so overly restrictive that it catches within its web more forms of content that is perhaps necessary to protect the distinction with television content. In other words, rather than maximise the opportunity to deliver innovative services and stimulate

digital conversion, the rules chill such services in providing the tightest restriction possible so as to protect broadcasters. In principle, it is possible that a more liberal set of rules, designed to tilt more towards the interests of datacasters, could address this deficiency and encourage development of the sector.

Unfortunately, however, I believe that even with such liberalisation, the regime remains unworkable because of the second problem associated with the approach. Specifically, the approach adopts a highly subjective approach which cannot provide datacasters with business certainty. The subjective nature of the definition inherently denies prospective datacasters clarity as to whether their content would qualify as television content under the scheme. This is particularly problematic because datacasters would, in all likelihood, need to contract distributors for the rights to programming. It is probable that under the scheme, a datacaster might enter into such contractual obligations with a sincere belief that the content they were contracting was datacasting in nature only to discover later (following a complaint by a broadcaster, for example) that the content was deemed as broadcasting. Under this scenario it is possible that the datacaster would still be held liable to the contractual obligations, facing significant financial losses. One might argue that such contracts might contain exit clauses allowing for such a scenario – but here again this disadvantages datacasters who then face competitive disadvantage in negotiations for such content.

Business certainty, therefore, is a critical test which should be met under any datacasting policy if such datacasting is to play a role in stimulating digital conversion and providing new innovative digital services to the market. Even with liberalisation, this is not possible under the genre rules because of the inherently subjective nature of this approach.

## 2(b): Option 2: Case by case assessment by the ABA

The possibility of empowering the ABA to provide case by case assessment is an interesting solution, but one which would require significant changes both to the powers given the ABA and the resources which it would require to effectively implement such an approach. For such an approach to work, I believe there are a number of critical considerations which would need to be built into the solution. Among these are the following:

### 2(b)i: Transparency:

Under existing legislation, the ABA is not intended to formulate national policy, per se. Without a high degree of clarity and transparency in determining the criteria by which the ABA would implement such a solution, there is a high danger that the ABA would transgress its authority and essentially become a policy-making institution. Although this might not be the intent associated with such an approach, there is a high danger of the ABA being forced to assume such a role given the ambiguity of the legislation. In essence, therefore, this solution does not resolve the issue as the subjective nature of the standard remains problematic.

### 2(b)ii: A priori evaluation:

Another extension to existing ABA powers would need to come in



the form of legislation extending the powers of the ABA so that it could advise datacasters in advance whether the service they were considering qualified as datacasting. Without such machinery, the problems associated with a lack of business certainty [as noted in section 2(a)] continue to be problematic.

2(b)iii: High regulatory cost:

Without question, such an approach would also make substantial demands of the ABA which would require a significant increase to its existing human resources. This is the case not only because of the significant resources required to determine whether particular services qualify as datacasting, but also because of the substantial resources that will be required to accommodate the appeals which will almost certainly follow the ABA's determinations. Here the question is whether the Commonwealth is prepared to significantly increase ABA funding so as to enable it to meet the policy objective.

2(b)iv: Beauty contest:

Although I discuss the merits of the beauty contest elsewhere, I believe it is prudent to discuss the role which the ABA might play under such a scheme and clarify how this differs from the proposed solution. The advantage to the beauty contest is that the datacaster themselves define the standard and criteria against which they will be regulated. In this context, the ABA is not determining policy, per se, but rather is placed in the role of enforcing policy – a role which it is best suited to fulfill. Such an approach also makes significantly less demands on the ABA as the specific services are identified up front, significantly diminishing the need for day-to-day determination as to whether a particular service is or is not datacasting. Also, it provides maximum certainty to businesses and avoids the need to empower the ABA to make such a priori determinations.

In conclusion, although there is certain appeal in the ABA option, its utility primarily becomes practical under a 'beauty contest' approach. Without such a mechanism, however, it will require the introduction of significant new powers for the ABA and a significant increase in funding to enable it to effectively fulfill its new demands.

2(c): Option 3: Define datacasting services as interactive services

In one sense, this approach provides an exciting possibility that could, in theory at least, result in a high degree of innovation and help stimulate digital conversion. It assumes, of course, that interactivity is a 'driver' for the take up of digital television – an assumption which is being increasingly challenged.

Interactivity represents a significant feature associated with digital television technologies. Most recently a number of analysts have maintained that interactivity is not a 'driver' for the take up of digital services. This view is increasingly reflected in the popular discourse associated with digital television. On a number of occasions,

for example, Australian broadcasters have argued that interactivity is not a driver. I would disagree, however, both on the basis of the evidence we've found in our own consumer research at the Interactive Television Research Institute and on the basis of the evidence we're seeing in the global digital television market.

Specifically, I believe, much of the confusion associated with the potential for interactivity to serve as a driver is associated with surveys which have attempted to evaluate existing user responses to a variety of services. These surveys, however, were based on existing interactive content – which, almost without exception, have been extremely limited. For the most part, therefore, the construct of interactivity has been limited to walled garden style advertising services – which act as a revenue driver rather than a consumer driver.

In more recent months, however, interactive usage in the UK has increased significantly following the availability of compelling interactive content such as reality television, newer sporting applications, interactive comedies and most recently interactive documentaries. Whereas interactive usage had declined from 54% to 50% of households iTV enabled over the past two years, it has surged up to 76% in the past six months. This dramatic increase in usage is a clear reflection that as interactive content comes into the mix, interactivity becomes a clear driver for digital television.

Unquestionably, therefore, a definition based on inherent interactivity could go far in advancing datacasting services. It can also have the additional effect of stimulating Australian interactive television production, which, in principle, could help reinforce Australian content producers in the emerging international market for iTV content.

However, the approach has a number of significant problems which any such approach would need to address. For example, it may require a minimal 'threshold' so as to insure that datacasting content includes a high degree of interactivity. It is conceivable, for example, that datacasters could provide minimal interactivity (an EPG or single interactive choice at the start of the program, for example) and technically comply with the requirement even though the nature of the programming is not really interactive. One possible approach might be a time limit – similar to the 10 minute rule under the genre scheme – which helps insure that such a threshold is met.

There is also a question as to how the regime would apply to FTA broadcasters? Would the standard be the same? Under such a scenario the 'enhanced programming' regulations would essentially become obsolete as there would be no need to distinguish between datacasting and enhanced programming, per se.

But the biggest problem associated with this particular approach is that it runs a high risk of violating the broadcast moratorium. It represents the most liberal approach to datacasting under consideration. Unless there was some method of again defining a distinction to broadcasting, broadcasters would have no assurance that the type of programming characteristic of broadcast television would not feature in the service. Once again, the solution fails to address the core problem of distinguishing between broadcasting and datacasting.

2(d): Option 4: Allow the provision of open narrowcasting services and/or

subscription narrowcasting or broadcasting

For all practical purposes, the provision of datacasting services provides a form of narrowcasting as the signal can only be viewed by those with digital decoders. In the immediate future, therefore, the limited market size for digital television services should not pose significant threats associated with universal coverage. Whether or not such an approach is desirable post-2006, however, is a different question all together.

There are a number of business models associated with narrowcasting of datacasting services which may help drive digital conversion. For example, it is conceivable that there could be a sizeable market for programming delivered in foreign languages which would have pockets of audiences which could be delivered to through a datacasting service. Such an approach might or might not require a subscription scheme. Similarly, it is possible that subscription services such as ITV Digital in the UK (formerly ON Digital) could help drive set top penetration. Under a subscription scheme, in particular, there is a compelling model for set-top-box distribution, potentially helping accelerate digital conversion.

For broadcasters, such an approach might also enable new business models. For example, although it is not clear whether audiences value multiple camera angles in sporting events, a larger problem associated with such services is that there is no clear business model for their incorporation. What additional revenue is generated through the provision of such services? Without a financial incentive, what would motivate broadcasters to incorporate such features? It is possible, however, that under a subscription model such features could be made available on a pay-per-view basis.

But the biggest problem associated with such an approach is that it marks a significant departure from the fragile balance between FTA broadcasters, prospective datacasters and pay TV providers. The pay TV industry in Australia is among the most financially disadvantaged in the world: Paying significantly higher rates for programming on a per capita basis than other countries, suffering from overbuild associated with duplication in service delivery areas, facing limited economies of scale and struggling through its relatively late introduction. Regulatory conditions, such as the anti-siphoning rules, further constrain their capacity to develop a financially profitable business as such regulation significantly inhibits pay TV take up. Hence, any attempt to convert datacasting to subscription TV licenses must consider the potential impact of such a move on the pay TV industry.

On one hand, expanding datacasting to allow for such subscription services could work to pay providers advantage by expanding their coverage areas. Optus, for example, might benefit from the opportunity to extend its service to areas not covered by its cable. For Austar and Foxtel, there might be financial benefits associated with delivery via terrestrial vs. satellite as the cost for reception apparatus might be lower. However, these benefits would have to be weighed against the threat of increased competition – and this in an industry that is struggling to demonstrate its financial viability in Australia.

One possibility which might allow for the best of both worlds would be to allow the datacasting transmission licensee to transmit subscription services but deny them

access to subscription TV licenses by legislation. In other words, datacasters could – under this scenario – carry the programming of a pay TV provider, but not act as a provider in their own right. The intent of such a scenario would be to extend the reach of existing pay providers – essentially acting as a pay TV dividend.

Another complication with this approach, however, is that it calls into question whether FTA broadcasters would be allowed to use their ‘datacasting’ spectrum to provide such subscription services. This opens up a much bigger can of worms as so much of the legislation in Australia has afforded broadcasters special rights (such as free digital spectrum, anti-siphoning protection, etc.) on the basis of the ‘free-to-air’ nature of their services. A compromise might be to allow ‘enhanced programming’ on a subscription basis – so that the integrity of free-to-air programming is maintained but incentives are introduced to drive new innovative digital applications.

## 2(e) Alternative approaches

As an alternative to the above approaches, I would again call attention to consideration of the beauty contest option which I called for during the original datacasting review. I believe that the experience of datacasting to date – both within Australia and overseas – demonstrates that this approach will provide potential datacasters with the highest degree of business certainty, enable the provision of innovative services, best serve community interests and protect the moratorium on the provision of broadcast TV services.

Such an approach would articulate clear policy objectives associated with the distribution of datacasting licenses and evaluate proposed services relative to these objectives. Such objectives, for example, might include the following:

- That the service not be a broadcast television service
- That the service best serves the community interest (this might include the provision of government services and the transmission of community television on the spectrum)
- That the service stimulate digital conversion
- That the service serve the widest audience possible (a universal coverage requirement)
- That the service promote Australian cultural industries
- The likelihood that the prospective datacaster will be able to deliver on their proposed service
- Etc.

Although there has been a history of problems associated with the process of identifying the winners in such a contest, once such issues are resolved, the industry can proceed with a high degree of certainty. Moreover, one would assume that the Commonwealth has the benefit of learning from its previous problems in this space and could better facilitate the process, insuring a high degree of transparency in the process.

I strongly believe that this is the only option that delivers both business certitude while also serving community interests. Relative to other approaches, I believe this also presents the fewest problems and the least legal intervention across time.

## 2(f) Datacasting Services for Broadcasters

Inherent in all of the approaches noted above is a question whether the approaches adequately address both the needs of datacasters and broadcasters. Much has changed since the original legislation was introduced. For example, the delicate balance between new and existing players which was supposed to insure that broadcasters did not get a 'head start' in datacasting was largely lost due to cancellation of the datacasting auction. Likewise, the datacasting charges scheme has defined the manner in which broadcasters are 'taxed' for datacasting services in a manner which does not differ from their provision of broadcast services. In terms of the financial structure, therefore, a 'datacasting levy' has not really eventuated – as appeared to be the original intent based on comments by the Government associated with the digital TV landscape. Accordingly, it is questionable whether regulating 'datacasters' and 'FTA broadcast datacasters' under the same regime really makes sense.

Likewise, restrictions imposed on broadcasters – governing 'enhanced programming' and 'datacasting' – are difficult to draw under many of the approaches discussed above. One alternative, adopted in a number of countries, is to define datacasting activity by broadcasters loosely in terms of a percentage of the spectrum which they are allowed to dedicate to datacasting services.

In light of this, I believe that the entire digital TV scheme needs a significant overhaul as there is a domino effect associated with the legislation: Changing one part has significant influence on the others. Although it seems unlikely to eventuate, I believe a 'digital TV enquiry' exploring how to help further stimulate digital television is highly necessary and would be well timed.

## 3. The Alternative Options Compared

In attempting to bring together the above discussion, I have prepared a table (see table 1) outlining the relative contributions of each approach against a core set of policy objectives. The numbers in each column represent a ranking score – from 1 to 5 – comparing the relative contribution of each approach to the stated policy objective. The scores represent forced rankings relative to each other (for each objective there is a 1 to 5 ordinal ranking).

	Genre Rules	ABA Reg.	Subscription	Interactive	Beauty Contest
Different to Television	1	3	4	5	2
Audience Share	1	4	2	5	3
Program Rights	1	3	5	4	2
Advertising Revenue	1	4	2	5	3
Serve Community Interest	2	3	5	4	1
Government services	2	3	5	2	1
Local content	1	4	5	4	2
Community Television	2	3	5	4	1

Broad Coverage	4	3	5	2	1
Financial Returns	5	4	2	1	3
Stimulate Digital Conversion	5	4	1	3	2
Compelling Content	5	4	1	3	2
Deliver Credible Player	5	4	2	3	1
Business Certainty	5	4	2	3	1
Different to Subscription TV	1	3	5	4	2
Complexity of Admin. Scheme	4	5	1	2	3
Total (less is best)	45	58	52	54	30
Overall Ranking	2	5	3	4	1

Figure (1): Comparison of Different Approaches

As you can see, on the basis of the policy objectives highlighted above, the beauty contest emerges as the clear approach delivering the greatest return to the community and the highest degree of business certainty.

### 3(a): Arrangements after the end of 2006

It is difficult to articulate a case for datacasting licenses post-2006 at this point in time because it is difficult to visualise, at this juncture, exactly what type of datacasting services might eventuate – particularly because the evolution of such services is directly dependent upon the particular model for datacasting which the government adopts.

There is, of course, some speculation that such licenses might evolve into full broadcast television licenses at some point in the future. However, the limited license period constrains the relative value associated with such speculation. Although articulating such a possibility now might significantly improve the value of the datacasting spectrum in an auction, it also raises significant questions of cross media and foreign ownership. In this context, I believe that a promise to allow such licenses to provide such services cannot be made without specific legislation addressing ownership issues.

Moreover, the legislation has a built-in remedy to address arrangements post-2006 in the form of the 2005 review. Accordingly, I do not believe it is necessary to specifically articulate the fate of datacasting post-2006 at this point in time.

### 3(b): The viability of Government / Community TV Services

With regards to the viability of a business case for government information services and/or community TV for datacasters, I would maintain that there are conditions under which such services would present a viable business model. However, these opportunities diminish relative to the commercial viability of the service as a whole. In other words, under a more commercially viable model of datacasting services, the viability of government / community services diminishes significantly because the

value of such services is always relative to alternative use of the spectrum.

Under the existing rules, for example, government services represent a valued source of content for a datacaster who will be somewhat desperate to find content which withstands the genre test. But under a subscription datacasting model, the value of the spectrum is probably too significant to allocate for government / community services. Hence the cost to access the spectrum increases dramatically, resulting in a less viable gov. / community business model for datacasting.

Under the beauty contest approach, government and community services enjoy benefits even greater than those under the existing approach because candidates will go out of their way to identify such opportunities in their attempts to secure the spectrum.

#### 4. Datacasting licensing

##### 4(a): Allocation process

The adoption of a price-based allocation process in the 2001 datacasting auction clearly demonstrated the limited utility of this approach. The cancellation of the auction represented what Professor Mark Armstrong has pointed out as a significant shift in policy:

“Until Alston's statement, the official line was that auctions for telecommunications and broadcasting were not a fund-raising exercise. They were just an efficient market-driven system to hand out licences. The May statement showed that the Government was prepared to abandon market-driven principles when it could not extract enough money from communications.” (Australian Financial Review, Jan 10, 2002, p47).

Professor Armstrong also highlights the degree to which this approach has resulted in the new economy subsidising the old at a time in which Australia needs to significantly reinforce competitive advantage in the new economy. Others have also questioned whether paying high fees to acquire spectrum best positions organisations to best deliver on services, often delivering significant financial liabilities which severely constrain their capacity to deliver the innovative services in the first place.

Moreover, given the recent tech bubble crash and the high degree of confusion surrounding digital television in Australia, it seems highly unlikely that a price-based datacasting auction would deliver a significant windfall. And one might also question whether those who ‘win’ spectrum in an auction, often reflecting speculative value associated with the spectrum in the future, are best positioned to deliver innovative content driving digital adoption.

Finally, I question whether the ‘highest possible return to the community’ is best measured in financial terms. In fact, often the price-based approach delivers the least return to the community in terms of the services offered. Reducing return to the community to purely financial terms does a great dis-service to the wider interests of the community.

Accordingly, I believe strongly that the beauty contest represents the best approach to

the allocation of datacasting spectrum for the various reasons noted earlier [see section 2(e)].

#### 4(b): National vs. Local Datacasting Licenses

With regards to the question of local vs. national licenses, I believe that this depends largely on the policy objectives associated with such datacasting. There are clear advantages to both.

One of the distinct opportunities enabled by datacasting services, for example, is the provision of localised content. Such content may be best positioned to serve local community interests. Where the Commonwealth's objective is to develop a datacasting service that best serves community interests, the allocation of localised licenses may best serve its objectives. Likewise, given the uncertainty associated with which business models will best serve datacasting, the Government might have an interest in localising license allocation so as to insure that the widest range of players participate – resulting in a wider range of potential business models (and thus a higher likelihood of discovering viable models).

In contrast, however, the Government's objective of stimulating digital conversion may be best facilitated by a relatively large player prepared to invest considerable sums in the development of a national datacasting service. Under such a scenario, larger economies of scale best position the datacaster in the acquisition of programming and in insuring the greatest financial return associated with their service. Hence, allocation on a national scale may help insure the emergence of players most likely to succeed in delivering a financially viable business.

The ideal compromise might be for the Commonwealth to allocate at least one national license and allocate remaining datacasting licenses on a market by market basis.

#### 4(c): the number of licences to be offered in an area

Assuming the Government adopted the recommendation noted earlier, advocating one national license and the remaining localised would allow at least two licenses to be on offer. In certain markets more localised licenses might be offered given the degree to which such spectrum is available in such markets. Such a measure is most consistent maximising innovation in the discovery of viable datacasting models.

#### 4(d): whether restrictions should apply to who may seek one or more of those licences.

To insure maximum diversity, only one party should hold a license in any given market. Accordingly, broadcasters (who have datacasting licenses by default) should be prevented from seeking these licenses.

If the scope of the datacasting regime stipulates that these will become commercial television licenses in the future, the restrictions on foreign ownership and cross media ownership should apply until legislation is enacted eliminating such conditions.



## 5. Carrier License Exemption

I can see no problem in extending the carrier license throughout the life of the datacasting license.

## 6. Other

I believe there are a number of critical questions which are relevant to the datacasting regulations but which have not specifically been raised in the call for submissions. Accordingly, I appreciate the Department's invitation to comment on such issues.

### 6(a): Clarification of 'broadcast television' services

To a large extent, discussion of datacasting has focused on identifying a solution which differs from broadcast television services. The focus on datacasting has largely ignored an equally critical question: Exactly what is meant in the legislation by broadcast television? What adverse impact, specifically, is the moratorium intended to protect? This is a critical question because any crafting of an appropriate policy must have greater clarity in terms of what specific aspects of broadcast television fall under the umbrella of the moratorium.

In exploring this theme further, there are a few characteristics associated with broadcast television which might – or might not – fall within this scope. It is not my intent to advocate a particular definition – rather, I'm simply calling attention to the inherent problems associated with developing policy where such definition remains vague and unspecified. Clearly, the appropriate policy depends, to a considerable extent, on which aspects of broadcast television the approach is intended to protect.

Among the possible features which the legislation may – or may not – be intended to protect are the following:

#### 6(b)i: Audience share:

The advent of new media and additional broadcast channels in other countries has delivered increasing levels of audience fragmentation. One interpretation of the legislative intent, therefore, is that the distinction between broadcasting and datacasting should protect FTA broadcasters existing market shares and not significantly erode these.

This approach is somewhat problematic, however, because it largely defines datacasting as an 'unpopular' service incapable of attracting a substantial audience. Such an interpretation also conflicts with the entire principle behind datacasting in the first place: That of stimulating consumer demand for digital television reception equipment thereby accelerating digital conversion.

#### 6(b)ii: Program rights

With limited economies of scale and an extremely high degree of competition between FTA players, Australian broadcasters have traditionally paid disproportionately high rates for access to premium television content. The addition of more players in the television mix

could have the adverse effect of driving program rights even higher. In this context, distinction between datacasting and broadcasting might be seen as protecting the environment in which broadcasters compete for access to such content. On the whole, this is a compelling argument as it is possible that the introduction of additional competition in broadcasting could drive prices even higher at a time in which future revenue opportunities for broadcasters are potentially in decline.

6(b)iii: Advertising revenue:

For broadcasters, the distinction with datacasting may really be about protecting their advertising revenue. This view, however, seems to contradict the digital television legislation which creates a clear exemption from genre rules for all advertising content. In a free-to-air environment, it is almost impossible to conceive of a datacasting model that would not – in some way – depend upon attracting advertising revenue. Hence, directly protecting the advertising interests of broadcasters seems to transgress the contextual environment associated with the very creation of datacasting services in the first place.

6(b)iv: Analog service:

Perhaps the most extreme view would be to argue that the protection to free-to-air television should cover analog television services only. As it is highly unlikely that digital television penetration will reach the majority of Australians by 2006, access to 'digital' signals will be limited to a fraction of the country. In this context, the availability of digital channels represents a 'second class' citizen in the television landscape as such services would have limited reach, thereby limiting their capacity to generate advertising revenue. Under this argument, all restrictions on datacasting licenses are inherently unnecessary as they pose no direct competition to analog television services. Although this presents an interesting argument, I question whether it really reflects legislative intent as the Government's discussions of the moratorium have always implied that it applied to both analog and digital transmission services.

Under the discussion noted above, it seems the characteristic associated with FTA broadcasting which best 'fits' the protection scheme is associated with protection over program rights. Accordingly, in evaluating the various options presented the Department may wish to consider the potential impact associated with this. Likewise, an alternative regulatory mechanism may better reflect these interests. For example, datacasters may be given exemptions from existing genre rules where the content involved is self produced content (thereby eliminating an adverse impact on broadcast rights) or a scheme similar to the anti-siphoning rules may allow datacasters to access content which has been rejected by FTA broadcasters. My point is discussing such options is simply to highlight the potential benefits associated with greater clarification of the specific facets of broadcasting which should be protected.

7. Conclusion

I hope that my submission is of some use to the Department as it considers

alternatives to the datacasting regime. As I have noted throughout my submission, I believe the most viable approach is a beauty contest which allows applicants to themselves demonstrate how they will deliver the Commonwealth's policy objectives. This will not only help insure that the service steers clear of broadcasting, but will also provide maximum benefit to the community and it will provide investors with the great clarity and flexibility in pursuing appropriate business models.

In demonstrating the value associated with the different approaches identified by the Department (together with the beauty contest option), I have charted the utility of each approach relative to central policy objectives. I believe this approach helps highlight the value of the beauty contest approach. Even if the Department does not agree with my findings, it may find this approach useful in shaping its own evaluation.

Once again I apologise for the rather rushed nature of this submission. To a large extent, however, this was an unavoidable by-product of the narrow window in which to respond to the call for submissions.

If you have any questions associated with any of the elements I have raised herein or if you feel the Institute might be of any further assistance in helping you address the datacasting review, please do not hesitate to call on us.

Sincerely,

Professor Duane Varan  
Director, Interactive Television Research Institute