

# FROM COTTAGES TO CORPORATIONS

BUILDING A GLOBAL INDUSTRY FROM AUSTRALIAN CREATIVITY

## REPORT ON ACCESS TO OVERSEAS MARKETS

FOR

## AUSTRALIA'S CREATIVE DIGITAL INDUSTRY

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STAGE THREE

FILM AND DIGITAL CONTENT BRANCH

AUSTRALIAN GOVERNMENT  
DEPARTMENT OF  
COMMUNICATIONS, INFORMATION TECHNOLOGY AND THE ARTS

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## CAVEAT ON THE USAGE OF STATISTICS

All statistics used in this report should be treated with some caution.

This report attempts to address the many sectors of the Creative Digital Industry. It utilises statistics from many different sources which may use different definitions of a sector or activity as well as substantially different methodologies. In many cases the authors of the report have had to aggregate or disaggregate data to arrive at trends or cross-sectoral comparisons that could be meaningful. Some conceptual sections of the report, such as the simplified comparative production flows use percentages and number that are broad estimates of a generalised type of project production. Other types of projects will have quite different patterns.

The analyses that follow are examples of the types of information that needs to be collected and provided on an accurate and timely basis.

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## SECTION 1: EXECUTIVE SUMMARY

In the past two decades Australia has transformed the wine and tourism industries from net importers into exporters that generate almost \$20 billion a year in export revenue. In the next five years, it could do the same with the digital content industries. By utilising the explosion in new communication and digital broadcast technologies, it could position itself to create products and services to meet the global demand for compelling and innovative digital content.

Digital technology has led to most elements of traditional cultural, creative and media content industries being re-formed. Pervasive digital communication networks, empowered by new creative tools and mediums, now link groups and subgroups of customers who can be located anywhere. As one infrastructure vendor to the Digital TV industry puts it “any content, anywhere, anytime”.

Australia's creators, the digital content industry and the public are already participants in this global digital revolution. The issue for the future is whether we will become active contributors to a new and recognizable Creative Digital Industry - or its passive consumers. We can choose to shape the Australian industry to take advantage of the opportunities arising from the transition from physical media to digital media – and reap the social and economic rewards. We can exploit these opportunities to experiment with new forms of creative expression, to test and prove new business models and to become an aggressive exporter of digital content, applications and services. Or we can choose, deliberately or by default, to be content to accept US, and to a lesser extent UK, dominance of creative, cultural, entertainment and educational media.

The choice is ours to make.

The sectors of the Creative Digital Industry include:

- the production and marketing of film and television programmes and their evolution into digital and interactive TV, interactive and online games;
- re-usable electronic education content;
- the marketing and supplying the holdings of museums, galleries and libraries in digital form, so that they can be used as factors of production;
- the internet based publishing of music, text, films and games;
- the development and marketing of software and online services that create digital media and visual effects or help manage and publish them.

## The Importance of the Creative Digital Industry<sup>1</sup>

Members of the various sectors of the Creative Digital Industry input and create content that can be utilised and communicated in digital form (and often transformed to physical form as well). They also produce computer applications and services that can be delivered online.

Australians are world-class, avid consumers of new technology, most of it imported. While this is rewarding for individual users, it is catastrophic for Australia's long-term balance of trade unless we have new exports to match the rate of imports.

Of course, there is more to the Creative Digital Industry argument than the economics of exports. There is the cultural importance of Australians being able to have mainstream access to their own stories with their own accents, emphasis and quirks. The creative industry is also an extremely important employer of people with many different skills, talents and persuasions. Expanding the economic success of the industry domestically and overseas provides greater opportunities to employ those with specialised skills and to nurture those who are developing new skills. Australia has an opportunity to transform its many creative cottage producers into world-class producers and exporters of creative content, applications and services. A vibrant Creative Digital Industry will shift Australia from being a net importer of over \$1 billion of content in 2000/2001 to being a potential net exporter of \$1.5 billion by 2010.

On the other hand if Australia fails to become a globally competitive exporter it is estimated that it will see its traditional and digital media balance of trade deficit blow out to over -\$3 billion by 2010.

Fortunately, and unlike coal and iron ore, creativity and its outputs are non-exhaustible resources. There is no limit to creativity and each output can be sold again and again to different people, in different markets, at different times. The "cost of goods" of satisfying each new customer may approach zero once the product has been "created".

Australians have established an excellent reputation for creativity, but it seems always for someone else's benefit. Our actors, our games producers, our film directors and production studios are first class, but they are most often employed by others.

The challenge has always been to create what the market wants, to find markets for what has been created and to obtain rewards so you can continue to create more of it.

This report considers how members of the creative and cultural industries can become an identifiable Creative Digital Industry and how it, like the wine and tourism industries, can further evolve into a successful export industry.

Government at all levels, as well as industry associations and educational institutions, need to work together to create the vision and provide the infrastructure to allow this

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1. For more detail see Appendix 5: Mapping the Boundaries of the Creative Digital Industry on page 146 and Appendix 7: The Creative Digital Industry Organisations, Turnover and Employment on page 161

objective to be achieved. It is only by creating a vibrant domestic base with a strong export focus that Australia will change from exporting talent to exporting products and services.

In making recommendations as to how this could be achieved it was not the intention of this report to address the unique needs of any individual sector. Rather, the report makes sixteen recommendations that address the common needs of all of the sectors that potentially constitute the Creative Digital Industry.

Key amongst the recommendations are:

- 1 the establishment of a whole of industry development peak body to work with, and empower, existing sectoral industry associations, funding bodies and development organisations;
- 2 the frequent collection, analysis and dissemination of whole of industry statistics and target market statistics;
- 3 the recapitalisation of the FIBRE broadband project to make it a dedicated carrier of very high bandwidth, production grade communications for the complete Creative Digital Industry;
- 4 a range of initiatives to develop innovation in content and interactivity in the new communication and distribution technologies;
- 5 a range of initiatives to focus Creative Digital Industry members on export opportunities and on mechanisms to improve their efficiencies.

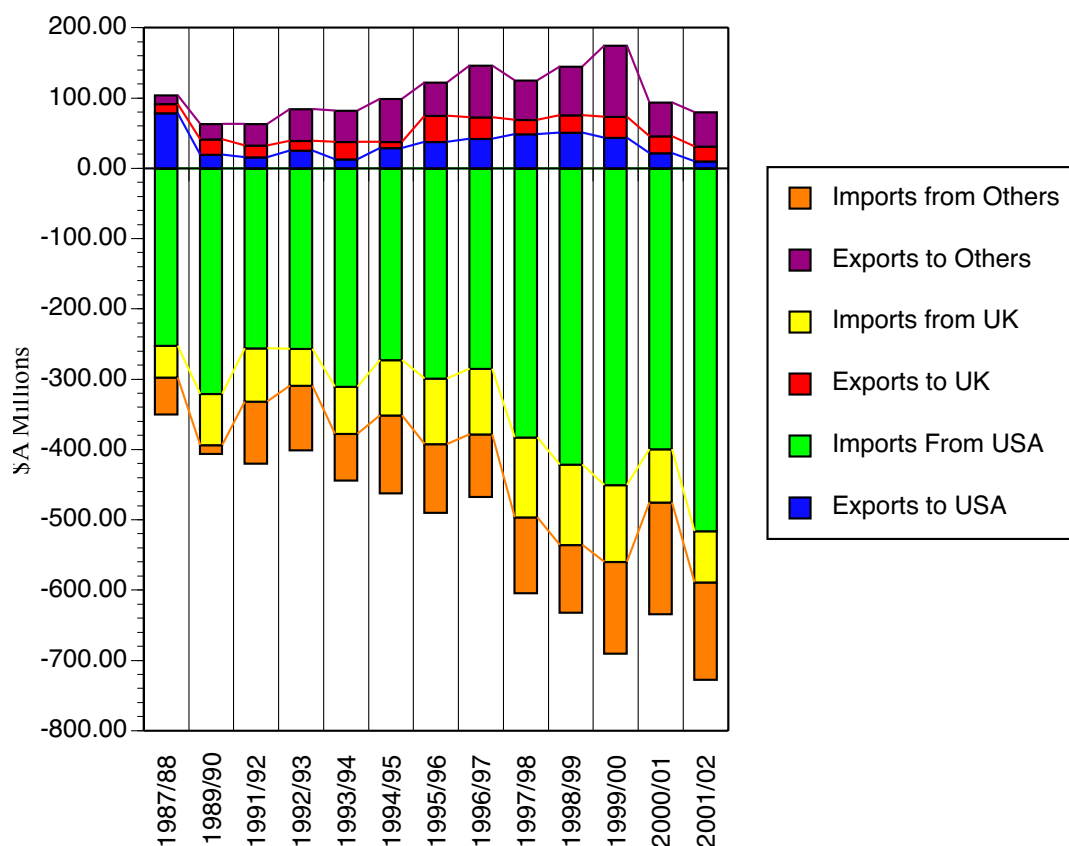


## 1.1 WHY DIGITAL CREATIVE EXPORTS MATTER: THE IMBALANCE IN TRADE

Australia's imbalance in trade in creative informational media, such as audio-visual, music and software has always been problematic but the problem has grown substantially worse over the past 10 years.

In particular the imbalance with the US has moved from an average of Australia exporting 13% in value of what it imports in the mid 1990s to 2% in 2001/2. i.e. we import 50 times more from the US than we export to them!

Figure 1: Disparity of Australia's Trade in Film, TV Programmes and Videos with the USA and UK



Source: Derived from ABS data as quoted by the AFC in Get The Picture

This situation perhaps becomes clearer when seen as a ratio (expressed as a percentage) of Australia's exports to imports with particular countries.

Table 1: Ratio in AudioVisual Exports as a percentage of Imports for Film, TV programmes and Videos.

	USA	UK	Other
1987/88	31%	28%	24%
1989/90	6%	30%	179%
1991/92	6%	23%	34%
1992/93	10%	27%	48%
1993/94	4%	37%	66%
1994/95	11%	11%	55%
1995/96	13%	40%	48%

Table 1: Ratio in AudioVisual Exports as a percentage of Imports for Film, TV programmes and Videos.

1996/97	15%	33%	82%
1997/98	13%	18%	52%
1998/99	12%	21%	73%
1999/00	10%	27%	78%
2000/01	5%	32%	31%
2001/02	2%	29%	35%

*The Australian Film Commission describes the recent trade performance as follows:*

*“Exports hit a 10-year low in 2001/02, while imports continued to rise, creating a deficit of \$647 million, the highest since the survey began in 1987/88.*

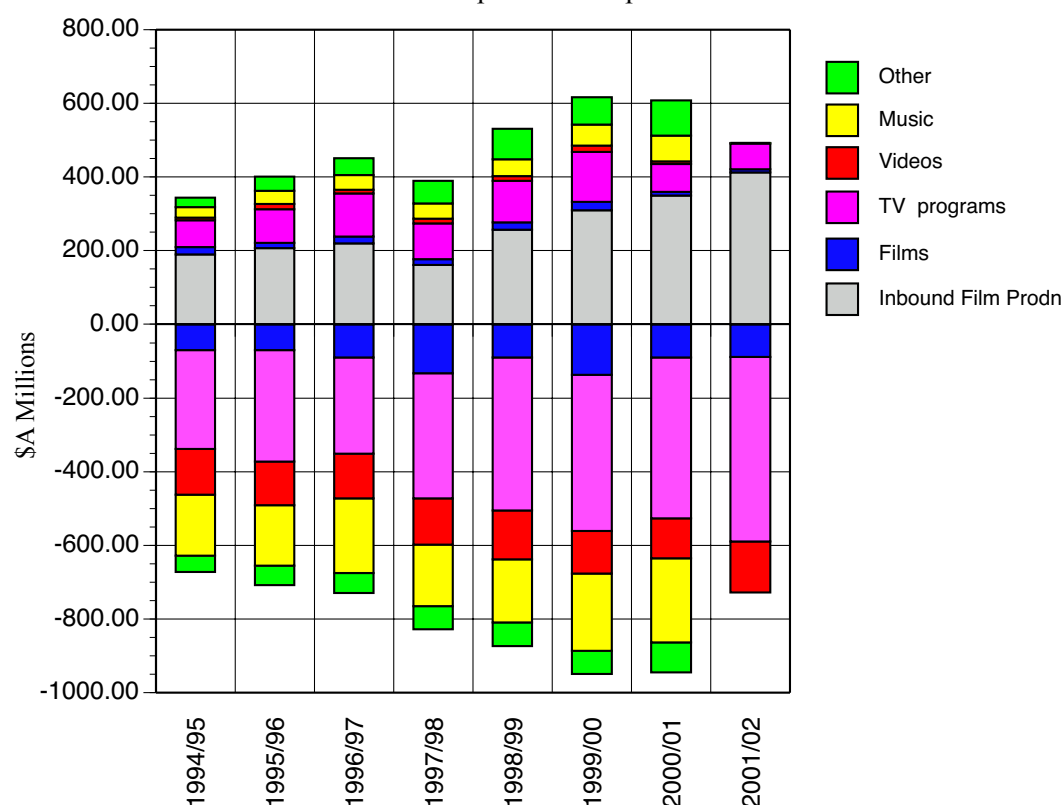
*In 2000/01, audiovisual royalties earned by SOCOG (the Sydney Organising Committee of the Olympic Games) contributed \$1,133 million to the balance of trade, creating Australia's first ever audiovisual trade surplus (\$592 million). Sales to the US represented \$718 million of this income.*

*Excluding the effect of the Olympics, however, exports have dropped by 54 per cent over the last three years, while imports have risen by 6 per cent.”*

Source: AFC Get The Picture <<http://www.afc.gov.au/gtp/atradetotal.html>> and  
ABS, Balance of Payments and International Investment Position

Without the success of Australia's inbound film production during the past 5 years the music and audio-visual sectors of the Creative Industry Trade imbalance would be substantially worse.

Figure 2: Australia's Music and Audio-visual Exports and Imports 1994/1995 to 2000/2001



The balance of trade is almost as bad in other sectors of the Creative Digital Industry. In 2000/2001, for example, packaged software had exports of \$320 million and imports of \$815 million.

### International Comparisons

Australia's performance is below that of the USA and the UK and only just ahead of Singapore when comparing:

- the creative industry domestic value add as a percentage of GDP;
- the percentage of Creative Industry employment to total employment and

- the ratio of creative industry exports to domestic value add.

Table 2: Creative Industries International Comparison

	Year	% of GDP	Ave Annual Growth CDI Sector	Av Annual Growth For Economy	% of National Employment	Currency	Value Added (Billions)	Exports (Billions)	Ratio of Exports to Domestic Value Add
USA	2001	<b>7.8%</b>	6.9%	3.2%	<b>6.0%</b>	USD	708	89	<b>13%</b>
UK	1997/8	<b>5.0%</b>	16.0%	<6%	<b>5.0%</b>	STG	113	10.3	<b>9%</b>
Australia	1999/2000	<b>3.3%</b>	5.7%	4.8%	<b>4.0%</b>	AUD	19	1.2	<b>6%</b>
Singapore	2000	<b>2.8%</b>	13.40%	10.6%	<b>3.4%</b>	S	4.8	4	<b>83%</b>

Source: Singapore, Creative Industries Development Strategy, 2002 as referenced in the report for the National Office for the Information Economy on "Research and Innovation Systems in the Production of Digital Content and Applications" conducted in September, 2003 by QUT CIRAC and Cutler & Company

## 1.2 THE GLOBAL COMPETITION FOR A SHARE OF DIGITAL CONTENT CREATION

Most of Australia's current trading partners have developed plans to ensure that their country is a major producer and exporter of Creative Digital Content products and services. Some are investing very large budgets into a range of development programmes.

Table 3: National Strategies for Digital Creative Content

Country	Programme	Year Started	Size of Programme
UK	Digital Content Action Plan for Growth < <a href="http://www.dti.gov.uk/industries/digital_content/">http://www.dti.gov.uk/industries/digital_content/</a> > Aim to raise DC revenues to 10% of GDP	1999/ 2000	£56M
Canada	Digital Content National Strategy		C\$236M
Singapore	Media 21: Creative Media Connected Society	2002	not available
Korea	eKorea		US\$257M
New Zealand	Breaking Through The Barriers 100 additional companies each doing \$100M in sales by 2012	2002	not available
Japan	eJapan Strategy	2001	not available
Malaysia	Multimedia Super Corridor Malaysian Communications & Multimedia Content Forum	1996 2001	not available
European Union	DigitCult: Unlocking the value of cultural heritage Cordis eContent Programme < <a href="http://www.cordis.lu/econtent/">http://www.cordis.lu/econtent/</a> > Media Plus Funds to interactive media	2002 2002	not available A\$26.5M  A\$400M over 6 years
Mexico	e-México National System	2002	not available

Australia cannot afford to be complacent and fall behind in this important mix of culture, creative expression and commercial enterprise. Unless there is concerted action to ensure Australia has a significant share as a digital content producer and exporter, its balance of payments position will worsen. The USA has dominated world trade in movies and music for the past 70 years. Without the creation of a vibrant Australian Creative Digital Industry, it is quite possible that they will continue to dominate Australia's trade in digital media at the current ratio of 50 to 1, possibly for the next 50 to 100 years.

### 1.3 WHY DIGITAL CREATIVE EXPORTS MATTER: THE FLOW ON EFFECTS

The success of the Creative Digital Industry has significant flow-on effects for the wider economy including:

- creative industries (media, advertising, fashion, software, etc.)
- Digital Content users (health, education, defence, finance, tourism, transport, etc.)
- technical applications (information management, content delivery)

Establishing a Creative Digital Industry that is efficient in the design, production and commercialisation of information and intellectual property of other industries can enable substantial improvements in the efficiency in those other industries and sectors.

The three markets where this will be especially true are education, defence and health.

#### Education

Education, at all levels, is moving to combine traditional teaching methods with online learning and online support material. In some cases, complete courses are being delivered online. In others, the reading and research material are available either as digital "coursepacks" or from an eReserve.

A critical mass of high quality digital education material will be required before the economics make it worthwhile for Australian organisations to make their specially designed re-usable "packages" of digital learning material available to other country's learning institutions. Learning Objects, as these are called, which are based on international standards, are designed to enable the sharing or trading of educational content via online Learning Object<sup>1</sup> marketplaces. Trading Learning Objects could not only create export revenue but could also enable substantial re-investment in the development of additional online educational materials for the domestic market.

As with the film market, researching and satisfying global market requirements lowers acquisition costs for domestic users who increase their ability to acquire more for the same budget. At the same time the increase in production cost-recovery can be used to justify an investment in higher quality of production. This further improves the competitiveness of the products and customer satisfaction.

While there are many coordination issues surrounding the deployment of online learning the greatest constraints are the current lack of high quality, engaging, reusable content and

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1. Re-usable Learning Objects as defined by the USA Department of Defence Advanced Distributed Learning SCORM Project and IMS Global Project.

the high cost of developing it internally. The Australian Creative Digital Industry can apply its skills to researching and producing the content and interactive services and develop its expertise in marketing and delivering it to other markets.

## Health

Just in time training of medical professionals, remote medical diagnosis and monitoring, biofeedback and computer based therapies for patients are just some of the areas where the health sector intersects with the Creative Digital Industry. Additional areas include the digital publishing for free or for fee of medical research, clinical advice and patient information packs.

The virtual reality and advanced human-computer interaction techniques pioneered in computer games are applicable to training surgeons in new surgery techniques as well as educating asthmatic children in advanced breathing techniques.

The application of the Creative Digital Industry production capacity skills and techniques to the health industry can help to dramatically speed up the transition to eHealth as well as reducing costs and increasing quality.

## Defence

Research, development and production expertise in the Creative Digital Industry is already being applied within the defence area. Reusable electronic objects championed by the US Department of Defence are changing the models and the economics of training and skilling defence personnel. Remote control warfare and warfare simulators owe a strong legacy to interactive games and simulation programmes. The latest generation of online entertainment games are the product of incredible competitive pressure, substantial investment and the winnowing of features and interface from the rapid and sophisticated user feedback. These gaming engines are now being adapted to train pilots, soldiers and other defence personnel in ways that are much more cost efficient and with greater learning impact than traditional methods.

## In General

Establishing a viable domestic and exporting Creative Digital Industry will help these sectors to provide higher levels of service at lower cost. With expanding exports the capital cost of research and development is spread across many customers and countries further reducing the start up cost for defence, health and education applications.

### 1.4 WHY DIGITAL CREATIVE EXPORTS MATTER: THE MULTIPLIERS

The extent of other economic flow on effects is established using two factors adopted by the Australian Bureau of Statistics:

- 1 the Gross Value Added Multiplier;
- 2 the Full Time Employment (FTE) multiplier.

## The Creative Digital Industry and the Output of the Economy

The Gross Value Added Multiplier is defined by the Australian Bureau of Statistics as the proportionate increase in the total economy's "value add" from an increase in the level of demand for Australian goods or services in a specific sector. For instance an increase of \$1M in demand for domestic films would flow through to increased production which would require additional purchases from accountants, carpenters, electrical suppliers, computer suppliers, real estate rental etc. that are not normally considered to be part of the film industry. Each new purchase increase can also trigger further purchases from their suppliers in a "flow on" effect.

Table 4: Gross value added multipliers vary across the economy  
(the higher the multiplier, the more substantial the impact)

Industry	Average Gross Value Added Multiplier
Agriculture	1.28
Mining	1.28
Manufacturing	1.29
Property and Business Services	1.42
Education	1.97
Creative Digital Industry (est.)	1.58

Source: Derived from ABS Input Output Multipliers.

The Creative Digital Industry has a significantly higher multiplier than almost all other sectors. Not surprisingly the only other sector with a higher multiplier is Education. Both sectors are key drivers for the knowledge economy and are strongly interconnected.

An investment by government to increase the level of demand and hence domestic production within the Creative Digital Industry will have a 23% higher positive impact on the overall economy than a similar investment in primary industry. Broadly speaking it does not matter in terms of the multipliers whether the demand is for domestic or export consumption. The important factor is that the increase in the demand drives the increase in production.

## The Creative Digital Industry and Employment

There are 15,000 organisations in the sectors that make up the Creative Digital Industry and these employ almost 100,000 people. Adding the other interdependent traditional creative and cultural sectors brings the total employment to over 211,000 people.

Table 5: Employment within the greater Creative Industries

Category	# Businesses	# Employment (ABS 2001 Census)	Total Australian production \$m	Estimated CDI Relevant Pro- duction	Estimated CDI Relevant Employment
Export Relevant Creative Digital Industry Sectors	13,230	107,105	\$22,935	16,231	87,980
Domestic Creative Digital Industry Sectors	Undefined	51,912	\$5,689	1,027	8,187
Cultural Industry Sectors	1,339	52,621	\$7,231	362	2,631
Total	at least 14,569	211,638	\$35,855	17,620	98,798

Source: Derived from various ABS sector reports and Input Output tables

For a more detailed analysis of the components of these sectors see Appendix 7: The Creative Digital Industry Organisations, Turnover and Employment on page 161.

Most importantly, according to the Australian Bureau of Statistics<sup>1</sup>, a sustained increase in demand of A\$1 million within the overall culture sector leads to an increase in the level of “production” and delivery which requires the additional employment of 22 people. The ratio of the increase in employment per million dollars increase in demand is called the Full Time Employment (FTE) multiplier.

The various sectors of the Creative Digital Industry have different FTE multipliers (Appendix 11: Australian Multipliers for Culture-related Industries on page 187) and it is not yet certain how digital production and digital distribution will vary from the traditional multiplier. However it is expected that an overall multiplier of 25 should remain reasonably constant.

Programmes to increase demand in the Creative Digital Industry can be designed to either:

- 1 increase the level of domestic demand: an FTE multiplier of 25 would apply;
- 2 increase the level of exports from the Australian Creative Digital Industry which will grow full time employment within Australia as well as in overseas offices.

## Why growing Export Demand in the Creative Digital Industry pays dividends

### *Despite a slightly lower FTE multiplier.....*

An Australian organisation, which is primarily focused on exports, will normally have to parallel the growth in domestic research and production capacity with that of sales, marketing and distribution staff. Because the sales, marketing and distribution staff have to be

1. ABS, Australian National Accounts: Input-Output Tables, 1996-97  
<[http://www.dcita.gov.au/Printer\\_Friendly/0,,0\\_6-2\\_4010-4\\_112503,00.html](http://www.dcita.gov.au/Printer_Friendly/0,,0_6-2_4010-4_112503,00.html)>



close to the customer to be most effective, an increase in export demand will also increase overseas employment.

It is estimated that the FTE impact of exports is a growth in employment within Australia at the rate of 65% of the FTE multiplier. Therefore an approximate Export FTE would be 16.5, which is still good in comparison to primary and secondary industries.

Table 6: Estimates of the relative allocation of incremental staff by function and location for Export growth.

Allocation of FTE to Functions	% of incremental Local Employment	% of incremental OS Employment	Estimated Domestic FTE multiplier for Exports
Research & Development	15%		3.825
Production	35%		8.925
Sales, Marketing and Distribution	5%	25%	1.275
Management and Admin.	10%	10%	2.55
Total	65%	35%	<b>16.575</b>

*.....Because of the much greater potential for growth*

Most important is that the potential for growth in exports is not constrained by Australia's relatively small market size.

The domestic FTE multiplier is based on demand driving an increase in production. There comes a point in a small marketplace where it is very hard for a company to increase domestic demand for their product or service. So repeatedly investing to grow domestic demand for a specific product or sector once established in order to grow domestic employment becomes less and less rewarding.

Allocating the same resources to increasing exports potentially creates much higher returns because of what could be termed the "export potential market" multiplier.

Some companies in the electronic games and the educational content sectors are primarily export driven. 80% to 90% of their revenue is from overseas sales. When compared in terms of population and purchases of computers and similar goods the USA marketplace is some 20 times larger on average than Australia's. A similar multiple applies for the combined market potential of the EU and for Asia.

There is therefore there a potential export market 60 times larger than Australia's domestic market where the ceiling constraints on demand growth do not apply. Obviously extremely healthy competition in these markets will constrain this potential. However in terms of potential pay-off it is more rewarding to compete for a piece of large prize than a small prize. Even obtaining a small market share in a large market can deliver revenue that is 5 times larger than a dominant market share in Australia.

An Australian company could thus potentially increase demand through exports by a factor of eight, or even ten, over its domestic potential.

Similarly, the potential for full time employment growth in Creative Digital Industry exporters is much higher as it is a combination of the:

- export FTE multiplier of 16.5 and an
- export Potential Market Multiplier of (say) 8

Arguably, each Creative Digital Industry SME that grows into a global exporter could potentially provide employment to 132 ( $16.5 \times 8$ ) additional people in Australia at the end of 9 years of strong growth.

## 1.5 THE CHALLENGE FOR THE AUSTRALIAN CREATIVE DIGITAL INDUSTRY

As an island nation we are accustomed to exporting our primary and manufactured goods via traditional means of sea and air. The infrastructure that developed and supported this commerce has historically been developed and owned by Government.

In the past two decades much of this earlier infrastructure has been privatised as alternative, competing services have arisen and the business models have become well established. However this does not necessarily mean that all future infrastructure should be created and owned by the private sector.

At the time of the establishment of the original transport and communications infrastructure the underlying business cases were less than certain. However their creation was supported by people of vision because it was known that infrastructure enabled other critically important industries to grow and obtain cost effective access to their markets. Public investment in enabling infrastructure has an important role to play in developing emergent industries and marketplaces.

Traditional “analogue” media or entertainment based product, while intangible in nature, has been “packaged” in the form of various physical goods to facilitate their export and in the final stages these can look very similar to any tangible goods industry. Tapes, CD's, packaged software in various physical formats and standards are sent to market along the same transport services as lamb, wheat and wine.

As we race into the networked world, trade of Intellectual Property and other non-tangible goods across fixed-line and wireless infrastructure is key to our economic growth and success. It is therefore essential that we set the framework and the infrastructure for industry development and growth in the emerging digital markets.

The 1997 report - Putting Australia on the New Silk Road: The Role of Trade Policy in Advancing Electronic Commerce stated that there is;

*“Growing awareness at the highest levels of government and industry that Internet-based electronic commerce has the potential to transform world trade, especially in services. This presents enormous export opportunities for Australia, as well as the prospect of increased competition in our domestic market. For Australia to maximize the economic and trade benefits from electronic commerce, we must continue to move quickly and purposefully to develop an environment that encourages online business.”*

## 1.6 THE OPPORTUNITY

The global consensus is that digital content and services will have a profound effect on all aspects of media. The initial impact has already been felt in the production process. Distribution and audience interaction will be the next to feel the impact of the ripples in the ecosystem that is the digital services markets.

The 2003 Broadband Advisory Group (BAG) report to government stated;

*“Broadband technologies will stimulate Australia’s economic growth by revolutionizing the way services are delivered and business is conducted. In short, broadband enabled technologies will change the way Australians live, work and conduct business. This is particularly true in service sectors.”*

The opportunity for Australia to take a leadership position in digital media services and production cannot be understated. However the window of opportunity is a narrow one as many other countries are vying for the same leadership position. The country that gets it right first and follows through will be in a strong position globally.

While we may not be able to dominate the global supply chain we can deliver a unique and distinctive voice: culturally, creatively, visually and technically. We have many unique advantages in this sector, our creative industries are already well received on the world stage and we “punch well above our weight” creatively in music, film, television, and cultural product. Given our talents and experience we are very well placed to succeed in exploring new markets and new forms of interactivity, story telling and commerce but only if we can build viable businesses from our creativity.

*“The significant threat faced by a small player in these markets is marginalisation in the global value chain. The key opportunity is simply the reverse: by developing the new capabilities required by the global digital value chain, a strong globally-competitive position can be established.”*

*The implications for Australia are two-fold:*

- 1/ *policies for digital content and applications industries must address the issue of our positioning in global marketplaces, including in the downstream distribution channels where large multinational firms dominate;*
- 2/ *policies must have regard to the capabilities of our industries to deliver commercial outcomes in the new global digital value chain.”*

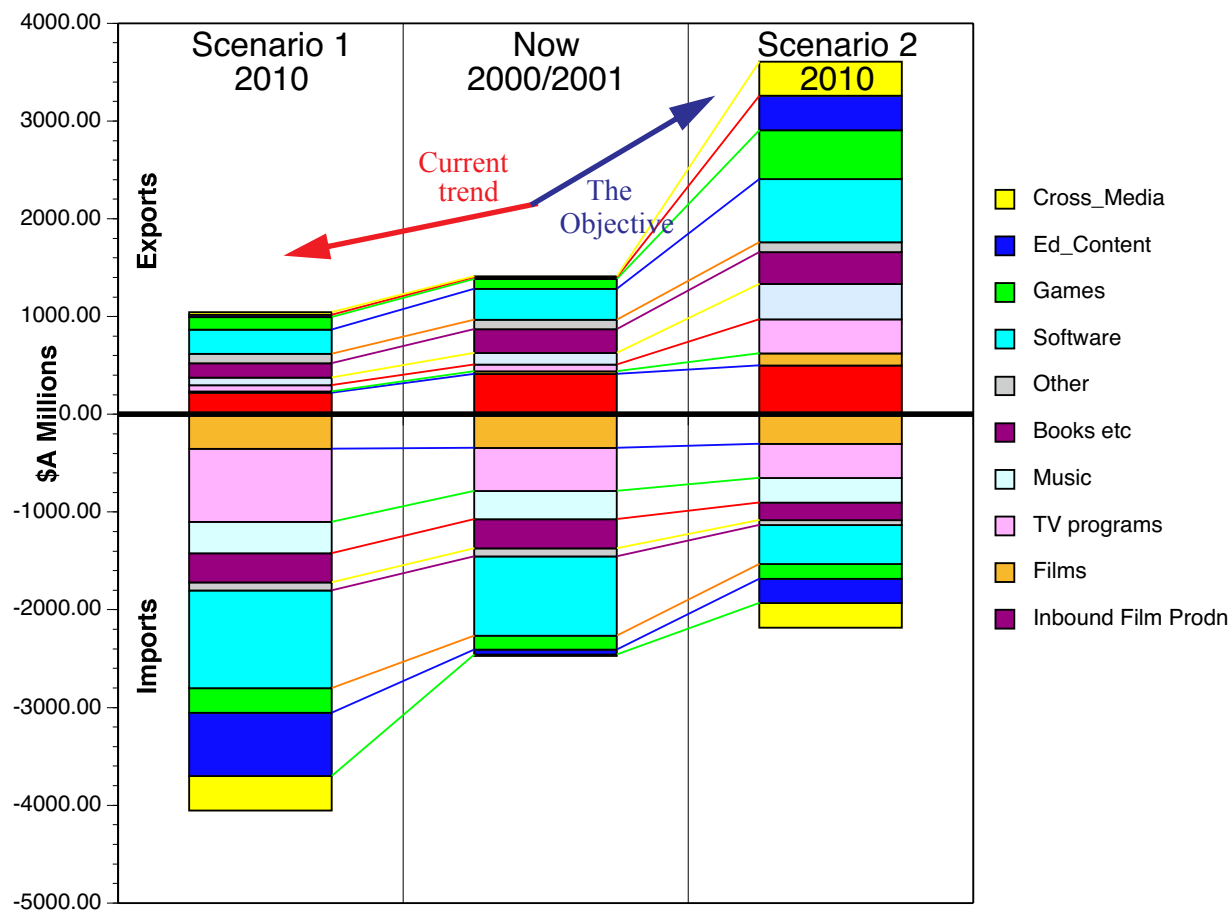
Source: The Production of Digital Content- DCITA September 2002 - Cutler & Co

Our creative and technical skills and resourcefulness are already winning us business share of the “runaway” or “footloose” production in film, animation, games and post-production from more traditional markets. Our depth of production resources including locations, our creative talents, our tolerant, multicultural society and the convenience of being in the same time-zone as Asia, are all attributes that could enable us to address substantial global, as well as niche, markets.

The global trade in digital creative content is forecast to be at the very least as large as the existing trade in traditional publishing, media and education. By addressing the needs of these new markets Australia’s industry and exports can obtain substantial growth.

Australia is at a junction point. It can do nothing and continue to be a net importer of all its educational, cultural and entertainment content. Or the industry and government can work together to become a major exporter of creative digital content and applications. The difference to Australia's balance of trade by the year 2010 is forecast to be substantial.

Figure 3: Exports and Imports under Scenario 1 and Scenario 2 compared to 2000/2001



## 1.7 LESSONS FROM OTHER INDUSTRIES

The Australian Creative Digital industry shares very similar characteristics with the Wine industry of the 1980s and the Tourist industry of the 1970s:

- there are many very small producers, each acting more like a cottage business;
- they have insufficient revenue and capital to create a brand for themselves, to grow market share and increase revenue;
- the volatility of their current revenue makes exporting imperative but the costs and skills required are too high on their current capital base;
- low margins and profitability means that additional external capital is almost impossible to obtain from commercial sources that could fund an export or domestic expansion;
- the potential for growth is more likely to come from new product niches that attract new customers into the market than from converting someone else's existing customers. However, predicting which niches and which customers isn't always clear or easy;
- the many small producers were powerless in negotiations with the few companies that controlled the distribution channels. These companies had very little interest in supporting new product sources and they were very skilled at "divide and conquer" techniques to ensure they got the best of any deals that they did want to do;
- where a few producers have been able to market their products overseas it has taken them five years to establish a distinctive brand, with a trusted reputation for a quality product. These are essential for a vendor to differentiate itself from the competitive "noise".

This situation was turned around for the Australian Tourism Industry and the Australian Wine Industry with concerted action implemented over the long-term. How each sector achieved this is now the subject matter of case studies in business schools around the world.

While the challenge faced by the Creative Digital Industry is more complex than that of both these sectors', Australia needs to learn from their experiences and apply the appropriate models to the next global market: the Digital Creative content and services that are the outputs from the Creative Digital Industry.

### 1.7.1 The Tourism Industry

Tourism is similar to the Creative Digital Industry in terms of "product": The outputs of both are very hard to measure as there is no one "product" and the "consumption" is spread across, and is part of, many other sectors. Like creative media, tourism has many different forms which appeal to different customer sectors. There are also many "intangible" attributes to the products being "consumed" by overseas tourists that are hard to quantify or even communicate in promotional campaigns.

The Australian Tourist Commission is an Australian Government Statutory Authority that was originally established in 1967 to promote Australia as an international tourism destination.

The Commission, in its current form, was established by the Australian Tourist Commission Act 1987 and is controlled by the Commonwealth of Australia. The Commission is dependent on appropriations from the Parliament of the Commonwealth for its continued

existence and ability to carry out normal activities. It receives approximately \$100 million a year from government out of a budget of \$117 Million. The Bureau of Tourism Research has an annual budget of around \$4 million, jointly provided by the Commonwealth and the State and Territory governments.

The principal objectives of the Commission are:

- 1 to increase the number of visitors to Australia from overseas;
- 2 to maximise the benefits to Australia from overseas visitors; and
- 3 in meeting those objects, to work with other relevant agencies to promote the principles of ecologically sustainable development and raise awareness of the social and cultural impacts of international tourism in Australia.

Tourism constitutes 4.7 per cent of Gross Domestic Product (GDP). It directly employs over 550,000 Australians (6 per cent of all those employed), and contributes around \$17 billion per annum in export earnings (or 11.2 per cent of total export earnings). More than 50 per cent of all domestic tourism consumption (or around \$28 billion per annum), and 22 per cent of inbound tourism consumption (or around \$3.7 billion) occurs in non-metropolitan Australia. Over 90 per cent of tourism businesses are small to medium sized businesses, of which around 40 per cent are located in rural and regional Australia.

#### 1.7.2 The Wine Industry

The products of the wine and the Creative Digital Industry are very different; Wine is easy to measure in litres and it is relative simple to chart the growth in litres and in the value per litre of production and exports.

The comparison is worthwhile however because the structural and competitive challenges faced by both industries are very similar: for instance in the 1980s the French wine industry dominated world trade in terms of volume and image in a similar manner that the US dominates entertainment media.

The Australian Wine and Brandy Corporation (AWBC) was formed in 1981 under an Act of Parliament as a successor to the Australian Wine Board. This was originally set up in 1929 for the purpose of improving the quality of wine and brandy, and promoting the sale of wine and brandy in Australia and overseas. At the time of the formation of AWBC, wine imports were greater than exports - though domestic wine consumption was strong. The AWBC was committed to changing the overseas perception of Australia as a bulk wine producer to a producer of quality wines at competitive prices.

In 1992, with Australian wine exports on the rise and reaching \$200 million, the Australian Wine and Brandy Corporation established the Australian Wine Export Council (AWEC), as a wine promotional body with a target of \$1 billion in wine exports by the year 2000. The extraordinary success of the Australian wine industry is highlighted by the fact that the \$1 billion target was achieved a year earlier than predicted. This growth has continued with \$2.38 Billion in exports achieved in 2002/2003. This result represents a substantial leverage from the annual budget of approximately \$14 Million dollars of the AWBC.

The success of the Wine industry was not just a result of good marketing. The quality and efficiency of the grape growing and the wine production process has improved dramatically as a result of a substantial investment in research and development by many parties. For instance the Grape and Wine Research and Development Corporation contributes around \$11 million per annum towards viticulture and wine research and innovation.

## Conclusion

The Wine Industry set an over-arching objective that drove the prioritisation of the strategies and programmes; \$1 billion in exports by 2000.

Similarly the members of the various sectors of the Australian Creative Digital Industry need to commit to an over-arching objective and two subordinate objectives:

- Objective 1: To export \$3.5 billion of creative digital content, applications and services by the year 2010.
- Objective 2: To develop and grow a Creative Digital Industry with a global branding reflecting trust, user understanding, value and innovation.
- Objective 3: To establish Australia as one of the top three countries that are the most innovative and successful users of digital content, applications and services across the commercial and government sectors.

To achieve these three objectives, ten priority actions have been determined that encompass sixteen recommended programmes.

## 1.8 SUMMARY OF RECOMMENDATIONS FOR THE AUSTRALIAN CREATIVE DIGITAL INDUSTRY

Priority	Description	Time Scale	Relates to Recommendation
<b>Objective 2: Industry Development</b>			
Priority 1/	Establish a cross industry body to co-ordinate development of the industry, to identify and champion applicable standards and market the industry capability and its products overseas	Urgent	Recommendation 1: on page 97
Priority 2/	Strengthen the quality of business decisions and the economic case by the frequent collection and publishing of whole of industry, sectoral activity and forecast data.	Urgent	Recommendation 2: on page 98
Priority 3/	Support of industry clustering and infrastructure services by, for example, expanding FIBRE availability and its services to most Creative Digital Industry sectors and clusters. Provide efficient Creative Digital Industry inputs and infrastructure such as digital resource repository and exchanges, rightsholder directories, rights management	Urgent  1 to 2 years	Recommendation 3: on page 100 Recommendation 4: on page 102  Recommendation 14: on page 112
Priority 4/	Establish sectoral and cross-sectoral Training, Standards, Research and Development structures and incentives to support growth. Especially support leadership training in Creative Digital Industry business management, exports and entrepreneurial skills	1-3 years	Recommendation 6: on page 103 Recommendation 5: on page 102 Recommendation 7: on page 103

Priority	Description	Time Scale	Relates to Recommendation
<b>Objective 3: Domestic Market Development</b>			
Priority 5/	Provide the “Digital Sandbox” – encourage digital innovation especially that involving “cross-media” in the emerging platforms of broadband, games, mobile content, interactive digital television (FTA and subscription) through experimental funding and publication channels.	1 to 2 years	Recommendation 7: on page 103 Recommendation 11: on page 109
	Empower Government and instrumentalities to initiate projects to seed the demand for the Creative Digital Industry to produce innovative digital content applications and services.		
	Enable platform research-building on our tradition of world-class media technology research and innovation		
<b>Objective 1: Export Development</b>			
Priority 6/	Data Cost Equalization Scheme for publishing traffic out of Australia. (“digital sheep” – cost of goods to market)	1-3 years	Recommendation 12: on page 110 Recommendation 13: on page 111
Priority 7/	Equalization of tax treatments across emerging sectors including tax holidays on (say) first \$2m of income earned from digital content exports PA.	1-3 years	Recommendation 11: on page 109
Priority 8/	Expansion of the Trade Start programme to provide more highly trained export coaching executives. These need to be supported by more frequent export missions and in-country “outpost offices” for company executives establishing export revenue.	1 to 2 years	Recommendation 10: on page 108 Recommendation 9: on page 108
Priority 9	Encourage strategic international and domestic partnering to open up overseas markets through extension of co-production treaties.	1 to 2 years	Recommendation 8: on page 106
Priority 10/	Remove or ameliorate the effect of marketing and distribution barriers including the high costs of the first overseas sales for SME exporters	1-3 years	Recommendation 15: on page 113 Recommendation 16: on page 113 Recommendation 10: on page 108 Recommendation 9: on page 108



## SECTION 2: THE STRONG LINK BETWEEN EXPORT AND DOMESTIC MARKETS

This report is focused on the export opportunities for Australian Digital Creative Content and applications. However it is almost impossible for companies to export in a vacuum. A healthy, globally competitive exporter has to be built on the foundations of a healthy domestic industry and infrastructure:

- the domestic industry provides a training ground for future creative, technical, production and business staff and entrepreneurs.
- a vibrant domestic industry allows talent and companies to prove themselves and so develop a track record that allows them to attract the capital, additional talent and supporters required to export.
- a vibrant domestic customer base that is receptive to innovation, fosters early experimentation on new technologies and approaches, which is critical to creating a competitive edge.
- a strong domestic customer base can provide the revenue through product sales and commissioned projects to help fund research and overseas expansion.

The inter-relationship between aspects of the domestic and export industry is most easily viewed as interconnections and there are three factors that are germane to classifying them:

- 1 The **location of the production** which affects employment, skill and facilities development and revenue
- 2 The **ownership of the IP** that results from conceiving and funding a production. Owners receive “downstream” royalties (sometimes referred to as a “tail”) from the market success of their creations. Lack of ownership relegates talent to the role of “fee-for-service” with no potential for “upside gains”.
- 3 The **audience** for a production: is it aimed purely at Australians or is it global in appeal? Australian documentaries and most Australian drama with strong Australian themes have a limited market outside of Australia. This can substantially affect the potential revenue to be made which constrains the budget for production.

These factors are not by any means unique to Australia. The following matrix works just as well for analysing Canadian, UK or US projects and companies as it does Australian.

These three factors build a two by four matrix:

Figure 4: The ownership/production/audience matrix

		Audience	
		A/ Australian Audience	B/ Global Audience
Australian IP & Ownership	1/ Australian Production	<b>A1/ "Australian Content"</b> Australian production, for Australian audience with Australian ownership e.g Strictly Ballroom, AFL 2003 Playstation Game	<b>B1/ "A Global Producer"</b> Australian production, for global audience owned by Australians e.g Crocodile Dundee, Lantana "Digital Fine Wool Suits"
	2/ Overseas Production	Overseas productions for Australian audiences with Australian IP. (No examples known)	Overseas production for global audience with Australian IP. (No examples known)
Overseas IP & Ownership	3/ Australian Production	Australian fee-for-service production for Australian market for overseas owner e.g Moulin Rouge, TVCs for a multi nationals, most multinational Internet developments "Digital Agistment"	<b>B3/ "A small slice of the global backlot"</b> Australian fee-for-service production for global market for overseas owner e.g Matrix 1, 2, 3 "Digital Feedlot"
	4/ Overseas Production	Overseas production with Australian themes or for the Australian market for an overseas owner e.g Finding Nemo, Crocodile Hunter, Overseas produced TV Commercials "Exporting wool, importing italian fine wool suits"	Overseas production for global market for overseas owner e.g Terminator 3 and 93% of global films

Of the eight possible combinations, three are relatively common in the film, TV drama and games markets:

#### **Cell A1 "Australian Content":- Australian production, for Australian audiences with Australian ownership and control**

This sector is extremely important and is commonly referred to as "Australian content" or the "cultural argument". It supplies Australian stories for Australians by Australians. Productions in the A1 cell are traditionally supported by the Australian Film Commission, the Film Finance Corporation and the various State film offices. Whether the works are communicated via free to air (FTA) TV or screened at movie theatres with subsequent release to DVD and video these productions are essential to the long-term health of the export industry as well as their cultural, social, educational and entertainment worth.

#### **Benefits:**

- they provide an extremely valuable training ground for technical, creative, production and management skills which will be needed for both domestic and overseas production;
- they establish show reels, reputations and allow domestic and international awards to be won which are an essential part of attracting larger, often overseas, projects;
- the revenue from these projects keeps companies, producers and directors alive while they are working on getting the next project up.

## Weaknesses:

- small market size normally means productions are marginally (at best) profitable;
- difficulties in attracting commercial funding for projects with audiences of limited potential;
- it is difficult to obtain a sufficient TV license fee from local broadcasters that would cover the production cost due to comparison with the low license costs charged for US titles that often have much higher production values.

**Cell B3 “Global Backlot”:- Fee-for-service production or co-production done within Australia which will be marketed globally for the revenue benefit of an overseas owner who provided the funding.**

There has been much attention paid in recent years on the success of Australia as a production base for US film production. In 2002 this brought in \$239 million to Australia for film and TV. In reality Australia has only captured 7% of the US “footloose” (also called “run-away”) productions with the bulk going to Canada.

## Benefits

Having Australia as part of the “global backlot” for films, TVCs, games and interactive media production is very important:

- it brings in foreign revenue that funds the production which is similar to selling a product overseas and repatriating the sales revenue to Australia;
- it ensures the local skills are globally competitive through on the job training, skills transference and project specific research tasks;
- it helps funds the growth of the local production infrastructure such as film and recording studios;
- the projects establish international reputations for producers and directors and networks of contacts within the US and international studio system which are essential parts of attracting further projects and funding for their own future projects;
- it provides a profit margin to the Australian production sector which has often been used in the past to support the development and pitching of further Australian productions;
- by not investing in the film and not relying on downstream revenues for cost recoupment or profits, the capital of the local participants is not at risk if the title fails in the marketplace. They already have their project revenue.

## Weaknesses:

- the local contributors do not receive a share of any downstream revenue from the title's market success or from any product extensions.
- the amount of work is quite sensitive to external and internal factors. For instance overseas directors, producers and financiers will look for the country offering best deal, tax breaks or exchange rate. Australia's amount of foreign productions in 2003 and forecast for 2004 are taking a dramatic reduction with losses to Mexico and Canada. Ultimately the volume and timing of this type of production is outside our sphere of influence,

Increasing the amount of overseas production of all sectors including games, film, TV features and TV commercials and post-production relies on promoting locations, local talent and infrastructure, cost efficiency, creativity, ease of doing business and quality.

**Cell B1 A production within Australia that will be marketed globally which has been funded and therefore owned by Australian organisations or individuals.**

Very few Australian owned films have been global successes in recent years. *Lantana* is probably the most obvious. Even its success was muted because the lack of sufficient marketing and film print budget constrained the number of launch screens and relegated its attendance growth to strong “word of mouth”. While this has been the traditional approach to growing attendances it isn’t any longer. The US “hit” system is evaluated on the box office-takings during the first three weeks and very often the first weekend. “Slow burners” such as *Lantana* are not on the “radar” of studio management and are therefore not considered mainstream successes.

The positioning as “Australians as global producers” is not constrained to the film market; a number of Australian conceived and developed games have been global successes in the recent past through obtaining publishing or distribution deals with the major publishers or console manufacturers.

To be a significant player in the global digital media marketplaces Australia must be funding and producing global product backed by appropriate marketing and distribution strategies. This is critical if the Australian economy is to retain a share of the “upside” revenue from the market success. The profit from owning and distributing successful titles is the most strategically important way of growing total export revenue from the digital creative industries.

**Benefits:**

- IP owners have the major “slice” of downstream revenues which, if the film is very successful, can be substantial;
- by developing a vibrant “producing” sector much more efficient use can be made of critical resources such as development teams, facilities etc. through more reliable scheduling and forecasting. The usage of the production capacity is not wholly reliant on overseas projects which can change timing or even switch countries to suit the overseas producer’s objectives. Domestic producers have a stake in the long-term health of the industry and will try to minimise disruptions that could also affect their reputation and relationships.;
- control (and therefore the potential revenue) is maintained of the opportunity for cross-media commissioning of a creative property into a number of co-ordinated media forms (product extensions). This is likely to be very important in the next five years.

**Weaknesses**

- requires efficient channels to the marketplace via publishers, distributors or direct to customers via the internet;
- requires substantial “Content Risk Capital” which has not been Australia’s strength in any sector;

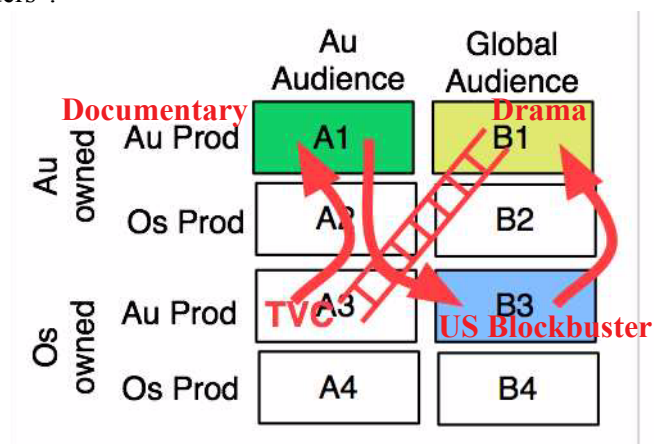
- the capital is at risk. A succession of internally funded title failures can impact the value of a company.
- requires substantial extension of the business support infrastructure to enable Australian global productions to be competitive in terms of time, cost, quality, creativity and market access.

### The Snakes and Ladders of Australian Producers

The above matrix could lead to the conclusion that a one cell is good and the others not as good. In fact it is not this simple. It is similar to the way that a healthy diet requires a balance of protein, carbohydrate and fat. Each cell in the ownership/production matrix has “nutritional” strengths and weaknesses and a national diet that is a balance of all three is healthy.

The positioning of an individual company in the matrix is not static. but nor is it a simple progression where a company is positioned in cell A1 and as it matures, progresses onto A3. In fact, because of the constrained Australian market, over time the movement is much more like snakes and ladders with a company moving constantly between various cells to manage capabilities, capital, revenue, risk and projects on offer.

Figure 5: Film related sector “Snakes and Ladders”.



This topic is examined in much more detail in Appendix 6: The Nature of Production Flows of various CDI Sectors on page 149.

## SECTION 3: THE AUSTRALIAN CREATIVE DIGITAL INDUSTRY: OUR STRENGTHS AND WEAKNESSES

### 3.1 THE STATE OF PLAY

The primary focus of this study is on the export opportunity for the creative producers of digital content as well as computer systems and online services that can either produce or market this material. The study only addresses domestic distribution channels if there is potential for that channel to become digital and global.

The Australian Creative Digital Industry is defined as containing the following sectors:

Sector	Examples of Companies in this field
Screen/Film Pre-production, Production and Post-production	Trout Films, Working Dog, RB Films, Porchlight Films, Hilton Cordell, Jigsaw, Animal Logic, Cutting Edge, Dfilm, Movie-lab, Complete Post
Free to Air (FTA) and Subscription TV Pre-production, Production and Post-production	Southern Star, Grundy, Beyond, Becker, Screentime, XYZ, Working Dog, Imagination, Hilton Cordell
Broadband Content Development	ABC, Chief Entertainment, Brainwaave, ITV World
Interactive & Digital TV applications & Content Development	iTVWorld, ABC, Massive, Brainwaave,
Online and Interactive Games	Auran, Krome, Bullant, Microforte, RatBag, Torus, Blue Tongue, InfoGrames, Perception
Internet based Marketing, Design and Advertising	Hyro, Massive, HotHouse, Brainwaave, Swish, Morpheum
Internet based digital content publishing and distribution (especially text and music)	eBooks.com, Wired Records, CommonGround Publishing, Chaos Music, Looksmart, Infomedia
Experimental Digital Media	The Performance Space, dLux, ACMI, Experimenta, Next Wave Festival, ElectroFringe
Online Education Content Development	Qantm, Ryebuck Media, Crank Media, Cadre Design, Roar Films, Nine Lanterns, Learning Curve, CWA New Media, Impart Corporation
Mobile 3G Content Development and publishing	MobileSoft, Legion Interactive, BigWorld, Imagination Entertainment, 5th Finger
Content Creation and Manipulation Software	MediaWare, AnimalLogic, Proximity
Learning, Rights and Content Management and other Digital Creative Industry related software applications	Harvest Road, Southrock, Catalyst Interactive, KE Software, TerraText (SIM), Wizard Information Systems, IPR Systems, Morpheum, iTVWorld, Brainwaave, Rumble Group, Aptrix

It is clear that some of these sectors, such as film, are traditional “analog” sectors that are moving rapidly into partial, or complete, digital production chains. Others are emerging, wholly digital sectors, with few current players. For instance the Australian broadband market has been slow to gain consumer acceptance because of high pricing and a lack of compelling broadband content. This has severely constrained the numbers of companies dedicated to producing broadband content.

Many companies that tried to develop for the market too early did not survive the journey during the transition to mass market. Just a few examples include Scape, Kgrind, Spike Wireless, Zivo, Pacific Advanced Media Studios, OzAuthors, Tribe, Ice Interactive, Beyond Online.

Software development is either a commercialisation of in-house development required to enable a company's own "state of the art" content production (e.g. Animal Logic) or a product specifically designed to be marketed to content developers and publishers. KE Software's eMU for museum collection management is a good example of this.

### 3.1.1 The State of the Australian Creative Digital Industry:

The television and film production industry has been experiencing a slump in production projects. This has been driven by several factors;

- 1 the global slump in advertising markets places constraints on broadcasters ability to commission new productions. This commissioning slump also has a secondary effect of putting pressure on license fees paid for each production as there is a direct correlation between the effect of the advertising fees and the share of the audience of each network.
- 2 Australian drama product has become harder to sell internationally due to the factors above and offshore territories producing more of their own local stories, although to date we have been very successful with aspirational products like "Home and Away" and "Neighbours"

This downturn has also been doubly hard due to the slump in international runaway production in recent months in NSW and Victoria, with Victoria being hit particularly hard.

Recent geopolitical events including terrorism and SARS have also had an impact on sales at the traditional international marketplaces of MIPTV<sup>1</sup> and MIPCOM<sup>2</sup>.

Games. The Games Developers Associations submission to the June 2003 House of Representative enquiry notes:

*"Games developers create and develop games. (The) Process has evolved from small-scale operation (1-3 people) to a highly complex, intensive 18 month-2 year process requiring much larger teams.*

*On average in Australia, a full time project team is 15 people plus for two years and our larger companies have some teams of 30 plus and these are expected to grow as project size and complexity increases.*

*These teams include designers, programmers, producers, project managers, artists, musicians, scriptwriters and actors. The industry is also supported by a large number of ancillary service support companies such as animation, visual effects, sound etc."*

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1. Reed Midem's trade show: International Television Programme Market held in Cannes, France

2. Reed Midem's tradeshow: International film and programme market for television, cable and satellite held in Cannes, France

## 3.2 WEAKNESSES

### 3.2.1 Information asymmetries<sup>1</sup>

Information asymmetry is taken to mean the asymmetry in the information that relevant parties have about any good. It can be information about a good's attributes as distributed between buyer and seller, or between a party that generates an externality and an affected party. Information asymmetry can lead to uninformed consumption (by companies of inputs); either over-consumption or under-consumption, and result in market inefficiency.

Previous Creative Industries Cluster studies have found information asymmetries affecting activities in the value chain from creation and development to distribution and use including:

- little evidence of markets developing around shared use of scarce high cost facilities even though there would be a clear economic case for such inter-firm transactions;
- lack of strong horizontal and related market linkages which has limited commercialisation and optimal exploitation of technology IP arising from R&D and firm operations;
- undeveloped linkages between large, established firms and SMEs;
- lack of synchronisation between upstream and downstream markets;
- chronic lack of widespread access to comprehensive market information on trends and developments, particularly for SMEs;
- unbalanced information flows, including finance, distorting market transactions;
- weak and random feedback loops; and
- weak networks and limited cross segment collaboration and cross-overs.

Recommendations that have been designed specifically to address the issues arising from information asymmetries include:

Recommendation	How it applies
Recommendation 1: Establish a Peak Industry Body on page 97	This body will be specifically responsible for initiating programmes that will reduce and in some cases eliminate information asymmetries
Recommendation 2: Establish a dedicated Market and Industry Intelligence service on page 98	Addresses many of the informational issues including feedback loops, market data, decision making and commercialisation opportunities.
Recommendation 3: Substantially grow the FIBRE programme as a national priority on page 100	Substantial improvement in opportunity for long-term and fast response teaming. When value address services are made available over FIBRE there will be a substantial enhancement in vertical and horizontal information flows.
Recommendation 4: Clustering and Teaming Encouragement on page 102	Addresses many of the informational, teaming and resourcing issues
Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace on page 112	Reduces the barriers to commercialisation Reduces the costs of productions Increases potential for vertical and horizontal linkages.

1. Extract of a National Office of the Information Economy (NOIE) summary of the market failure issues covered in the Creative Industry Cluster Studies.



### 3.2.2 The Importance of Scale:

Previous Creative Industry Cluster reports have noted the difficulty of Australian SMEs obtaining sufficient scale to take on the larger projects that may be available to them. These are most often export projects.

To quote from a recent Austrade report:

*"2.1 Size matters but small is still beautiful"*

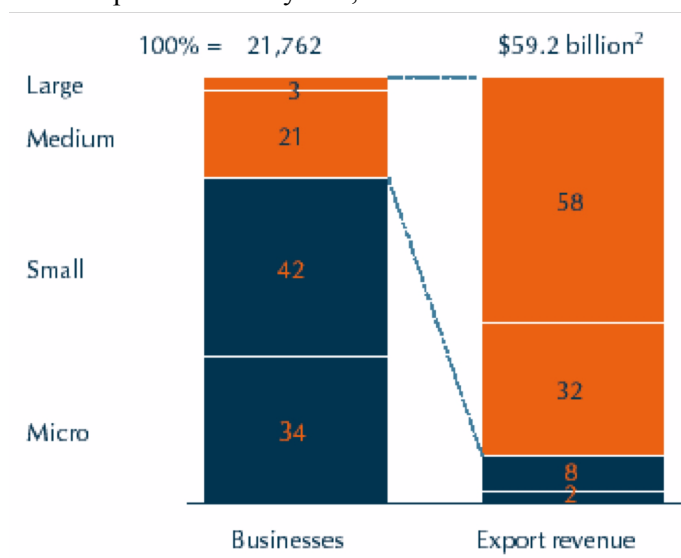
*The first research finding relates to business size. Do the big fish dominate the Australian exporter community or are the minnows beginning to hold their own?*

*The research finds that size still matters – especially when it comes to export revenue. While there are a large number of micro and small exporting businesses, large businesses still account for the major share of export revenue in Australia.*

*This is shown in Figure 7.*

Figure 6: Size Does Matter, In Terms Of Export Revenue...

Proportion of (Australian) exporters and export revenue by size, 1997/98



Note 1: By employment (micro 1-4, small 5-19, medium 20-199, large 200+)

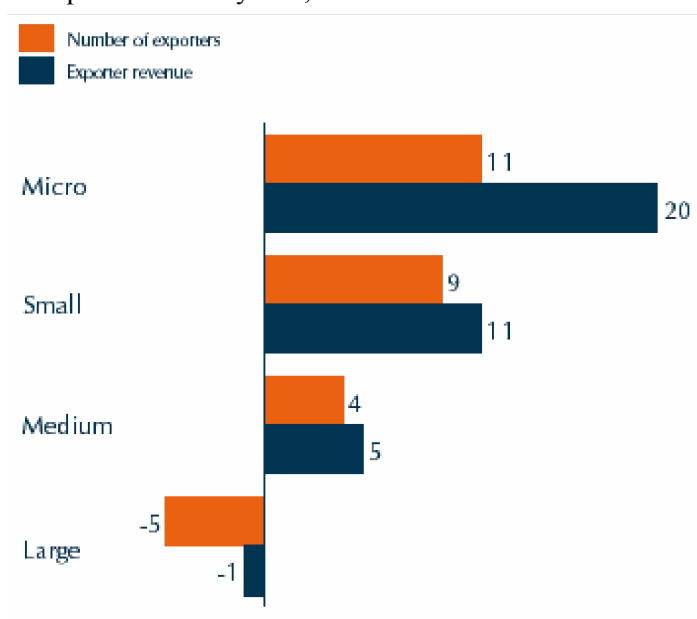
Note 2: Total export value in 1997/98 was equal to \$114 billion. The difference with the BLS coverage was due to the exclusion of revenue generated from travel, freight and other transportation services, and of sectors which are major export revenue generators such as Agriculture and Education

Source: ABS, Business Longitudinal Survey 1994/95-97/98

*Nevertheless, the rise of the small and medium sized manufacturing exporter was a key finding of the Australian Manufacturing Council/McKinsey & Company report of 1993.*

*In addition, micro businesses have emerged as players in their own right. The research shows a continuation of these trends. The numbers of micro and small businesses have grown much more rapidly than large businesses. For instance, for the period of the BLS from 1994/95 to 1997/98, the average annual rate of change was 11% for micro exporters and 9% for all small exporters. By contrast, the number of medium sized exporters grew by just over 4% a year, while large exporters actually fell by 5%.*

Figure 7: .....But Micro And Small Businesses Are Growing In Importance  
Growth in number of exporters and export revenue by size, 1994/95-97/98



Note 1: By employment (micro 1-4, small 5-19, medium 20-199, large 200+)

Source: ABS, Business Longitudinal Survey 1994/95-97/98"

Source: Austrade: Knowing & Growing The Exporter Community | A New Generation Of Exporters | Chapter 2 13

Size also matters in the Creative Digital Industry.

Many export opportunities require larger firms to address them. For instance, it has been noted that even with all of its experience and the goodwill the directors built up over previous successful projects, Animal Logic was not large enough to take on all of the visual effects and digital post-production work of the Matrix 2 and 3. A substantial part of the work was completed in the US.

Typically, Australian SMEs may be seen to behave in a similar fashion to the desert dwelling fauna that are used to living in an environment with scarce food of low nutritional value and intermittent water resources. They keep their nutrition demand low by staying small, having a slow metabolism when not busy, and by being very efficient when busy (and keeping out of the sun!).

It is likely that many SMEs are correctly sized for survival on the patchy and constrained level of demand within Australia. However export sales are an order of magnitude greater in terms of complexity and value. The scale that is appropriate to survive and support the domestic market is most often not sufficient for export. Yet if export sales are not consistent and quickly profitable then an SME that has "scaled up" to the larger "fit for export" size will soon find itself in financial difficulties without additional funding.

Scale is therefore critical to becoming a viable exporter and it can be attained either internally to a company (which is termed physical scale) or virtually.

## Increasing Physical Scale: Vertical and Horizontal Scale

We used to think that size did not matter in the digital online world, but it does. The ability to take on larger production projects is determined by the production resources available. Throughput of projects is a direct effect of head count, whether you are in fee-for-service sector, games development or post-production. The more talent you have available the faster you can turn around projects and develop new ones. The down side is that labour has a high cost and each head must be performing at optimal utilisation to remain profitable in this highly competitive sector. Physical scale means that you can bid for larger projects, attract and service larger clients and potentially grow the revenue streams.

Small companies can get bigger by merging or taking over other companies:

- 1 a vertical increase in scale is where they takeover companies in their supply chain with different functions and skills. More of the revenue from the value chain is retained internally instead of being contracted to external suppliers.
- 2 a horizontal increase in scale is obtained when a company merges or takes over competitors with essentially the same skill set. The revenue increases because of the new customers that come across with the new company and the acquired staff provides the required additional production capacity. The economic rationale is to be able to lower overheads and infrastructure costs as a proportion of revenue.

Many of the production companies in the interactive media market are aware of how important it is to be big enough to be able to provide quality administration and reliable production capacity. There are currently a number of companies undergoing consolidation.

A small company can also have a “boosted” level of efficiency (implying greater physical scale) by having critical infrastructure provided to it, which would normally take time, capital and management to acquire and utilise. This factor is part of the reason for the interest by governments in incubators and clusters.

Recommendations that have been designed specifically to address the issues arising from Physical Scale include:

Recommendation	How it applies
Recommendation 5: Adjust R&D Start Grants and Rebate Eligibility Criteria on page 102	Increasing R&D effective spend drives additional investment in capacity. Higher R&D and profit potential attracts larger investments that can support growth.
Recommendation 11: Provide Export Income Tax Holiday for SMEs on page 109	Allows an exporting firm to retain much more earnings that can be reinvested in production capacity and sales and marketing effort.  Again, this recommendation will act as an attractant to investors which can fund scale increases.
Recommendation 8: Business-to-Business Engagement with complementary countries on page 106 Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications on page 103	The greater the export and domestic demand the stronger the companies can become that address it.

### Increasing Scale: Virtually

Cooperation between small and medium enterprises can allow them to team together temporarily to pool talent, skills and resources to address opportunities too large for any of them to obtain as individual firms.

This has several key benefits over physical scale as the carrying costs of labour and equipment are shared across the participating members, therefore maximising the total size of the team and resources without the carrying costs.<sup>1</sup>

The down side is that sophisticated project managements skills, resources and systems are essential to track workflow, modifications and milestones. The nature of the production and content sector is highly competitive and secretive therefore acting as a natural barrier to virtual scale, without some sort of independent brokering. Virtual scale is of particular use in the film VFX sector with scenes farmed out on the basis of skills, tight time demands, and spread of risk. It is usual for various visual effects companies to be working on separate sections of the same scene.

Unfortunately, as is often the case in constrained markets, the tradition is for strong competition over scarce customers, which means there is unlikely to be the trust or mechanisms for teaming to occur by itself. Collaboration amongst SMEs in virtual teams is unusual in Australia and this is certainly the case in digital media production. For it to occur would normally require engineering by someone or an organisation external to the players. This may be an entrepreneur who sees an opportunity or it could be a customer. Teaming will have the most chance of occurring around specific, substantial projects and often within a geographic cluster.

However groups of companies who have gained experience at teaming may be able to develop the processes, infrastructure and external services such as independent project management that enable them to undertake "Fast Response Teaming". If the producers make an investment in implementing standard processes, developing co-ordination and communication strategies a Virtual Company supplier should provide a superior result to a customer. Ideally "Fast Response Teaming" would allow customers to have the confidence that a group of suppliers can deliver a result faster, with as good a quality, more reliably and with greater resilience in coping with unforeseen problems.

At the end of the project the contributors continue on their individual projects or developments and may possibly combine in new ways later on.

For teaming to occur and to be efficient, infrastructure and trust needs to be present or be able to be created. As this takes time, it would require a substantial project to make it worthwhile for the participants.

Clusters can be very effective at providing this infrastructure so long as the business approach of the cluster manager is to create an "ecosystem". If the manager sees the cluster purely as "real estate tenants" then the trust, awareness of complementary skills, infrastructure and common business processes will not be in place.

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1. There may also be implications under trade practices law, regarding collusive practices to win business from competitors.

The opportunity for entrepreneurial, independent producers.

A strategy to increase the efficiency and growth of clusters and therefore the achievement of virtual scale is to actively encourage the emergence of independent, entrepreneurial producers who are very well connected with both project customers and production companies. They use their skills to define the customers' requirements and assemble a collaborative team of companies with the appropriate skills and combined size to meet the requirements.

Independent team creators can be very effective as sales and marketing arms of SMEs in clusters provided there are the trust, communication and collaboration mechanisms in place.

Recommendations that have been designed specifically to address the issues arising from Virtual Scale include:

Recommendation	How it applies
Recommendation 4: Clustering and Teaming Encouragement on page 102	Specifically addresses the issue
Recommendation 3: Substantially grow the FIBRE programme as a national priority on page 100	Infrastructure removes co-ordination impediments to teaming
Recommendation 8: Business-to-Business Engagement with complementary countries on page 106 Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications on page 103	Allows an exporting firm to retain much more earnings that can be reinvested in production capacity and sales and marketing effort. Again this recommendation will act as an attractant to investors which can fund scale increases.
Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace on page 112	Allows potential team members to identify each other, their products and resource/s. By encouraging re-use of material it breaks down "not invented here" barriers and increases the likelihood of teaming

### 3.2.3 Silo Approach: Funding, Growth, Customers, Exports

Much of Australia's policy with respect to funding or quotas has been to address specific sectors or areas of market failure: drama, children's television, education, CD ROM. As we move fully into the converged digital world our support mechanisms require a broader approach to include new and emerging platforms of mobile, interactive digital television, and broadband.

Many of the new funding solutions in Canada, Korea and Japan encourage cross-platform delivery to promote experimentation and development for the emerging markets and audiences. It therefore stands to reason that if we wish to export our content into these markets we must also adopt a similar approach of encouraging cross-media production to be able to compete on a level playing field. The challenge is that current funding programmes are very specific to the genre or platform. While experimentation in cross-media may be possible within the rules of a fund, and sometimes even encouraged, it is not specifically mandated in the grant funding currently available. Funding bodies should be asked to

ensure that with their submission guidelines the default position should be “On” for cross-media involvement rather than “Off” as it currently is.

Recommendations that have been designed specifically to address the issues arising from the silo approach to funding include:

Recommendation	How it applies
Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications on page 103	Range of sub-recommendations specifically to address the issues

### 3.2.4 Inter-state rivalries confuse potential export customers

The competitive marketing efforts of the various States' industry development departments have sometimes confused the prospective customers for Australian Digital Content products and services. While it is excellent to have their resources supporting industry the creation of parallel brands for each state does distract from the business message. Rather it is important to establish an overall brand for Australian Creative Digital Industry exporters and then subordinate brands for those from various states and sectors.

A cascade of brands will work better for Australian films, states and overall economy than completely different competitive parallel brands.

Recommendations that have been designed specifically to address the issues arising from overseas branding confusion include:

Recommendation	How it applies
Recommendation 1: Establish a Peak Industry Body on page 97	This will create a strong point of interaction between prospects, producers and promoters.
Recommendation 15: Create and Promote the Australian quality and creative Umbrella Brand on page 113	Specifically developed to address the issue.
Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content on page 113	Lower the distribution impact of any confusion by reducing the absolute reliance on overseas publishers.
Recommendation 9: Provide Strategic Market Offices and Hot-Desking on page 108	This will create a strong point of interaction between prospects, producers and promoters.

### 3.2.5 Great skills but poor at commercialisation

Many of the respondents to our interviews made the observation that we have a gap in producer skills that affect the commercialisation of projects. While our creative talent is first rate the business skills of our producers needs to be addressed if we are to venture into the export market. Australia is very good at exporting its creative talent but not very good at exporting the products of its creative companies.

Generalist courses such as MBAs may actually lead more people out of the industry rather than increase the range of commercial skills within it. Recent support programmes have been developed by NSW FTO, Film Vic, Screen West, SAFC and AFC to assist producers via workshops and ongoing mentoring. The “Enterprise Australia” programme- Business Strategies for the Independent Producer, is a joint venture between Film Victoria, FTO and AFC in partnership with AFTRS and ScreenWest was launched in September/October

2003 with sixteen producers selected for an intensive workshop. The course focuses on several key areas for producers:

- developing the tools to analyse their business
- thinking laterally about other product lines that have opportunities for sustained cash flow
- understanding the way key partnerships can “add value”
- developing the skills to create and deliver a detailed business plan
- positioning the producers to seek company development investment (not slate funding) and, if possible, to attract private finance.

The Australian Creative Digital Industry sector needs to deliver a range of courses on the commercial, marketing, export development and new technology adoptions skills as a matter of urgency.

Recommendations that have been designed specifically to address the issues arising from commercialisation skills include:

Recommendation	How it applies
Recommendation 6: Skills Development on page 103	Long-term programme to grow entrepreneurship and business culture in the CDI
Recommendation 10: Expand the Austrade “TradeStart” programme on page 108	Highly relevant, skilled “mentoring” of would be exporters reduces the failures from any initial lack of internal commercialisation skills.
Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace on page 112	Reduces costs and barriers to commercialisation, Provides ready examples of how others have commercialised.
Recommendation 15: Create and Promote the Australian quality and creative Umbrella Brand on page 113	Reduces costs and barriers to commercialisation,
Recommendation 8: Business-to-Business Engagement with complementary countries on page 106	Creates an environment where commercialisation maybe easier with established “partners” with other long-term benefits from supporting a relations.

### 3.2.6 “Brain Drain” and “Fee-for-service” as the default commercialisation outcome.

For years Australians have talked about the “brain drain” in information technology and science. The creative content sector is just as vulnerable. Creative practitioners have migrated their skills to the USA and Europe as the predominant media markets. Some of this is part of the educational and skill gathering process of individuals which is excellent. But when the talent goes overseas and stays then that is a strong negative. This diaspora is driven by small size of market and the constrained funding available for production and marketing. The larger the market the greater the demand and available funds. However the challenge in the digital age is to keep the skills base at home because of the flow-on and multiplier effects while providing access to a global market.

Due to the size of the local market in Australia, most companies in the production sector must supplement their income in a variety of ways. In digital media the default is “fee-for-service” revenue, where producers build online services and applications for others to augment the gaps in creative projects. This in itself is not a negative, as the fee-for-service

sector is rapidly expanding, however it does stall the creative innovation cycle as producers never seem to have enough time or resources to develop their own creative projects.

Also it is difficult, in a business sense, to pull resources off a fee-for-service project to invest in a non-paying in-house creative project. This problem is not unique to Australia. The Canadian report *Filling the Pipe*<sup>1</sup> also highlighted fee-for-service dependence as a hindrance to development of the creative digital industry.

The reliance on fee-for-service can be ameliorated by substituting a close alternative: collaborations between government and producers to research and develop innovative pilots. In this way the government gets a triple pay-off:

- 1 they get the service or product they needed;
- 2 the industry partner becomes more competitive because of the leading edge research that has been funded and state of the art solution that can be demonstrated to other prospective customers;
- 3 the intellectual property developed can be directly commercialised by the industry partner.

Recommendations that have been designed specifically to address the issues arising from the almost total reliance on “fee-for-service” include:

Recommendation	How it applies
Recommendation 6: Skills Development on page 103	Long-term programme to grow entrepreneurship and business culture in the CDI
Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace on page 112	Reduces costs and barriers to commercialisation, Provides ready examples of how others have commercialised.
Recommendation 5: Adjust R&D Start Grants and Rebate Eligibility Criteria on page 102	Provides funds for development of their own products or infrastructure
Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications on page 103	Improves availability of funding for development and commercialisation of their own titles.
Recommendation 9: Provide Strategic Market Offices and Hot-Desking on page 108 Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content on page 113 Recommendation 12: Data Communication cost equalization strategies on page 110	Reduce the upfront costs and the high capital risks of commercialisation of their own title development

### 3.2.7 Skills building must be matched by business building.

One of the challenges faced by the sector is that the demand for skills particularly in peak production periods far outstrips the available skills base. The time scale for new course development and delivery in the education sector is much longer than that of industry, therefore the skills taught in courses will tend to lag behind the demands of industry. This means the industry must build skills from within and encourage training and upskilling. Educational work experience and outplacement has assisted in new entrants obtaining hands-on experience in the sector. The NSWFTO has been very active with their limited

1. *Filling the Pipe: Stimulating Canada's Broadband Content Industry through R&D. Report On The National Roundtables On Advanced Broadband Content.* May 2001 Prepared For Canarie Inc.



digital media funds in focusing on internships for animators and visual effects artists. This has resulted in a high level of placements for those involved in the programme and has given participating firms like Animal Logic and others a stream of fresh talent to assist their own project growth.

Recommendations that have been designed specifically to address the issues arising from business skills include:

Recommendation	How it applies
Recommendation 6: Skills Development on page 103	Addresses requirement to grow business skills as well as craft skills
Recommendation 4: Clustering and Teaming Encouragement on page 102	Clustering, resource directories allow peak loading to be addressed by teaming or subcontracting.

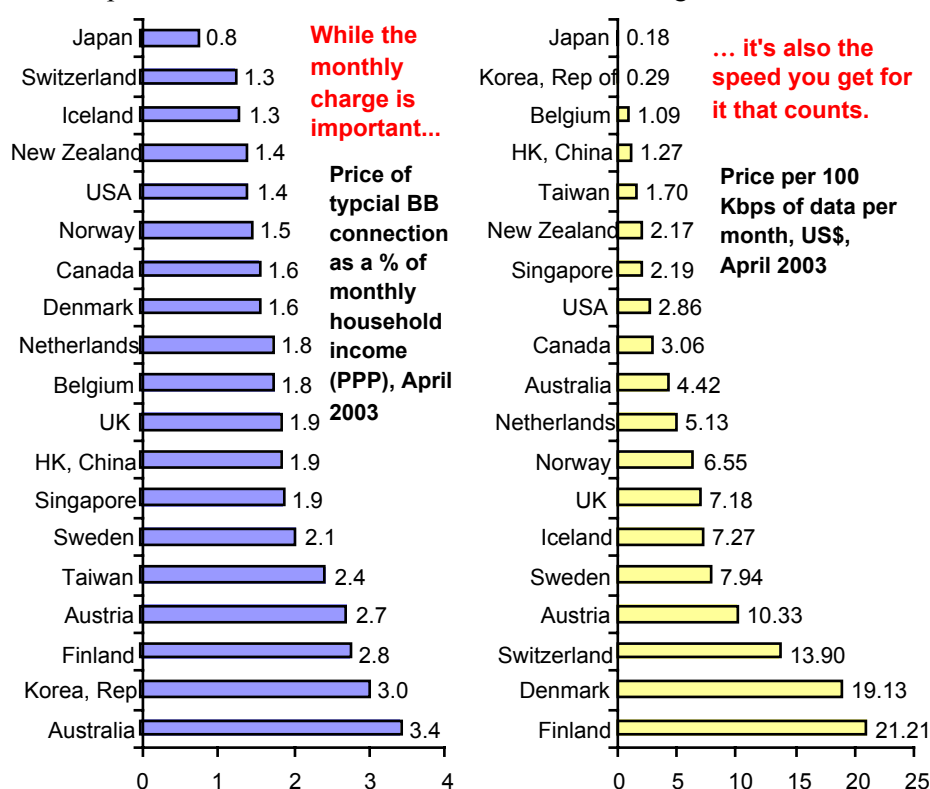
### 3.2.8 Issue: Uncompetitive High Costs of Broadband Connection

Analysis done recently by the Japanese Ministry of Public Management, Home Affairs, Posts and Telecommunications, shows Australia has one of the highest cost bases for broadband connectivity in the developed world. Not only is the monthly access charge the worst when compared as a ratio of monthly income but also the cost per kilobyte of data downloaded is also high.

These high relative charges:

- 1 dampens domestic demand for innovative broadband content, which in turn affects the demand for production from the local industry.
- 2 reduces the international cost competitiveness of SME producers who rely on high-speed connectivity in their production and publishing functions.

Figure 8: International Cost Comparison of Broadband Connection and Data charges



Source: Presentation from Japanese Ministry of Public Management, Home Affairs, Posts and Telecommunications at APEC TEL28 meeting, October 2003

Recommendations that have been designed specifically to address the issues arising from the high cost of broadband connectivity include:

Recommendation	How it applies
Recommendation 12: Data Communication cost equalization strategies on page 110	Specifically addresses the issues for producers and customers
Recommendation 3: Substantially grow the FIBRE programme as a national priority on page 100	Specifically addresses the issues for producers
Recommendation 13: Serving There: Server in-placement programme on page 111	Improves performance and cost efficiencies for content marketed in overseas markets.

### Lack of Content Capital

It is also acknowledged that there are substantial issues related to the provision of both public and private capital for the development and commercialisation of content and applications in all sectors. This area is generally outside the terms of reference of this report.

### 3.3 AUSTRALIAN CREATIVE DIGITAL INDUSTRY STRENGTHS

#### Creativity

Australia has been well recognised internationally for its creative output, from award winning Films, actors, directors, designers, cinematographers, musicians, and artists. The Sydney Olympics not only put our sports stars on a global stage but our culture and creativity.

Few parts of the globe would not be aware of some aspect of Australian creativity and excellence via our stars such as Nicole Kidman, Russell Crowe.

Our skills in traditional media are well recognised by USA based producers and studios. Much of our success in attracting foreign/runaway production is based on this creative skill base. While economic incentives are a large factor in runaway production, if the creative & technical talent were not available the incentives would be of no value, as in the end the product must be produced.

Digital production has as much a claim to this creativity as traditional practitioners, just the names are not on the marquee but buried in the credits as designers, animators and visual effects artists (VFX) in film and computer games.

We need to leverage our heroes of the sector and make them household names domestically and internationally. Few international movie buffs would not be familiar with Industrial Light and Magic (ILM) the USA visual VFX studio responsible for Star Wars and many other major technical feature films. On the same basis Animal Logic Australia, is not yet a household name other than to those in the industry. This has improved due to their world leading work in the Matrix.

Most Australians let alone international audiences could not name the VFX team that was involved in the making of the Matrix film or be aware of the Australian game developer (Blue Tongue) that produced the Matrix Playstation & Xbox game.

#### Design

Australian designers and artists are celebrated in many media forms, there are few media where Australians are not winning awards or setting the pace. Design is a highly subjective field and open to the zeitgeist of the day, It is important to encourage design education and to acknowledge excellence in design, be it in architecture, fashion, advertising, print, television, film, the arts or digital media. The challenge for Australian design is to remain fresh, innovative and accessible to a global audience.

#### Technical innovation

Our technical innovation is world-class, from Victa lawnmowers to Cochlear implants for the hearing impaired. The digital innovators are no different, from designing speciality lenses that most USA directors will not leave home without, to world-class technicians and engineers. Our engineers have infiltrated most international companies. Unfortunately our record for investing in technical innovation does not match the skills of the engineers, designers and innovators that we continue to produce. Proof of this is that there

are no leading Australian IT companies in the top 100 IT firms and few domestically grown software companies.

### Multi-cultural and Multi-lingual

Australia has a vast asset in its multi-lingual skills. It has at its disposal a mixture of European, Asian and Middle east languages that can be rivalled by few countries. Only Canada can match our ethnic and cultural mix. As well our time zones and proximity to Asia has placed us favourably, for a change, in accessing substantial overseas markets. Australia is in a natural 8 hour time difference from the US and Europe so it can form one third of 24 hour servicing<sup>1</sup>. Many international call centres are being based in Australia for these reasons. It also works for three teams sequentially developing digital media, visual effects or applications in different languages.

There has been much discussion recently in the global press about the rise and resistance to "MacCulture". Australia has an opportunity to provide a world audience with an alternate source for media that expresses a more universal voice and that is well researched, well produced, culturally diverse and is seen as more politically neutral.

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1. See "Around the World in 24 Hours" at <http://www.asee.org/prism/march/html/feature2.html> for an article on 24/3.

## **SECTION 4: THE GLOBAL CREATIVE DIGITAL INDUSTRY MARKETPLACE: THE THREATS AND OPPORTUNITIES**

### **4.1 SITUATION: A REVOLUTION IN DIGITAL CONTENT DISTRIBUTION AND COMMUNICATION TECHNOLOGIES.**

Never before has the world creative media industries experienced a period of such rapid and disruptive change. The past 10 years has seen the rise of the Internet, digital TV, interactive TV, digital radio, broadband, mobile broadband, MP3s, MPEG2 and DVDs.

Even in isolation these technologies are powerful ways of distributing creative digital content to consumers. More radical however is the change in the nature of the communication and interaction from a one-way flow to highly interactive. Traditionally the publisher's business model was constructed on a one-way flow of a mass-produced product, most often in a single format such as "B4 hardcover". Now they may need to supply customised content in many different formats. Sometimes this is achieved purely using a single communication technology such as broadband, at other times a combination of communication channels are used for cost efficiency or other factors.

However, the real creative revolution is yet to be commercially explored:

- what are the creative extensions of the different type of involvements that a customer can have with a creative idea or property?
- how will they value them?
- how will they be willing to pay to utilise them?

"360% Commissioning", as the BBC calls this, utilises the specific characteristics of each of the communication mediums to engage a customer in different way with different aspects of a story or parts of a story. The recent series of blockbuster films such as the Lord of the Rings Two Towers has the movie, the game, the web site. The Matrix Reloaded creative launch included an anime DVD, a game and a website. Experiments in Canada funded by the Bell Content Development Fund have extended the level of value add to include creatively integrated multiplayer online worlds, online meeting places, help rooms and games that extend the relevance of the property and increase the participants involvement.

This is much more than another 'channel to market' for film and TV content by releasing a movie onto a DVD or a compressed version on the internet.

The following section relates the various existing and potential delivery platforms with the type of digital content being communicated.

The platform definitions are those developed by the Australian Film Commission. For a more detailed description of each platform refer to Appendix 9: Distribution Platform Definitions used by the Australian Film Commission on page 166.

Table 7: Matrix of platforms suitability for various types of interactive media

Delivery Platform	Platform Suitability				
	Audio Visual Content	Games	Software	Text and Audio Content	Transactions and Commerce
Digital film distribution					
Digital film exhibition	Yes				
High Definition Television (HDTV)	Yes				
Digital Television: Free-to-air Multi-channelling	Yes				
Digital Television: Subscription	Yes	Limited interactive games			Yes (against monthly account)
DVD/Video hire and sale market	Yes	Yes	Yes		
Video on Demand (VOD) and Pay per View (PPV)	Yes	Yes	Yes		
Satellite delivery	Yes	Yes (for some types of games)	Yes	Audio. Digital Radio Digital News feeds,	Yes, With Telephone or internet back channel
Internet TV and Walled Gardens	Yes	Yes	Yes	.	Yes
Interactive Television	Yes	Yes	Yes		Yes
Interactive Television: Electronic Programme Guides					
Interactive Television: Personal Video Recorders	Yes				
Datacasting	Yes	Yes	Yes	Yes	Yes
Broadband websites	Yes	Yes	Yes	Yes	Yes
2.5G and 3G cellular mobile services	Expensive	Yes	Yes	Yes	Yes
Internet Content: Narrowband		Yes	Yes	Yes	Yes
Peer-to-peer (P2P) Networks	Yes	Yes	Yes	Yes	Yes
T-commerce and digital/interactive advertising	Yes	Yes	Yes	Yes	Yes

Clearly content owners, digital content producers and publishers are faced with a wide variety of new communication and delivery technologies. This is both a threat and an opportunity.

Table 8: Plethora of Digital Distribution Platforms

The Threat	The Opportunity for Australia
Left behind by not having a winning platform available in Australia for experimentation and development	Anticipate and participate in new platforms See Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications on page 103
Inconsistent regulatory or pricing treatments create distortions in supply and demand	Ride the market acceptance of new platforms to achieve export market share

### Situation: The publishing channel

Media markets are about audience retention and attraction, the challenge of digital is to achieve audience reach, scale and sustainability while platforms are emerging. Digital markets around the world are in different phases of evolution, it is important to know the relative scale of these future audiences when developing content or services. Few international markets yet have the critical mass to provide reliable revenue opportunities so most producers would focus on domestic markets as a first phase.

However due to the small size of these emerging platforms and the relative small size of the domestic Australian market most producers balance their work in digital between fee-for-service work and building their own IP in projects. This particular issue is common to all but a few OECD countries. This becomes a form of “Catch22” as the constrained domestic market reinforces the need to find a channel to market to reach other emerging markets overseas.

### Situation: Lack of risk capital forestalling channel growth:

The lack of risk capital is a major factor in stalling growth in Creative Digital Industry domestically and globally. Digital content production can be as much about research and development as the underlying creative output. Many of the emerging platforms require significant investment in technology, skills and risk before any sign of return. This is a major difference between digital and traditional media producers, generally a film or TV producer does not have to invest in broadcast or projection infrastructure or have engineering skills to deliver their product. This falls to the role of the broadcaster or licensor.

### Situation: Vertical integration of the publishing channel:

One of the major changes brought about by digital and media convergence is the trend to vertical integration as a mechanism to achieve scale. To be effective in a global market you must have a level of scale to compete for the large projects. In their submission to the House of Representative's Film Inquiry the Game Developers Association of Australia stated;

*“the global industry is rapidly rationalising with fewer publishers, fewer projects and much larger budgets.... the impact for local industry is “smaller companies will increasingly find it difficult to compete for deals without support to grow.”*

### Situation: The warehousing of rights

A potentially damaging side-affect from the trend for vertical integration and scale is the increasing warehousing of rights. In order to maximise and control the potential revenue from product extensions and cross-media opportunities, many broadcasters are demanding an ever-increasing range of rights to be delivered within a diminishing license fee. This restricts the producer from the utilising the normal strategy of potentially recovering costs by selling each right separately. To add insult to injury, the broadcasters very seldom have a plan or the resources to utilise the additional rights that they have acquired. Instead, they “put them on the shelf just in case”.

### Situation: Most Creative Digital Industry associations are under-resourced for their task

The industry associations, such as Australian Interactive Media Industry Association (AIMIA), Association of Independent Record labels (AIR) and the Games Developer Association of Australia (GDAA) that have been formed to represent the newer sectors of the Creative Digital Industry are extremely under-resourced to effectively address the member development, interoperability standards and sector promotion tasks required. Even more established associations such as the Australian Society of Authors with their limited budgets and staff, struggle to address their members' issues and opportunities with the transition from printed books to multi-format, multi-channel, print-on-demand and electronic books.

Yet for each sector, these associations have an unparalleled depth of knowledge and strong connection with their members that often makes them the most appropriate party to help raise the sectors level of skills and exports.

### The Market or Channel:

While each market is addressing the digital market in different ways, all are competing to build an export-focused industry. How Australia responds to these challenges will determine our position in both emerging sectors of the new digital economy and impact on an already world-class position in screen content, music and cultural product.

In their submission to the House of Representatives Inquiry, the Australian Film Commission (AFC) stated that:

*“to avoid being marginalised in one of the fastest growing areas of the modern global economy, the government would need to give support of digital content creation a high priority so Australia develops an integrated industry capacity”*

The Threat	The Opportunity for Australia
Massive “channel choke” restricts the ability of Australian CDI sectors to obtain fair value for their work and access to markets	Aggressive co-production treaties to open up access to new markets and niches see Recommendation 8: Business-to-Business Engagement with complementary countries on page 106
	Anticipate and participate in new distribution channels See Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content on page 113



Situation: Other countries are investing heavily in their Creative Digital Industry

Many OECD markets are investing in digital content in a variety of ways to stimulate domestic usage of platforms. As their domestic markets reach levels of maturity, the focus has begun to shift to support for access to international markets.

Each country with an ambition for a digital economy faces a similar struggle for scale, reach and market access against the dominance of the USA. Therefore benefits could accrue to Australia from collaborating with these countries on issues of production, distribution, funding, and skills gaps.

#### 4.1.1 The Co-production Opportunity

Co-production treaties have been a part of the traditional film and television landscape and digital has a similar opportunity to use this mechanism. Traditional co-production markets have been Europe and Canada but increasingly Asia is emerging in digital as a major market and opportunity. The data below is an extract on "Official Co-Productions at January 2003" which shows traditional media production. There is a case that this analysis and support should be extended to digital media. However most industry groups agree that formal treaties are not necessarily the final answer as they take time to negotiate and maintain. Most agree that business arrangements between producers is probably the fastest way to access funding in various markets. Getting the producers to meet and agree on who does what in the production mix is a significant hurdle for this emerging industry.

Also challenging in digital co-productions is the balancing of budgets, skills required and the underlying intellectual property rights (IP) which become embedded in the final product: for instance certain international cultural funding agencies require the majority (51%) of the IP to be owned by that country. This may not be the proportion of the IP work contributed by the participating production partners, or proportional to the funding provided. The level of IP ownership is not always the absolute determinant of who controls the commercial agreements and revenue flows but it is the default factor in the absence of some strong overriding market power.

There are still many challenges ahead with regard to intellectual property and funding.

## 4.1.2 Co-production Partners

Since the inception of the official co-production programme in Australia in 1986, treaties or less than treaty arrangements, i.e. memoranda of understanding (MOU), have been signed with nine countries.

Table 9: Australian Co-production Agreements

Country	Nature of agreement	Date signed	No. productions	Total budgets
France	M.O.U	15 May 1986	17	\$146.01m
Germany	Treaty	17 January 2001	2	\$4.08m
United Kingdom	Treaty	12 June 1990	21	\$229.09m
Canada	Treaty	23 July 1990	20	\$297.86m
New Zealand	M.O.U	23 December 1994	7	\$28.52m
Italy	Treaty	28 June 1993	4	nfp
Vietnam	M.O.U	3 June 1996	0	0
Israel	Treaty	25 June 1997	0	0
Ireland	Treaty	4 February 1998	2	\$12.35m

Source: The AFC Foreign Film And Television Drama Production In Australia: A Research Report; June 2002.

The AFC report on Foreign Film And Television Drama Production In Australia makes a compelling case that the health of the domestic industry has a direct relationship to the success of runaway (footloose) production and co-production activity.

*As the production of film and television increasingly becomes a global business, there is clearly a growing network of interconnections between the Australian production community and 'foreign' production entities: Australian providers of production services and facilities are increasingly taking advantage of foreign production as a source of business; Australian producers are seeking funds overseas and engaging in a range of co-production arrangements, with creative control shared as part of a project's financing.*

*The fundamental connection between the development of an industry which has the capacity to produce Australian film and television and the potential to grow the level of foreign production is the fact that attracting foreign production requires above all a sophisticated domestic industry: ongoing levels of foreign production can only be sustained where indigenous film industries have reached a high level of sophistication and capability.*

*'Footloose' productions – film and television projects looking for a production home – make location decisions based on a range of factors. Australia's competitive advantages include our low exchange rate, English language, range of locations, sophisticated cities, developed infrastructure, range of State-based incentives and support mechanisms, and high profile of the industry internationally derived from our local production. The financial advantage, while important, is not sufficient on its own to attract foreign projects.*

*Key promotional drivers, which can persuade overseas producers to select and often return to Australia, are the quality and work practices of our local crews and creative talent. These have been developed through the making of local films. It is the local production sector that creates the technical and creative skills base used by the foreign production sector.*

Source: AFC: Foreign Film And Television Drama Production In Australia: A Research Report June 2002

The extension of tax offsets to assist co-production or runaway production in the digital media sector has been suggested by many submissions to the House of Representatives inquiry.

#### 4.2 DISTRIBUTION CHANNELS ARE CRITICAL

All sectors of the Creative Digital Industry are still sensitive to the vagaries of distribution channels. The channel issue for the distribution of traditional formats is noted in a recent UK film industry strategy document:

*“Although the overall trend has been for the UK to produce more films, there has been a decline in the proportion of UK films achieving wide release and an increase in the proportion remaining unreleased a year after production.*

*In 1998 23% of UK films achieved wide release a year after production, 56% remaining unreleased. Of the UK films produced in 1998 only 35% had not been released to theatres in the UK by 1 July 2000.*

*The structural issue that has most impact on the industry is the domination of the distribution network by US companies (linked to US studios) such as UIP, Buena Vista, Fox and Warner Brothers.*

*Any consideration of the future sustainability of the UK industry must take into account the global nature of the industry and the impact of the US majors on it.*

*Exhibition:*

*In 1999 there were 42 fewer cinemas and 789 more screens than in 1994. The growth in exhibition is largely attributable to multiplex development; in 1999 just over a quarter (27%) of UK cinemas were multiplexes and these accounted for 63% of all screens. 8 Foreign companies have a high stake in multiplex development;*

*Screen Digest (21 June 2000) reported that in 1999 four foreign exhibition groups (UGC, Warner Village, UCI and National Amusements) owned 57% of the UK multiplexes.”*

Source: UK Mapping Study 2001 Report 7 on Film & Video

The digital industry is not immune:

*“Distribution channels, one of the vital parts of any content based industry, is the efficient access to audiences and markets for delivering a product or service. Distribution is even more vital for digital industries as the business models and mechanisms are less evolved than in traditional broadcast or for physical product distribution.*

*Distribution is both an opportunity and a threat. There is a window for us to establish Australia as a digital economy within the region. And there are a number of issues being faced by all emerging players in accessing markets. The control of the traditional and some of the digital distribution channels is becoming a barrier to success;*

*Distribution is about to face a period of disruptive change. The established model of shrink-wrapped game title distribution through retail outlets will be challenged by the different dynamics of multi-player and online distribution. How this will be played out is uncertain, as equipment vendors, operating software purveyors, and title developers jostle in any major market repositioning”.*

Source: The Production of Digital Content- DCITA September 2002 - Cutler & Co

#### 4.2.1 Situation: Digital Cinema Initiative

The House of Representatives submission from Media Entertainment Systems Architects, (MESA) contained an analysis of the potential impact on Australia of the US Digital Cinema Initiative.

***“One Key To The Future Of Australia’s Film Economic Viability (Globally)***

*In our opinion, one of the most influential developments that the Australian film industry should address (pertaining also to the video gaming industry) when planning for sustained growth in the future global economy, is a comprehensive understanding and integrated response to the Hollywood Studio consortium, the Digital Cinema Initiative, (DCI), LLC (see description below) technical and financial specifications and recommended practices addressing the future rollout of the global digital cinema distribution pipeline.*

***Who Is The Digital Cinema Initiative?***

*The 7 major Hollywood studios (Disney, Fox, Sony/Columbia, Viacom/Paramount, Warner Bros., MGM, and Universal) are all founding members of a new company, a rare example of “co-opetition” in action (cooperative-competition). The DCI’s goal is to provide a unifying and cohesive voice to address the challenges of the future of US domestic and international digital film distribution. In 2002 when the DCI was formed, their stated primary goal is to define the technical specifications for the new distribution pipeline and financial mechanisms for accounting for the phase in of a secure, worldwide digital feature film distribution pipelines. It is MESA’s opinion that there will be a regional DCI authorized Motion Picture Network Operations Centers in each major region of the world, including Australia and New Zealand.*

***When Will The Rollout Of Digital Movies Distribution Channels Occur?***

*This rollout effort is estimated to occur over the next 2-10 years. The DCI’S efforts will likely be concluded and published within the next 12 months. In our opinion, there will be some delays likely due to internal members debate and politics. We humorously refer to this pending specification due in 2004, as “Vatican papal edict”. The tipping point will not be reached for large scale conversion of digital systems in theatres until the price point for the equipment reaches approximately \$100,000 per screen average and the resolution of the projectors exceed current digital cinema specs.*

***How To Grab The Gold (Coast) Ring?***

*If Australia wants to be an international player within the global digital and 35mm film marketplace, the Australian industry as a whole, Must strategically unify it’s voice (just as the DCI has done) to successfully address the recommended practices within the DCI’S global blue print. MESA’s goal is to work with key partners in Australia (such as FIBRE<sup>1</sup> and QUT-CRC<sup>2</sup>) to position a commercial company in Australia as the primary authorized Motion Picture Network Operations Center (MP-NOC) in compliance with and recognized by DCI Studio members. MESA has identified process patented ‘end-2-end’ technologies to address the emerging market.*

*This company would service both regional film/game producers and large Hollywood feature films (and games) shot, finished and distributed within Australia and worldwide. MESA contends that low and big budget films need to be properly “content engineered” to play in major theatres and a host of existing and emerging alternative markets, made possible by means of this new infrastructure. As the technical appendix charts (# 1, 2,3) show at the end of this document, the new workflow we call Single Source Mastering will allow for servicing all primary*

1. Film Industry Broadband Resource Enterprise

2. Queensland University of Technology’s Interaction Cooperative Research Centre.

*and secondary ancillary markets. Positioning and properly preparing for this major transition coming in the near future could be a major boost to Australia's international film / game influence, competitiveness and sustained profitability.*

*MESA's adopted motto is "be the first to be second" To quote, Barry Rebo a HDTV pioneer."*

Source: Submission #030 to the House of Representatives Standing Committee on Communications, Information Technology and the Arts by Media Entertainment Systems Architects, Byron Bay June 30, 2003

Table 10: Digital Cinema Initiative (DCI) Threats and Opportunity

The Threat	The Opportunity for Australia
The Digital Cinema Initiative can increase the Channel Choke on the distribution of Australian films domestically and to overseas markets.	Invest in and encourage the DCI distribution and uplink centre in Australia
If a monopoly is established then prices charged for distribution can be raised to maximise their profit and constrain the ability of smaller, more culturally diverse films from being reaching the market	Promote efficiencies in Digital Mastering that will allow cost effective utilisation of DCI and similar digital distribution platforms.

#### 4.2.2 Situation: Australia's International Broadcasters

The Department of Foreign Affairs and Trade fund the ABC Asia satellite service as a distribution platform, to market and showcase Australian culture and voice into the region. This same distribution service could be a conduit for digital products and for promoting them into the region.

The Go Asia Pacific gateway brings together content relevant to Asia and the Pacific produced by the Australian Broadcasting Corporation (ABC).

The site contains programmes from ABC Radio and Television plus material produced exclusively for our online audience. The site is maintained by Radio Australia, the authoritative international service of the ABC, which has been broadcasting to the Asia Pacific region for more than 60 years.

#### 4.2.3 Situation: the role of FIBRE

FIBRE Pty Ltd. was formed by a working party of industry participants and with \$650,000 funding from the Department of Communications, Information Technology and the Arts (DCITA) in October 2001. From November 2001, FIBRE set about negotiating with telecommunications carriers to achieve the aggregation of film and television post-production industry demand for more affordable bandwidth to enable collaboration within the industry and therefore provide the means by which they can compete more effectively for international business.

FIBRE can be a major catalyst in addressing the physical distribution layer of the market. FIBRE can assist local companies to compete for larger business domestically and internationally. Their peering agreements with the SOHonet project in the USA and UK can lower the cost of file transfer in and out of those markets for Australian firms.

FIBRE has acquired significant expertise over in the areas of post-production industry structure, location, size, data usage, bandwidth requirements and broadband applications

and usage. This knowledge encompasses local, regional and international use of data transmission.

The cost of data communication is a major business input cost and requires creative solutions such as FIBRE. This can be a major opportunity for the sector to compete globally.

Table 11: Requirement for cost effective production Grade communication and teaming infrastructure services

The Threat	The Opportunity for Australia
Clusters and Virtual large scale production requires high availability communication.	Scale up FIBRE and add always on services such as IP management, Open repositories, talent and resource directories, prospecting databases.
High cost and need to re-establish infrastructure for each project will jeopardise competitiveness and profitability of Fast Response Teams.	See Recommendation 3: Substantially grow the FIBRE programme as a national priority on page 100

#### 4.2.4 Situation: Access to Digital Resources as inputs to the Creative Digital Industry

The Creative Industries Cluster Study Stage 3 Report **Economic Benefits from Cultural Assets Report** < <http://www.cultureandrecreation.gov.au/cics/benefits.pdf>> identified the current digitisation projects of museums, galleries, libraries and archives. While these currently use a plethora of standards which would make interoperability problematic there is a strong need to co-ordinate and implement core standards. The compelling need for interoperability is the recognition of the need of various sectors of the Australian economy to have efficient access to digital versions of items stored in collecting institutions.

There are literally millions of photos, paintings, documents, film segments, as well as social, technical and natural history exhibit that can be a valuable input into the Creative Digital Industry. If they are not available then many digital productions are either not done because it is too expensive or requires additional budget and time to recapture or recreate material that already exists.

The primary requirement for this material will come from online and re-usable educational content which could have a global market, reference material and interactive media. As the material will be an input into the production process it is critical it:

- is available in high quality and high resolution production formats;
- has the rights identified, cleared and the appropriate re-usage and re-publishing permissions available for license;
- includes descriptive, technical and administrative metadata.
- is able to be searched for, previewed and acquired online with immediate or almost immediate fulfilment.

Table 12: Accessing Australia's Digital Content Resources

The Threat	The Opportunity for Australia
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Table 12: Accessing Australia's Digital Content Resources

The literal application of copyright law constricts ability of the industry to re-use and add value to any existing content. A reticence to re-use material often reduces the value of the material to the copyright holder	Commission digitisation projects and invest in OpenContent Repositories,  Enable and promote appropriate digital access to Australian cultural and scientific heritage held within collecting institutions. See Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace on page 112
Inefficient rights handling prevents commercial re-use of material in Australia.  Overseas material may be easier to obtain and will be imported.	Invest in whole of sector open rights management infrastructure for communicating, trading and managing IP permissions Establish and coordinate on metadata and format open standards for the CDI and collecting institution sectors.

### 4.3 HIGH OPPORTUNITY CREATIVE DIGITAL INDUSTRY SECTORS

Many emerging digital platforms have high potential for growth and opportunities for digital producers. The challenge is in matching the effort, investment and a mix of good timing in creating products for these emerging markets. Like any new technology there is a lag from the early adopter market to the mass market and how you effectively bridge this divide is the difference between success and failure. Also as outlined elsewhere in this report each international market is evolving slightly differently due to their own ecosystems of regulation, market size and consumer take-up of technology.

#### 4.3.1 Digital Film/TV Drama

Television Drama export is highly competitive, cyclical and project driven. Historically Australian drama has sold well into international territories, however, recent trend has seen sales become more difficult due to shifts in each local market to view their own stories. While there are still opportunities for sales of Australian drama, the shift to digital does not greatly increase the size of the opportunity. One area that is often raised is that of interactive drama which would use digital interactive TV to expand the story telling and create opportunities for audience interaction and involvement in the outcome of the storyline using video footage.

Many practitioners are resistant to this type of experimentation with story narrative and characters as there was a substantial amount of experimentation conducted in the early and mid 1990s in this area using CD ROM and laser disk that are thought to be failures because of customer dissatisfaction. It was found to be almost impossible to create the tension necessary for dramatic involvement when all possible story paths had to be pre-filmed. However the games industry already deals in complex user interaction within a dramatic narrative but using synthetic scenes and actors and this may be where the early development takes shape to influence the more traditional television drama producers. But this raises the question of whether this is drama, a computer game or a synthetic or virtual world for users to explore and enhance.

#### 4.3.2 Education eContent

There is a substantial opportunity for members of the Australian Creative Digital Industry with the rise of the global eLearning marketplace.

Over the next ten years there will be demand for:

- 1 the development and supply of high quality standardised re-usable learning objects to overseas education systems, corporations and private education providers. This material will be culturally “neutral” and most often needs to be provided in multiple languages and learning styles. Australia’s Creative Digital Industry is well placed to provide this as it has substantial projects such as the Learning Federation and within the Vocational Education and Training (VET) sector implementing standards from the global standards bodies such as the IMS Project;
- 2 the provision of software and web based software services that enable the development, trade and management of the content and the rights over the content;
- 3 the provision of software and web based software services that manage the learning of students on behalf of their education provider;
- 4 the delivery of education experience and outcomes in partnership with in-country organisations.
- 5 the online provision of quality, rights managed digital resources such as text, images, audio and video which will be used as a factor of production by educational content developers within school systems, universities, VET, corporate training or independent developers.

Table 13: Projections of the Global market for elearning content for various education sectors

Sector	2002 US\$ billions	2006 US\$ billions
K-12 Academic	\$3.60	\$33.33
Higher Education	\$3.00	\$69.70
Recruiting and Staffing	\$1.60	\$13.94
Corporations and Business	\$9.20	\$49.70
Government	\$1.20	\$8.18
Simulations Training	\$0.60	\$18.48
Vocational	\$0.80	\$26.06
Consumer	\$0.40	\$22.12
Associations	\$0.20	\$10.30
Total	\$20.60	\$251.82

Source: Extrapolations of Market Analysis of the 2002 US E-Learning Industry Brandon-Hall.com



It is estimated by SRIC-BI that 73% of this total global elearning market is for digital content.

Table 14: Breakdown of eLearning Market

Market Breakdown	Ratio (SRIC-BI Estimates)	2006 Split US\$ billions
Content	73%	\$183.14
Services	18%	\$45.79
IT Systems	9%	\$22.89
Total	100%	\$251.82

Source: Estimates by Eilif Trondsen of SRIC-BI <<http://www.sric-bi.com/LoD/>>

*A recent eMarketer report on the eLearning market noted:*

- *The global education and training market totals \$2 trillion as of 2001; the US share is \$750 million (ThinkEquity Partners)*
- *The percent of US public schools with high-speed Internet access rose from 56% in 1999 to 76% in 2002 (Market Data Retrieval)*
- *In 2004, over 1 million US K-12 students will be enrolled in a virtual school course (Peak Group)*
- *In 2002, US educational testing spending was a \$925 million market; online and computer-based assessment accounted for \$50 million (Eduventures, Inc.)*
- *In the US, the K-12 academic sector was the largest in the e-learning market at \$1.8 billion; higher education will rise to the top with \$23 billion in 2006 and \$44 billion in 2011 (Brandon-Hall.com)*
- *The percent of training time delivered via e-learning in US organisations will rise from 10.5% in 2001 to 25% in 2004 (American Society for Training and Development)*
- *Japan's e-learning revenues will surge from 82.3 billion yen in 2003 to 198.5 billion yen in 2006 (Japan's Ministry of Public Management, Home Affairs, Posts and Telecommunications)*
- *Europe's corporate e-learning market totalled \$1.5 billion in 2001 (Cortona Consulting)"*

Source: Reported by eMarketer as quoted by BizReport  
<[http://www.bizreport.com/article.php?art\\_id=4635](http://www.bizreport.com/article.php?art_id=4635)>

The report "An Overview of the Australian ICT Industry and Innovation Base" for the Framework for the Future Mapping Working Group noted:

*"Australian companies active in the e-learning market include:*

- *HarvestRoad whose learning content management systems enables the collection, management, re-use and sharing of content in the education and training markets;*
- *Learning Seat which provides an analysis service with its LTNA (Learning Seat Training Needs Analyser) and provides standard or special courses through its LTE (Learning Seat Training Environment) for on-line training;*
- *South Rock which integrates the delivery and management of on-line and class room based training and a secure fully hosted learning service platform;*
- *Brookstone Technologies which provides distance e-learning courses for companies and has a joint venture with the Central College of TAFE, Ice Media, a supplier of customised training to corporate customers across the Internet and Web Raven which has secured gov-*

ernment customers for its e-learning software.

There are also many specialist training programmes developed for medical, hospitality, general management and other programmes for delivery to on-line post school students wanting to acquire new skills, e.g. Green Words for computer software usage training programmes.

Specialist software package providers targeting the school student market include:

- CrankMedia, Eduss and Efofex;
- Xmaths which provides on-line testing of math skill levels and multimedia maths learning products;
- Webster Publishing a provider of educational software for both schools and private users.
- Callista Software has emerged as a major player in student management software for tertiary institutions and Oracle is marketing some of Callista's general modules internationally."

#### 4.3.3 Digital Music

It is obvious to all that the worldwide music industry has been the "canary in the coal mine" for all the other content industries. There is no doubt that 5 major global record companies have found it very difficult over the past 10 years adjusting their business and distribution models to the requirements of the pervasive internet.

But their difficulties are not shared by all those involved in music. Many new and established artists and independent record companies have been built on the opportunities now presented by digital music and the internet.

*"Over the next few years we will see steady growth in online purchases of music – the US online music market is projected to grow from \$836 million in 2000 to \$4.219 billion in 2004, and the European online music market from \$140 million in 2000 to \$1.932 billion in 2004. However, the majority of these online purchases will comprise online ordering with physical delivery (e.g. of CD's) rather than online ordering with digital delivery (e.g. via internet). Digital distribution will continue to remain a very small part of the music market for the next few years.*

*By 2004 we expect less than 2% of total European music spend to be for digital delivery. Adoption of digital distribution will be held back by a number of key inhibiting factors. However, these inhibitors will gradually be eroded as the market evolves, and digital distribution will see its most dramatic growth beyond 2004 (detailed market forecasts are provided later in this report).*

*In the longer term, we believe that digital distribution will become the mainstream (dominant) form of distribution for music as distribution is driven by the desire to reduce costs (while maintaining the integrity of the supply chain). Music is inherently an information product rather than a physical one, and, as human behaviour, industry structure and technological capabilities evolve, digital distribution becomes the most appropriate distribution channel for music."*

*"Within the industry there has been an implicit assumption that the transition to a new distribution mechanism, coupled with increased consumption patterns, mean that the total size of the industry must inevitably rise. The music industry is a \$100 billion industry in a \$40 billion body, with the hope that digital distribution will be the key that unlocks the industry's hidden potential"*

Source: Durlacher Research Ltd.: Impacts of Digital Distribution on the Music Industry, 26 Jan. 2001

For small and medium Australian recording artists and labels digital promotion and distribution of their music represents a strong opportunity to reach new and cost effective markets.

*"In the digital world, independent labels will be better able to reach customers, and some artists may decide to build independent and direct relationships with the market. However, the key role the record industry plays in financing bands up front and taking risk of failure will ensure that they have a continued if slightly reduced position of dominance in the industry. The instant customer feedback available in the digital environment will enable them to increase ROI on new albums."*

Source: Durlacher Research Ltd.: Impacts of Digital Distribution on the Music Industry, 26 Jan. 2001

For SME music artists and labels to reach these overseas markets requires a greater depth of marketing, technical and business skills than are currently commonplace. However as the availability of standards based, shared infrastructure, web based services increases the substantial financial and skills requirements of small record labels will reduce. These services include eCommerce, rights management and promotional systems.

#### 4.3.4 Digital Publishing

After much hype and unrealistic projections in 1999 and 2000 the digital publishing market has settled down into steady growth and acceptance. Predictions now are that 5% to 10% of the A\$70 billion global publishing market will be via electronic means. This market will be a combination of:

- Online subscriptions such as seen in use by Elsevier, CCH, Wired etc.
- eBooks including PDF and Microsoft Reader forms for PCs and specialist reader devices
- eText which includes chapters of books or serials that will be used within coursepacks or repurposed by "syndicators" to meet specific customer requirements.

These projections do not include the Print on Demand segment which will allow, in a cost effective manner, publishers to address the demand for low volume titles and custom publishing including mix and match books. It is estimated that 25% of publishing production will be by Print on Demand within 5 years.

One Australian company eBooks.com has managed to maintain its focus and grow to be one of the dominant providers of electronic texts. Started in 1997 in WA it currently employs 18 staff, "stocks" 20,000 ebooks in four different formats from 120 publishers and has offices in Perth, London and Boston. It is truly born global as 95% of its purchase transaction are from outside Australia and only 1% of its content is from Australian publishers. They are well positioned to own a substantial slice of the ePublishing marketplace of 2005 and beyond.

Digital publishing will not remain the preserve of the established publisher. eCommerce infrastructure services that allows authors and journalists to publish, promote, license and sell their works on line have already been established but unfortunately, with less than stellar commercial success, most have now closed. As the market matures the viability of these services will improve, certainly the need is there to overcome "channel choke".

#### 4.3.5 Other Cultural Content.

Cultural content is primarily the material held in libraries, galleries and museums in Australia that helps define Australia's history, society and achievements. While much of this material could be out of copyright a substantial proportion could consist of reasonably contemporary collection of material from publishers, artists, photographers and musician that would still be in copyright.

Cultural content by its very nature is produced in the context of a domestic environment. This is what makes it an Australian cultural product instead of a product of another market.

This does not mean that some cultural content cannot attain a world audience or have cross cultural influences and resonance. Many Australian artists attain recognition on a global scale. In some cases they may be better known internationally than in Australia.

The opportunities in cultural digital product are immense. Many of our Cultural institutions have substantial archives of material and content that can form the basis of new digital productions. By forming partnerships with the digital production community, these assets can be realised and allow broader access to Australians and an international audience. There is a specific case to be made to increasing the access to cultural collections by the education market as was the case in the Australia on CD projects of the 1990s. This provided unique multimedia content based on collections of our institutions with a focus on primary and secondary schools, and was instrumental in the development of the sector at that time.

Unlocking the value of Australia's cultural content requires:

- 1 substantial coordination on standards;
- 2 a series of digitisation projects to create a critical mass of resources
- 3 a rights managed digital exchange where material can be located and acquired.

#### 4.3.6 Corporate Internet,

Fee-for-service work or corporate Internet production is the primary source of revenue for the majority of Australian digital media production sector. This is what pays the bills and gives producers the ability to develop their skills and develop creative projects in spare capacity. The Corporate internet sector is highly competitive with a range of firms having developed key client relationships in each state and capital city market. This is very similar in nature to the Advertising agency model, where key design, development and strategy is outsourced to specialist development firms by many large corporates. The challenge is to be able to grow both the corporate services sector and have time to develop creative IP based projects. With the shortage of venture capital funding and grants available for digital content, this sector remains the most viable for survival of the industry. This is similar to the default of film and television sector to work in corporate video or television commercial production between creative projects.

The Canadian report "Filling the Pipe" also identified the dependence of fee-for-service work as a barrier in developing a strong creative digital content sector as the demands of both markets tend to drain resources from an organisation.

#### 4.3.7 Digital Content Related Software,

Many Australian digital producers have developed a range of software related tools and services for their clients and own use. These range from content management and digital asset management systems, to scheduling, billing and playout systems. Most of these tools have been developed out of necessity to be able to survive with limited resources and project budgets. Many developers now license these tools and services to corporates and other media companies as a secondary source of income outside of content or fee-for-service production. These products are highly innovative and in general have been developed outside of the R&D incentive schemes via sweat equity.

These applications assist in creation or manipulation of content and the management and delivery of content.

#### 4.3.8 Interactive and Online Games.

*"Though the global videogame market was just \$28 billion in 2002, some people think it's on track to rival the movie, music, or television industries, perhaps by the end of this decade. Music sales have been falling in recent years, the moviegoing experience hasn't changed that much since Gone With the Wind, and network TV is on the skids. The games business has been racking up double-digit growth rates for the past decade, even through the recent tech slump."*

Source: Fortune Magazine: VideoGames, The Biggest Game in Town: Music? Sales down. Hollywood? Hit or miss. Tech? Flat. No wonder everyone wants to be in videogames. Tuesday, September 2, 2003

It is most relevant to quote from the recent submission from the Games Developer Association of Australia to the House Of Representatives Standing Committee On Communications, Information Technology And The Arts Inquiry Into The Future Opportunities For Australia's Film, Animation, Special Effects And Electronic Games Industries

*"The global market is forecast to peak again in 2008 with revenues of \$US40 billion, with online, mobile and interactive television accounting for one third (Informa Media Group, UK 2002). Projected sales in North America for video game consoles, software and accessories are expected to be \$US10 billion by end 2002, representing an increase of 25 percent from 2001 (Interactive Digital Software Association: [www.idsa.com](http://www.idsa.com)). Global console hardware sales are forecast to reach \$US44 million in 2002, with half of that going to Sony PlayStation 2 (PS2). Lifetime sales of the PS2 are forecast to reach 100 million compared with 23.2 million for Xbox and 64.6 million for GameCube. Sales for Nintendo Gameboy and PC are starting to fall (Informa Media Group, UK 2002).*

*In relation to emerging competitors, the following has been forecast by Informa Media Group in the UK (2002):*

- *Internet: Globally, there will be 7.3 million internet game players by end 2002, generating revenues of \$US328 million. By 2010, there will be 56.7 million players worldwide creating revenues of \$US4.7 billion*
- *Mobile/Wireless: Estimates are that the wireless game market will be worth \$US4.3 billion by 2003 (Ovum Research), rising from a billion dollar market in 2004. By 2010, the 743 million wireless players will generate revenues of \$US9 billion*

- *Interactive Television: Global game revenues forecast to climb from \$US73 million in 2001 to \$US7 billion in 2010. The majority of this growth is expected post 2006 assuming broadband networks are more ubiquitous. Global Market Summary*
- *The Personal Computer (PC) games software market is broken into two major regions: the US (35%) and Europe (37%), which collectively comprise 72 percent of worldwide market followed by the UK (10%), Rest of World (15%) and Japan (3%)*
- *The largest market for game consoles is the US (36%) followed by Japan (27%) and Europe (20%)*
- *The US has the largest number of game developers by volume (44%) followed by Japan (33.3%), UK (15.3%), Rest of world (10%), Germany (2.1%), France (1.7%) and Canada (1.5%) (All figures sourced from Department of Trade and Industry, UK, 2002).*

Source: Games Developer Association of Australia

#### 4.3.9 Consumer Cross-media

The emerging issue for producers, content developers and broadcasters alike, is how to address the diverging range of devices and methods by which consumers receive information and content. This access to web, television and rich media content is increasingly being referred to as cross-media, content delivered on more than one platform.

The challenge in this is there is no hegemony of technology, devices and standards in international markets let alone in consumer homes.

Currently the main area of audience interaction for consumers in the absence of a viable ITV market has been resoundingly SMS. More producers and networks are using mobile phone messaging to allow users to interact with live television, vote, play along, send an on-screen message. The penetration level of mobile in the Australian market is high and this is similar in other traditional television sales markets. SMS also has an advantage in that a revenue stream is built into the platform which is shared by the carrier, content producer and the Network. The equality of the split of revenue is still a challenge with carriers taking 50-60% of the transaction fee, so only the programmes with the highest audience participation get any real financial benefit.

Increasingly we will see more consumer cross-media being developed as producer, networks and advertisers chase an ever-fragmenting audience for attention.

## SECTION 5: POTENTIAL OVERSEAS MARKETPLACES FOR THE AUSTRALIAN CREATIVE DIGITAL INDUSTRY

International opportunities for producers of digital content and services are ever increasing, and much can be learnt by examining the actions of our international partners. Australia is not alone in trying to reconcile having domestic content that represents its cultural values and commercial viability. Very few markets have the size of population, the network infrastructure and the device penetration necessary to support a viable business case for a focus purely on a domestic market.

Historically Australian content has sold well in Europe, UK and Canada and increasingly in Asia. There is no one digital market; it is highly dependent on a firm's specific area of focus, matched with the technology penetration of the target market.

Currently the UK is the hot interactive TV market driven by the market success and investment by BSkyB and others. Korea is the leader in broadband and massively multi-player online games. Canada is fostering a cross-media TV/Online production community. Japan has a unique market for mobile content in Docomo. And for all its dominance of mainstream media there are opportunities in the US market for innovation in content and distribution strategies. China is the emerging market in terms of sheer audience size and commercial potential and should not be overlooked in any company's strategy.

Australian digital media businesses participate in all of these sectors and have opportunities in each of these markets.

### 5.1 THE CANADIAN MARKET

Table 15: Canada Market Size

Metric	Measure	Year
Population	32.2 mil	
TV Households	16.5 mil	
Subscription Households	8.2 mil	
Internet Users	16.8 mil	
Mobile Cellular telephones	8.7 mil	1997
Internet Users	16.84 mil	2002
Broadband per 100		

Source: 2002 pay tv report Bloomberg television

#### 5.1.1 Industry Support Mechanisms

The Canadian government has various support mechanism and agencies to stimulate culture and industry.

## Telefilm Canada

“Telefilm Canada is a federal cultural agency dedicated primarily to the development and promotion of the Canadian film, television, new media and music industries. Telefilm Canada reports to the Department of Canadian Heritage.

The Corporation provides financial assistance and strategic leverage to the industry in producing high-quality works - e.g. feature films, drama series, documentaries, children's programming, variety shows and new media products - that reflect Canadian society, including its linguistic duality and cultural diversity. Telefilm Canada's current annual budget is approximately \$230 million.

The Corporation's initiatives aim to ensure the widest possible audience for Canadian works, both in Canada and abroad, through support for distribution, export, versioning, marketing and industry promotion at Canadian and foreign festivals, markets and other events.

Telefilm Canada maintains four offices in Canada (in Montréal, Toronto, Vancouver and Halifax), along with a European office, located in Paris.”

Telefilm Canada is the main federal agency for developing screen based cultural projects and industry. Telefilm has a similar mandate and structure to the Australian Film Commission (AFC). Telefilm funding (\$200+ million Cdn) is ten times that available to the AFC and three times that of the Film Finance Corporation (FFC).

Telefilm is the key agency for developing Canadian industry and is responsible for co-production approvals. Telefilm Canada, a cultural investor in film, television, new media and music

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The Corporation provides financial assistance and strategic leverage to the industry in producing high-quality works - e.g. feature films, drama series, documentaries, children's programming, variety shows and new media products - that reflect Canadian society, including its linguistic duality and cultural diversity. Telefilm Canada's current annual budget is approximately \$230 million.

## Bell Broadcast and New Media Fund

The Bell Fund has invested in the development of new media projects associated with television productions since 1997. Bell ExpressVu makes annual contributions of approximately \$6 million to this Fund. The Bell Fund's objective is to benefit the Canadian broadcasting system by encouraging the development and production of Canadian content for digital media and television, and by stimulating partnerships and learning among members of the new media and television industries.

- encourages and funds the creation of excellence in Canadian digital media
- promotes partnerships and sustainable businesses in the broadcast and new media sectors
- engages in research and sharing knowledge



- Enhances the national and international profile of industry stakeholders.

The Bell Fund is a not-for-profit organisation, certified by the CRTC as an independent production fund eligible to receive and administer contributions from broadcast distribution undertakings. It is governed by a nine member Board of Directors operating as an arms-length corporation with representatives from broadcasting, the television and new media production sectors and from Bell Expressive and its affiliates.

## 5.2 THE SOUTH KOREA MARKET

Table 16: South Korean Market Size

Metric	Measure	Year
Population	46.7 mil	
TV Households	16.5 mil	
Subscription Households	8.2 mil	
Mobile Cellular telephones	28 mil	2002
Broadband Games Subscribers	10 mil	2002
Internet Users	25.6 mil	2002
Broadband Installed	3mil	2002
Broadband Forecast	20 mil	2005
Broadband Installed per 100	18%	2002
	100%	2005

Source:2002 pay tv report Bloomberg television

Source:Gateway to Korea Report: Korea IT Promotion Agency

Table 17: The scale of the South Korean Creative Digital Industry US\$Millions

	2001	2002	Growth Rate
Production	1,590	2,124	33.6%
Distribution	295	451	52.8%
Solutions	338	503	48.9%
Total	2,223	3,078	38.5%

Source:Gateway to Korea Report: Korea IT Promotion Agency

Table 18: Korea's Creative Digital Industry and its Exports in 2002

Sector	# of Companies	# of Employees	Korean Market Estimate 2002	Korean Exports 2002 US\$
Online Games	405	23,594	\$268	\$44.8
Content Solutions			\$503	\$44.0
Animation	200	9,500	\$280	\$14.9
Internet Content VOD	5		\$350	\$13.1

Table 18: Korea's Creative Digital Industry and its Exports in 2002

Sector	# of Companies	# of Employees	Korean Market Estimate 2002	Korean Exports 2002 US\$
Mobile Games			\$36	\$12.5
Total	610	33,094	\$1,437	\$129.3

Source: Gateway to Korea Report: Korea IT Promotion Agency  
<http://www.apectel28.com.tw/document/webword/cont/telwg28-CONT-08.ppt>

### 5.2.1 Industry Support Mechanisms

Korea IT Promotion Agency (KIPA) - annual budget \$260 million US dollars

Aims:

- assist start-up companies;
- offer incubation, financing guidelines;
- promote the Digital Content Industry,
- games, animation, internet, mobile;
- train IT human resources;
- develop IT industry promotion strategy;
- facilitate global cooperation
- policy establishment & promotion planning for Korea digital contents industry;
- infrastructural support for the domestic market activation;
- facilitate global cooperation and help Korean developers go overseas;
- encourage business development through co-production, co-financing;
- acquiring & transfer "up-to-dated technology" for Korean DC industry.

## 5.3 THE JAPANESE MARKET

Table 19: Japan Market Size

Metric	Measure	Year
Population	127 mil	
TV Households	47.5 mil	
Subscription Households	9 mil	
Mobile Cellular telephones	63.8 mil	2002
Internet Users	56 mil	2002
Broadband per 100		

Source: OECD development of broadband 2001, World Fact book, 2002 pay tv report Bloomberg television.

### 5.3.1 Industry Support Mechanisms

*"While Europe is building anticipation of what its mobile Internet will be, the Japanese market has already created 35 million subscribers to mobile Internet services! "*

## Their Market message:

*"Nobody wants to reinvent the wheel: you can take advantage of the Japanese experience to build or validate your business plan, acquire a culture of miniaturization (the mobile keyboard and the mobile screen), identify services that sell in the street, in the cars and while commuting, find new and efficient methodologies, exchange software and know-how with your Japanese partners."*

Source: <http://www.japan-mobile-net.com/index.htm>

## 5.4 THE SINGAPORE MARKET:

## "Creative Media Connected Society"

Table 20: Singapore Market Size

Metric	Measure	Year
Population	3.5 mil	
TV Households	1.1 mil	
Subscription Households	.340 mil	
Mobile Cellular telephones	2.74 mil	2002
Internet Users	2.31 mil	2002
Broadband		

Source: 2002 pay tv report Bloomberg television

Table 21: Direct Economic Contributions Of Singapore's Creative Industries, 2000

Creative Industry	Receipts (S\$Million)	VA (S\$Million)	Employment (Number)	VA/Worker (S \$)	Exports (S\$Million)
IT and Software Services	2,892	1,137	14,290	79,661	312
Advertising	2,010	510	5,584	91,332	85
Broadcasting Media	1,212	229	3,747	61,116	25*
Publishing Industries	925	283	4,972	56,919	68
Interior, Graphic and Fashion Design	653	187	4,863	38,865	NA
Architectural Services	616	433	7,185	60,264	45
Art/Antique Trade, Crafts	192	36	1,945	18,509	0.5
Performing Arts	125	71	2,003	35,447	NA
Cinema Services	121	53	938	56,503	NA*
Photography	80	27	1,137	23,747	NA
Industrial Design	28	12	186	64,516	NA
All Creative Industries	8,853	2,977	46,850	63,543	536
All Distribution industries	8,803	2,022	31,868	59,264	3,129
Total	17,656	4,999	78,718	61,740	3,665

\* Exports for cinema services are subsumed under figures for broadcasting media in Singapore's Trade Classification.

Source: Singapore Department of Statistics

#### 5.4.1 Industry Support Mechanisms

The Singapore Media Development Authority (MDA) is playing the leading role to grow the local media industry to realise Singapore's vision of a global media city. Their Media 21 blueprint outlines the strategic thrusts to grow the local media industry - from TV, radio broadcasting, film, print and publishing to digital media.

##### Aim

- Position Singapore as a Media Exchange
- Export made-by-Singapore content
- Develop and deploy digital media
- Internationalize Singapore media enterprises
- Augment media talent
- Foster a conducive business and regulatory

#### Singapore Development Programmes

##### Content Development

- TV Content IDS (Industry Development Scheme)
- SFC (Singapore Film Commission)
- Co-Production Investment Programme
- SFC Feature Film Investment Programme
- SFC Short Film Grant
- SFC Overseas Travel Grant

##### Capability Development

- Media Education Scheme
- Capability Development Scheme

##### Digital Media Development

- Digital Content Development Scheme
- Digital Technology Development Scheme

##### Market Development

- Market Development Scheme

Singapore's 2003 budget included \$60m to promote and develop the Information and Communications Technology sector:

- Facilitate 28 MNC-local partnerships in bringing products to market under the Infocomm Local Industry Upgrading Programme.
- Support 60 strategic projects to encourage innovation mainly in emerging technologies such as wireless, web services and digital media.
- Train 2,590 infocomm professionals to meet the needs of the industry, in areas such as project management, e-commerce, networking, web services, security and wireless.

- Showcase abilities of infocomm enterprises and demonstrate benefits in at least 3 flagship infocomm adoption projects.

As well \$17m was provided to supplement the Public Service Broadcast fund to produce info-educational, arts, cultural, children's and minority programmes for TV and radio.

## Environment

Increase the media industry's GDP from the current 1.56 per cent to 3 per cent by embarking on extensive promotional efforts in co-productions, animation production, multimedia content creation, content financing and ownership, marketing and distribution, and R&D projects. To boost the industry's manpower capability needs, stimulate high quality exportable media content and spawn new export market for made-by-Singapore content

## 5.5 THE UK MARKET

The UK is the second biggest exporter of analogue and digital media after the USA. They initiated plans in 2001 to ensure that they remain a dominant supplier of digital content. Because of the massive distribution infrastructure investment by BSkyB in interactive Digital TV the UK markets is the most advanced in the world in understanding the creative implications and the business models of digital TV content.

Table 22: UK Market Size

Metric	Measure	Year
Population	60.3 mil	
TV Households	tba mil	
Subscription Households	tba mil	
Mobile Cellular telephones	43.5 mil	2000
Internet Users	34.3 mil	2002
Broadband per 100		

Table 23: UK Creative Industry and Creative Digital Industry Production

Sector	Employment 2001	Revenue 2001 UK Pds Million	Exports2001 UK Pds Million	Export Share of Revenue
Film & Video	45,000	£3,600	£653	18%
Interactive Leisure Software	21,000	£1,000	£503	50%
Music	122,000	£4,600	£1,300	28%
Publishing	141,000	£18,500	£1,654	9%
Software & Computer Services	555,000	£36,400	£2,761	8%
Television & Radio	102,000	£12,100	£440	4%
Advertising (2)	93,000	£3,000	£774	26%
Design	76,000	£26,700	£1,000	4%
Estimated Total	1,155,000	£105,900	£9,085	9%

Source:UK Creative Industries Mapping Study 2001 Summary Report

### 5.5.1 Industry Support Mechanisms

The UK Film Council annual funding is approximately £56 million

The Digital Content Forum is the peak industry body that has been formed to drive the UK's programme. <<http://www.dcf.org.uk/>> and <[http://www.dti.gov.uk/industries/digital\\_content/](http://www.dti.gov.uk/industries/digital_content/)>

## 5.6 THE USA MARKET

By all analysis the USA is the key media market in terms of production output, audience size and consumption. While Australian exporters' share of US audience and box office is minimal, the impact of the US business on the viability of the Australian industry is critical. A single USA territory sale can make the difference in the viability of a production or a business. US originated "work for hire" or "runaway" production is also a major contributor to Australia's film, visual effects and games industries.

Table 24: USA Market Size

Metric	Measure	Year
Population	300 mil	
TV Households	106mil	
Subscription Households	89 mil	
Mobile Cellular telephones	69.2 mil	2000
Internet Users	166 mil	2002
Broadband per 100		

Table 25: USA Creative Digital Industry Production

Sector	Employment 2001	Revenue 2001 US\$Millions	Exports2001 US\$Millions	Export Share of Revenue
Film & Video		10,844	14,690	
Interactive Leisure Software				
Music			9,510	
Publishing			4030	
Software & Computer Services			60,740	
Television & Radio	270,000	54,400		
Advertising				
Design				
Estimated Total	7,972,000	791,200	88,970	

Source:AFC Sept. 2003 FTA background

Source:Copyright Industries In The U.S. Economy: The 2002 Report

Stephen E. Siwek, Economists Incorporated.

Source:

### The USA Opportunities:

Australian creative industry has been successful in establishing service and supply relationships in the USA. Our visual effects, games, animation and post-production houses are all seen as world-class, and have been involved on many USA originated projects.

Except for a handful of projects, other sectors such as broadband, mobile and web services have yet to make the leap across the Pacific. The same case can be made for these sectors in terms of quality, cost competitiveness and innovation that we are now known for in Visual effects and animation.

Australia is already ahead in some market areas such as Digital television and Mobile SMS integration with television. How we leverage these advantages will have a major impact on our positioning in the digital services sector.

### Niche Opportunities.

A number of market opportunities exist for Australian content owners and publishers in new and evolving market channels, where the US media majors may not be adequately addressing demand, perhaps due to digital media conservatism. For instance there are some 200,000+ households in the USA connected to fully secure digital broadband cable networks that could be ready markets for Australian movies, TV programmes, sports, music and digital entertainment. The channel owners and affiliates are continually looking for content to increase the range of customer usage and therefore improve the retention rates.

## 5.7 THE CHINA MARKET

Table 26: China Market Size

Metric	Measure	Year
Population	1,286,975,468	July 2003
TV Households		
Subscription Households		
Mobile Cellular telephones	65 Mill	2000
Internet Users	45.8 Mil	2002
Broadband per 100		

Source: 2002 pay tv report Bloomberg television

China is often referred to as the sleeping giant of markets. The potential impact of this market as a consumer and producer of digital media is vast. Historically Australia China business relationships have been strong. Joint co-productions have already delivered skills and financing to a variety of childrens and film projects.

Our time band proximity to China and other Asian markets is a significant advantage, coupled with a better understanding of cultural issues in the region than many other players.

### Opportunities

With the Olympics scheduled in Beijing 2008 there is significant opportunity for Australian media and IT companies to assist in this delivery, as was the case in Sydney 2000. Austrade has been assisting firms in making local contacts and advising on tenders in this area.

Wireless is also a major opportunity in China as they leapfrog traditional copper rollouts in some regions and go straight to next generation wireless for voice and data.

## 5.8 THE NZ MARKET

Table 27: NZ Market Size

Metric	Measure	Year
Population	3.8 mil	
TV Households	1.24 mil	
Subscription Households	.539 mil	
Mobile Cellular telephones	2.2 mil	2000
Internet Users	2.06 mil	2002
Broadband per 100		

Source: 2002 pay tv report Bloomberg television



## SECTION 6: THE CONTRIBUTION OF CURRENT GOVERNMENT SUPPORTED PROGRAMMES

Just as there are similarities between the Creative Digital Industry and the Wine and Tourism industries, there are important lessons to be learnt from the success (and failures) of current and past government programmes that intersect with the industry.

**Market Access:** In all cases Australia is a long way from anywhere, and while digital facilitates the break with traditional geographic based production issues, the industry is still about people, skills and relationships.

It is essential that digital producers be supported in access to international markets and sales missions. While EMDG funding and AFC grants go some of the way to support this need, the demand for support far outstrips their limited budgets. These programmes are therefore generally oversubscribed which has a negative impact on innovation; worthy but unsuccessful candidates have wasted a substantial amount of their time on applications when they could have been applied to an activity with a higher likelihood of success.

**Marketing Support:** By collectively marketing the Digital Industries capability, in a similar way as AusFilm does for film, we can assist in making the connections both inbound and outbound for the digital sector.

**Data subsidy:** Our digital sheep are too expensive to ship. Due to domestic market dominance and international peering arrangements, the cost per megabyte of data is far too high. This is a serious disadvantage for Australian producers in getting their goods to a market or audience. If we are internationally uncompetitive this halts investment in innovation in content or conversely may result in moving the content and delivery offshore. This would include the Intellectual Property and revenue that it generates as well as any tax benefits for Australia.

### 6.1 EXPORT DEVELOPMENT PROGRAMMES

#### 6.1.1 Austrade

Austrade's priority is growing the number of SMEs who are exporting and growing the exports of these SMEs.

Its primary strategy is using the TradeStart programme through partner organisations such as Australian Business Limited, AIMIA, Australian Wine Export Council. Austrade manages the New Exporters programme of which TradeStart is a part.

There are 80 staff in Austrade's services section which addresses: Education, Professional Services, Franchises, Tourism, Art, Culture and Entertainment.

Austrade works with specific market experts and agencies such as AusFilm (inbound location promotion) which operates within the Trade Commission offices in LA.

A number of interviews indicated that the fees that Austrade needs to charge for many of their services under its "user pays" charter creates real problems for Digital Content companies and will make it much more difficult for Austrade to achieve its objective.

SMEs either don't have the funds or begrudge diverting any funds from product and creative development towards marketing. They will tend to try to market themselves and gather market information informally rather than spend money on Austrade services. While this may reduce the SME's success rate it is a fact of life.

Austrade's current objective is to double the number of SMEs that are successful at exporting. For them to achieve this with Digital Content SMEs will be difficult if they do not address this issue.

#### Export Market Development Grants (EMDG)

It is a concern that the Creative Digital Industry has a low proportional participation in Austrade's EMDG programme.

Table 28: Digital content share of Austrade's export grants scheme

EMDG scheme	2000/1	2001/2	2002/3
Total Funding (\$m)	150	150	150
Total number of companies receiving a grant	3214	3018	3795
No of DCA companies	143	136	151
as a % of total	4.5	4.5	4
Total DCA funding (\$m)	7.1	8.3	6.7
as % of total funding	<b>4.7</b>	<b>5.5</b>	<b>4.5</b>
DCA export/domestic turnover ratio - average	26:74	32:68	32:68

Source: Austrade; QUT and Cutler & Company analysis.

The EMDG scheme, which used to work well, is now seen by the marketplace as being in difficulties due to its budget constraints. Promoted as being a 50% rebate on allowable promotional expenditure in the prior year, the very success of the programme and the expansion in the number of exporters using it, has taxed its fixed budget. This has had the affect of reducing the amount that exporters may receive as a rebate on promotional expenditure to as little as 30 cents for every dollar spent. If the company has been budgeting for a 50% rebate then they may have a large cash shortfall which could reduce their ability to invest in export development in the current year.

Rebates are seen by the industry as an effective way for government to support specific activities with a minimum of administration overhead. Rebates reward action and upfront investment. Unlike upfront cash grants, a company is not required to exhaustively justify in advance its plans and expenditure and then wait for approval. Up front grants can, in many cases, slow down what should be fairly routine investments in promotion and marketing. However where cash flow is very constrained it may be hard for SMEs to fund an activity upfront.

#### Trade Start

TradeStart is a recent initiative of Austrade and replaces the Export Access programme:

*"It is a national network of export assistance offices in partnership between Austrade and a*

*range of local private and public sector organisations throughout Australia. TradeStart is an integral part of Austrade's domestic network.*

*Austrade and TradeStart offer a package of free services designed to assist small and medium sized Australian companies develop their business overseas and make their first export sale.*

*The programme gives Australian businesses the best possible start to exporting, by providing a wide range of free services to new exporters including advice and information about getting into exporting, export coaching and assistance on the ground in foreign markets."*

Source: Austrade's TradeStart website.

The Australian Interactive Media Industry Association (AIMIA) is one of the partner organisations providing the "on the ground expert" executives. Each is responsible for recruiting approximately 20 companies each year that have the objective of being significant exporters within 18 months to 2 years. They therefore manage up to 40 companies at any one time.

Most of AIMIA's TradeStart members are interactive games and interactive media developers and these require specialist export and business skills that would not normally be found within Austrade.

Feedback from the market is that the TradeStart programme is effective in ensuring SME are export ready and in some cases "Born Global". However the TradeStart programme by itself is not enough. The programme also is important to the smaller industry associations as it allows them to increase the services to members. The 10% TradeStart administration contribution that is payable to the supporting association can also make a big difference to the smaller associations that are always short of resources.

There is a strong need in the early stages of export development for very focused trade missions accompanied by informed case managers who have a long-term relationship with the prospects and the emergent exporters. The more frequent the trade missions the greater the sales potential will be. Four to six months between missions in a specific market sector would be ideal.

There is also a need for greater training to founders and CEOs. Anecdotal evidence suggests that there is a significant difference in the level of sales skills and the effectiveness of approach between Australian and US executives. Most export development for small companies needs to be conducted by the founder or CEO and these are usually not experienced sales executives.

The US business development executive considers it normal business to quickly communicate the achievements and recognition that their firm has achieved when meeting new prospects. Unless explicitly trained in senior executive sales techniques, Australians are generally uncomfortable with doing this as they see it as boasting and prefer to promote their technology, product or service. They therefore are more successful where there is a respected independent "broker" who can establish their credentials with the prospect and then allow the two parties to communicate about business and product benefits.

## AusFilm

Ausfilm, based at Fox Studio and in LA is a marketing organisation which attracts US films to be filmed and produced in Australia. While they have been very successful at this they have not been able to attract as great a proportion of US outsourced post-productions. The post-production area is growing substantially as a proportion of film budgets. There is frequent discussion about when the digital effects that are part of post-production become seamlessly integrated into the production process as well. When the capturing and creation of a movie is digital from start to finish, using real and digital sets and actors, then there is little distinction between this and post-production.

There is strong evidence that the amount of US "Footloose" production that is able to be captured has reduced dramatically in recent years. The past 3 years numbers appear impressive but are almost wholly attributed to two projects, Star Wars prequels I, II, III and Matrix II, III. Without these the inbound production sector figures are substantially down on previous years.

It is also of concern that AusFilm seems to be purely focused on the US Hollywood market when there would appear to be a number of other countries in Asia very interested in co-production and production agreements with Australian producers.

## 6.2 INDUSTRY DEVELOPMENT PROGRAMMES

### 6.2.1 FIBRE

FIBRE is one of the existing programmes that is potentially most significant to all sectors of the Creative Digital Industry.

FIBRE Pty Ltd. was formed by a working party of industry participants and received \$650,000 funding from the Department of Communications, Information Technology and the Arts (DCITA) over several years from October 2001.

From November 2001, FIBRE set about negotiating with telecommunications carriers to achieve the aggregation of film and television post-production industry demand to provide more affordable bandwidth, which in turn would enable increased collaboration within the industry. This would provide the means by which they can compete more effectively for international business. As a result of the above funding, FIBRE has acquired significant expertise over the last eighteen months in the areas of post-production industry structure, location, size, data usage, bandwidth requirements and broadband applications and usage. This knowledge encompasses local, regional and international use of data transmission.

Several of the submissions to the House of Representatives Film inquiry see the potential for a well resourced FIBRE to fulfil a major support role in developing the collaborative nature of the industry, reducing costs of moving "production" and "distribution" data both domestically and internationally.

While FIBRE has received additional support from DCITA for the 2003/04 financial year (\$155K) it is essential that this support be both extended for a minimum of five years and substantially increased to provide the benefits that FIBRE can contribute to an expanded digital content industry in many city and regional centres.

A successful rollout of FIBRE as a dedicated industry “carrier” is essential to connect Australian producers and content owners to the rest of the production world.

Refer to Recommendation 3: Substantially grow the FIBRE programme as a national priority on page 100

### 6.2.2 AFC

The Australian Film Commission (AFC)<sup>1</sup> is the Australian Government's agency for supporting the development of film, television and interactive digital media projects and their creators. The AFC focuses its efforts on the independent production sector-companies and individuals who are not affiliated with broadcasters or major distribution and exhibition companies.

The AFC has a range of marketing support, development and production funding targeted at digital media.

#### Broadband Production Initiative

In August 2001 Senator the Hon. Richard Alston, Minister for Communications, Information Technology and the Arts, announced the establishment of a Broadband Content Fund (\$2.1 million over 3 years) to be administered by the AFC. The purpose of the fund is to finance innovative broadband content, with the emphasis on high end, high-technology content, including interactive applications.

The fund supports the creation of content that demonstrates quality, originality and creative ambition, is genuinely interactive and explores the possibilities of a broadband environment in innovative ways. \$200,000 to \$500,000 per project

Children's, youth or educational projects that explore the interactive broadband environment and are specifically developed and produced for broadband delivery. Projects that also have cross-platform elements appropriate to other media delivery systems, whether hard-media, network or broadcast based are encouraged.

Teams should be appropriate to the particular project, but are expected to include the relevant content creation, production management, technical and (where appropriate) educational expertise.

The AFC has been active in new media since 1991 and is one of the main federal funding agencies for the development of the creative use of interactive digital media in Australia. It does this through funding projects (Project Development), providing opportunities for public access (Industry and Cultural Development) and promoting interactive digital media products (Marketing). See also Broadband below for additional funding starting in 2002.

#### AFC Project Development and Production

Development funding provides financial assistance associated with a project in its early stages including script writing, research, interface design, technical specifications, crea-

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1. Declaration of Interest: one of the Authors of this report (Tom Kennedy) has been a Non-executive Director of the AFC since 2002.

tion of a prototype or securing of production finance and market placement. The AFC supports interactive digital media projects and practitioners in the entertainment, arts, and to a limited extent, the education areas.

This includes, but is not limited to, interactive dramas, documentaries, animation, experimental works, rich-content electronic or computer games, and innovative educational projects providing professional development opportunities. These can be across a range of delivery platforms and include, but are not limited to, hard-media based CD-ROM, DVDROM and games consoles, as well as projects delivered by network-based interactive platforms such as the Internet, interactive television, WAP, and other satellite or cable based delivery systems. The Experimental Digital Production Fund supports the production of experimental digital media projects that have no likelihood of commercial or marketplace financial support. The fund supports experimental digital projects of both an interactive and a non-interactive nature.

#### Interactive Digital Media Fund

Provides the wider Australian community with opportunities to access screen activities. Supports the development of the interactive digital media industry including exhibitions, festivals, screening events, seminars, awards, conferences, publications and critical writing. Funding can be in the form of grants or loans and are available to individuals, companies or organisations.

#### AFC Marketing

Promotes Australian interactive productions and industry practitioners internationally and fosters an environment that encourages sales and distribution of Australian productions nationally and internationally. Activities are focused on providing marketing support to innovative and exploratory projects. Assistance is in the areas of travel, marketing and festivals advice.

#### AFC Indigenous Programme

Provides targeted funding toward projects and initiatives which best enable Indigenous people to enter or further develop in the field of interactive digital media.

#### 6.2.3 COOPERATIVE RESEARCH CENTRES

Out of the 64 current Cooperative Research Centres (CRCs) there is currently only one, the new Australasian CRC for Interaction Design (ACID) Pty. Ltd., that is focused on addressing the specific needs of either the Creative Industry or the Creative Digital Industry. While the newly established National ICT Australia centre and to a lesser extent the Distributed Systems Technology Centre (DSTC) and the Smart Internet Technology CRC have some degree of intersection with the Creative Digital Industry this area is not core research for them.

Just as the Wine and Tourism Industry had their specific CRCs into different aspects of their industries, it is essential for the long-term competitiveness of the Creative Digital Industry that there are a number of researched centres that are funded to undertake the

longer term research. This type of research is unlikely to be undertaken within the commercial sector because of their required focus on commercialisation, development and short and near term research. However CRCs working in partnership with industry can provide an extremely effective path from research through to commercialisation and exporting.

#### 6.2.4 R&D Start Programme

While there is a good awareness of the R&D Start Grant scheme it is little used by creative digital organisations. Perceptions are that it is hard to be successful in obtaining a grant and that the level of administration required to comply once if a grant is obtained is high.

There is also very little awareness by small technology company of the recently introduced R&D Start Tax rebate scheme for SMEs. This needs to be promoted to them.

According to the analysis of QUT and Cutler & Company:

*"Digital content firms are underweight in government industry R&D support: they represented 2% of R&D Start Grant recipients in 2000/1 and 1% in 2001/2, and received 3% and 0.5% respectively of total funding for each year. This situation largely results from the fact that standard definitions of R&D used in grant guidelines and for tax concessions discriminate against "soft" technologies, and this has been raised as an issue to be addressed in several jurisdictions, including the UK and New Zealand."*

Source: Research and Innovation Systems in the Production of Digital Content and Applications:  
Cutler & Company and QUT CIRAC<sup>1</sup>

A further issue is that Creative Digital Industry R&D is most often applied to the internal infrastructure that provides a competitive advantage in delivering products and services for multiple customers. But because it is infrastructure and, as such, not licensed or sold to customers it is, *prima facie*, ineligible. Ensuring an R&D investment complies with Start Grants criteria requires creativity and distortion of business models resulting in delays, all of which may have a substantial negative impact on the company.

#### 6.2.5 Cluster and Incubator programmes

The \$78 million Building on Information Technology Strengths (BITS) Incubator Programme has funded ten incubator centres across mainland Australia. The programme has just completed the third year of its four-year life cycle and a number of business incubators have had some commercial success in a very difficult economic climate for innovation. Incubators work well for exporters as it helps companies establish their profile at an early stage through the visits to the incubator of interested parties and through skill transference, shared PR and promotions. At this stage the 10 incubators have in total enrolled some 135 companies of which 17 could be classified as being members of the Creative Digital Industry.

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1. Queensland University of Technology Creative Industry Research and Applications Centre

Table 29: BITS Incubators and Creative Digital Industry Representation

Incubator	Location	BITS Investment	# of Investees	# of CDI Investees	CDI Companies
Australian Distributed Incubator (ADI)	Multi-state	\$7.0m	13	0	
Bluefire Group	NSW	\$6.0m	7	2	iTVWorld, glassonion
Epicorp	ACT	\$8.0m	7	1	MediaWare
EiR Entrepreneurs in Residence	WA	\$10.0m	17	0	
A&B Seed Stage Ventures (formerly e-Park)	NSW	\$5.0m	23	3	MicroForte, Next Generation Entertainment, Mobile Internet Group
Information City Victoria	VIC	\$8.0m	20	2	Crossout, DES
InQbator	QLD	\$9.5m	8	3	editforce, whilemobile, Humanarena
ITem3 (formerly IT Catalyst)	NSW	\$7.37m	10	2	Piction, ZAPTV
Original IT Investments Pty Ltd.	NT	\$5.0m	5	1	iLiveLearning
Playford Capital	SA	\$10.0m	25	3	LottoTV Corporation, Tecreation
Total		\$75.87m	135	17	

Some interviewees commented that if the Incubators were located within clusters, the success rate and growth rate of the new companies would be higher. This would happen because of cluster effects where for example the cast offs from the established companies can help feed the new companies. Having companies of different size, background and experience constantly rubbing shoulders in shared facilities encourages cross-fertilisation and teaming.

### 6.3 SKILLS DEVELOPMENT PROGRAMMES

#### 6.3.1 AFTRS and NIDA

##### AFTRS

AFTRS is a specialist centre of excellence providing elite training for talented filmmakers and broadcasters, both potential and existing. Its courses and programmes focus on the importance of locally developed storytelling in an Australian cultural context.

In a new initiative, AFTRS has recognised the difficulty that traditional Master of Business Administrators and business graduates have in being effective in the creative and entertainment production industry while, at the same time, there is a strong need for creative talent to be in rewarding careers and with successful companies. AFTRS is currently seeking to instigate a major programme on entrepreneurship in the Digital Creative arts.



This would appear to be very worthwhile attempt at bridging the gap between commercial business skills and the creative production process.

#### NIDA

Australia's National Institute of Dramatic Art is a centre of excellence in training for theatre, film and television.

NIDA provides full-time training courses for a Bachelor of Dramatic Arts in acting, design, technical production, costumes and properties. It also offers Graduate Diploma courses in voice, movement and directing, and an Advanced Diploma course in scenery construction.

There seems to be no argument that NIDA has been successful in its mission “to pursue excellence, innovation and access in entertainment arts education and training, specialising in dramatic art, whilst maintaining national focus and international perspective”. While recognising the strong cultural return from NIDA, its commercial value to Australia is lessened if many of its graduates are forced to permanently leave Australia to find rewarding work. Therefore there is a strong need to ensure that there is an investment in a healthy domestic production industry that addresses this issues.

#### 6.3.2 CREATE Australia and the Vocational Education and Training (VET) sector

The vocational education sector, comprising of public and private registered training organizations (RTOs), is the largest provider of skills training to the Creative Digital Industry. The guidance for the course material that they deliver to students and that is relevant to the industry sectors is established primarily by CREATE, the cultural and creative industry training advisory board (ITAB).

There are 11 main sectors in the cultural industries, directly under the umbrella of CREATE Australia, as determined by the Australian National Training Authority:

- community cultural development
- entertainment
- film, television and radio
- library and information services
- multimedia
- museums, galleries and cultural heritage sites
- music
- performing arts
- visual arts, craft and design
- writing, editing, publishing and journalism
- zoos and botanic gardens and natural heritage sites

The training issues to be faced by the industry are not insignificant as CREATE states in their recent report<sup>1</sup>:

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1. National VET Plan for Industry 2003-2006/8: The Cultural Industries

*“All areas of the cultural industries require highly trained, job ready practitioners. In particular, this applies very markedly to the film, television, multimedia, entertainment and audiovisual industries. The major challenge for these sectors is how to train and then access a ready supply of highly-skilled practitioners who only ever experience short periods of employment; who work within fields with rapidly changing technology and expensive equipment; who have no funded training assistance; and who work in an internationally competitive market. Strategic initiatives to address this must encompass better funding and support mechanisms.”*

There appears to be a degree of disarray in the VET/RTO delivery of training as CREATE is under-resourced for the challenge of researching and developing the training packages that address the training needs for a very rapidly evolving digital industry:

- new approved training packages take some three years to reach students. If, to address an urgent training need, an RTO develops their own course outside of the approved training package, then this would not be recognised by other education systems, and its delivery to students may not be financially supported by ANTA unless the RTO takes the extra steps of having the course accredited;
- to make matters worse, in a period when new and updated training packages are going to be especially needed, CREATE is about to be merged with print, finance and telecoms ITABS to form a new skills council - the special training needs of the Creative Digital Industry may well be swamped in this new organisation.

If the export ambitions of the Creative Digital Industry are to be realised it is critical that CREATE is better funded and that the coordination between the VET bodies, CREATE and industry associations improves to allow for the rapid implementation of training courses that deliver relevant digital skills when they are needed.

## 6.4 HISTORICAL PROGRAMMES

### 6.4.1 Cooperative Multimedia Centres (CMCs)

The Cooperative Multimedia Centres programme was established in 1995 and administered by the Department of Employment, Education, Training and Youth Affairs (now DEST).

The objective of the programme was to assist the development of a competitive, internationally successful multimedia industry, by supporting collaborative approaches to meeting its skill formation needs, and providing other services such as research and development, access to equipment and facilities, and intellectual property management. The original programme was to provide three years of funding but this was extended in 1998 to a total of seven years. Funding under the programme ceased at the end of 2002. Each of the six CMCs established received approximately \$1.4M in government funding each year, which was matched in cash and in-kind by the consortium members. The CMC programme was a worthwhile effort to explore and grow a nascent industry. Its altruistic objectives were reflected in the high degree of commitment from members, directors and staff.

The lessons from the programme- its timing, objectives and the make-up of the boards are extremely relevant to the proposed industry development peak body.

### Lessons from the CMC Programme

Make up:

Consortia were formed and competitively pitched to become a CMC. These consortia were, by requirement, comprised of Universities, multimedia developers, IT companies and government instrumentalities. There had been almost no prior experience of these parties working together on long-term projects. Some of the Universities had experience with Cooperative Research Centres, but the staff that were experienced in the CRC programme were not in the areas that participated in the CMC programme. Some of the consortia had a tight group with a good mix of skills and objectives. Others were more diverse and this probably affected their ability to reach consensus on objectives and strategies.

Table 30: The make up of the six Cooperative Multimedia Centres (CMCs)

	<b>Access</b> NSW	<b>Impart</b> NSW & Qld	<b>Ngapartji</b> SA	<b>eMERGE</b> Vic	<b>Imago</b> WA	<b>Qantm</b> QLD
<b>Universities</b>	The University of New South Wales	Central Queensland University	University of Adelaide	University of Melbourne	Murdoch University	University of Queensland
	The University of Sydney	Griffith University	University of South Australia	RMIT	Curtin University of Technology	Queensland University of Technology
	Charles Sturt University	University of Wollongong	Flinders University of South Australia	Monash University	Edith Cowan University	Griffith University
	The University of Western Sydney, Nepean			Deakin University		University of Southern Queensland
	Southern Cross University					James Cook University
						Queensland TAFE
<b>Commercial</b>	Firmware Design Pty Ltd	M2M (was New Media Publishing Corporation Pty Ltd)	Malcolm Reid Pty Ltd	Kodak	Technology and Innovation Management Pty Ltd	Silicon Graphics Pty Ltd
	GMD Pty Ltd	Oracle Systems (Australia) Pty Ltd	Media Resource Centre	NEC	Picton-Warlow & Co	
	Monitor Interactive Communications Limited		Cantech (SA) Pty Ltd	Oracle	King & Oh	
	Pacific Advanced Media Pty Ltd			Shomega	Advanced Manufacturing Technologies Centre	
	Telstra			AIMIA		
<b>Government and Other</b>	New South Wales Department of Education and Training		Department for Employment, Training and Further Education	Australian Foundation for Culture and the Humanities Ltd	Department of Commerce and Trade	Arts Queensland
			Department for Education and Children's Services		Department For The Arts	NT Department of Education
			Department for the Arts			NT Department of Asian Relations, Trade and Industry
			Department of Information Industries			NT Office of the Arts
						Key Centre for Cultural and Media Policy

The bulk of the SME companies participating in the CMCs have since either gone out of business, have been acquired or have completely withdrawn from the programme. This is probably a fairly normal SME lifecycle for the early stages of a new industry.

### Longevity:

All CMCs at various times had shaky periods mainly because of the difficulty in finding experienced executives who could bridge commercial, research and educational objec-

tives. The CRC programme had similar teething problems in its earlier centres but CRCs had 7 years of funding which allowed them the time to conduct primary research and then the time to work to earn revenue from commercialising the research. The CMCs thought they only had three years and the first 18 months of that was taken up in becoming established, recruiting CEOs and other staff and understanding the job at hand.

Most of the CMCs, under the requirement to be self-funding in such a short period, looked for immediate opportunities that could be “harvested”. In nearly every case, these competed with the private sector and took revenue from SMEs who needed it to survive. Because it was hard to forecast commercial outcomes for digital media research projects at that time the CMCs each rejected longer term research as not being “practical”.

Despite this, however some worthwhile infrastructure programmes were established including: the Australian Multimedia Testing Centre (AMTC) which was definitely needed by the market as was the QANTM Games Training facility and education programme.

#### Function: Competition with Industry

Perhaps because of the broad charter from DETYA and the competitive bidding process for funding, considerable confusion seemed to develop at board level of a number of CMCs about the role of a CMC:

- 1 was it to build an organisation that was sustainable after the removal of government support?
- 2 was it to help create a viable industry by solving problems that the individual organisations could not solve by themselves and
- 3 was it to provide much needed common infrastructure services that increased efficiencies for the industry as a whole but which were not yet commercially available?

It is very difficult for a company board to decide that the best outcome for an industry may be to go all out for objectives 2/ and 3/ even if that meant objective 1/ would not be achieved.

Unfortunately many seemed to decide on objective 1/ with a result of under-achieving and under-investing of their funds on new worthwhile projects. Some managers perhaps because of their academic background, felt more comfortable acting as a granting body for projects to be conducted by a single member. This was definitely discouraged by DETYA. In a number of cases public funds were used for the long-term support of projects that now had commercial competition. The AMTC after two years of operation had inspired the formation of a number of competitive testing centres offering complementary and sometimes competitive services. The AMTC itself should have been self-funding by this time. The fact that it required a substantial proportion of its parent CMC's annual funding to support it meant that it was either inefficient, over-capitalised or driving down the market price of testing which would have impacted on its newly established competition. Similarly, other CMCs had as their prime business the development of educational multimedia material in competition with companies that had been doing this for many years. This sort of direct competitive activity does not create industry infrastructure nor the leverage that will grow a viable industry.

On the other hand the Qantm games training programme that has now been running for seven years has to be the stand out success of the CMC programme for having a strong positive effect on the production of interactive games and the growth of the Queensland games industry.

There was much debate in the industry when the CMCs were first operational about industry potentially having to compete against firms who were partially government funded. Whether it is web development, courseware development or testing centres, once the research and development of a specific high-risk or infrastructure project is completed the government funded support should not be applied to underwrite production costs for customers. This is very different from the very valid form of support where a government department is being a customer and commissioning courseware or multimedia development.

### Governance

CMC boards were invariably constituted by shareholder nominees. The member organisations and their director nominees made substantial commitment in time and reputation to support the CMCs. But in some ways the structures were too unwieldy to allow the organisations to succeed. Boards for instance were often too large with sometimes 12 to 15 attendees with varying degree of commercial board experience. There was also very real issues on whether the Board meetings were really shareholder meetings. The decisions being made by a board have to be for the objectives of the company. The shareholders get their say at annual shareholder meetings or through advisory councils. Future industry support programmes should clearly promote the appropriate separation of shareholder interests from directorial and corporate responsibilities to meet the company's clearly stated objectives.

However the boards did provide forums for the mixing of knowledge and skills between the three groups.

It is possibly worthwhile in future programmes to separate these functions into three different fora:

- 1 a small company board with some external directors
- 2 an advisory council including shareholder representatives
- 3 a networking group for member's managers and staff.

### Outcomes of the CMC programme

#### First Order Benefits

A number of the CMC's programmes achieved the things they set out to do.

- 1 The Qantm games training programme, which has been running for 7 years has to be the stand out success of the CMC programme for having a strong positive effect on the production of interactive games. It provided critical resources and infrastructure (talent that was highly trained on very expensive equipment).
- 2 The AMTC (testing centre) (now Access Online) was and is a valuable resource to industry.

- 3 Similarly the eMerge CMC morphed into an incubator although there are no Creative Digital Industry on their investee list.

### Second Order Benefits

These are much stronger and probably the most important outcome from the CMC programme.

We estimate that approximately 100 management staff and a similar number of board members participated in the programme that involved 57 member organisations. Many have gone on to found their own business or to take on senior positions in industry, industry associations or within their Universities. They now have a network of organisations and contacts that will prove very valuable within the Creative Digital Industry. In many cases these businesses would not have happened without their experience, the networks and the expertise gathered through the CMC programme.

Similarly to the CRCs, CMCs brought commercialisation and commercial skills to academics. For those CMC managers from commercial backgrounds it provided them with a better understanding of the education market, an appreciation of the contribution of academics and the potential for University research to be commercialised.

It has been acknowledged in a number of studies that Australia has far too few people skilled in commercialisation; these are entrepreneurs and managers who can transform an invention into a marketable innovation and build a business around revenues. To ensure Australia establishes a critical mass of these talents it is essential that real-world problem-solving programmes such as the CMC and the CRC are continued and that they draw in talent from industry and the public sector.

### Commercialisation Spin Offs

There has been at least one commercial spin off from the programme that has achieved the original purpose of the CMC charter "to solve the really hard problems for the overall benefit of the industry":

IPR Systems <<http://www.iprsystems.com>><sup>1</sup> was formed in late 1999 using intellectual property obtained under license from the CMC Propagate Project.

In 1996 the 6 CMCs each received specific, once off, funding from DETYA (now DEST) to work in the area of copyright and multimedia. The money could not be used on anything else. If it was not going to be used it had to be handed back to DETYA.

To effectively use these funds two CMCs, Impart and Access formed a joint venture to specifically research IT architecture solutions to the copyright issues of multimedia. Propagate (as the project was called) achieved its objectives in 1998 and 1999, collaborating with other international projects, conducting technical workgroups, holding a consensus forum and finally by publishing its findings. At the completion of funding no additional funds were able to be obtained from any of the CMCs or their members to develop and commercialise the work.

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1. Declaration of Interest: One of the authors of this report, Peter L. Higgs was co-architect and a director of Propagate and co-founder of IPR Systems although he is no longer with IPR Systems.

When the project was closed IPR Systems was formed, licensed the IP, obtained independent angel funding and went on to establish a globally adopted open standard for describing, managing and trading intellectual property rights using XML. A subset of the Open Digital Rights Language (ODRL) <<http://odrl.net>> is now embedded in most new mobile phones to manage mobile ecommerce. It has also been adopted by the Learning Federation and a number of Australian and overseas projects in the education sector to describe the rights over Learning Objects.

#### 6.4.2 Australian Multimedia Enterprise

*"In 1994 the then government invested \$45 million into the development of multimedia with the Creative Nation policy. A key element of the programme was the Australian Multimedia Enterprise (AME), to oversee the investment of money in the development of content.*

*Under the byword of "finance for the multimedia content industry," the AME in its period of operation invested \$15.8 million in 38 projects with total budgets of \$31.7 million, and funded 70 concepts to a total of \$3.3 million. AME investment was on a buy-back basis; the organisation provided funds to assist in development, on the understanding that a sum equal to double the advance would be repaid when the project attracted a publisher or other investors. Until then, the AME owns its share.*

*The strong commercial models advocated by the AME ultimately led to a conflict of purpose: its industrial development brief, versus its role as a venture capital investment fund. This resulted in some degree of compromise."*

Source: <http://www.awn.com/mag/issue2.9/2.9pages/2.9morrisonmulti.html>

The AME missed the opportunity to be a substantial focal point for innovation, industry development and clustering. Its failure proves how critical it is to have board and management with clear industry development goals and the skills and resources to achieve them.

Part of AME's problem came from applying the business and relationship models from the mature film industry to an emergent technology and production sector where the market demand is nascent at best and certainly niche. Of particular concern was the requirement for pilot funding investments by the AME to be repaid by a new investor in taking the concept into production. In a tight, high-risk market that in itself that no title, however good, ever made the leap from concept to independently funded production. The AME's return on investment models were inappropriate in a new emerging industry.

The fact that a large percentage of its funds were never invested had a major negative effect on the early players in digital media. The AME failed one of its key objectives to develop and support the very industry that fought so hard for its initial funding.

#### 6.4.3 Australia on CD

Australia on CD<sup>1</sup> was a Creative Nation programme initiated in 1994. The production of 9 CD-ROMs were commissioned with a total budget of over \$AU6 million. The project was designed to bring Australian culture to the public using new media technologies and through the collaboration of collecting institutions, government agencies, publishers and new media developers.

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1. Declaration of Interest. Both authors of this report managed companies that were members of Australia on CD Consortiums.

The programme was successful in producing outstanding titles that have won many awards for creativity and execution. Some of them still stand today as “state of the art” multimedia titles.

Unfortunately the timing of the programme was in the transition from CD ROM to Internet. Tight budgets which in many cases saw a high percentage required for copyright management meant that the rights were not able to be obtained for internet or international publication.

A number of the productions collated extremely valuable historical material and it is a pity that in most cases the production masters of this content including source graphic files, text, audio, copyright and administrative databases have not been preserved by Screen-Sound (now part of AFC) for use in research and future productions.

Interactive media in the past has been a victim of the “production ephemera” where the focus is on completing the immediate project. Most often there is little thought (or budget provided) put into how the material from the project can be preserved and leveraged at some future date to enter new markets or refreshed into new mediums that may not have been viable at the time of the original project. The perceived difficulty of Rights as mentioned has encouraged this approach.

In the Australia on CD case all of the planning was for CD ROM and repurposing for the internet was not planned or viable.

Secondary effects of the Australia on CD programme were positive with a number of companies continuing to work in that field and with staff that have increased their understanding of the cultural sectors need and processes.

Commissioning by government of substantial projects of cultural, educational and historical significance is a sound way of encouraging clustering, collaboration as well as technology, quality and standards investment. The Learning Federation is a current example.



## **SECTION 7: AUSTRALIAN CREATIVE DIGITAL INDUSTRY ACCESS TO MARKET STRATEGIES**

### **Choosing the right Market and Countries**

The choice of the right export market is highly dependant on the sectoral interests of individual companies. All markets are not at the same level of technology evolution or market penetration. Companies should undertake their research and work with agencies such as Austrade, Trade Start, AusFilm and the AFC to determine what is the correct market for their products. However the following markets are prime targets for Australian content developers generally; Canada, South Korea, Japan, USA. Each of these markets has a mature broadband and mobile user base much higher than the domestic Australian average

### **Branding**

Much has been written in recent years about the role of branding in attracting business and audience. The digital content industry in Australia is made up of many small businesses that individually find it difficult to get scale and branding. Many of these businesses are so focused on day-to-day business that they have little time or budget left over to market themselves on a global basis.

Creating an umbrella organisation to develop the branding and marketing of the Australian industry, would assist small to medium businesses and promote the capability of the industry as a whole. The aim would be to promote the wide capability of the industry and its expertise and quality to an international market. This could be similar in nature to the Wine Marketing Board that placed the Australian wine industry on the world stage. Underneath the umbrella approach many smaller brands and product niches flourish.

### **Scaling**

As described in 3.2.2 The Importance of Scale: on page 33 there is a compelling case for assistance to SME's to achieve both virtual and physical scale in reaching international competitiveness for the sector.

### **Co-production Partnering**

The film industry has used co-production partnering for a number of years to achieve market efficiencies in financing, technical, talent and crew.

### **Trade Missions**

There is a need for greater support for inbound and outbound trade missions across the digital sector.

### **Distribution**

Distribution is the lifeblood of any media. Without a channel to market you cannot reach the audience for which your product is intended. Traditional media such as film and television have mature business models, partnerships and markets that form the ecosystems of the industry.

Digital media while born global due to the nature of the medium, has yet to evolve the business channels of access to international markets and audiences. In fact the born global nature is a hindrance. Distribution licensing models available in traditional media such as per territory licence deals are not viable in the internet environment where it is very difficult to know reliably where a purchaser is from.

## 7.1 ALTERNATIVE DISTRIBUTION STRATEGIES

### 7.1.1 Traditional Channel

For the most part traditional channel sales for film, TV and games projects have been driven by agents or distribution companies. Distributors take options or pay advances against sales (distribution guarantees) against the programme. Distributors then market the programme via various methods, but primarily by attending international markets such as MIPCOM, MIPTV<sup>1</sup> and NAB<sup>2</sup>, or for games E3. The costs of this marketing are generally charged against the individual programme and are deducted along with any advance prior to the payment of a royalty on sales.

Distributors also take a commission on each sale ranging from 20-40% with the average being 25%. Sales reports are generally provided either quarterly or half yearly. It is important content providers choose a distributor carefully and understand the agreements on the deal, as the term can range from 5- 25 years. Each distributor may have relative strengths in specific territories or types of content so it is important to know the market and ask questions of a distributor before signing on. One of the challenges of digital content (other than games) is that the traditional distribution channel is not yet fully developed enough for companies to value or understand the potential of digital assets. In some cases the producer must do the hard sell to both the distributor and potential buyer to sell digital assets into other territories.

One model that has developed is based on the ability to license web assets attached to a traditional television or film project per territory at an additional fee. This works best when the territory is a non-English speaking market as localisation of the underlying digital assets is required. As products have different release windows in each market this also presents challenges for the distributor and producer in syncing the digital assets with broadcast. This is especially crucial for drama or reality based programmes where it is possible to spoil the story line or suspense by releasing episode information prior to a broadcast in a specific market. While a market for convergent material is developing it is more difficult for born digital web assets as these do not have a traditional broadcast window.

### 7.1.2 Digital Direct Channel

In Direct Digital the early web theory was if "I build it they will come". Many producers underestimated the cost of reaching an audience both as a marketing cost and a technical

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1. Two TV content trade shows run by Reed Midem in Cannes France each year.

2. US National Association of Broadcasters tradeshow for TV content production and distribution hardware and software product

cost. While the cost of production is challenging enough for most projects there are many hidden costs yet to be realised based on reaching scale and international audiences. In an ever-increasing online content world the cost of acquisition of customers is a real cost of the business. It is therefore important to build relationships with search engines and content aggregators, which in the digital world are the new distributors. In the Traditional Channel producers do not have to consider the cost of broadcast in their project plans as this is borne by the end broadcaster in each territory. In digital, the more successful the company or title is, the more costly it is to provide customers with adequate levels of performance when they want to access the content. The cost of servers and data also becomes a significant input cost once a company reach a larger scale of audience. This has been a primary reason for the establishment of a pay-per-view model on rich media web content in order to control the cost impact of each user in viewing the material. If companies are successful in attracting international users to their service in Australia they are often surprised by a large data bill from their ISP as they saturate their link capacity due to the cost per megabyte of delivered content.

There are regional content aggregation services such as Akamai that help producers move content closer to individual users and minimise data costs for international access. This is done by utilising caching services in key territories that are highly intelligent and react to user demands.

## 7.2 THE CHANGING ROLE OF PUBLISHERS

The traditional role of publishers, record companies and studios is to identify talent that suits their corporate strategic needs from a pool of potential talent. The contracted talent, film, product, record is then massaged, quality controlled, promoted, manufactured, distributed and sold to customers through retailing networks that are often highly loyal.

Each of the “publishing” firms can only focus on a limited number of music artists’ albums, directors’ films, or authors’ books in any one year. Publishers provide many bundled services to the talent and talents products that they support. Traditionally the talent that has not been able to obtain this support has found it very hard to effectively reach the market.

The Internet has “democratised” the distribution channel for many creators. But many more do not have the skills, resources or the inclination to become web developers or chat room operators just to create markets for their creative output.

As their revenue is eroded in traditional channels record companies in particular, and potentially also book publishers, may soon start to offer unbundled services under short term contract to creators: “Want a big promotional tour organised. Yep, we can do that for XX% of the gross and \$XX up front.” “Want a track from your new online album promoted to 370 radio stations throughout the US, Yep....”

These will be services where the “Know Who” and the “Know How” are critical and record companies have a great store of this sort of intellectual property. It will be commercialised directly by being available for purchase by creators rather than being available only as an input into their traditional product.

### 7.3 STRATEGIC PARTNERING:

As SME's services grow it may be appropriate for them to partner with other content providers to assist in access to each market and to share the costs of direct distribution. There may be complimentary products that can drive both audience and revenue flow between partners. It may also be possible to share infrastructure and back end systems such as e-commerce and subscription engines. There also may be a potential for partnering in localisation of content for non-English markets. It may be possible to trade the cost of localisation and market access via a partner willing to offer these services on a share of revenue basis for that territory. Like any form of partnering it is essential that the SME are able to identify potential partners and choose carefully and have similar expectations before they enter into agreements. Austrade and Industry associations can often help in this area.

### 7.4 OVERSEAS PRESENCE

Mass media products and services that are "consumed" can probably be marketed by digital "direct to customer" short channel strategies, involving eCommerce. All other products and services will require more complex marketing and distribution. Invariable there will be dependencies on collaboration and contractual relationships with suppliers, customers and market influencers. It is absolutely critical that potential exporters in the Creative Digital Industry get close to the customers. This will require if not a permanent presence then at least a substantial period of time spent in the target markets.

The CEO and Chief Technology Officer (CTO) of Australian games companies spend at least 3 to 4 months of the year in the US, Japan or Europe depending on their market focus, establishing relationships and obtaining publishing agreements or development contracts. Musicians and independent record companies also need to have close relationships with overseas distributors, promoters and event organisers.

Attendance and participation at major International trade shows is critical to establish a profile and commence building relationships.

For SMEs establishing an overseas presence is expensive financially and in terms of time out of the office for key staff. It is critical that the time spent is highly productive and that high quality communication is maintained between the office, travelling executives and key customers and suppliers. This takes planning and infrastructure.

#### 7.4.1 Trade Promotion Organisations

Austrade's research has identified the major barriers to increasing exports and has created "Action Areas" to address each barrier. They have determined that Trade Promotion Organisations (TPOs) such as AIMIA, Australian Information Industry Association (AIIA)

and AusFilm can play a key role both for SMEs wishing to export and for government organisations such as Austrade and DCITA wishing to increase exports.

Table 31: Role of trade promotion organisations in each Austrade action area

Action Area	1. Increase intention to export	2. Increase opportunities for accidental exporters	3. Increase success rate of intenders	4. Boost number of born globals	5. Boost number of regular exporters
<b>Main barriers</b>	– Lack of awareness of the benefits of export	– Lack of stimuli	– Lack of resources	– Lack of access to international networks	– Lack of resources
	– High risk perception		– Lack of preparation/ skills		– Lack of preparation/ skills
			– Lack of access to international networks		
<b>TPO's services and programmes to address barriers</b>	– General marketing of the benefits of export	– Building database of business capabilities	– Export financing	– Providing contacts and opportunities to start-ups with global potential	– Same as increasing success rate plus programmes for building long-term capabilities and commitment to export
	– Schools education programme	– Promoting national business capabilities overseas	– Export coaching one on one to assist with export planning and market selection		
		– Locating opportunities for potential exporters and matching capabilities and opportunities	– Assistance from overseas networks including market intelligence, missions and fairs and key contacts search		

Source: Austrade 2001, "Knowing & Growing the Exporter Community, A report from the Australian Trade Commission"

Trade Promotion Organisations employ three main resources to impact Austrade's five action areas:

- 1 their overseas networks,
- 2 their domestic networks, and
- 3 targeted programmes.

Members of a specific sector of the Creative Digital Industry need to be encouraged to actively support their sector's industry association and to utilise its resources and programmes.

As well it is essential that the various industry associations receive additional resources for growing their networks and trade programmes in coordination with the proposed industry development peak body.

## SECTION 8: RECOMMENDATIONS

### RECOMMENDED PROGRAMMES TO IMPROVE THE ACCESS TO MARKETS FOR AUSTRALIA'S CREATIVE DIGITAL INDUSTRY

In formulating the recommendations that follow the consultants were careful to develop programmes that build on the strengths of creators and SMEs within the Creative Digital Industry and to ensure that such programmes do not create distortions in their behaviour or expectations that would be counter-productive to long-term sustainability.

It is important to create programmes that:

- 1 encourage SMEs to take actions that will lead to success and to take responsibility for their own actions;
- 2 reward them for the successful outcome of these activities;
- 3 reduce or remove the impediments to companies exporting such as legal or tariff barriers or substantial infrastructure cost discrepancies that would not be present for a domestic operator;
- 4 grow their export revenue through participation in export programmes;
- 5 make it easier for them to attract funding or to finance growth from their internal funds;
- 6 encourage them to seek help from and team with others in overcoming problems and obtaining new customers.
- 7 permanently grow the scale of commercial companies to allow them to create and address larger opportunities instead of the current "cottage" approach of many of our current sectors.
- 8 strike a balance between programmes that encourage "cultural content", "innovation and exploration" and "commercial content and applications".

It is also important to avoid creating a "Cargo Cult" mentality amongst SMEs where they come to think that every issue or problem can only be solved by the liberal application of government funds. The large negative outcome of this (besides the obvious budgetary impact) is that participants "wait around for the plane to fly in to deliver the cargo that will save them". This was most obvious in the Higher Education Sector in the 1990s where researchers seemed to become more focused on applying for grants and retaining them than they were on the actual research.

Similarly, in the multimedia sector, there was an 18 month period from late 1994 where there was almost no private commissioning of interactive media projects because every potential customer or producer was queuing up for an Australia on CD or AME funding. This gap in production activity had very negative effects at the time on many small companies.

The most insidious form of "Cargo Cult" for SMEs is where the requirements for obtaining funding or grants actually encourages them or requires them to wait around for the funding before undertaking an activity. There are strong elements of this in the requirements for the traditional R&D Start Grant programme that are not present in the R&D SME Tax Rebate programme.

SMEs can only survive by utilising capital efficiently and being more nimble than large corporations in addressing new opportunities and converting them to revenue. Any government programme that increases the SME's cost of capital or indirectly rewards delays in taking action to realise an opportunity or inaction will be counterproductive to the government's objectives.

However government intervention can be used very effectively in leading change in positive directions and some of the possible layers of this government intervention and support include:

- 1 providing **rebates and incentives** such as EMDG or R&D Tax Rebates. It is important that the rules for participation in a programme are consistent. They need to be clear and if complied with, result in a defined benefit for the SME. Vagueness the amount of the benefit to the SME greatly reduces its attractiveness. The payment delays and variability of the final percentage rebate on EMDG is a case in point.
- 2 **commissioning projects** or being a **seed customer** for innovative projects or products. The Broadband Advisory Group report refers to the role of government at all levels as being a catalyst of demand by providing services to the community. The most obvious sector in which the government could assist the Creative Digital Industry is in the contracted development of multimedia based education products for all education sectors: school, vocational, university, corporate and government. Commissioning projects has the triple benefit of providing revenue that supports innovation, a solution or outcome to government and a reference customer for the company. Commissioning can often best be done not by open tender but through careful partnering approaches. The Creative Industries Cluster Study report on "The Role of Government Agencies as Participants in Digital Content Markets" <<http://www.cultureandrecreation.gov.au/cics/government.pdf>> pointed out the stronger benefits that come from a collaborative approach rather than the legalistic one of contractee and contractor. Commissioning projects in a new field provides a strong "blessing" of a technology, platform or company;
- 3 as an initiator or **investor in enabling infrastructure** to a sector that has the effect of lowering costs or providing capabilities that were previously not possible or cost effective. Infrastructure by definition is something that each company needs to conduct business but which isn't a direct input or output of the business. Infrastructure can be physical, communication, legal, commercial, or services. Reliable up-to-date industry and market statistics and broadband networks are all forms of infrastructure;
- 4 as a **co-promoter** of an industry, sector or opportunity normally through an Instrumentality such as Austrade, or the National Office of the Information Economy (NOIE);
- 5 as a **proponent of open standards** and processes for organisations to work together;
- 6 as a **risk sharer** with the private sector in providing matching capital for the development of content and applications that meet cultural, social, educational, research or commercial objectives;
- 7 by making **grants to applicants**; grants for individual companies should only be used where the funding to undertake a worthwhile activity is uncertain or not available. But providing this upfront is difficult. An especially valid circumstance for grants is in funding early experimentation in new mediums or forms where there can be little expectation of commer-

cial outcomes in the short to medium term. The substantial innovation investment in the film industry in the 1960s and 1970s laid the critical groundwork that enabled the global success of Australian talent such as directors Peter Weir and Bruce Beresford. The need for funding of exploratory innovation in digital media and applications is highly similar to the funding of basic research in science and medicine.

The 1997 Review of Commonwealth assistance to the Film Industry by David Gonski noted the importance of maintaining “many doors” approach to providing assistance to the industry. Diversity in programmes and the implementation of programmes is important in reducing distortions in the marketplace.

The recommendations that follow are grouped into four categories:

- 1 Industry fundamentals
- 2 Industry development
- 3 Export development
- 4 Export channels



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INDUSTRY FUNDAMENTALS

## RECOMMENDATION 1: ESTABLISH A PEAK INDUSTRY BODY

Single vision; selected paths, many steps

Similarly to the action that provided the turning points for the export success of the Australian Wine and Tourism Industries the consultants recommend the establishment of a peak industry group to represent all key stakeholders: industry associations, industry members, government, researchers and academics and the training sector.

Many of our current creative and digital industry support programmes and mechanisms re-enforce a “silo view” specific to industry sectors or niches, in markets that increasingly have overlaps in technology, audiences and skills. This may have had relevance in traditional analogue production methods. However with digital, the ability and requirements for content and producers to be able to flow seamlessly between platforms, audience and revenue models needs to be reflected in how development of the industry, skills and funding models.

This silo view means that few producers can effectively span more than two sectors and enforces the cottage approach to the industry.

Some international markets have taken steps to break down the silo views of the analogue industry as they move to digital. Most notable of these is the Canadian funding programmes which were established to fund innovation in content across multiple delivery platforms, television, games and online. See the section on the Bell Broadcast and New Media Fund on page 64

Australian funding sources have specific development and production strands that do not lend themselves to new convergent production practice or models. The audiences are starting to value and demand multi-platform involvement with the creative properties that they find engaging. A silo production approach does not address these market opportunities.

A full commercialization model needs to address all potential outputs at time of creation to be more efficient and flexible. This has been coined by the BBC as “360° degree commissioning”. It involves looking at all possible deliveries in the planning phase of a project to identify commercial opportunities at the outset. This does not mean that all options are executed, as each is based on an underlying business case, but should funding support be found for these additional deliveries they are quickly brought to market as a result of the preplanning.

The establishment of the peak industry development body will be critical for promoting all sectors (silos) of the industry and facilitating interaction and co-production between stakeholders.

The body would need to have a “single vision of a long-term goal, with selected paths to achieve it that require many steps”.

The proposed industry development peak body would be responsible for:

### Industry Development

- supporting decision making within the various sectors of the digital industry working closely with the relevant industry funding and development bodies and industry associations;
- providing financial assistance to the various industry associations to enable them to deliver appropriate programmes and resources to their sector;
- coordinating between Government and industry stakeholders on the promotion of the industry and the growth of its capabilities and skills;
- identifying, and where necessary researching, and evangelising relevant Creative Digital Industry standards that can improve the efficiency of and interoperability between sectors, parties and customers.

### Market and Industry Intelligence Service

- collect, aggregate and publish market information relevant to the Creative Digital Industry;
- collect, aggregate and publish data relating to key sectoral make-up, production output and performance of the sectors of the Creative Digital Industry;
- collect and publish electronic directories of companies, consultants, products and content resources.

### Export Development Council

- create and promote the quality brand of the Australian Creative Digital Industry and its sectors in specific markets and regions;
- work with Austrade and industry bodies to grow the commercialisation and exporting skill and resource base of the industry members and to remove or ameliorate impediments to exports;
- ensure the provision of suitable publishing and distribution infrastructure to Creative Digital Industry exporters.

The body would need to be funded by government until exports increase to a level where the industry itself could support the operating cost.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 1: Establish a Peak Industry Body on page 128

## RECOMMENDATION 2: ESTABLISH A DEDICATED MARKET AND INDUSTRY INTELLIGENCE SERVICE

The issue of measurability, performance statistics and leading indicators for the Creative Digital Industry is absolutely critical. Without accurate, timely data it is impossible to be sensitive in tracking the success or failure of Australia's exports in digital content.

It is recommended that the proposed industry development peak body be chartered and funded to continually conduct an industry wide statistics programme that can be used for multiple purposes. The only way to obtain accurate data on any sector within the Creative Digital Industry is to survey the companies and individuals who are working in it and to aggregate these results to provide sector results and then industry results.

The information has to be timely; some would be collected monthly and other information at the very minimum every 12 months. The programme needs to run for at least 5 years with the results available within a month of the close off of collection.

The Australian Wine and Brandy Corporation collects monthly statistics for the wine industry through a mechanism of export licensing which makes it very effective and consistent. A strategy of linking reporting by Creative Digital Industry companies to other activities such as cluster support programmes, TradeStart, EMDG and R&D rebates would be advantageous.

The methodology of collection and analysis has to be consistent across the various sectors and over time so that specific trends, for instance changing levels of cross-over activities between visual effects and games, can be quickly and reliably identified.

As an incentive to contribute their data individual organisations and companies would be able to compare their own performance against that of their peer group or peer sector which would be advantageous in business planning.

Only by implementing a whole of industry approach to industry and market information could timely and accurate data be obtained on export activity, R&D investment and marketing investment.

Other industries have done this before, the Australia Tourist Commission, Australian Wine and Brandy Corporation and the IT hardware vendors.

In the case of IT, the hardware vendors in the 1980s and 90s would provide data on the actual sales of their various computer models by sector (education, government, corporate, retail) to an independent "third party". This company, in absolute confidentiality, would amalgamate the returns and publish the summary results. In this way the industry and the marketplace obtained reliable data on market shares, market sizes, sector and distribution trends.

We would propose the appointment of an independent third party to collect, qualify and manage the data on behalf of the proposed industry development peak body.

Contenders for the provision of this service to the proposed industry development peak body could be organisations such as:

- Price Waterhouse Coopers who already provides this service for some other industry sectors and who produces the Australia Media and Entertainment Forecast (which is not census based).
- The Australian Film Commission has substantial skills in the area built up over many years which could be expanded to the wide industry and extended.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 2: Establish a dedicated Market and Industry Intelligence service on page 129

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## GETTING CRITICAL MASS: INDUSTRY DEVELOPMENT PROGRAMMES

Australia will not be able to establish viable long-term export markets for its Digital Creative Content and production services if the domestic industry is not world-class in terms of platforms, creativity, quality, project and cost control and price. The skills learnt and implemented by individuals and companies domestically are “commercialised” internationally.

The profits from domestic work keeps companies alive between export projects, much as TVC work allows the development of world-class film directors. Working through the relevant industry associations and educational bodies, the proposed industry development peak body would be chartered to implement a series of intersecting industry development programmes.

### RECOMMENDATION 3: SUBSTANTIALLY GROW THE FIBRE PROGRAMME AS A NATIONAL PRIORITY

Provide whole of industry “production grade” internet services that is separate from consumer broadband.

A consistent need in all interviews and submissions has been the requirement to extend the FIBRE (Film Industry Broadband Resource Enterprise) high-speed internet trial to encompass the other sectors of the Creative Digital Industry to allow them to collaborate digitally and have cost effective access to their overseas customers.

The industry has different types of usage depending on the phase of the project:

#### 1/ Production phase

- networking and services during the production of content which sometimes requires very high speeds for moving large files of uncompressed graphics, video and audio.
- co-ordination and management between producers, creatives and clients who are located in different cities (and sometimes continents) as required for planning and approvals

#### 2/ Publishing phase

- the delivery and interaction with customers either directly or via connection to remote hosted servers. While individual traffic may be small as audio, graphics and video are compressed when demand grows this traffic load can become substantial.

Production formats versus presentation and distribution formats.

There is a substantial difference in the amount of data that needs to be delivered at various times within the Creative Digital Industry value chain. The prime determinant of the variability is the difference in file formats.

- Production format: One second of a video production file maybe as large as 6 gigabytes for a large screen format. The normal size would average 1 gigabyte per second uncompressed.
- Distribution formats: Are streamed to TV stations etc. and are normally require less than 270 megabytes per second.

- Presentation formats for preview or consumption and which would go over consumer broadband would be around 256 kilobytes at a minimum and up to 22 megabytes per second. The previewing of the previous days production “rushes” by the director and producer can also be done in a “presentation” format.

Production phase communication need to be of several order of magnitude better quality than consumer broadband, with no interruptions due to congestion or line quality. When production is underway all communication is billed to the project budget, so these costs have to be able to be controlled and budgeted. When a company is not involved in production they go into a form of hibernation and will minimise costs. High network capacity is normally too expensive to keep “on tap” but it is also difficult to keep changing connection speed and data charge contracts with a normal ISP. This has been likened to wanting a dedicated expressway into your office for six months of the year to handle your truck deliveries but only a quiet country lane for the rest of year for the occasional courier delivery.

FIBRE was designed with the production and collaboration needs of the creative industry in mind. But it is currently only available to a limited number of post-production and film houses and because of severe funding constraints it is forced to act more as a service broker than as an Industry Communications supplier.

Specifically the consultants recommend:

- 1 Expand FIBRE to all Creative Digital Industry sectors including film, digitalTV, TVC producers, advertising agencies, games and Internet developers, broadcasters, cultural collecting institutions and digital cinemas on a national basis. Where required for cost efficiency create high capacity links to regional clusters to connect them to the rest of Australia's Creative Digital Industry;
- 2 Scale FIBRE:  
FIBRE requires highly affordable “Production Grade” communications that can support a burst demand pattern. It requires very high speeds with absolute reliability. FIBRE must be able to offer connectivity at speeds in excess of 1 Gb per sec to some customers;
- 3 Connect FIBRE Internationally:  
Interconnect the domestic FIBRE loops via dedicated high-speed networks to key overseas markets and especially those with significant co-production treaties with Australia. This would include the UK (SohoNet), Canada, the east and west coast of the USA, Korea and Europe. These international links, while integrated into the overseas networks, could also support dedicated Australian Market Access Centres in specific target countries for video conferencing and “viewing rushes”;
- 4 Provide FIBRE Infrastructure Services:  
Provide additional on demand services on the FIBRE network to enable teaming, resource directories, IP registers, project management, IP and content management. FIBRE does not have to build these services or even provide them all directly. But it must be able to source them and make them available in forms that are relevant to the FIBRE members.

An expanded FIBRE is as fundamental to the health of the industry as the road, airline, rail and ports transport systems of physical exports such as wheat, wool, wine and tourism.

Efficiency, quality and cost competitiveness are critical. To achieve this FIBRE needs to be funded with sufficient capital to allow it to be a principal carrier that controls service deliveries to the industry utilising a range of wholesaling suppliers who have tendered for specific services, sectors or regions.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 3: Substantially grow the FIBRE programme as a national priority on page 130

#### RECOMMENDATION 4: CLUSTERING AND TEAMING ENCOURAGEMENT

Continue and expand support for various industry clusters programmes: This includes various Federal, State and Local government initiatives that support the development and commercialisation of clusters and incubators within clusters.

- 1 The Clusters need to be connected to each other for cross fertilisation and to encourage opportunity based teaming. Networking and service infrastructure, cross marketing and training needs to be co-ordinated and provided. The Creative Industry Precinct and Interaction CRC in Brisbane and the Digital Docklands in Melbourne will be particularly important in complementing the Crows Nest, Fox Studios and Gold Coast clusters.
- 2 It is recommended that regular fora be established for the managers of cluster or incubator programme managers from all levels of government and the private sector to meet and collaborate.
- 3 A directory of clusters, cluster members and their skills and products should be developed and maintained as part of the proposed industry development peak body.
- 4 Another mode of support for clusters is to have government departments commission projects specifically from groups of members of clusters who are managed by an independent project manager.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 4: Clustering and Teaming Encouragement on page 131

#### RECOMMENDATION 5: ADJUST R&D START GRANTS AND REBATE ELIGIBILITY CRITERIA

Adjust the eligibility criteria for R&D Start Grant and Tax concessions to:

- 1 include R&D on new methods for content development, content and media management as well as content publishing and services delivery infrastructure. These areas of research are core to the provision of education, content and gaming content and services to many customers online and via new communication mediums such as interactive TV. Currently the rules require multiple direct customers for the output of the R&D. Technically this means that online services that have many customers would not comply as the core product, most often a form of software, is not being duplicated and licensed. Customers are signing up for services that are provided by the software and content. Substantial research is being done on games engines, content management engines and workflow systems that are critical to the international competitiveness of companies. This needs to be clearly eligible for R&D support.

- 2 Modify grant and tax rebate application forms to more obviously address the language and requirements of the Creative Digital Industry. These are currently all written from a physical manufacturing centric view which immediately puts Creative Digital Industry applicants at a competitive disadvantage when communicating their R&D proposal for assessment.
- 3 Remove the catch 22 of requiring demonstrated commercial support for the output of the R&D while also requiring justification that the project would not proceed without the R&D grant. This freezes innovation for a minimum of six months as a company cannot start work while its application is being written or evaluated.

Once these changes have been made promote the R&D Tax Rebate programme to software and content developers.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 5: Adjust R&D Start Grants and Rebate Eligibility Criteria on page 131

#### RECOMMENDATION 6: SKILLS DEVELOPMENT

It is important to extend the existing excellent craft based training of the film, games, software and interactive media sectors. Training requirements need to be able to be adjusted and extended rapidly to address technology changes and project and customer needs. The proposed industry development peak body will need to coordinate with the Department of Education Science and Training, Australian National Training Authority (ANTA), the CREATE industry training advisory body, the relevant industry associations and educational bodies to improve funding and develop more responsive frameworks to ensure that skills training can adjust rapidly to supply the market requirements.

As well there is a special need to support commercialisation and leadership training in Creative Digital Industry business management, export sales and marketing and entrepreneurial skills.

All creative courses should be reviewed to ascertain whether the industry requirements for project management and team co-ordination and partnering skills are adequately provided.

For an analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 6: Skills Development on page 132

#### RECOMMENDATION 7: GROW DOMESTIC DEMAND FOR INNOVATIVE CROSS-MEDIA APPLICATIONS

It is essential to stimulate demand on the emerging delivery platforms (consoles, and different types of communications) with leading investment in digital industries, through incentives to take risks. The current domestic focus is on building supply (capacity and infrastructure) throughout Australia. This needs to be followed with stimulation of the demand side.

In order to be an effective exporter a company must have reference products in its domestic market. It is therefore imperative that we encourage more innovative access to new

platforms and stimulate production in digital markets including television, games, broadband, mobile and other platforms.

- 1 mandate a percentage of spending on local digital content budgets for cross-media production to encourage development of content across two or more platforms;
- 2 mandate and resource the public broadcasters to extend their charter to include development of digital content across multiple platforms in collaboration with independent production sector;
- 3 encourage innovative, experimental and non-commercial uses of cross-media by broadcasters on the additional channels as a testing ground for new technologies, techniques and business models;
- 4 extend and grow support of the AFC digital media strands and the Broadband Production Initiative (BPI) beyond the current three year commitment;
- 5 extend the AFC BPI programme beyond "broadband" to include digital interactive television, enhanced content, games and mobile content again with a view of 360° commissioning.
- 6 Adjust the BPI requirements to remove the default control over intellectual property rights which constrains commercialisation opportunities and reduces the attractiveness of participation to many potential producers. The BPI will have a stronger influence on industry development as an "innovation and exploration" fund than its current form as a "capital recovery" fund;
- 7 establish a separate division for digital production within the AFC model so it is not subordinate to the Film unit. This will in part give a more balanced view on the range of content and platforms;
- 8 expand the capacity of the AFC and Ausfilm to support producers and projects in the digital sector to access international markets. While AFC has a travel grants strand this is already a heavily contested programme from traditional media practitioners wanting to market their projects and skills at international markets;
- 9 expand and broaden the AFC Broadband Production Initiative. One of the criticisms of the AFC Broadband Production Initiative is the sole attachment to ABC as the playout broadcaster, which limits the capacity of the project to attract commercial involvement due to ABC charter restrictions. It has been suggested that the SBS or other broadcaster/telco relationships be developed to expand the potential scope of projects and the potential for future commercialisation;
- 10 encourage and resource government departments and instrumentalities such as museums and galleries to commission substantial digitisation programmes to generate the critical mass of rights managed, digital resources that can be used as inputs to Creative Digital Industry productions. The budgets of such programmes has to be substantial enough to support the administrative costs of externally sourcing the project in a partnering arrangement.
- 11 encourage co-production initiatives via domestic producers with a view to stimulating this for international cooperation.



### Demand Promotion:

It is critical to encourage the uptake of broadband to deliver social, cultural and industry outcomes.

The Broadband Advisory Group report identified the need to stimulate key sectors Health, Education and Content.

*“1. Australia should adopt the following national vision for broadband: ‘Australia will be a world leader in the availability and effective use of broadband, to deliver enhanced outcomes in health, education, commerce and government and to capture the economic and social benefits of broadband connectivity.’*

#### *Content*

*16. The Government should give high priority to stimulating the digital content industries in Australia through: (a) supporting research and development in the application and design of interactive broadband technologies and content*

*By addressing these recommendations, we can build sustainable business eco systems to support these key economic and social sectors which in turn will increase the potential for export for these vertical markets.”*

Australia already is seen as a leader in distance learning and remote health services. Expanding the focus of these sectors to include content development will underpin the local production sector

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications on page 133

## EXPORT DEVELOPMENT: GETTING CLOSER TO OVERSEAS CUSTOMERS

## International Partnering:

Australia is acknowledged overseas as having excellent directors and actors in the film industry. We are not seen as having world-class expertise in Digital Media Content and related applications. We are also perceived as being too remote for tasks such as post-production editing that require close coordination over extended periods and where the supervisor would be located in the US or Europe. While films are seen as fine to produce in Australia nearly always the post-production is done in Los Angeles close to the director.

Australia and its production companies, as well as using technological approaches, needs to partner with other complementary countries to overcome these perceived limitations.

## RECOMMENDATION 8: BUSINESS-TO-BUSINESS ENGAGEMENT WITH COMPLEMENTARY COUNTRIES

One strategy that may need to be explored is the extension of the co-production treaties to all sectors of the Creative Digital Industry as well as the film and TV Drama sectors. This has the effect of allowing the project to be eligible for Australian project funding and taxation benefits even though parts of the production may be conducted overseas.

## Co-production Pilot Opportunity 1: Australia:Canada

Description	Establish a co-production programme under the AFC/ Telefilm/Bell New Media to facilitate producer linkages. Provide matched project funding for developer/producers to give the incentive to establish production partnerships
What's in it for Australia	US Entry
What is in it for them	Korea, China, Asia entry

## Co-production Pilot Opportunity 2: Australia:Singapore

Description	Establish a co-production programme under the AFC/ IDA Singapore to facilitate producer linkages Provide matched project funding for developer/producers to give the incentive to establish production partnerships
What is in it for Australia	Korea, China, Asia entry
What is in it for them	US Entry

## Co-production Pilot Opportunity 3: Australia:UK co-production

Description	Establish a co-production programme under the AFC & UK to facilitate producer link-ages Provide matched project funding for developer/producers to give the incentive to establish production partnerships
What is in it for Australia	Europe entry
What is in it for them	Korea, China, Asia entry

## Co-production Pilot Opportunity 4: Australia:China co-production

Description	Establish a co-production programme under the AFC & with the appropriate Chinese Film support agency to facilitate producer linkages Provide matched project funding for developer/producers to give the incentive to establish production partnerships
What is in it for Australia	A proportion of the substantial Chinese film projects currently being planned for production
What is in it for them	Access to Australia's skills base, English and cultural neutrality. Access to Australia's experience with internet, broadband, TV and film production of the Olympics which they will require for their 2008 Beijing Olympics

The proposed industry development peak body needs to coordinate with Austrade to develop a plan to capitalise on the co-production opportunities.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 8: Business-to-Business Engagement with complementary countries on page 134

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**BEING THERE: PHYSICAL AND VIRTUAL MARKET PRESENCE**

Australia's physical isolation from its markets has been a traditional problem that has had to be addressed by all industries. This issue is possibly even more critical for the Creative Digital Industry markets because of the incredible pace of change and the critical importance of relationship building within business, production and creative teams. Companies that export from Australia have to be closely located with their customers. The earlier and stronger these connections are established the greater the likelihood of long-term success. This raises serious issues relating to the physical and opportunity costs and the skills required to go global immediately or early in the lifecycle.

**RECOMMENDATION 9: PROVIDE STRATEGIC MARKET OFFICES AND HOT-DESKING**

CEO and senior staff of exporting companies need to spend much of their time away from the office developing relationships and co-ordinating overseas sales. The consultants recommend the creation of a limited number of "Market Access Offices" within strategically selected countries. These offices, potentially under the brand of the proposed industry development peak body would provide short term hot-desking, production grade networking, communication, presentation and meeting facilities. Austrade provided an example of this within Silicon Valley in the mid 1990s which was considered to be very useful as training wheels for exporters. While Austrade offices could be used to provide this, their security and access management issues would probably detract from their usefulness.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 9: Provide Strategic Market Offices and Hot-Desking on page 134

**RECOMMENDATION 10: EXPAND THE AUSTRADE "TRADESTART" PROGRAMME**

Provide more Creative Digital Industry market specialists and more frequent overseas trade missions.

The Austrade TradeStart programme, with its focus on gearing up SMEs to be able to export, has been well supported by industry. It fosters skills development through dedicated case officers who builds the expertise in the client company's area.

It is recommended that the TradeStart programme be expanded to:

- provide additional TradeStart leaders with specialist Creative Digital Industry skills;
- additional industry associations be recruited into the programme; and
- support a minimum of one, but an optimum of two, overseas specialist market missions each year hosted by the TradeStart leaders to grow customers, teaming and export skills.

It may also be beneficial to second Austrade staff to work alongside the staff of the relevant industry associations and their TradeStart executives: this will increase the resources available to the associations and improve Austrade's understanding of the Creative Digital Industry.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 10: Expand the Austrade "TradeStart" programme on page 135

## RECOMMENDATION 11: PROVIDE EXPORT INCOME TAX HOLIDAY FOR SMES

Focus SME investors and management on investing in growing exports

Investment in content has not been a high priority of the market or of venture capitalists investors in Australia. Content is a high-risk business, the average in film is less than one in ten creative products returning a profit to investors. The initial investment is high with further investment required in promotion and advertising (P&A) to achieve audience awareness. There is also potentially a long "tail period" for income as a title can continue to provide a revenue stream for several years after the theatrical release. This can be seen at the moment with the surge in consumer spending on DVD titles; with many old films and television products getting new sales success as consumers make the switch to digital.

Investment in the film sector has been driven by tax vehicles such as 10B, 10BA and, most recently, FLICs. Digital products, in particular games and broadband content, have similar budgetary issues and risk profiles to Australian films but may have different competition profiles. For instance the games market is "born global" with all of the competitive forces that entails including the risks of product failure, but it has traditionally not received any government funding support for content development.

As digital products have less established international distribution markets and business models, incentives are needed for the pioneers and entrepreneurs to take the risk and build these new digital silk roads. By providing tax relief for export based activity in this sector we can prime the pump for future service based industries that will have a lasting economic impact on the viability of the Australian economy.

Tax relief for the portion of the export revenue produced in a given accounting period seems a logical step and consistent with the export expense relief given under Export Market Development Grants (EMDG).

Table 32: Other countries providing Overseas Income Tax Holiday programmes.

Country	Programme
China and Hong Kong	HK: Offshore income excluded, 50% reduction in income tax but not less than the minimum tax rate of 10%
Singapore	Pioneer status for High Technology companies: 10 year tax holiday 0-10% tax thereafter
India	10B of the Income-tax Act allows a five-year tax holiday to approved 100% export oriented undertakings
Labrador and Manitoba (Canadian Provinces)	The tax holiday provides provincial corporate income tax exemption to eligible new small businesses incorporated between April 1, 2003 and March 31, 2006. Designated growth sectors are technology, aquaculture, manufacturing, export, tourism, research and development, forestry and agrifoods, processing, import replacement and cultural industries.

Table 32: Other countries providing Overseas Income Tax Holiday programmes.

Philippines	Especially registered projects are exempt for 6 years
Malaysia	Offshore income excluded

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 11: Provide Export Income Tax Holiday for SMEs on page 136

## RECOMMENDATION 12: DATA COMMUNICATION COST EQUALIZATION STRATEGIES

The Bandwidth Enquiry in 1999 recognised the cost of data as a barrier to Australian business and uptake of online services and content.

The current international charging arrangements for Internet services are inequitable as:

- Australian ISPs do not get reimbursed for carrying US-generated traffic on the trans-Pacific link; and
- Australian ISPs are not reimbursed (or revenue offset against the cost of accessing US networks) for carrying US-generated traffic on their Australian domestic Internet networks.

The effect of this is that Australian ISPs costs to provide Internet services is higher than it should be and all Australian Internet users are paying more for Internet access than would be the case under a more equitable arrangement. Australian ISPs and Internet users are also subsidising US ISPs and their customers, which has implications for Australia's international competitiveness. The Government has been working on getting this issue addressed via multi-lateral fora, such as the World Trade Organisation (WTO), the International Telecommunication Union (ITU) and Asia-Pacific Economic Cooperation (APEC).

Australia is at the end of a long, thin traffic route. As such we do not appear to have any locational advantages for hubbing or site hosting and if we are to be internationally competitive we must ensure that communication costs are minimised. Therefore there is a need for more equitable cost sharing arrangements in the Internet. The proportion of inbound traffic from the US is likely to remain of the same order of magnitude so long as the main Internet bandwidth usage consists of consumers downloading information products.

The 70 per cent inbound traffic figure is closely comparable to the proportion of foreign information products such as books, recorded music, and television programmes that are consumed in the Australian market. Major growth in demand for Internet services is most likely to continue being driven by downloads of packaged content. One way to change this traffic imbalance is to encourage the production of content in Australia. However, a necessary requirement for this is cheap and abundant bandwidth which the current arrangements do not assist.

### “Digital Sheep”

Many primary production industry sectors have had freight subsidies in order to assist in getting their goods to market and help bridge the tyranny of distance.

The creative digital content industry can be viewed as a producer of “digital sheep”. As we compete in an increasingly networked market the cost of delivery of our product needs to be competitive. The underlying data cost in delivery of our goods is a substantial barrier to entry to overseas markets.

A subsidy equivalent to freight equalization should be reviewed on international and inter-connect data charges to assist in the export of digital goods from Australia.

The 1999 Bandwidth Report outlines that there are several ways in which Australian participants are affected by the current arrangements:

*“•without adequate reimbursement for the traffic generated by the US, Australian ISPs have less funds to invest in their network;*

- the higher costs for Australian ISPs are passed on to Australian content/ applications providers putting them at a competitive disadvantage compared to their US counterparts;*
- the higher costs are also passed onto Australian end-users limiting the take-up and growth of the Internet in Australia; and*
- the higher prices paid by Australian Internet users also increase the cost of doing business in Australia where they are a business input.*

#### *12.9 recommendations*

*There are two commercial practices, which add to the costs born by Australian ISPs:*

- Australian ISPs are not reimbursed for the cost of carrying US generated traffic between the US and Australia; and*
- Australian ISPs are not reimbursed (or offset against the cost of accessing US networks) for carrying US generated traffic on their domestic networks.*

*While the Australian Government and industry are seeking to develop and obtain international acceptance of fairer charging arrangements for Internet traffic, this is likely to be a slow process.”*

*In the absence of a resolution of these issues in the mid term or under the current I-lateral free trade discussions, it would seem reasonable to consider a “data equalisation” scheme to assist exporters and content hosts.”*

Source: National Bandwidth Inquiry; Department of Communications, Information Technology and the Arts, 1999 <[http://www.noie.gov.au/projects/environment/bandwidth/papers/discpaper\\_full.htm](http://www.noie.gov.au/projects/environment/bandwidth/papers/discpaper_full.htm)>

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 12: Data Communication cost equalization strategies on page 136

### RECOMMENDATION 13: SERVING THERE: SERVER IN-PLACEMENT PROGRAMME

It is recommended that the proposed industry development peak body investigate the feasibility of placing or accessing content server farms within strategic target markets. These would provide high capacity, fast response and low international data traffic costs for Australian Digital Content and Application exporters. Akamai currently provides a service similar to this but it would need to provide some additional delivery monitoring and content access management services to ensure that Rights management and contract obligations are met.

As well as the cost and customer performance advantages of in-country server placement there may be additional legal advantages in placing the major server farms on Australian territory such as within Austrade or Embassy missions. This would provide advantages in the treatment of copyright law, publishing and contract law and most importantly the local served content could be counted as Australian traffic in Peering negotiation. There are obviously other factors that would need to be taken into account on the viability of this. For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 13: Serving There: Server in-placement programme on page 137

#### RECOMMENDATION 14: CREATE A GLOBAL DIGITAL PRODUCTION CONTENT AND RIGHTS ONLINE MARKETPLACE

Ensure that online marketplaces are available that promote and license Australian Digital Creative Content to other producers and to wholesalers. As suggested in the “Economic Benefits from Cultural Assets report” this would be a business-to-business service and should provide discovery, acquisition of usage permissions and the downloading of appropriate content and resources with the embedding of the appropriate metadata.

The service would market:

- digital versions of resources held within Australian Collecting Institutions such as photos, video, text, 3D models, simulations and audio;
- the rights to utilise in a production environment and then republish digital content. This would allow for the legitimate re-use of both completed works and input resources and increase revenue to rightsholders.

Critical to the success of the service will be the formulation, evangelism and adoption of appropriate metadata, content format and packaging standards and rights licensing templates. For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace on page 138.



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**EXPORTS: CREATING THE EXPORT BRAND AND MARKET CHANNELS**

The following recommendations address the issues involved in finding effective publishing and distribution channels to overseas marketplaces and the requirement for a strong market “brand” for Australian Creative Digital Industry’s products and services.

**RECOMMENDATION 15: CREATE AND PROMOTE THE AUSTRALIAN QUALITY AND CREATIVE UMBRELLA BRAND**

The proposed industry development peak body should be resourced to develop and implement a long-term “branding” campaign across the multiple sectors of the CDI and target countries to ensure the Australian companies are able to obtain and execute on appropriate overseas opportunities.

The Australian Wine industry as recently as the 1970s was viewed internationally as producing “Chateau Cardboard” that was shipped overseas in bulk and consumed in bulk. The Australian Wine and Brandy Corporation (AWBC) over a period of two decades was able to substantially raise the quality and variety of Australian Wines from all of the producers, both small and large. But just as importantly, it has tracked this quality improvement with marketing campaigns to ensure the overseas target markets consider, acquire and re-purchase Australian Wines. This was done at the wholesaler, retailer and consumer levels.

This approach is directly applicable to Australia’s Creative Digital Industry. We not only have to be world’s best quality producers and publishers of digital creative content and services, we have to ensure that distributors, publishers, project commissioners, equity and content funders and consumers know this too. Value added analysis of content marketplaces shows that the “brand” can be worth 30% to 40% of the retail value. The ABC brand to readers and viewers is much more valuable when acquiring content than that (say) of the Boggabri Daily News. An investment in building the brand is returned by increased margin and less sensitivity to competitive forces.

While not all exporters will necessarily need to or want to utilise the brand the halo effect will still provide them benefits with their own brand.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 15: Create and Promote the Australian quality and creative Umbrella Brand on page 139.

**RECOMMENDATION 16: CREATE AND PROMOTE AN UMBRELLA PUBLISHING COMPANY: GAMES AND CONTENT**

The proposed industry development peak body needs to work with industry to ensure that Australia has at least one world-class publisher for each of the sectors of educational content and interactive and online games. Such publishers could be grown from existing small publishers, by amalgamation or by creation of a new publisher.

## Publishing Channel Concentration

The global content industry's publishing and distribution is concentrated in a limited number of powerful companies. Broadly speaking 80% of the global trade in a particular sector would be controlled by 4 companies:

- Recorded Music publishing is dominated by four companies: Sony-BMG (with the announced merger of Bertelsmann Music Group and Sony Music Group, EMI Record Group (EMI), Universal Music Group owned by Vivendi (UMG) and Warner Music Group (WMG);
- Film publishing and distribution is also concentrated in 4 companies UIP (joint Vivendi and Viacom), Buena Vista, Fox and Warner Brothers;
- Games publishing on games consoles is controlled by Sony, Nintendo, Microsoft with a small number of independent publishers Electronic Arts, Atari and Sega;
- Software publishing is dominated by 3 companies: Microsoft, Oracle and Computer Associates. Adobe and Macromedia are also very large and relevant in the digital content area.

Getting the attention of these companies and negotiating a distribution or publishing deal for a games title, software application or cross-media property is extremely difficult. In the majority of cases where a deal is able to be obtained it would have insufficient financial reward in the short to medium term to provide the funding necessary for the next bigger, better, more creative project.

The Wine industry faced similar obstacles in the UK when traditional wine store showed little interest in Australian Wines. It addressed this obstacle by utilising a non-traditional distribution channel; a national chain of supermarket stores: SafeWays.

It is imperative that Australian content producers are able to export their products and not just their skills. They need to be able to retain the majority of their IP and thereby commercial control to enable them to obtain flow-on revenues from commercially successful creative titles.

While it may not be prudent for the Government to be a direct investor in essentially a commercial sector operation, nevertheless ensuring that Australia has a World-class publisher<sup>1</sup> will require concerted support by Government agencies including investment incentives, R&D infrastructure support and Austrade support.

For a more detailed analysis of the recommendation see Appendix 3: Estimated Costs and Benefits of Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content on page 139.

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1. While it is true that News Limited is a global publisher, its focus is such that it primarily only publishes its own material. It is not focused on being a publishing and distribution house for content developed externally.

## SECTION 9: TWO SCENARIOS: AUSTRALIA IN 2010

### SCENARIO ONE: DEFAULT SITUATION: “*STANDING STILL IS GOING BACKWARDS*”

It is 2010 and the digital content revolution has made a major impact on Australia's Balance of Payments. As in the previous innovation discontinuities of the 1920s film, the 1950s TV, and the 1980s software, Australia has seen its best and brightest ideas, talents and companies snapped up by overseas companies. In contrast, companies in the US, Japan, Korea and India had access to the capital, the marketing expertise and the entrepreneurial drive to commercialise and make money from the digital creativity of Australians and others. To add insult to injury, Australians now have to pay a substantial premium every month when they subscribe to the latest US hit shows immersive offshoots online. Teenagers now are more at home thinking in US dollars because of all their online purchases they make for content subscriptions are in US dollars. Mind you the calculation is pretty simple with 3 Australian dollars to the US.

The occasional US production is brought to Fox Studios or Docklands to great fanfare but funny how it just seems to happen just before a State or Federal election. NIDA has closed and the key staff have moved to LA and Beijing to run training schools for Disney.

The big hope for the digital economy, Online and Interactive Games showed early promise with 3 companies establishing sufficient reputation to obtain global distribution of their titles. But since then one has moved offshore to the US to get funding and another closed after 5 years of losses. It was particularly galling to see the last company XYzZY, now French owned, close its Brisbane development centre and move the 500 jobs to Poona in India. Only a few key creative staff travelled with the company and its projects.

The balance of payments in content is down the toilet, with Australia importing 50 times more film, digital and interactive TV content than it exported. And because no domestic Internet publishers have grown to global stature, Internet traffic into Australia is 20 times greater than the traffic out of Australia; forever preventing Australia from bargaining for better terms on internet tariff charges into and out of Australia through the peering arrangements.

The Digital Cinema Initiative that operates the encrypted satellite delivery of films to all cinemas around the world is now making it extremely difficult for films from non-US studios to get to access to the worlds' screens. Consequently the export revenue from Australian films plummeted and the best directors, producers and cinematographers gradually left and established reputations with LA studios. Even Australia's domestically targeted films are in the doldrums with falling attendances from audiences now reared solely on big budget US extravaganzas. California Governor Arnie S is still drawing them in for Terminator 6 which, ironically, was mostly filmed in Mexico; now known as “South SoCal”.

Australia is seen as a nice place to visit, to hire staff from and to use for the odd game, film and internet productions when you can't get an “A” team closer to home but you wouldn't want to run a business there! It's a backwater and so quaint.

## SCENARIO TWO: THE DIGITAL RENAISSANCE

After seven years of concerted effort the Australian Creative Digital Industry is now reaping the benefits.

Eight Australian companies are in the top 50 global games producers and one is in the top ten of producer/publishers. Two cross-media interactive companies are world leaders in their fields with long-term series licenses on their concepts to BBC, the PBS, and China Digital. Production advances and license revenue for three projects run into A\$75M. Of course, tapping into China, Korea and Southern Asia's booming middle class was key, where the teenagers just have to participate in the "Global Swarm" family of interactive experiences and the "Too Hot to Handle" teen lifestyle "Simulated Immersive Media" (SIM).

It also helped that the Australian games industry had been connected since 2004 by gigabit ethernet and was able to experiment amongst themselves as well as collaborate on technical and creative developments. The Digital Content and Software R&D Tax rebate made it much more attractive to investors when they learnt that their dollar was being matched 1:1 even if it was in a rebate after the fact. They were really pleased about the Export Income Tax holiday as for the first time they were able to get fully franked dividends from investments in small leading edge high technology companies within three years.

Online and re-usable educational content is now a major export. Australian Universities, TAFEs and school systems, in partnership with museums and content developers, have been spending 1% of their annual budgets for the past five years developing, testing and exchanging world-class re-usable Learning Objects in 27 different languages. They have now established a A\$350 million annual export in licensing online education and content especially to Asia, Africa and South America. This is in addition to the \$10 billion that is brought into Australia each year by overseas students and those studying in offshore Australian education centres.

The digital film and interactive TV industry survived the costly transition from 35mm production to all Super High Definition Digital production. This investment has now given them the flexibility to derive a cinema release, a digital TV spin off and a broadband immersive from shooting using the same crew and equipment. The industry has moved beyond quirky kangaroos and crocodile movies and now has a global reputation for great involving stories with excellent creativity and world-class production values. World famous Australian actors now chose to stay home for most of their work because of the creative and financial rewards.

Of course all of this would not have been possible if the industry and government hadn't got its act together. Getting a Digital Cinema region operating and distribution centre into Australia, which made it cost effective to beam a film into any cinema in the world, allowed Australian films to go after large "niches" that were previously impossible to find or to make money from.

Connecting all the creatives, technicians and production centres and staff together on the 10 Gigabit FIBRE+ also allowed Australia to build on its strengths and overcome the tra-

ditional weakness of distance from customers and other collaborators. The network of small "RenderFarms" that sprang up along the east coast and inland towns along the FIBRE route to handle the computing demands of digital effects and films was critical in providing so much cost effective rendering and computing capacity. This eliminated the computational peak loads that normally would make a completely digital film problematic and expensive. Interestingly enough the communities around the RenderFarms used the "community access cycle" allowance to develop skills and play creatively with the technology available on the RenderFarms. They started to produce some excellent creative short works and SIMS that had been published on SBS's new iXploR digital interactive channel. A number of the contributors have now taken up scholarships to study their new craft further.

The Australian dollar being at parity with the US dollar, of course has made it more difficult to pitch for a lot of US footloose film and production. But it seems that the production/post-production projects that are creatively and technically challenging come to Australia to get solved. And of course this is much more lucrative than renting out a back paddock, a sand dune or what looks like a big farm shed. So even though the number of overseas projects is down, the big budget ones that do come, bring in around \$500M a year.

After the embarrassment of the 1980s and 1990s when Australia totally lost its opportunity to be a major exporter of software and as a result had a 10 times imbalance in IT trade, it is good to see that Australia is now exporting \$1.4B more digital content than it imports.

Consumers have seen a change too. Sure, they can still watch CSI LA, CSI NY and CSI Bombay on 3 of their 40 channel Digital SuperHD DVD/iTV/PVRs. But there is also quality drama, news and documentaries from every part of the world. Australian produced TV drama and other material now earns 3 times more money overseas than they do domestically. As the production costs are covered by overseas sales the licensing of Australia productions to local broadcasters is cost competitive with overseas material. Consequently it makes up some 30% of the broadcasts on general channels. And that is not counting the in-house productions and dedicated sports, news and weather channels.

## SCENARIO ONE ANALYSIS:

## ASSERTIONS MADE IN THE SCENARIO

## Balance of Payments and Exchange Rate

When the USA was at the peak of its tech boom the Australian dollar got as low as 42c with predictions of 40c as being its “natural” level by some pundits. This scenario posits that the US extends its dominance of the trade in traditional media to digital media. A tripling of the cultural imbalance in trade from A\$-1.055B to a forecast A\$-3.005B will result in a strengthening in the US dollar and a weakening of the AUD.

## Early Innovators Loss to Australia.

This is a natural outcome of a constrained market and insufficient capital to export. There are any number of recent examples: In the games sector Australian had a global leader in Beam Software which was unable to raise sufficient capital to fund its research and growth. It was taken over by a French games company and changed its name to Melbourne House.

## Offshoring Production

Publishers have recently been following the IT industry and offshoring the capturing of printed books into electronic files for eBooks. Korea has a very large animation industry that caters to the US market.

The immediate loss of jobs is only the most obvious cost of offshoring. Much more insidious is the erosion it causes in the eco-system. For instance offshoring of the more mundane aspects of animation almost certainly eliminates the opportunity for fresh talent to enter the local industry and learn their craft by moving through the various job levels. The effect of this is only felt in 10 years when there is a creative talent shortage, because the creatives used to learn their craft doing “tweenings” which aren’t available any more.

US IT columnist Robert X Cringely provides a more reasoned analysis of the negative impact from “Offshoring”. at <<http://www.pbs.org/cringely/pulpit/pulpit20030807.html>> and also at

<<http://www.pbs.org/cringely/pulpit/pulpit20030814.html>>

## Creative Digital Industry and Channel Choke

If the media publishing concentration continues into the digital domain then the only opportunity for SME producers and publishers is to reach the market directly via the internet. This may be valid for many types of works and genres. Highly experiential creative works will still need to be presented in cinemas and stadiums. Locking SME out of these through the Digital Cinema Initiative and similar would be very negative on export revenues and diversity.

## Inbound Production Slump

There are strong signs this is already happening. Mexico, NZ and Korea are already growing their sectors. The UK and Canada are determined not to lose their current share either.

The periodic US scriptwriters/actors/workers strike may see temporary increases in the general rate of outsourcing to Australia. As Australia needs to maintain a certain level of overseas work for viability, talent growth and resource investment the industry needs to get very close to its customers.

## SCENARIO ONE OUTCOMES

### Export Revenue

Because of closure of distribution channels and loss of talent to overseas export revenue will drop from \$1.4B to \$1B. However the strong negative is the \$2B drop in the balance of trade which is a result of the forecast substantial increase in imports from \$2.5B in 2000/2001 to \$4.1B in 2010.

Table 33: Scenario 1 2010 Forecast Exports and Imports

Scenario 1 2010	Inbound Film Prodn	Films	TV programmes	Music	Books etc.	Other	Software	Games	Ed Content (est.)	Cross-media {est.}	Total
Exports	220	15	65	75	150	95	250	125	25	25	\$1,045
Imports		-350	-750	-320	-300	-80	-1000	-250	-650	-350	-\$4,050

### Turnover

Total production turnover is forecast to drop from \$6.35B in the core sectors in 2001 to \$5.9B in 2010. This is despite a growth in the wholesale value of the domestic market from \$6.7B to \$8.9B.

### Leverage and Multiplier Effects

The multiplier effect works both ways. The ABS notes that the Full Time Employment multiplier for Culture Industries is on average 22 persons for every \$1 million increase in production. For every long-term drop of \$1 million in turnover some 22 full time positions would be lost. Through the action of the gross multiplier a drop in production of \$450 million per annum will be reflected by an estimated drop of \$711 million in Australia's GDP.

### Employment

It would be expected under this scenario that gainful employment in the Creative Digital Industry Sector would be less than that currently. Average income would be expected to be approximately 10,000 employees lower (10% of core employment) as there are less commercial outlets both domestically and overseas for works to be sold.

## SCENARIO TWO ANALYSIS:

## ASSERTIONS MADE IN THE SCENARIO

- Concerted effort by the proposed industry development peak body working closely with various sector associations and commissions.
- Market success for Australian producers and publishers of
  - Games
  - Cross-media
  - Education Content
  - Drama, series and mini-series for cinema, TV and iTV
  - CDI related applications and online services
- FIBRE Whole of Industry Production network upgraded and deployed
- Financial incentives focusing on R&D and exports implemented and promoted to the industry
- Full digital “single source master” production flows researched and implemented widely due to initial productions being commissioned by ABC and SBS that require them. “Minimum Innovation” requirement for broadcasters spurred take up of cross-media commissioning.
- Distribution efficiencies and niche marketing enabled by enhanced marketing support programmes and marketing infrastructure.
- Digital Cinema Initiative invested in by the proposed industry development peak body and an Asia Pacific processing centre and uplink established and integrated into FIBRE
- New production and business talent attracted to the industry
- Production industry has access to infrastructure, marketing resources and overseas exposure
- Exchange rate improves somewhat from current US\$.72 to the AUD to parity
- Trade Surplus of \$1B in digital content
- Locally produced material has 30% share of TV Content

## SCENARIO TWO BENEFITS

## Employment

Through the application of the multiplier of 22, total employment could potentially rise by 125,000 persons. However because a substantial part of the growth in domestic production is for the export market some proportion of the jobs created will be overseas. It is believed that 86,000 is a more realistic increase using a FTE multiplier of 15.



## Export Revenue

Table 34: Scenario 2 2010 forecast exports and imports

Scenario 2 2010	Inbound Film Prodn	Films	TV programmes	Music	Books etc.	Other	Software	Games	Ed_Content	Cross_Media	Total
Exports	500	125	350	360	325	100	650	500	350	350	\$3,610
Imports		-300	-350	-250	-180	-50	-400	-150	-250	-250	- \$2,180

The total balance of trade is projected to be positive \$1.4B with a slight reduction in imports from \$2.5B in 2000-2001 but a substantial increase in exports from \$1.4B

## Leverage and Multiplier Effects

The growth in domestic production from \$6.3B to \$12.1B will potentially result in an increase in GDP through gross multipliers (estimated at 1.58) would be \$9B.

On the assumption that the total cost to government over seven years of implementing all of the recommendations contained within this report is approximately \$150M. This is a leverage of 40 times.

The additional CDI production would generate additional taxes in 2010 of approximately \$2B which is a 13 times return on a 7 year investment in that year alone.

## Turnover

The total turnover of the exporting Creative Digital Industry sectors is forecast to increase from \$16B in 2000/1 to \$22B in 2010. The total creative industry including non-exporting and non-digital sectors will therefore grow from \$35B to \$43B.

## APPENDICES

### APPENDIX 1: PROJECT BACKGROUND

#### The Creative Industries Cluster Study

This report arises from a consultancy assignment undertaken on behalf of the Film and Digital Content Branch of the Commonwealth Department of Communications, Information Technology and the Arts (DCITA). It is part of Stage 3 of the Creative Industries Cluster Study, a joint project of DCITA and National Office of the Information Economy (NOIE) which was commenced in August 2001, and is now in its third and final stage.

The overall purpose of the Creative Industries Cluster Study is to examine digital content and applications within the creative industries, and encourage industrial growth and expansion. This is envisaged as involving the development of comprehensive policies, the refining of policy-settings, coordination activities, and perhaps intervention strategies.

The Stage 1 Report, of May 2002, noted the relatively small scale of digital content and associated applications development activity in Australia, the fragmentation of the industry, and the embryonic and patchy state of cluster development. It concluded that companies here risked being marginalised on the world stage. It called for an economic development agenda additional to the existing cultural agenda.

The Stage 2 Report, 'Producing Digital Content' dated September 2002, sought a detailed understanding of current production and commercial arrangements. It resulted from a study of four industry segments, and identified features of individual firms and of industry value chains. It identified the strong focus on export in the games sector and film production. Other sectors were more focused on domestic sales. The report makes the point that "digital content production is becoming a major driver of innovation across content industries and potentially in other industry sectors like education, entertainment and advertising more generally. A number of industry leaders commented on the importance of seeing innovation around digital content as research and development for creative and content industries generally."

The Stage 3 reports included a number of reports to investigate in more depth issues or opportunities raised in the previous reports. These include:

**The Measurement of Creative Digital Content Report:** A Study to Assess User Requirements for Creative Digital Content Statistics and a Possible Collection Strategy to Address Them. <<http://www.cultureandrecreation.gov.au/cics/measuring.pdf>>

This study identified the scarcity of reliable, timely, focused data for measuring both industry activity and market potential.

**The Role of Government Agencies as Participants in Digital Content Markets** <<http://www.cultureandrecreation.gov.au/cics/government.pdf>>.

The report:

- identified the processes through which Government Agencies participate in digital content and applications markets;
- identified a number of weaknesses and inefficiencies as well as strengths in these processes;
- suggested strategies through which Government Agencies can most effectively leverage current and future involvement in these markets to assist in the development of the creative digital content industries.

It noted that projects that involved a high degree of partnership and mutual respect between the public organisation and private industry had much better outcomes and commercial spin-offs than the traditional contractual based Customer:Supplier approach.

**Economic Benefits from Cultural Assets Report:** The Digitisation Programmes and Standards of Collecting Institutions and the Scope for Collaborations with the Cultural Industries <<http://www.cultureandrecreation.gov.au/cics/benefits.pdf>>.

This report identified the current digitisation projects of museums, galleries, libraries and archives. A plethora of potentially relevant standards were identified and placed into the context of a matrix. The report suggested a number of strategies for increasing the collaboration between Collecting Institutions and digital content developers including:

- National Creative Digital Industry Standards co-ordination and promotion project to reduce the costs and risks of the various sectors and institutions choosing and implementing different standards to address their common problems.
- Explicit funding for digitisation projects similar to Scotland's SCRAN project to create a pool of digital resources to use as input to Digital Content titles such as Learning Objects or documentaries;
- Skills, awareness and technology training for staff of Collecting Institutions and creative producers;
- Pilot projects to encourage collaboration between the sectors;
- Much greater pro-activity on methods for reducing the high cost, time, legal and organisational impediments that Intellectual Property Rights can have on the re-use of digital content. These mechanisms could include online and realtime copyright clearance services, registers of rightsholders and online rights marketplaces.

**Research and Innovation Systems in the Production of Digital Content and Applications.** A report for the National Office of the Information Economy (NOIE) conducted in September, 2003 by Cutler & Company and QUT CIRAC<sup>1</sup> which is available from: <[http://www.cultureandrecreation.gov.au/cics/Research\\_and\\_innovation\\_systems\\_in\\_production\\_of\\_digital\\_content.pdf](http://www.cultureandrecreation.gov.au/cics/Research_and_innovation_systems_in_production_of_digital_content.pdf)>

The report looked at

- 1 The industry's innovation system
- 2 Issues in optimising the industry's innovation systems
- 3 Possible intervention strategies.

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1. Queensland University of Technology Creative Industry Research and Applications Centre

The report determined that

*“First, this industry cluster is economically significant. In 2000 sector turnover in Australia represented \$19 billion, or 3.3% of GDP. Comparison with the UK and US, where GDP shares are 5% and 7.8% respectively, shows that the potential significance of the sector in Australia is even greater.*

*Second, the creative industries is a high growth sector. Surveying a cross-section of countries (see Figure 1.4) we find that the creative industries have been growing faster than the rest of the economy. In the UK and US average annual growth rates for the creative industries have consistently been more than twice that of the economy at large. This translates directly into jobs and economic growth.*

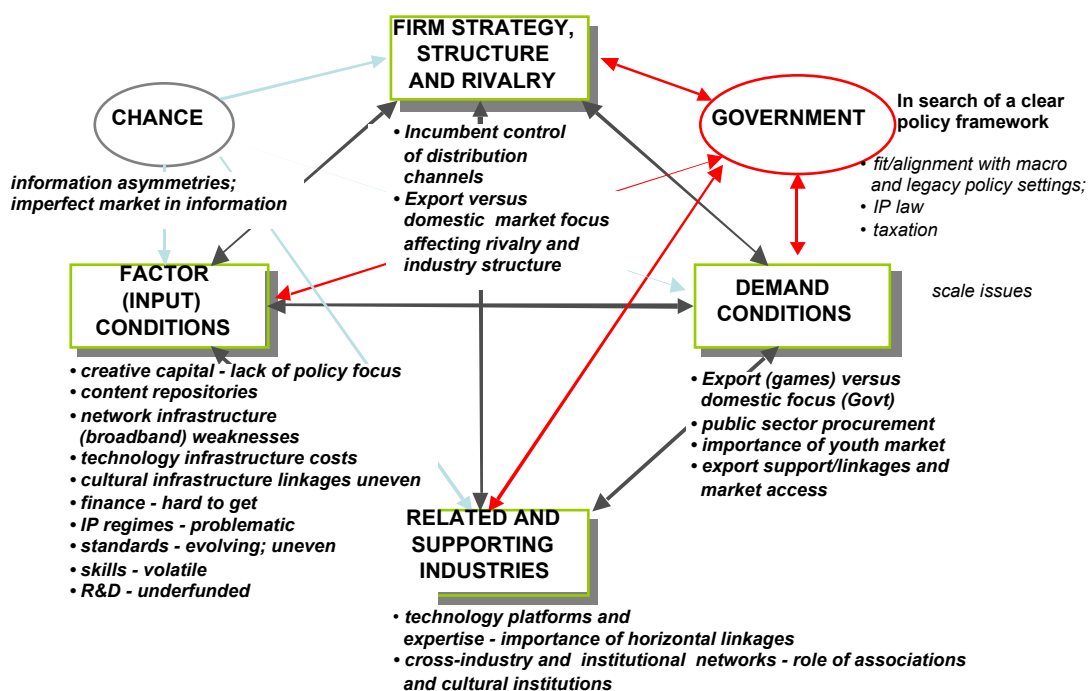
*Third, the economic multipliers arising from the creative industries are significant, being higher than for most other categories of economic activity. This point is discussed in more detail in later sections of this report.*

*Fourth, the creative industries and digital technology are becoming important enablers as intermediate inputs to other industry sectors. Digital content is becoming an important enabler across the economy, and especially in the services sector. This translates directly into the competitive advantage and innovation capability of other sectors of the economy.*

*Finally, the creative industries fuel the creative capital and creative workers which are increasingly being recognised as key drivers within national innovation systems.”*

The report showed the elements in cluster competitiveness and the issues that the participants are facing. These are summarised in the following diagram.

Figure 9: Overview of elements in cluster competitiveness in digital content production



Source: QUT CIRAC and Cutler & Company, Research and Innovation Systems in the Production of Digital Content and Applications, September, 2003

## This Project

To date the various Cluster Study reports have focused on the health and dynamics of the Creative Industries within the context of the Australian Marketplace. This study specifically looks at the opportunities for substantially exports of digital content products and services. This report makes recommendations on programmes that will support the growth of a significant globally competitive Australian industry based on the production of creative digital content and applications.

More specifically, the purpose of the Project was to:

- provide a detailed analysis of the relevant global markets, including the nature of each market, its size, future trends and the potential for Australian firms to access the market, drawing on existing research where possible;
- identify the inhibitors to growth of the Australian industry, e.g., barriers to global distribution;
- identify new or emerging channels of distribution;
- identify possible measures to enhance the rate of Australian industry growth, e.g.,
  - models of creative industries in various sectors, from both Australia and overseas, which have effectively managed to brand into overseas markets;
  - models of effective cooperative activity between companies, industry sectors and industry bodies which have facilitated success in overseas markets; and
  - models to enhance distribution channels into global markets;
- recommend actions by industry players to assist the success of these industries in international markets;
- recommend Government actions to assist the success of these industries in international markets;
- estimate the level of Australian industry activity (revenue, jobs, exports) in the absence of any new Government action;
- estimate the level of Australian industry activity if the recommendations are implemented.

Two secondary requirements were defined:

- identification of marketing and branding strategies for Australian industry.
- assessment of existing Commonwealth programmes which have significant potential to assist these processes.

The project was conducted from August to October of 2003 and involved:

- detailed analysis of the existing Creative Industry Cluster Reports,
- analysis of the 78 submissions made in June 2003 to the House Of Representatives Standing Committee On Communications, Information Technology And The Arts inquiry "Into The Future Opportunities For Australia's Film, Animation, Special Effects And Electronic Games Industries" (see Appendix 8: House of Representatives Enquiry Submissions on page 163)
- interviews with senior executives of 24 organisations in Sydney, Melbourne, Brisbane and Canberra who are involved with the Creative Digital Industry and its export potential. (see-Appendix 2: Interviewees List on page 127)
- analysis of published reports on media markets in various countries.

- analysis of published reports on a number of countries strategic plans for their Creative Digital Industry.
- analysis of available published and some unpublished statistical reports on various sectors of the Australian Creative Digital Industry.

## APPENDIX 2: INTERVIEWEES LIST

Interviewee	Organisation	Role
John Flemming	AAV Australia	
Malcolm Long	AFTRS	Director
Sandra Newbould	AIMIA Trade Start	
Julie Owens	Association of Independent Record Labels Ltd.	
David Fox	Astrology.com	Founder, Ex CEO
John Odgers	Austrade	Industry Specialist Arts, Culture & Entertainment
Sally Anne Watts	Austrade	Global team Leader ICT
Kim Dalton	Australian Film Commission (NSW)	CEO
Louise Van Rooyen	Australian Interactive Media Industry Association	Executive Director
Sue Rowley	Australian Research Council	Executive Director, Humanities and Creative Arts
Julie Harris	Brisbane City Council	Manager, Economic Development, Community and Economic Development
Amelia King	Film Victoria	Manager
John Gregory	Imagination Entertainment Pty Limited	Dir Content
Christina Hyde	Melbourne Film Office	Commercial Development Manager
Mark Bishop	Multimedia Victoria	
Carl Gardiner	Mushroom Music	
Colin Griffith	NSW OIT	
Paul Holland	QANTM	CEO
Prof. Stuart Cunningham	QUT Creative Industries	Creative Industries Research and Applications Centre
Prof. Charles Zamolier	Ryerson University	
Paul Vincent	SBS Radio & Television	Business Development Manager
Geoff Brown	Screen Producers Association of Australia (SPAA)	Executive Director
Chris Creed O'Hanlon	Consultant	Former CEO of Spike
Robert Clemente	Television Education Network	CEO
Philip Alexander	Yahoo Australia and NZ	Regional Corporate Development Director

In addition a comprehensive survey form was published on the web and subscribers of the AFC, AIMIA and the IIA were asked to complete the survey.

35 completed surveys were received and analysed.

### APPENDIX 3: ESTIMATED COSTS AND BENEFITS OF RECOMMENDED PROGRAMMES

#### Overall

The analysis that follows looks at the individual programmes and makes estimates of their costs and benefits. The recommendations have been designed address the range of issues and create a virtuous cycle that will meet the overall objectives. It would therefore be problematic to view any one recommendation in isolation as the “magic bullet”. The predicted improvements in overall performance will be the result of implement bulk of the recommendations in an appropriate sequence.

#### Outcomes from full implementation of recommendations

Employment	To achieve the 2010 objective of an additional \$2.5B in exports would require 200 companies to succeed and grow to become medium or large corporations.  Modelling suggests that for a SME in the Creative Digital Industry that currently employs 15 staff could potentially grow to employ over 200 staff locally at the end of 9 years.
Export Revenue	Assuming 200 companies are successful in the global market there would be \$42 billion in additional exports over the 9 years. Most of the growth in exports occurs in the last 5 years of the period modelled (2010 to 2014).

#### RECOMMENDATION 1: ESTABLISH A PEAK INDUSTRY BODY

Short Description	The proposed industry development peak body would promote across all sectors of the industry and facilitate interaction and co-production between stakeholders.  It would be responsible for: <ul style="list-style-type: none"> <li>• industry development;</li> <li>• Market and industry intelligence service;</li> <li>• export development council;</li> <li>• CDI standards research, database and evangelism</li> </ul>	
Benefits:	Coordination of the various industry bodies, the state development boards, formulation of whole of industry strategy and its implementation will give the industry its best chance of succeeding in an ultra competitive global marketplace.	
Employment	This organisation would drive the effective implementation of most of the other recommendations. Hence all employment benefits could be seen as accruing to this recommendation	
Export Revenue	See Scenario 2	
Turnover		
Leverage and Multiplier Effects	As the organisation will be coordination the activities of others its leverage will be high. Standard Gross and FTE multiplier effects for the cultural industries are expected to apply for the Creative Digital Industry	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Administration and programme staff	\$2M
	Facilities and administration	\$500K
	Industry association support and Internal Programmes	\$1M



## RECOMMENDATION 2: ESTABLISH A DEDICATED MARKET AND INDUSTRY INTELLIGENCE SERVICE

Short Description	<p>Ensure the industry, its members and government has access to accurate and timely data on the industry, the export activities, market surveys.</p> <p>Develop and maintain a mechanism for monitoring whole of industry participation, investment and collaboration.</p> <p>The methodology of collection and analysis has to be consistent across the various sectors and over time so that trends in, for instance cross over activities between visual effects and games, can be seen and relied on.</p> <p>Individual organisations and companies could be able to compare their own performance against that of their peer group or peer sector.</p> <p>Accurate data on export activity; R&amp;D investment and marketing investment would be able to be obtained.</p> <p>Publish reports at various levels of access and details such as: public, members, individual members, administrators, planners.</p>	
Benefits:	<p>Current data available is very patchy and often out of date. The AFC is the best source of data but currently only really focuses on the AV sector. The ABS stats are too infrequent for analysis of shorter term trends and fine sectoral analysis.</p> <p>There is a substantial growth in importing and exporting of content and applications online using credit cards and funds transfer. This flow is not appearing on the Balance of Trade in any sector. New mechanisms need to be developed to provide meaningful measures of what is happening within industry and the marketplace.</p> <p>The Market Intelligence service will enable companies, industry association and government strategist to make better business decisions, more quickly and with a greater likelihood of being able to measure the impact of actions.</p>	
Employment	Similarly to the creation of the proposed industry development peak body, this function is critical to all aspects of the industry growth	
Export Revenue		
Turnover		
Leverage and Multiplier Effects	The Wine Industry annual budget is approximately \$700,000 for market intelligence. Given its important role in growing the commercialisation of the industry the leverage is excellent.	
Estimated programme cost and assumptions	Budget Area	Estimated Annual Cost
	Programme staff (estimate of 7)	\$500K
	External Data collection contracts, data hosting and publication costs	\$1M

### RECOMMENDATION 3: SUBSTANTIALLY GROW THE FIBRE PROGRAMME AS A NATIONAL PRIORITY

Short Description	<p>Provide FIBRE with the capital to enable it to become the principal communications supplier to the Creative Digital Industry</p> <p>Ensure availability of a whole of industry dedicated "Production Grade" Communication Infrastructure.</p> <p>Expand FIBRE to all industry sectors especially film, DTV, TVC, Games and Internet developers on a national basis. Where required for cost efficiency create high capacity links to regional clusters to connect them to the rest of Australia's Creative Digital Industry.</p> <p>Scale FIBRE. Increase available network speeds with absolute reliability. FIBRE must be able to offer connectivity at speeds as high as 1 Gb per sec. Interconnect with Grange and other high-speed networks.</p> <p>Connect FIBRE Internationally. Connect the FIBRE loops to key overseas markets especially the USA east and west coast, Korea and Europe via dedicated high-speed networks. Peer with similar networks such as SohoNet</p> <p>Provide additional on demand infrastructure services on the FIBRE network: resource directories, IP registers and clearance services, project management, IP and content management; digital resource exchanges.</p>
Benefits:	<p>Scaling FIBRE will dramatically reduce the current cost penalties that Australian exporters face for development, coordination and publishing of digital creative content, applications and services.</p> <p>Strongly encourage improvements in virtual scale by enabling fast response teaming on opportunities.</p> <p>Scaled Fibre removes many of the distance constraints on collaboration with production partners and customers.</p> <p>It would also enable cost effective "daylight shifting" or "24/3" co-production arrangements with North America and European locations where a project is moved between three teams located around the globe to always utilise the day shift.</p> <p>Availability of shared services substantially reduces upfront costs, increases probability that quality, IP management and collaboration applications are utilised and reduces wastage from duplication of effort from each company evaluating and deploying administration solutions.that are infrastructure and not part of the key competitive differentiator.</p> <p>FIBRE+ will encourage the growth and success of clusters and will enhance the effectiveness of regional, local, state and federally supported cluster programmes.</p> <p>Thought should be given to coordinate the expansion of FIBRE with elements of the National Broadband Strategy especially the Demand Aggregation Strategies. Regional Creative Clusters connected by FIBRE will be substantial generators and users of digital content</p>
Employment	<p>FIBRE+ Programme will enhance employment opportunities in city and in regional areas especially if utilised in combination with clusters</p> <p>If providing the FIBRE connectivity can additionally attract 1 major games project, 1 major film project and a Cross-media project then this will provide employment for over 1000 persons.</p>
Export Revenue	<p>There are indications that scaling up FIBRE could potentially deliver at least package of 10 film co-production projects with a key nation for delivery over 3 years. Potentially this could be up to \$250M in revenue which would have gross multiplier effects in excess of \$350M. Additional employment created could be of the order of 5000.</p>
Turnover	
Leverage and Multiplier Effects	<p>Substantial leverage and multiplier effects will be generated by this programme</p> <p>The expenditure of \$3M a year over 5 years could directly attract additional \$350M in revenue and in excess of \$100m in taxes.</p>

Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Programme coordination staff	\$500K
	Capital injection to allow FIBRE to undertake communications carrier capabilities such as being the principal on purchasing and supply contracts	possibly \$5M at a minimum to \$20M in capital would be required
	Programmes	\$2.5M at lowest ranging to \$10M PA for highly expanded range of programmes

## RECOMMENDATION 4: CLUSTERING AND TEAMING ENCOURAGEMENT

Short Description	<p>Continue and expand support for various Creative Digital Industry clusters programmes at the Federal, State and Local government level</p> <p>Provide mechanisms to encourage resource sharing and collaboration within and between clusters</p> <p>A directory of clusters, cluster members and their skills and products should be developed and maintained as part of the CDIDC. This would make it easier for prospective project leaders to assemble a team:</p>	
Benefits:	Vertical and horizontal clusters succeed at creating more viable commercial enterprises. Incubators located within clusters would seem to succeed better than incubators that are located outside of clusters.	
Employment		
Export Revenue		
Turnover		
Leverage and Multiplier Effects	Normal leverage and multiplier effects will be generated by this programme	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Would be supported by coordination resources within the proposed industry development peak body	NA

## RECOMMENDATION 5: ADJUST R&amp;D START GRANTS AND REBATE ELIGIBILITY CRITERIA

Short Description	<p>Adjust the eligibility criteria for R&amp;D Start Grant and Tax concessions to:</p> <ul style="list-style-type: none"> <li>include R&amp;D on content creation and publishing infrastructure</li> <li>Modify grant and tax rebate application forms to more obviously address the language and requirements of the Creative Digital Industry.</li> <li>Remove the catch 22 of requiring demonstrated commercial support for the output of the R&amp;D while also requiring justification that the project would not proceed without the R&amp;D grant.</li> <li>Promote the R&amp;D Tax Rebate programme to software and content developers.</li> </ul>	
Benefits:	Would increase the level of investment in R&D by the industry which will fuel innovation and market competitiveness	
Employment	<p>Direct: Potential to double the employment of researchers in the industry.</p> <p>Secondary: Successful innovation will increase company turnover and therefore employment</p>	
Export Revenue		
Turnover	Needs to be modelled in conjunction with AusIndustry	

Leverage and Multiplier Effects	<p>Increased leverage and multiplier effects will be generated by this programme</p> <p>The rebate programme has especially good leverage as it is only paid after the end of the tax year when results can be justified.</p> <p>Accepted modelling indicates a 3:1 return on investment to the economy (not necessarily the company) as a result of research investment. That data includes extremely long-term medical and scientific research. We would expect that the ROI from increased content and content applications to be of the order of 5:1. we also predict that the commercialisation period would be shorter than traditional research and would be around 3 to 4 years.</p> <p>When combined with the sector gross multipliers this indicates substantial leverage can be obtained from increasing the level of R&amp;D</p>	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	The promotion of the Tax Rebate programme would be supported by coordination resources within the proposed industry development peak body	

## RECOMMENDATION 6: SKILLS DEVELOPMENT

Short Description	<p>Extend the existing excellent craft based training of the film, games, software and interactive media sectors.</p> <p>Provide support for the AFTRS Creative Media Entrepreneurs courses.</p> <p>Training requirements need to be able to be adjusted and extended to be able to rapidly address technology changes and project and customer needs.</p> <p>Work with educational institutions to encourage the provision of courses that:</p> <ul style="list-style-type: none"> <li>• integrate with “on the job” experience</li> <li>• support the critical need for leadership training in Creative Digital Industry business management, export sales and marketing and entrepreneurial skills.</li> <li>• provide project management, team co-ordination and partnering skills are adequately provided.</li> </ul>	
Benefits:	<p>Ensures that the industry has access to excellent craft and business skills</p> <p>Ensure that all aspects of the various crafts can be performed in Australia</p>	
Export Revenue	Higher skills attract higher wages and attract a higher number of overseas projects.	
Leverage and Multiplier Effects	Investment in growing skills traditionally has one of the highest returns on investment.	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Coordination should be provided by the proposed industry development peak body	NA
	Needs scoping to determine the requirement for an increase in the Education and Training Budget	

## RECOMMENDATION 7: GROW DOMESTIC DEMAND FOR INNOVATIVE CROSS-MEDIA APPLICATIONS

Short Description	A series of measures to stimulate the wholesale demand for a wide range of digital content and applications.
Benefits:	<p>The take up of new distribution channels and communication technologies is constrained by the availability of content that is unique and valued by customers for that new channel. Without a critical mass of solutions there will be no take up.</p> <p>In constrained markets upfront investment by communication channel owners in innovative content to “prime the pump” is problematic. If they do it in house it damages the independent production sector. Therefore the need for a range of programmes that require and encourage investment by broadcasters.</p>
Export Revenue	Projects commissioned should have a balance between cultural objectives and commercial export potential.

Programme	Additional Funding required		
	Establishment Cost	Per Year A\$ million	5 Year Cost
mandated a percentage of spending of FTA and Pay TV operators on local digital content budgets for cross-media production to encourage development of content across two or more platforms;		\$-	\$-
mandate and resource the public broadcasters to extend their charter to include development of digital content across multiple platforms in collaboration with independent production sector;		\$-	\$-
encourage innovative, experimental and non-commercial uses of cross-media by broadcasters on the additional channels as a testing ground for new technologies, techniques and business models;		\$-	\$-
extend and grow support of the AFC digital media strands and the Broadband Production Initiative (BPI) beyond the current three year commitment.;		\$5.00	\$25.00
extend the AFC BPI programme beyond “broadband” to include digital interactive television, enhanced content, games and mobile content again with a view of 360° commissioning;	\$2.00	\$5.00	\$27.00
establish a separate division for digital production within the AFC model so it is not subordinate to the Film unit. This will in part give a more balanced view on the range of content and platforms;		\$0.50	\$2.50
expand the capacity of the AFC and Ausfilm to support producers and projects in the digital sector to access international markets. While AFC has a travel grants strand this is already a heavily contested programme from traditional media practitioners wanting to market their projects and skills at international markets;		\$0.50	\$2.50
expand and broaden the AFC Broadband Production Initiative. One of the criticisms of the AFC Broadband Production Initiative is the sole attachment to ABC as the playout broadcaster, which limits the capacity of the project to attract commercial involvement due to ABC charter restrictions. It has been suggested that the SBS or other broadcaster/telco relationships be developed to expand the potential scope of projects and the potential for future commercialization;		\$2.00	\$10.00
encourage and resource government departments and instrumentalities such as museums and galleries to commission substantial digitisation programmes to generate the critical mass of rights managed, digital resources that can be used as inputs to CDI productions.	\$10.00	\$5.00	\$35.00

encourage domestic co-production/collaboration initiatives utilising freelance “producers” who can put together the required teams. Once established these producers can “front” international co-production and cooperation opportunities.		\$1.00	\$5.00
Total	\$12.00	\$19.00	\$107.00

#### RECOMMENDATION 8: BUSINESS-TO-BUSINESS ENGAGEMENT WITH COMPLEMENTARY COUNTRIES

Short Description	<p>The extension of the international co-production treaties to all sectors of the Creative Digital Industry as well as the film and TV Drama sectors.</p> <ul style="list-style-type: none"> <li>ensure treaties cover high potential countries.</li> <li>invest in coordinating and promoting co-production opportunities.</li> </ul>	
Benefits:	<ul style="list-style-type: none"> <li>overcomes locational, investment and cultural deficits for particular projects by teaming.</li> <li>provides smoothing of demand and supply cycles by spreading marketing and production resources over multiple countries. i.e. not reliant on the health of one countries film industry for the majority of inbound production.</li> <li>provides a balance between the high-risk of fully owned production and the lower return from fully project based productions.</li> <li>provides opportunities for skill sharing and upgrading at a personal and company level. e.g. staff who want to get overseas experience can travel overseas on co-production projects without leaving their company or becoming expatriates. “Reduces the brain-drain”</li> </ul>	
Employment	Will improve skills and increase employment	
Export Revenue	.Share of sales of coproduced titles will increase exports	
Turnover	Will increase production turnover, potentially by a significant amount	
Leverage and Multiplier Effects	Good leverage on the cost of the programme and strong multiplier effects.	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Coordination and promotion should be provided by the proposed industry development peak body	NA
	Cost of taxation and investment incentives need to be modelled	

#### RECOMMENDATION 9: PROVIDE STRATEGIC MARKET OFFICES AND HOT-DESKING

Short Description	<p>Create or source a limited number of “Market Access Offices” within strategically selected countries. These offices, potentially under the brand of the proposed industry development peak body would provide short term hot desking, production grade networking, communication, presentation and meeting facilities for members of the Trade Start and equivalent programmes</p> <p>Facilities could be provided via an agreement with a Serviced Office company or by utilising any spare Trade Commission space in cities that are high priority.</p>
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Benefits:	<p>allows and encourages SMEs to spend more time in an overseas market growing exports</p> <p>improves the overseas marketing effectiveness of SME by provides higher quality of communication and prospect servicing through the use of a professional overseas office.</p> <p>increases the likelihood and success rate of teaming between Australian exporters on projects and customers if they are sharing facilities and not dispersed.</p> <p>creates an easy linkage between domestic clusters or incubators and overseas market office. Overseas prospects find it easier to locate an Australian supplier. They go to the local Australian CDI "sales office" and chose the relevant company</p> <p>substantially reduces the cost, coordination problems and long-term commitment issues of SME having to establish their own offices too early.</p>	
Export Revenue	project is purely focused at growing exports and reducing the critical "time taken till first export revenue".	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Needs to be scoped and costed. Costs could vary widely depending on strategy adopted and the degree of "user pays" cost recovery sought	estimate it could be implemented from a minimum of \$2M PA across 5 centres.

## RECOMMENDATION 10: EXPAND THE AUSTRADE "TRADESTART" PROGRAMME

Short Description	<p>The Austrade TradeStart programme, with its focus on gearing up SME to be able to export has been well supported by industry. It fosters skills development through a dedicated case office who build expertise in the client companies area. It is recommended that the programme be expanded to:</p> <ul style="list-style-type: none"> <li>• provide more Trade Start leaders with specialist Digital Creative Content skills and</li> <li>• support a minimum of one, but an optimum of two, overseas specialist market missions each year hosted by the Trade Start leaders to grow customers, teaming and export skills.</li> <li>•</li> </ul>	
Benefits:	<p>Allows companies to export before all required skills are available internally,</p> <p>Reduces company failure rate by avoiding making costly export mistakes which experience could have avoided.</p>	
Employment	Will improve skills and increase employment	
Export Revenue	All effort is directly oriented to increasing the # of exporters and the amount of exports they make.	
Leverage and Multiplier Effects	Strong leverage effect from expenditure.	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Coordination and promotion should be provided by Austrade in conjunction with the proposed industry development peak body	NA
	Cost of additional executives= 10 at \$130K PA Cost of 10 additional overseas missions= 10 at \$250K	\$1.3M \$2.5M

## RECOMMENDATION 11: PROVIDE EXPORT INCOME TAX HOLIDAY FOR SMES

Short Description	<p>Export Income Tax Holiday (EITH)</p> <p>A “holiday” on the first \$2million of income in each year income earned from exports from pre registered companies. The Concession would be limited to a maximum of 5 years. Increased tax losses arising from the use of the export income concession would be able to be rolled forward to be offset against future profits.</p> <p>Companies to be eligible would have to register with ATO as an exporter, be part of a formal export programme such as Export Access.</p>	
Benefits:	<p>Focuses management and investors attention on the export market and therefore the allocation of resources to achieving exports</p> <p>.The prospect of the EITH and export growth potential would make companies more attractive investment propositions.</p> <p>The EITH allows revenue to be re-invested in export development to fuel growth and improve long-term profitability</p> <p>If a new Creative Digital Industry company does not export there is no cost to the ATO for the programme. The cost is only after the fact, it is inherently results/performance based.</p> <p>The following are based on a model developed by the consultants. It is critical that the assumptions be modelled more rigorously by economists.</p>	
Leverage and Multiplier Effects	<p>Sensitivity analysis of the model for the proposed plan shows that the greatest leverage occurs at \$2m threshold for 5 years. when comparing the increase in taxes paid (corporate and PAYG) from the foregone corporate income tax on export revenue. For a target of 200 successful new exporters and allowing for an expected failure rate of 33% the optimum programme is for a threshold of \$2M PA for 5 years.</p>	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Coordination and promotion should be provided by Austrade in conjunction with the proposed industry development peak body	NA

## RECOMMENDATION 12: DATA COMMUNICATION COST EQUALIZATION STRATEGIES

Short Description	<p>A number of strategies to either:</p> <ul style="list-style-type: none"> <li>remove the inequities in current “peering arrangements through international negotiation or</li> <li>mechanisms to ameliorate the impact of the additional costs on customers and producers.</li> </ul>	
Benefits:	<ul style="list-style-type: none"> <li>ensures Australian producers are not at a fundamental and substantial cost disadvantage when competing</li> </ul>	
Employment		
Export Revenue		
Turnover		
Leverage and Multiplier Effects		
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Coordination and promotion should be provided by NOIE in conjunction with the proposed industry development peak body	NA



## RECOMMENDATION 13: SERVING THERE: SERVER IN-PLACEMENT PROGRAMME

Short Description	Investigate the benefits and feasibility of placing or accessing content server farms within strategic target markets and possibly on Australian territory such as within Austrade Missions. These would provide high capacity, fast response and low international data traffic costs for Australian Digital Content and Application exporters.	
Benefits:	<ul style="list-style-type: none"> <li>removes the cost handicap: ensures Australian producers are not at a fundamental and substantial cost disadvantage to with US suppliers when publishing high volumes of digital content to that markets</li> <li>removes the performance handicap: ensures customer response is equivalent to that experienced with other suppliers in that country.</li> <li>removes the peering impact of other approaches: ensures data served into a country from the Australian Designated server would be counted as part of Australian peering agreements traffic. If a vendor just outsources it to AKamai it boost US:US traffic which counts against Australia.</li> <li>removes some legal and copyright handicaps. publishing consistently from servers located on Australian territory may simplify copyright and contractual issues.</li> </ul>	
Export Revenue	revenue made from the overseas publishing systems would still count as exports. reduces the amount of overseas trade that is not identifiable as it is (say) US base to US customer of Australian	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Alternative strategies to be investigated	NA

# RECOMMENDATION 14: CREATE A GLOBAL DIGITAL PRODUCTION CONTENT AND RIGHTS ONLINE MARKETPLACE

Short Description	<p>An online, standards based, marketplaces that promotes and licenses Australian Digital Creative Content to other producers. This business-to-business service should provide discovery, acquisition of usage permissions and the downloading of appropriate content and resources with the embedding of the appropriate metadata.</p> <p>The service would market:</p> <ul style="list-style-type: none"> <li>digital versions of resources held within Australian Collecting Institutions such as photos, video, text, 3D models, simulations and audio.</li> <li>applications modules, learning objects and similar packaged components suitable for input into a production or assemblage into a finished product or online service.</li> <li>the rights to utilise in a production environment and then republish digital content.</li> </ul>	
Benefits:	<ul style="list-style-type: none"> <li>lower the input costs of Australian producers</li> <li>encourage re-use of Australian produced material within Australia</li> <li>provide high quality Australian relevant material more easily for productions increasing their market attractiveness.</li> <li>increases potential for export revenue from supply of production inputs</li> <li>increases potential for attracting overseas production and co-production projects because of better resource and rights availability</li> <li>encourages the legitimate re-use of both completed works and input resources and increased revenue to rightsholders</li> <li>ensures revenue is obtained for both supply of the material in digital form and for the rights to use it in specific ways.</li> <li>provides some cost recovery to Collecting Institutions and helps justify investment in quality, standards based digitisation programmes.</li> </ul>	
Employment		
Export Revenue		
Turnover		
Leverage and Multiplier Effects	Strong multiplier effects from “seeding” the digital content ecosystem	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Coordination and promotion should be provided by the proposed industry development peak body in conjunction with the Collecting Institution sectors	NA
	Establishment costs	\$2M
	Annual running and promotion costs until breakeven in year 5	\$1M PA
	Potential requirement for a number of seed Digitisation programmes to provide critical mass of material 5 projects by \$2M each	\$10M

### RECOMMENDATION 15: CREATE AND PROMOTE THE AUSTRALIAN QUALITY AND CREATIVE UMBRELLA BRAND

Short Description	<p>Develop and implement a long-term marketing campaign across the multiple sectors of the CDI and target countries to promote the quality, creativity and where relevant efficiency of Australia's Creative Digital Industry producers, publishers and products.</p> <p>Provide resources for the states, sector associations and individual companies to implement their own extension marketing programmes under the umbrella to address their own objectives.</p>	
Benefits:	<ul style="list-style-type: none"> <li>creates a positive climate that is receptive to additional marketing messages and sales proposals.</li> <li>overcomes the confusions created by different, almost competitive selling of states and sectors.</li> </ul>	
Export Revenue	This programme is purely focused at increasing exports.	
Leverage and Multiplier Effects	<p>Good leverage effect when utilised as part of the armoury of export development activities.</p> <p>Will also allow state, regional and sector promotions to be more effective having a multiplier effect.</p>	
Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	Estimates that it would require an annual budget provided through the proposed industry development peak body in excess of \$500k PA to fund pr, qualitative and attitudinal research, promotional materials, web resources and augment international trade show activities.	\$500+K PA

### RECOMMENDATION 16: CREATE AND PROMOTE AN UMBRELLA PUBLISHING COMPANY: GAMES AND CONTENT

Short Description	<p>ensure that Australia has at least one world-class publisher for each of the major sectors especially CDI applications, educational content and interactive and online games.</p> <p>Such publishers could be grown from existing small publishers, by amalgamation or by creation of a new publisher.</p>
Benefits:	<ul style="list-style-type: none"> <li>substantially reduce the barriers to publication and distribution for quality products from the Creative Digital Industry</li> <li>improve rates of commercialisation</li> <li>reduce the costs and time taken to obtain revenue: decreased failure rate, increased reinvestment in growth factors.</li> <li>makes Australian producers more competitive with those of overseas countries with a stronger publishing culture and easier access to larger markets.</li> </ul>
Employment	<p>Small direct employment effect for the publisher.</p> <p>Strong indirect effect on employment through opening up markets for Australian developers/producers.</p>
Leverage and Multiplier Effects	<p>Strong leverage effect as part of the armoury of activities.</p> <p>Will also allow state, regional and sector promotions to be more effective having a multiplier effect.</p>

Estimated 5 year programme cost and assumptions	Budget Area	Estimated Annual Cost
	The commercial operation and establishment would not expected to be at a cost to government.	NA
	The proposed industry development peak body would act as a strong catalyst for it.	

## APPENDIX 4: MAPPING OF ISSUES TO RECOMMENDATIONS THAT ADDRESS THEM

Issue Area	Issue	Addressing Recommendation
Related and Supporting Industries	low cross industry and institutional networks- role of associations and cultural institutions	Recommendation 1: Establish a Peak Industry Body
	technology platforms and expertise- importance of horizontal linkages	Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications Recommendation 3: Substantially grow the FIBRE programme as a national priority
	export versus domestic focus affecting rivalry and industry structure	Recommendation 4: Clustering and Teaming Encouragement
	warehousing of non essential rights by broadcasters and publishers	Recommendation 4: Clustering and Teaming Encouragement Recommendation 3: Substantially grow the FIBRE programme as a national priority Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace
Input Factors	absolutist copyright constricts ability of CDI to re-use and add value to any existing content. a reticence to re-use material often reduces the value of the material to the copyright holder	Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications
	cultural infrastructure linkages uneven	Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications
	default focus of most sectors is domestic as it is lower risk but has a lower growth potential.	Recommendation 11: Provide Export Income Tax Holiday for SMEs Recommendation 10: Expand the Austrade "Trade-Start" programme
	finance hard to obtain for content development or company growth	Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications Recommendation 5: Adjust R&D Start Grants and Rebate Eligibility Criteria Recommendation 11: Provide Export Income Tax Holiday for SMEs
	high technology infrastructure costs	Recommendation 3: Substantially grow the FIBRE programme as a national priority Recommendation 4: Clustering and Teaming Encouragement
	inefficient rights handling prevents commercial re-use of material in australia.	Recommendation 14: Create a global Digital Production Content and Rights Online Marketplace
	IP regimes problematic: difficult to identify rightsholders and to negotiate reasonable digital usage licenses due to lack of knowledge, fear, semantic differences.	Recommendation 6: Skills Development
	lack of entrepreneurial training for creatives and technologists	Recommendation 6: Skills Development
	lack of infrastructure to support or encourage teaming by SMEs on larger projects	Recommendation 3: Substantially grow the FIBRE programme as a national priority Recommendation 4: Clustering and Teaming Encouragement

Issue Area	Issue	Addressing Recommendation
	lack of marketing skills and marketing resources in smes	Recommendation 10:Expand the Austrade “Trade-Start” programme
	lag time/capital cost of new equipment and software/availability of trainers with expertise for fast response skills upgrading restricting ability to compete for projects	Recommendation 6:Skills Development Recommendation 4:Clustering and Teaming Encouragement
	low cross sector sharing of skills.	Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications
	need for rights managed digital content repositories as inputs to CDI	Recommendation 14:Create a global Digital Production Content and Rights Online Marketplace
	network (broadband) infrastructure weaknesses	Recommendation 3:Substantially grow the FIBRE programme as a national priority
	newer industry associations are critically underfunded and have very few resources to support industry development, market intelligence, professional development	Recommendation 1:Establish a Peak Industry Body Recommendation 10:Expand the Austrade “Trade-Start” programme
	R&D underfunded and under invested	Recommendation 5:Adjust R&D Start Grants and Rebate Eligibility Criteria
	shortage in provision of creative capital	Recommendation 11:Provide Export Income Tax Holiday for SMEs Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications
	skills volatility and uneven distribution of skills	Recommendation 6:Skills Development Recommendation 4:Clustering and Teaming Encouragement
	standards are evolving and uneven leads to a high risk of obsolescence for early implementations	Recommendation 1:Establish a Peak Industry Body Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications
	undervaluing by technologists of importance of commercialisation, sales and marketing	Recommendation 6:Skills Development Recommendation 10:Expand the Austrade “Trade-Start” programme
information asymmetries	chronic lack of widespread access to comprehensive market information on trends and developments, particularly for SMEs;	Recommendation 2:Establish a dedicated Market and Industry Intelligence service
	lack of strong horizontal and related market linkages which has limited commercialisation and optimal exploitation of technology IP arising from R&D and firm operations;	Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications Recommendation 4:Clustering and Teaming Encouragement
	lack of synchronisation in standards and activities between upstream and downstream markets;	Recommendation 1:Establish a Peak Industry Body
	little evidence of markets developing around shared use of scarce high cost facilities even though there would be a clear economic case for such inter-firm transactions;	Recommendation 3:Substantially grow the FIBRE programme as a national priority Recommendation 4:Clustering and Teaming Encouragement

Issue Area	Issue	Addressing Recommendation
Export Access Issues	unbalanced information flows, including finance, distorting market transactions;	Recommendation 6:Skills Development Recommendation 1:Establish a Peak Industry Body Recommendation 2:Establish a dedicated Market and Industry Intelligence service
	undeveloped linkages between large, established firms and smes; weak and random feedback loops; and weak networks limited cross segment collaboration and cross-overs	Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications Recommendation 4:Clustering and Teaming Encouragement
	appropriate market introductions in context to establish reputations required in many markets.	Recommendation 9:Provide Strategic Market Offices and Hot-Desking Recommendation 10:Expand the Austrade "Trade-Start" programme
	Australian companies do not have a reputation as a producer of quality software, games and filmed entertainment.	Recommendation 15:Create and Promote the Australian quality and creative Umbrella Brand
	establishing a brand in overseas market takes 2 to 3 years and substantial resources that will be more than the average titles will earn. need multiple titles to make it worthwhile.	Recommendation 16:Create and promote an umbrella Publishing Company: Games and Content Recommendation 15:Create and Promote the Australian quality and creative Umbrella Brand Recommendation 9:Provide Strategic Market Offices and Hot-Desking
	existing co-production agreements not effectively and strategically utilised	Recommendation 8:Business-to-Business Engagement with complementary countries
	export market knowledge often poor	Recommendation 10:Expand the Austrade "Trade-Start" programme Recommendation 2:Establish a dedicated Market and Industry Intelligence service Recommendation 8:Business-to-Business Engagement with complementary countries Recommendation 9:Provide Strategic Market Offices and Hot-Desking
	exporting before suitably prepared can jeopardise SME viability	Recommendation 10:Expand the Austrade "Trade-Start" programme
	high cost and skill threshold to exporting	Recommendation 10:Expand the Austrade "Trade-Start" programme Recommendation 11:Provide Export Income Tax Holiday for SMEs
	logistics, co-ordination and relationship issues servicing first export customer	Recommendation 9:Provide Strategic Market Offices and Hot-Desking
	long lead time and high investment required to secure first export customer	Recommendation 9:Provide Strategic Market Offices and Hot-Desking
	most SME deal makers are the CEO or CFO, who runs the business while they are doing the distribution deals.	Recommendation 9:Provide Strategic Market Offices and Hot-Desking

Issue Area	Issue	Addressing Recommendation
	other countries are investing heavily in their creative digital industry	Recommendation 8:Business-to-Business Engagement with complementary countries Recommendation 1:Establish a Peak Industry Body Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications
	production funding frequently does not fund marketing, duplication and distribution costs reducing likelihood of return	Recommendation 11:Provide Export Income Tax Holiday for SMEs
Demand Conditions	constrained project budgets leads to undertaking all activities internally to maximise organisations goals but prevents teaming and larger projects	Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications
	insufficient domestic channels for innovative content publishing prior to exporting	Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications Recommendation 12:Data Communication cost equalization strategies
	insufficient domestic demand for content innovation prior to exporting	Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications
	insufficient number of larger smes capable of exporting efficiently	Recommendation 1:Establish a Peak Industry Body Recommendation 7:Grow Domestic Demand for Innovative Cross-media Applications Recommendation 4:Clustering and Teaming Encouragement Recommendation 3:Substantially grow the FIBRE programme as a national priority
	public sector procurement does little to drive SME growth or innovation	



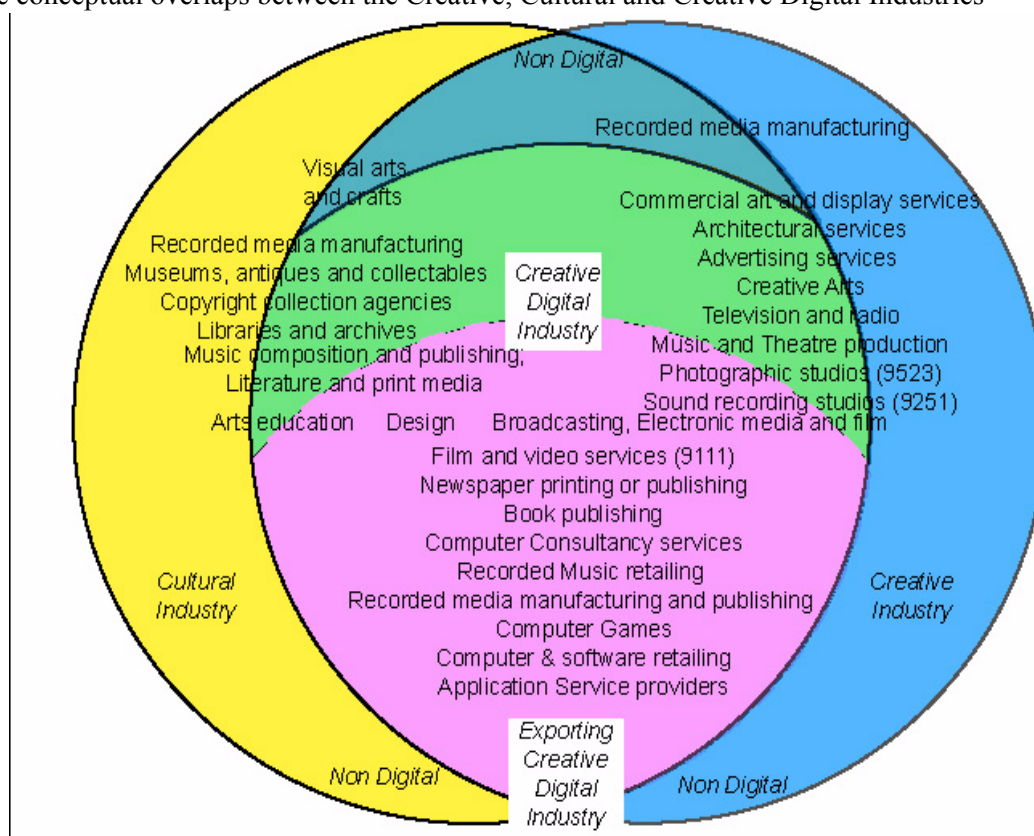
Issue Area	Issue	Addressing Recommendation
Channels	a revolution in digital content distribution and communication technologies threatens stability	Recommendation 3: Substantially grow the FIBRE programme as a national priority Recommendation 2: Establish a dedicated Market and Industry Intelligence service Recommendation 1: Establish a Peak Industry Body
	digital cinema initiative has potential to close access to all global markets for all but the few products favoured by the US majors that control it.	Recommendation 1: Establish a Peak Industry Body
	incumbent control of distribution of new and old channels	Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content
	interaction creates discontinuity in content publishing	Recommendation 7: Grow Domestic Demand for Innovative Cross-media Applications Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content
	producers of titles seeking distribution or publishing need 3 to 6 months of presence in the country/market to close a deal.	Recommendation 16: Create and promote an umbrella Publishing Company: Games and Content
	publishers and distributors unwilling to support one-off titles because of relationship and/or support costs.	Recommendation 15: Create and Promote the Australian quality and creative Umbrella Brand
	publishing channel concentration	
	vertical integration of publishers	

## APPENDIX 5: MAPPING THE BOUNDARIES OF THE CREATIVE DIGITAL INDUSTRY

The definition and size of the Creative Digital Industry is notoriously difficult to accurately pin down.

This is partially due to the many overlaps of the crafts and activities between actual economic sectors and because of shifts over time as technology changes the creation, manufacture, publishing, marketing and even consumption from a physical activity to a digital one.

Figure 10: The conceptual overlaps between the Creative, Cultural and Creative Digital Industries



The following matrix is an attempt to present, in fairly abstract form, the various sectors of the Creative Digital Industry and how they segment through the value chain. The matrix includes the statistical industry code (ANZIC) and cultural industry code (ACLC) where known for each segment. It would also be worthwhile overlaying the ASCO occupation codes as gathered from a population census. What is clear from the matrix is that some natural segments of sectors of the Creative Digital Industry fall across multiple ANSIC industry areas. Other segments may require part or all of 2 or even 3 ANZIC group statistics to be measured. In either case it means that accurate estimates of the size of each segment and sector is not possible.

As well the relevant statistics are not naturally aggregated. The activity of various segments of a sector may be captured in different types of surveys and not combined together to give a complete picture except possibly in a year book. For instance the music industry has separate distribution channels for sheet music publishing and recorded music publishing. The value of the printing of sheet music is tracked in "publishing" but does not cover

the royalty payments to music publishers and composers. Recorded Media tracks the material and production cost of the duplication of tapes and CDs (it also includes IT software) but not the royalty and margins through the value chain.

It is only by being able to measure the relevant activities, input and outputs of each segment, for each sector, using the same techniques, in similar time periods, that a more accurate picture will be known. And then these measures need to be taken in a times series perhaps at 3 or 6 monthly intervals to allow the trends to be seen.

#### Educational Content Statistics.

While every sector seems to have a paucity of market statistics it is of concern that the educational content sector is particularly poorly served when it would seem to be so natural to have the data available.

There is no data available from the various state school systems, from universities or from the VET sector on:

- 1 annual expenditure on the development of electronic course material and reusable learning object;
- 2 annual expenditure on the licensing from others (either Australian or overseas) of electronic course material and reusable learning object;
- 3 the stock held at cost price of internally developed or acquired (not licensed) electronic course material and reusable learning objects.
- 4 the revenue obtained from the provision of licenses or the sale of publishing rights of electronic course material and reusable learning objects owned or controlled by the organisation.
- 5 the estimated market value of licenses that have been provided or acquired for free under a barter arrangement for the use of electronic course material and reusable learning objects.

It is possible by examining annual reports to estimate the expenditure by the Learning Federation on the development of reusable Learning Objects. But this only provides a small proportion of the data for one sector of education for requirement 1.

When this issue was raised with schools systems, VET systems and Universities and government department the reply was a very polite "we don't have the information but if you can find it we would be very interested".

A similar approach to the other sectors that comprise the Creative Digital Industry was also attempted with limited success. Yet without this level of analysis there is no way to determine the level of activity in creation, in the level of "stock" or in the trade of creative content. It is not that the industry cannot be measured, it is just that the traditional methods of measuring activity are poorly suited to the creation and trade of "intangibles".

Table 35: Measuring the Creative Digital Industry Value Chain

Measuring the Creative Digital Industry Value Chain						
	Preservation & Access (non-resources when digitised)	Post-consumption & Pre-production	Physical transforming into Digital Production			Consumption
			Creation	Performance	Publishing	
Text	131 Libraries 9210 Libraries	Collecting Societies, (CAL)	211 Primary Literary Creation, 9242 Creative Arts Royalties Paid & Received		214 Book Publishing 2423 Book and Other Publishing Royalties Paid & Received	216 Literature Wholesaling 4794 Book and Magazine Wholesaling, Education System Purchases
			231 Music Composition 9242 Creative Arts Royalties Paid & Received		215 Other Printing 2412 Printing	217 Literature Retailing 5243 Newspaper, Book and Stationery Retailing
Music	131 Libraries 9210 Libraries	Collecting Societies	275 Arts n.e.c. 9251 Sound Recording Studios and 9259 Services To The Arts, n.e.c. Royalties Paid & Received	221 Music Performance 9241 Music and Theatre Productions & 9330 Other Recreation Services Royalties Paid & Received	232 Music Publishing 2423 Book and Other Publishing & 7730 Non-Financial Asset Investment Royalties Paid & Received	234 Recorded Music Retailing 5235 Recorded Music Retailing
			241 Primary Visual Arts and Crafts Creation 9242 Creative Arts Royalties Paid & Received		233 Record Companies and Distributors 2430 Recorded Media Manufacturing and Publishing & Royalties Paid & Received	243 Visual Arts and Crafts Retailing 5259 Retailing n.e.c.
Visual Arts	111 Art Museums 112 Other Museums, 9220 Museums	Collecting Societies			242 Commercial Photography Services 9223 Photographic Studios Royalties Paid & Received	Retail Sales, Parallel Imports, Internet Purchase & Download, Internet Purchase & Mail
Advertising and Design		Collecting Societies			252 Advertising Design and Production 7851 Advertising Services, 253 Graphic Design 7852 Commercial Art and Display Services 7853 Design and Creative Services 7869 Business Services n.e.c. Royalties Paid & Received	Retail Sales, Parallel Imports, Internet Purchase & Download, Internet Purchase & Mail
Audio Visual	112 Other Museums, 9220 Museums, 132 Archives	Collecting Societies	263 Film and Video Production 9111 Film and Video Production.		274 Recorded Media Manufacturing 2430 Recorded Media Manufacturing and Publishing Royalties Paid & Received	285 Motion Picture Wholesaling 9113 Motion Picture Exhibition, 266 Video Hire Services 9511 Video Hire Outlets
					290 Television Services 9122 Television Services Royalties Paid & Received	Ticket Sales, DVD & VHS Retail Sales or Rentals, Internet Purchase & Download, Internet Purchase & Mail
Games, Internet and Software			267 Interactive Content Creation 7834 Computer Consultancy Services Royalties Paid & Received		274 Recorded Media Manufacturing 2430 Recorded Media Manufacturing and Publishing Royalties Paid & Received	Viewers, Subscribers, DVD & VHS Retail Sales or Rentals, Internet Purchase & Download, Internet Purchase & Mail
<div> <div>Legend</div> <div> <div>Partial CDI</div> <div>Core CDI</div> <div>Relevant Supply Chain: Physical and Digital</div> </div> </div>						
			3 digit codes are ACLC 4 digit codes are ANZIC Note: would also benefit from mapping in ASCO codes for primary occupations in a segment Source: QUT CIRAC: Derived from the Australian Culture and Leisure Classifications (ALC: ABS 2001 Cat: 4902.0) Copyright © Commonwealth of Australia. Access to Markets for Australia's Digital Creative Industry Report. All comments to Peter Higgs of Content Strategies at peter@contentstrategies.com.au			

# APPENDIX 6: THE NATURE OF PRODUCTION FLOWS OF VARIOUS CDI SECTORS

It is worthwhile examining the similarities and differences in the nature of the production flows of the various sectors, as these determine many of the factors that are critical to the relevant sector. In the audio-visual sectors for instance the flows highlight the different funding requirements for each phase and how the lack of availability for commercial or public funds at a specific phase can cause disruption of the flow, possibly leading to failure.

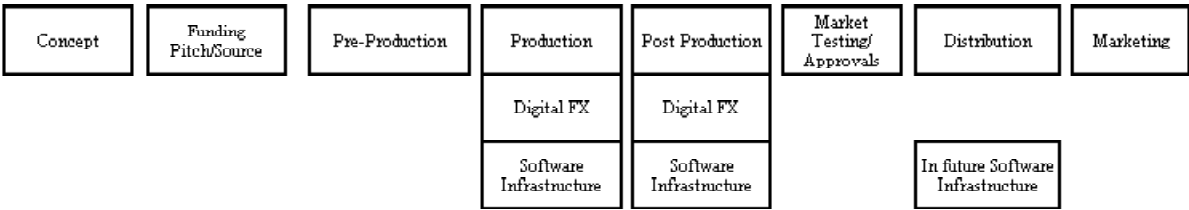
The diverse nature of projects within some sectors make generalisations less useful. As well some emerging sectors have very limited case histories available. The following is therefore provided more as a framework for the various industry sectors to coordinate, collect and publish typical flows for the relevant archetypes of the sectors.

There are two definitions used in the following:.

- Software Infrastructure: This is required during the production process but does not itself form part of the final product
- Software Platform: All or part of a software platform would be included as part of the final distributed product.

## Audio-visual Related Flows

### Film Production Flow



The flow for the production of a dramatic film is well understood having been done for over a century.

A concepts, either a screenplay, storyboard or pitch document is required to obtain film funding.

Pre-production involves the development of the scripts, detailed storyboards, and production requirements. Films made in the US may spend up to 10% of the budget on pre-production development work on scripts and script testing. One criticism often levelled at Australian films is that insufficient funds are available or spent on script development. This can lead to patchy scripts that reduce export marketability.

The last 10 years has seen the introduction of more and more computer generated visual effects. While these have been traditionally added during the post-production phase more and more film production is done digitally and the line between production and post-production will be blurred. Digital effects require software which can be acquired or purpose built. Films that push the creative envelope of digital effects tend to have their own software which is tweaked or extended to provide the critical new capabilities.

Lower budget production will tend to use off the shelf software. R&D on digital image manipulation and generation tools is very important to create the creative difference for a production over its competitors. Software capabilities accrete so that each version builds on the capabilities of previous versions developed for earlier films. These versions may be built on top of open source, in-house or licensed software.

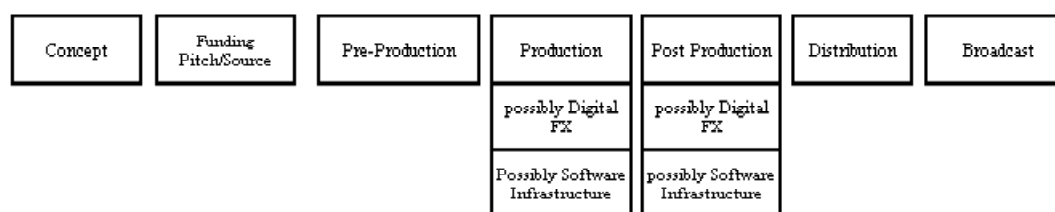
Distribution of films traditionally was done by duplicating prints of a 35mm film master. Trials are now being undertaken of transmission by satellite of encrypted digital files of a "film". The digitisation, encryption, uplinking, downloading by a digital projection movie theatre, decryption and record keeping all require software infrastructure.

Table 36: Film Phases Relative Costs

Phase	Cost	Sources of Funding	Comment
Concept	Very Low	Creator	Often options over existing titles are obtained
Funding Pitch/Source	Low Mostly time	Self funded or via AFC type Pitch Grants	These costs are rarely recovered by the producer. as generally producer fees are deferred as a method of reaching funding thresholds.
Pre-Production	1% to 3% although should be higher	FFC State film offices, FLICS <sup>a</sup> Investors, pre-sales	Under funded in Australia
Production			
Digital FX			
Post-production			
Digital FX Software Infrastructure		Company Funded	
Market Testing/ Approvals	1% to 3% maybe up to 10% in US		
Distribution/Print Production/ Uploading	\$2K to \$5K per print plus margins	Distributor	
In future Software Infrastructure	Unknown	Distributor	
Marketing	For Australian domestic films these cost are generally quite small. For International features they can represent a substantial percentage of the total budget	Distributor	Under funded in Australia Marketing costs are borne by the distributor and come off the top prior to any royalty split, These costs are referred to as P&A (Promoting and Advertising) and can be substantial. Many films that have box office success never return cash to investors as the profits have been eroded by P&A costs.

a.Film-Licensed Investment Company scheme (FLICS) see <[http://www.dcita.gov.au/Article/0,,0\\_1-2\\_2-3\\_471-4\\_13397,00.html](http://www.dcita.gov.au/Article/0,,0_1-2_2-3_471-4_13397,00.html)>

## TV Feature Production Flow



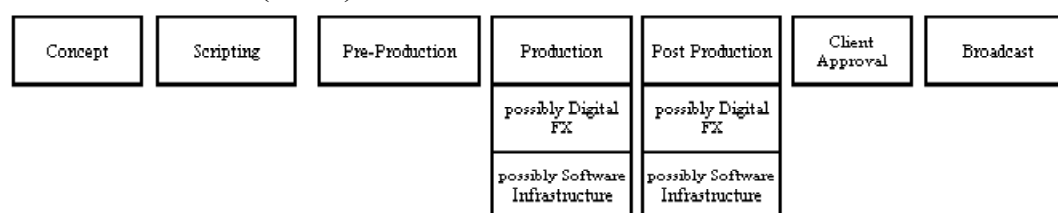
TV feature production is very similar to the production of films although most probably with much lower budgets. This is not coincidence as it is most likely that film producers learnt their craft on TV commercial and TV productions.

Distribution is often conducted by special satellite transmissions between the parties, by digital tape despatch or less and less by film. Network based distribution is conducted using special networking protocols at 270Mbs a second. This is most often used for TV commercials.

Table 37: TV Feature Phases Relative Costs

Phase	Cost	Sources of Funding	Comment
Concept		Self funded	
Funding pitch/source	Varies depending on genre. More research needed on archetypes	Self funded	
Pre-production		FFC, TV Network, Producer, Investors	
Production			
Post-production			
possibly Visual FX		Supplier	Possibly with R&D support
possibly software infrastructure		Production company	
Distribution			
Broadcast			

## TV Commercial (TVC) Production Flow



Again very similar to TV and Film but with often higher production values and budgets per minute. Digital effects requiring software infrastructure are being used more commonly in Television Commercials (TVCs).

Table 38: TVC Phases Relative Costs

Phase	Cost	Sources of Funding	Comment
Concept	Costs vary so much depending on the type of ad.	Agency or Client	
Scripting		Client	
Pre-Production		Client	
Production		Client	
possibly Digital FX		Client	
possibly Software Infrastructure		Supplier	
Post-production		Client	
Client Approval		Client	
Broadcast		Client	

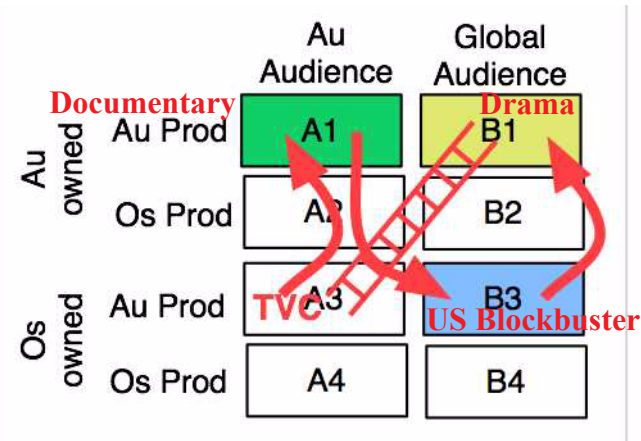
## Sector Blurring

It is very common for Australian film production staff to also work on TV and TVC production when there is less film production work being carried out. Production companies also recruit production talent that they have worked with on one project for other projects. There is a strong cross-fertilization typical of an ecosystem.

This can be seen graphically in the following extension of the ownership/production/audience matrix

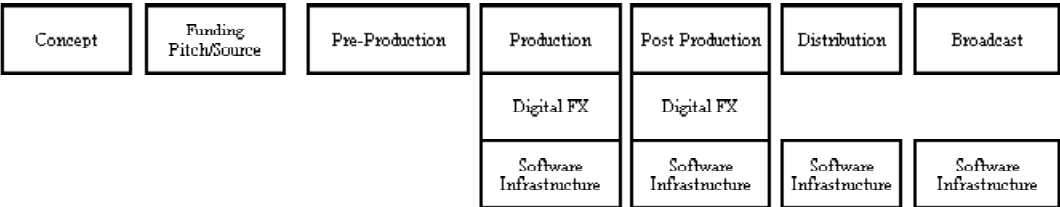


Figure 11: Film Related Sector Snakes and Ladders.



Interactive Audio-visual Related Sector

Interactive TV Production Flow



The differences from the production of Film, TV Drama and TVCs may be small depending on the level of interactivity being added. Merely adding the ability to control the camera angle is fairly minor from a technical point of view but from a producer, broadcaster perspective it can add significant production cost and technical expense. For a viewer to be able to determine their own path through a movie can be much more complex depending on the number of path decision points being offered. Interestingly enough the major challenge is not technical, producers know how to keep track of complex scenes and different versions of them. The challenge is in the writing of a really powerful screenplay that has multiple paths.

To date on screen interactivity has been limited to specific trials via Austar in regional Australia. The ABC has experimented with enhanced content multichannel interactivity with long form documentary.

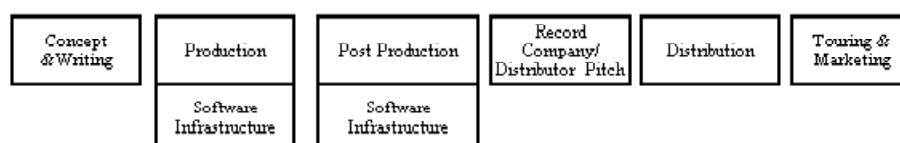
The most successful ITV applications have been via mobile phones and SMS. Voting with programmes now sees commonplace with many shows attracting record viewers and SMS participants to the level of funding significant parts of the production budget.

Interactive TV may well develop into a melding of audience techniques and technologies. The big leap forward in Australian terms will be the Digital rollout of the Foxtel network in Early 2004

Table 39: iTV Phases Relative Costs

Phase	Cost	Sources of Funding	Comment
Concept			
Funding Pitch/Source			
Pre-Production	There is not enough experience in this field to provide meaningful data	self funded	Requires strong script and path development. Storyboarding for both filming and interaction software development purposes.
Production	More research is needed on the production costs by phase for the different types of projects in this sector	self funded, Broadband Development Fund.	
Digital FX			
Digital FX Software Infrastructure		Supplier	
Post-production, sequencing			
Distribution		Distributor	
Distribution Software Infrastructure			
Broadcast		Broadcaster	
Broadcast Software Infrastructure		Broadcaster	Software may be licensed from Developer and cost included in Title license fee.

## Recorded Music Production Flow



The use of personal computers with professional level software has caused a revolution in the production flow for recorded music. Musicians used to require substantial funding to allow them to book into a recording studio for three weeks to record an album. The record company that had funded the cost of the studio production then took charge of the pressing, the promotion and distribution and netted all of these costs before any revenue is due to the artists.

Now a band can make a recording at home in the living room with very close to professional results<sup>1</sup>. Now an artist or band can spend weeks, months or years producing a CD at

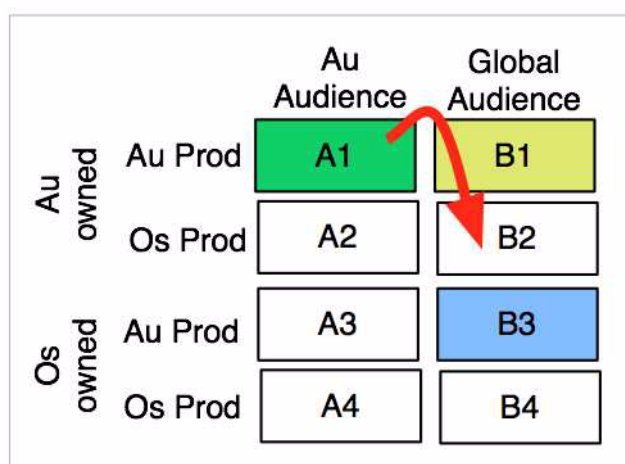
1. see Wired Magazine article: The Incredible Shrinking Studio at <<http://www.wired.com/news/digiwood/0,1412,60639,00.html>>

almost no cost except for their time. Their big challenge then is cutting through the noise to reach buyers of their music. A traditional approach is to pitch the CD at a record company to have them pick it up, organise production and distribution and promote it.

Table 40: Recorded Music Phases Relative Costs

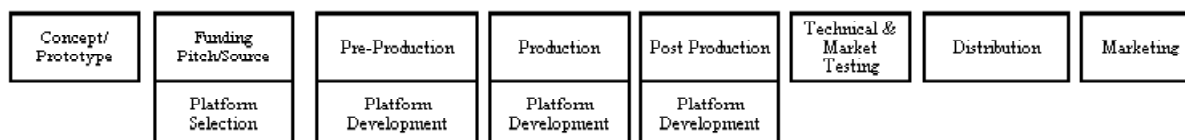
Phase	Cost	Who Pays	Comment
Concept & Writing	Low	Artist	
Recording/Production	Low for Home Studio Recording	Artist	possibly with advance from Record Company
Production Software Infrastructure	Low		
Post-production	Low to medium		
Post-production Software Infrastructure	Low		
Record Company/ Distributor Pitch	Time		
Manufacture/ Distribution	Medium to High		
Touring & Marketing	High		

Figure 12: Australian Music Artists must quickly move offshore to obtain global success



New distribution channels are being opened up with the market acceptance of MP3 type devices especially the iPod and online stores such as Apple's iTunes Store. Above all other initiatives these two products have shown that record companies can make money from digital music. Their issue now is can they make as much as they used to when 5 companies had a strangle hold on global distribution.

### Interactive and Online Games Production Flow



Development of interactive games is closer to that of software engineering than it is to the film model. Infrastructure such as development tools, graphics routines and gaming

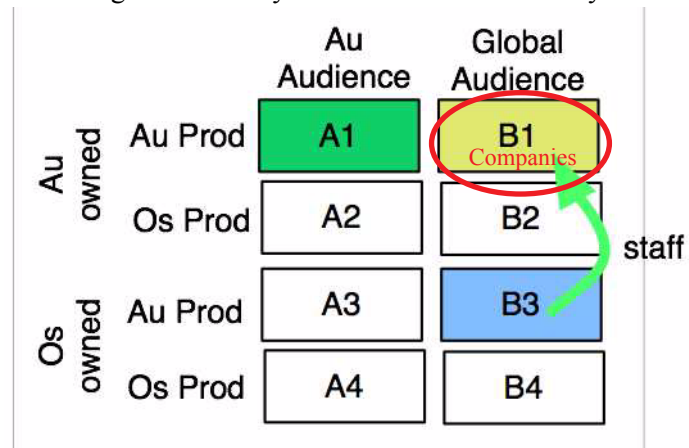
engines that are used over a number of titles require a substantial technical, financial and creative investment. The storyline and visual creativity parts do resemble films. However the film most often can be managed via a “waterfall” technique where the completion of one event allows the starting of the next with limited or no going back to revise previous steps. Games is iterative where the “WinWinSpiral model”<sup>1</sup> cyclic form of project management works best. New functionality is specified, added, tested and incorporated then additional functionality. Projects accrete through a series of cycles and there has to be tight collaboration between artists and programmers.

Table 41: Interactive and Online Games Phases Relative Costs

Phase	Cost	Sources of Funding	Comment
Concept/ Prototype	Can be high	Very Limited	Internal funding is the norm. A fairly sophisticated prototype is required to get the attention of external funders or publishers.
Funding Pitch/Source	Time and Travel.	Internal, EMDG?	Can take 3 to 12 months of visits or camping on targets doorstep
Platform Selection & acquisition or specification	can be 25K to 250K	Production Funder	
Pre-production	Varies substantially		Acknowledge that greater investment in pre-production especially character and script development is required.
Platform Development or extension	A new platform can cost \$1 to \$5M to develop	Developer/ Possibly R&D Start	
Production	Varies substantially from \$250K to \$10M		
Integration			
Technical & Market Testing		Developer/ Publisher	
Distribution or Hosting		Publisher	
Marketing	US\$3M to US\$5M is often quoted for major titles promotion	Publisher	

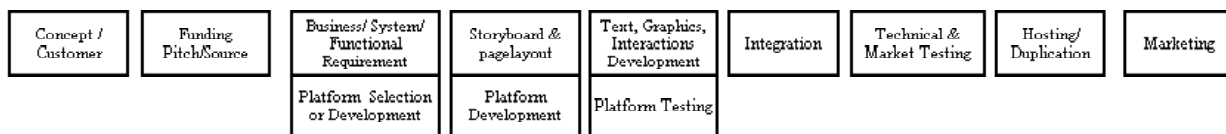
1. Spiral Model as espoused by Boehm uses a cyclic approach to develop increasingly detailed elaboration of a software system's definition, culminating in incremental releases of the system's operational capability. See <<http://sun-set.usc.edu/research/WINWIN/winwinspiral.html&e=7317>>

Figure 13: Australian Games Developers must be born global but they recruit skilled staff locally:



The largest challenge for our domestic games market is to grow their significant expertise and remain competitive with other international markets with a lower cost of labour. Our capabilities are world-class, but are vulnerable to fluctuations in exchange rates, availability of larger teams and a USA centric publishing model. These are similar challenges being faced by the film industry today trying to balance domestic product with runaway production from international sources.

### Internet Publishing Production Flow



The internet model varies slightly by producer and individual complexity of projects but in general the steps above are standard for most projects. The crucial elements are in the planning- understanding of the information architecture and the database requirements is crucial before moving to storyboard or layout phase. This is similar to the pre production phase in film or TV production. The more time spent on business and system requirements at the beginning of a project can assist greatly in streamlining production at the end and assist any further development by anticipating future business needs. There may be a number of inputs or contractors managing various aspects of the production flow including internal MIS involvement, it is therefore imperative that the system specification phase is well documented with clear understanding of roles, responsibilities and milestones.

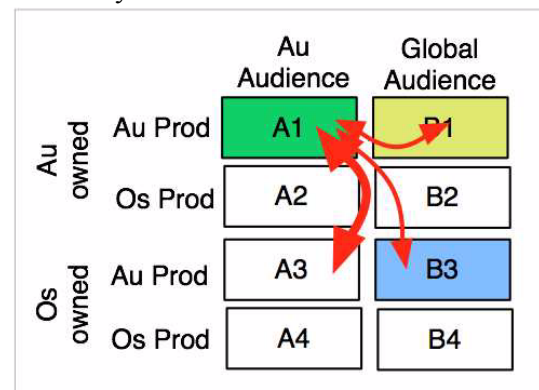
The better the project specification, the easier it is to track outcomes and deliverables. This specification document also becomes crucial in controlling project creep and tracking changes and bug fixes. From this point in the project it becomes more like software development phases up to final delivery and testing. The challenge with export markets is to

ensure this close communication between customer and company to ensure requirements are accurately captured and interpreted.

Table 42: Internet Publishing Phases Relative Costs

Phase	Cost	Sources of Funding	Comments
Concept / Customer	Minimal	Internal by Customer	
Funding Pitch/Source	Can be high if too many applicant and loose request for tender documentation	Producer/ developer	
Business/ System/ Functional Requirement	Usually about 20 - 30% of total project costs	Customer based on tender selection.	
Platform Selection or Development	Varies depending on existing infrastructure on green earth projects	Customer	
Storyboards / Page Layouts	5% of budget possibly	Customer	
Programming	10% to 60% of budget	Customer	
Text, Graphics, Interactions Development	30% to 70% of budget	Customer	
Platform Testing	Should allocate 5% to 10% of budget internal testing	Customer	
Integration	Varies depending on platform	Customer	
Technical & Market Testing	Should allocate 5% to 10% of budget to external testing	Customer	Many site have very poor usability and technical errors that could be detected early through external independent testing. Acceptance testing is also effective at reducing client/agency conflicts
Hosting/ Duplication	Varies	Customer	
Marketing	As required	Customer	

Figure 14: Australian Internet Content Developers move across many market cells



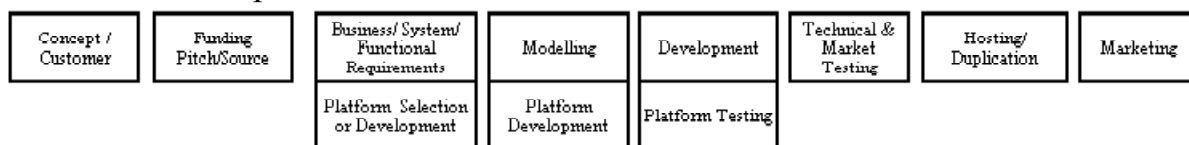
Internet content development requires a range of core skills and resources. Once these are acquired by a company they can be utilised in a fairly wide range of projects and market-places. Because of the patchiness of demand most developers/agencies may have a range of projects under development at any one time for overseas and domestic markets. As “guns for hire” they can’t afford to be too choosy on the type of projects they accept so long as they can make money or (more often) break-even.

Developing internet based content is a risky and expensive business with no direct revenue models in most circumstances. Many ventures have relied on advertising or corporate sponsorship to establish their content. This became increasingly difficult during the dot-com crash.

The trend has been to leverage traditional media assets such as print and Television to drive an audience to the online material.

Some content sectors do flourish online, these include News, Financial information publishing, as well as the age old favourites of Adult content and Gambling (both of these areas are prohibited under Australian legislation).

### Software Development Production Flow



The above production flow is simplistic as it ignores the “spiral” iterative development cycle that is so often used now in web and object oriented projects. This process allows a new feature to be specified, designed, programmed, tested, integrated with existing project and tested again. In this way a project will incrementally grow but with the ability for the development team and customers to evaluate what has already been done.

Development now seldom starts from bare earth but utilise frameworks of existing code

Table 43: Software Development Phases Relative Costs

Phase	Cost	Sources of Funding	Comment
Concept / Customer			
Funding Pitch/Source		Developer or customer	
Business/ System/ Functional Requirements, Specification	Should be 10% of a project		
Platform Selection or Development	Can be 40% to 60% of a project		Substantial risk if the incorrect decision is made
Platform Testing			
UML Modelling or equivalent	Critical precursor to development		
Development			
Development testing	Same level of resource allocation as required for development		
Technical & Market Testing	5% to 10%		
Hosting/ Duplication			ASP service delivery, or web delivery has very different licence and cost structures to software shrink-wrap.
Marketing	varies depending on application and market.		

that is used as “foundations” or “scaffolding” for new requirements. Therefore a substantial amount of effort has to be put into selecting the correct frameworks and development platforms to suit the requirements of a project.



## APPENDIX 7: THE CREATIVE DIGITAL INDUSTRY ORGANISATIONS, TURNOVER AND EMPLOYMENT

Table 44: CDI Organisations, Turnover and Employment by ANZIC Sector

ANZSIC Number	Industry Sector	# of Businesses	# Employment (ABS 2001 Census)	Total Australian production \$m	Data Source	Estimated CDI Relevant Production	Estimated CDI Relevant Employment
Part 7834	Packaged Software Developers	2,030	8,120	\$470	ABS2	\$634	8,120
Part 7834	Web site design business	2,596	10,384	\$520	ABS2	\$520	10,384
Part 7834	Internet application Developers	1,019	8,152	\$460	ABS2	\$460	8,152
Part 7834	Interactive and online games	40	700	\$125	GDA	\$125	700
Part 7834	Educational Content Development	221	750	\$135	est.	\$135	750
2423	Book and Other Publishing		7,881	\$1,894	ABS:1	\$1,894	7,881
9112	Film and Video Distribution	58	903	\$1,142	ABS2	\$1,142	903
9111	Film and Video Production Total	1975	15,195	\$1,792	AFC GTP	\$849	15,195
Part 9111	Film and Video Production In-house	879		\$849	ABS 8679		
Part 9111	Film and Video Production Contract	1,176		\$233	ABS 8679		
Part 9111	Film and Video Post-production	471		\$263	ABS 8679		
9110	Film and Video Services undefined	1,016	278	\$128	ABS2	\$128	278
?	Pay TV			\$508	ABS2	\$508	-
9523	Photographic Studios		3,716		ABS2		3,716
9120 & 9121	Radio and Television Services undefined		4,474	\$3,328	ABS:1	\$3,328	4,474
2430	Recorded Media Manufacturing and Publishing	23	1,320	\$356	ABS2 8126	\$356	1,320
part 2430	IT Specialist Recorded Media Manufacturing and Publishing	249	2,891	\$420	8126		
9122	Television Services	41	13,943	\$4,182	ABS2	\$4,182	13,943
9242	Creative Arts		6,718	\$463	ABS:1	\$232	3,359

Table 44: CDI Organisations, Turnover and Employment by ANZIC Sector

ANZSIC Number	Industry Sector	# of Businesses	# Employment (ABS 2001 Census)	Total Australian production \$m	Data Source	Estimated CDI Relevant Production	Estimated CDI Relevant Employment
9259	Services to the Arts n.e.c.		2,424	\$601	ABS:1	\$301	1,212
	Recorded Music Sector	541	3,866	\$1,064	ABS 4142	\$1,064	3,866
5235	Recorded Music Retailing		3,562		ABS2		178
	Packaged Software Retailing	895		\$2,756			
7852	Commercial Art and Display Services		11,828	\$1,246	ABS:1	\$374	3,548
	ECDI Sub-total	13,230	107,105	\$22,935		\$16,231	87,980
7851	Advertising Services		22,137	\$3,342	ABS:1	\$668	4,427
2422	Other Periodical Publishing		7,821	\$1,240	ABS:1	\$248	1,564
7821	Architectural Services		21,954	\$1,107	ABS:1	\$111	2,195
	CDI Total	-	51,912	\$5,689		\$1,027	8,187
	E+CDI Sub-Total	13,230	159,017	\$28,624	-	\$17,258	96,167
9210	Libraries		8,229				411
9210 & 9220	Libraries and museums			\$783	ABS:1	\$39	-
9220	Museums		4,128				206
9241	Music and Theatre Productions		8,512	\$397	ABS:1	\$20	426
2421	Newspaper Printing or Publishing		16,890	\$4,462	ABS:1	\$223	845
9511	Video Hire Outlets	1,166	7,133				357
	Video hire outlets and photographic studios			\$1,044	ABS:1	\$52	-
9113	Motion Picture Exhibition	173	7,729	\$545	ABS:1	\$27	386
	Creative Industries Subtotal	1,339	52,621	\$7,231		\$362	2,631
	Total	14,569	211,638	\$35,855	-	\$17,620	98,798

Source:ABS1, Australian National Accounts: Input-Output Tables, 1996-97 (data available on request).

Source:ABS 2: 8126.0 Information Technology Australia 2000-1

## APPENDIX 8: HOUSE OF REPRESENTATIVES ENQUIRY SUBMISSIONS

Submission Number	Received from
1	Ms Tamsin Rawady
2	Film and Television Institute of WA
3	Producers' and Directors' Guild of Victoria
4	QANTM Australia CMC Pty Ltd.
5	Northern Territory Government
6	Government of Western Australia
7	Central City Studios Holding Pty Ltd.
8	Mr. Rupert Myer Contemporary Visual Arts Enquiry
9	Australian Digital Alliance
10	Victorian College of the Arts
11	Professor Ross Gibson
12	Film Illawarra
13	BigKidz Entertainment Pty Ltd.
14	Creative Industries Research and Applications Centre, Queensland University of Technology
15	Mrs. D.M Foster
16	Mr. Andrew Lyons
17	Queensland College of Art, Griffith University
18	Australian Film Television and Radio School
19	Canberra Institute of Technology and the Academy of Interactive Entertainment
20	Cutting Edge Post Pty Ltd.
21	Professor Bruce Molloy and Associate Professor Charles Tan-Bond University
22	Australian Broadcasting Corporation
23	QPIX LTD
24	Nectarine
25	QDox Inc. Queensland Documentary Association
26	Intran Australia Pty Ltd.
27	Complete Post
28	Screen Services Association of Victoria
29	Australian Children's Television Foundation
30	Media Entertainment Systems Architects
31	Samson Productions Pty Ltd.
32	University of Newcastle

Submission Number	Received from
33	Screen Producers Association of Australia
34	BEEPS Pty Ltd.
35	Mr. Dan Torre and Ms Lienors Torre
36	Queensland Government Department of Innovation and Information Economy
37	Australian Trade Commission
39	Mr. David Muir
40	Micro Forte Pty Ltd.
41	Bungarra Software Pty Ltd.
42	Australian Interactive Media Industry Association
43	Academy of Interactive Entertainment Ltd.
44	IT Skills Hub Pty Ltd.
45	SPAA/ASDC Documentary Council
46	Create Australia
47	Pacific Film and Television Commission
47.1	Supplementary Submission: Pacific Film and Television Commission
48	Light Knights Productions
49	Faculty of Arts-Deakin University
50	Fibre Pty Ltd.
51	Pacific Vision Pty Ltd.
52	Australian Screen Editors Guild
53	Gold Coast City Council
54	Game Developers' Association of Australia
55	RMIT University
56	New South Wales Film and Television Office
57	Allanbank communications International
58	Australian Film Commission
58.1	Supplementary Submission: Australian Film Commission
59	Media Entertainment & Arts Alliance
60	Australian Subscription Television and Radio Association
61	New South Wales Department of State and Regional Development
62	Indigenous Screen Australia
63	Yoram Gross-EM.TV Pty Ltd.
64	Agonomis Services
65	National Institute of Dramatic Art

Submission Number	Received from
66	Special Broadcasting Service
68	Brisbane Film City
69	JMC Academy
70	Film Finance Corporation Australia Ltd.
71	Australian National University
72	Department of Communications, Information Technology and the Arts
73	Tasmanian Government
74	Australian Screen Directors Association & Australian Writers' Guild
75	Fox Studios Australia
76	Faculty of Informatics and Communication-Central Queensland University
77	Chief Minister's Department-ACT Government
78	Queensland Game Developers Cluster

## APPENDIX 9: DISTRIBUTION PLATFORM DEFINITIONS USED BY THE AUSTRALIAN FILM COMMISSION

This information is substantial extract from a recent report published by the Australian Film Commission. "Future Regulatory Options For Supporting Australian Audiovisual Content" September 2003. The Authors acknowledge the support of the AFC in allowing the use of this material

### **Distribution Platform:      Broadband websites**

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#### Definition:

Broadband websites are configured to exploit the increasing use of broadband technologies including cable modems, used to access the Internet. Broadband sites can be 'hosted' in any country and be made available anywhere in the world. No strict boundary differentiates a broadband site from a narrowband site, except that broadband sites tend to contain content that requires a much greater rate of data transfer from the site to the user such as high quality streaming video and audio services. TV streamed via broadband is included within broadband websites.

#### Consequences for Current Content Delivery:

It is expected that broadband sites will increasingly challenge other forms of content delivery, such as television (TV), DVDs, compact discs (CDs), videos, newspapers and proprietary electronic games stations (e.g. Sony Playstation). Broadband users spend 50-60 per cent more time online,<sup>1</sup> further challenging free-to-air TV etc. for eyeball time and share of wallet.

#### Current and Future Status – Australia:

Australia has produced a modest number of broadband sites (e.g. ABC Online and Big-Pond) that have been operating over the last couple of years. Its broadband penetration rate is currently around four per cent, but is predicted to increase to 10-15 per cent by 2006.

### **Distribution Platform:      Datacasting**

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#### Definition:

Datacasting is most often used for massive distribution of information (data) in a one-way broadcast, using the same terrestrial transmission system as television. From a regulatory

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1. comScore Media Metrix, January, 2003

point of view, however, in order to stop a datacast becoming a de-facto television station, the Australian government placed restrictions on the genre of content that can be datacast.

Two types of operator can datacast: Incumbent free-to-air broadcasters (using the spare spectrum left over after transmitting their digital television signals) and stand-alone datacasters who have purchased a datacast licence and spectrum.

The main restrictions on datacasting content are restrictions on the provision of certain genres of television programmes (e.g. drama, sport and current affairs) and restrictions on the provision of audio content.

### Consequences for current content delivery:

Datacasting could open up new digital content production opportunities for Australian content producers. Under the current restrictions on genres, these opportunities are more likely to focus on games developers, educational content providers, documentary makers, interactive TV (ITV) application developers and graphic designers.

### Current and Future Status – Australia:

In 2001, the Australian datacasting spectrum auctions were abandoned, once it became clear that there was little commercial interest. Subsequently, following a review in 2002, the Government decided not to proceed with the long-term allocation of datacasting transmitter licences at that point in time. Incumbent Broadcasters, however, will continue to be able to provide licensed datacasting services using their digital spectrum. The government reserves the right to auction datacasting licences at some point in the future, and has agreed to make available spectrum for trials, on a temporary basis.

## **Distribution Platform:      Digital film distribution**

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### Definition:

The delivery of digitally compressed and encrypted full-length motion pictures, trailers, advertisements and other audio/visual “cinema-quality” programmes to cinemas, equipped with digital projection systems, via the Internet, dedicated networks, DVD, Digital Tape, a Digital Storage Device or Satellite Transmission.

### Consequences for current content delivery:

Distribution is often the principal stumbling block to a viable film industry. In England for example, many more films are made than can be distributed locally. Part of the reason for this is that distribution companies controlled by foreign firms have a significant interest in distributing Hollywood studio films, at the expense of British ones.

Digital projection opens up dramatic possibilities in this regard. This technology dispenses with film entirely. Since printing and physically distributing copies of the film to cinemas is a major expense, digital distribution represents a cost saving. Instead, digital images of

movies can be distributed by satellite directly to theatres where they are downloaded and shown. This saves money in terms of production as well as distribution. Digital distribution may allow multiplexes to show independent, low budget, or foreign films, as blockbusters reach the end of their runs.<sup>1</sup>

### Current and Future Status – International:

In development. Piracy concerns stifling support by studios.

Throughout the 1990s digital technology entered film production and rapidly altered both the production process and the audience's experience, as complex soundscapes and special effects became the hallmark of cinematic blockbusters. By 1999, the prospect of an end-to-end digital cinema, or cinema without celluloid, seemed to be in sight. Digital distribution and exhibition were extolled as particularly attractive prospects, and a number of test sites were established in the USA. However, the last four years have demonstrated that significant issues need to be resolved before there will be broader implementation of digital cinema – particularly the area of costs.

The fundamental sticking points which emerged from the attempt to kick start digital distribution and exhibition between 1999-2001 were the lack of a standardised technology, and the concomitant difficulty of devising an economic model. To move on these issues, Julian Levin (Executive Vice President Digital Exhibition and Special Projects at Twentieth Century Fox) led a scheme called the Digital Cinema Initiatives (DCI) in March 2002 to form a consortium consisting of the seven major Hollywood studios to establish the system architecture for digital distribution and exhibition. DCI are currently charged with setting a framework for a number of critical issues, including the resolution of digital projection systems, forms of encryption and compression, and the nature of the digital 'package' which will replace reels of film.<sup>2</sup>

### Current and Future Status – Australia:

Any future roll-out of digital cinema in Australia will be heavily influenced by both the timetable and the technological model adopted in the US. Digital cinema might provide impetus to renegotiate costly distribution practices. One hurdle is the cost of generating a digital master. While this is not a major item in terms of Hollywood budgets, it is potentially prohibitive for modestly budgeted local films.<sup>3</sup>

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1. Harvey B Feigenbaum, The Effects of New Technologies on Cultural Protectionism, Occasional Paper Series October 7 2002
  2. Scott McQuire, Slow train coming? The transition to digital distribution and exhibition, to be published
  3. Scott McQuire, Slow train coming? The transition to digital distribution and exhibition, to be published



## **Distribution Platform: Digital film exhibition**

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### **Definition:**

The screening of digitally compressed and encrypted full-length motion pictures, trailers, advertisements and other audio/visual “cinema-quality” programmes in cinemas, equipped with digital projection systems.

### **Consequences for current content delivery:**

- More flexible programming options: Exhibitors will be able to expand the number of screens devoted to a popular film without having to wait for extra prints to be shipped. They will also be able to improve the quality and versatility of pre-feature advertising;
- Productivity gains in running theatre operations;
- Access to new or improved revenue streams: Once theatres are networked and able to display digital content delivered by cable or satellite, it becomes possible to use the big screen for live broadcasting.<sup>1</sup>

However according to Film and Video Magazine:

*“Digital cinema is much more expensive [for theatre owners]. Today you can buy a top-of-the-line 35mm projector for \$25,000-30,000 that will last for longer than 20 years. The best estimates we can get on a digital cinema system are in the neighbourhood of \$100,000 at the cheapest, and that may last two or three years until a new product comes along. So the basic cost model doesn't work for us,”*

*“The studios stand to save a tremendous amount of money in print costs, about \$1,500 per print. Multiply that by the number of prints released by each studio. It's somewhere in the neighbourhood of \$800 million a year,” said Fithian. “The studios stand to save a ton of money, and we don't.”*

Special Report: Digital Cinema Project a new market Film and Video Magazine December 2001

## **Distribution Platform: Digital Television: Free-to-air Multi-channelning**

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### **Definition**

The digitalisation of terrestrial free-to-air television networks enables much greater channel carrying capacity for broadcasters. In Australia the spectrum awarded to each of the incumbent free-to-air broadcasters, enables them to carry three to four digital channels of equivalent quality to the current analogue service. Given that the Broadcast Services Act states that each broadcaster is only obligated to broadcast one channel in digital, an exact replica of the existing analogue channel, this leaves spare capacity for two or three more channels.

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1. Scott McQuire, Slow train coming? The transition to digital distribution and exhibition, to be published

### Consequences for current content delivery:

Additional channels will obviously increase the demand for content by broadcasters. However, given the focus commercial free-to-air networks have on their key value proposition of delivering mass audiences to mass advertisers, it should be expected that they would be very cautious about fragmenting their audiences across too many broadcast channels. Hence, it is likely that the content forming these channels will not be of a type that will be in direct competition to the main channel and may well be highly specialised, niche or complimentary to the main channel.

### Current and Future Status – International:

As digital television has been introduced around the world some countries have vigorously encouraged the introduction of new digital channels (e.g. the UK), while others (e.g. Australia and the US) have mainly opted to use the new technology to deliver better quality pictures via HDTV. Latest figures from Screen Digest show that the 48.6 percent of UK TV homes receive multi-channel services while overall digital penetration is at 44 per cent.<sup>1</sup>

### Current and Future Status – Australia:

Only the ABC and SBS are currently allowed to use more than one digital channel. Up until mid-2003, the ABC was broadcasting 'ABC Kids' and 'Fly' on its two additional digital multi-channels, while SBS is still broadcasting a WorldNews channel and an Electronic Programme Guide (EPG) on its additional digital channels.

To date, commercial free-to-air broadcasters have demonstrated mixed interest in multi-channelling. The Nine and Ten networks appear opposed to utilising the additional channels, while the Seven network has expressed interest. In any case, current legislation forbids commercial broadcasters from multi-channelling, until a review in 2005

## **Distribution Platform:      Digital Television: Subscription**

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### Definition:

Digital television services usually received by HFC cable (hybrid fibre coaxial cable network) or satellite and supplied on payment of subscription fees. Commonly referred to as Pay TV.

### Consequences for current content delivery:

The digitalisation of subscription services allows ease of transition into interactive television. Foxtel has recently stated that it proposes to roll-out an interactive TV service, once Telstra has digitised its HFC cable network.

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1. Screen Digest, July 2003

## Current and Future Status – International:

Most developed economies are undertaking a similar process of digitisation to Australia.

## Current and Future Status – Australia:

The cable networks are currently being digitised

## **Distribution Platform: DVD/Video hire and sale market**

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### Definition:

Digital Versatile Disc: An optical storage medium used widely to hold films for viewing in the way a VHS video is used. Its increased capacity allows for extra features to be included such as a menu, scene selection, audio commentary, extra audiovisual clips and web links.

### Consequences for current content delivery:

- Replacement of video cassette recorders (VCRs) and VHS (Video Home System) as standard home entertainment technologies.
- Decrease in rental market, increase in sell-through.
- Higher quality; collectable along the lines of a CD collection.

## Current and Future Status – Australia:

Wholesale revenue from videotape and DVD distribution has grown by 234 per cent since 1990, reaching \$825.9 million in 2002.

The proportion of revenue coming from VHS tape sales to video hire outlets has gradually been declining, from 76 per cent in 1990 to 16 per cent in 2002, reflecting a general shift across the video distribution industry from rental to sell-through, and, more recently, from tapes to DVDs.

Revenue from VHS tape sales to sell-through retailers rose by 132 per cent between 1990 and 1997 but has been falling in recent years as tape sales are replaced by DVDs. DVD sales went from \$18.4 million in 1999 (the first full year for which DVD statistics were recorded) to \$502.7 million in 2002, of which \$405.4 million came from sell-through retailers. DVDs now account for 61 per cent of revenue to distributors.<sup>1</sup>

## Current and Future Status – International:

According to Screen Digest DVD players are the most rapidly adopted video technology in history with DVD hardware penetrating 5.6 per cent of television households worldwide in 2001.<sup>2</sup> Forecasts place the US currently at number one with a DVD hardware

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1. <http://www.afc.gov.au/GTP/wwwsrevenue.html>

2. "World Regional Video Markets Compared" Screen Digest, November 2002

installed base of 46 per cent of TV homes. Australia/New Zealand is next with 22 per cent and Western Europe 18 per cent.<sup>1</sup> In 2002 DVD software revenues passed VHS revenues for the first time.<sup>2</sup>

Screen Digest also reports that DVD is now the most popular video format in Europe with consumer spending on DVD in 2002 surpasses VHS for the first time. More significantly though, European and US consumers spent more on buying and renting DVDs than they did on going to the cinema for the first time in 2002. Spending on DVD in Europe increased from 3.3bn euro in 2001 to 6.4bn euro in 2002. By comparison, spending on box office in Europe increased from 5.4bn euro to 5.7bn euro.<sup>3</sup>

In the US there has been a considerable growth by businesses such as NetFlix, which combines online access and DVD rental.

## **Distribution Platform: High Definition Television (HDTV)**

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### **Definition:**

High definition television (HDTV) involves the provision of pictures which are substantially sharper and clearer than those currently available. It is fundamentally a product of the number of lines on the screen and the number of pixels per line (which define, respectively, the vertical and horizontal resolution). The HDTV picture is also a third wider than the current analogue format with a width to height ratio (or "aspect ratio") of 16 x 9 compared to the squarer 4 x 3 aspect ratio of the picture we see now.

### **Consequences for current content delivery:**

HDTV programming must be captured in an appropriate format, such that it meets the required standards for HDTV resolution and quality. This generally means that television programmes must now be directly shot using HDTV cameras, or in 35mm film, which can then be transferred to HDTV.

Every part of HD television production in front of the camera will now also require feature film style attention. The major challenge for local content producers is that the cost of HDTV productions will be considerably higher than is the case for video production for standard definition television. This will be particularly so for high-cost drama series, which are the most susceptible to competition from lower cost imports, as noted by the ABA in its submission to Department of Foreign Affairs and Trade (DFAT) on the free trade agreement.

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1. Sam Andrew, "DVD wears the home entertainment crown", January 7-13, Hollywood Reporter
  2. "DVD software spending surpasses VHS", Screen Digest, January 2003
  3. Screen Digest, August 2003

### Current and Future Status – International:

The US, is one of the few countries in the world (along with Japan and Australia) to mandate the adoption of HDTV. HDTV programming is currently broadcast in the US over the four major free-to-air television networks and, increasingly, on the cable and satellite Pay TV networks in most major cities. The US far and away leads the world in the amount of content produced and broadcast in HDTV format. The Fox network has recently announced plans to broadcast at least 50 per cent of its prime-time schedule in HDTV.<sup>1</sup>

### Current and Future Status – Australia:

Presently, all free-to-air networks are providing at least 20 hours of HDTV programming per month. By late 2002, there was estimated to be around 35,000 HDTV receivers in the Australian market.

## **Distribution Platform:      Interactive Television**

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### Definition (taken from Online iTV Dictionary)

Interactive Television (ITV) is basic TV enhanced by interactive content. ITV offers a richer entertainment experience including, interaction and additional information pertaining to the programmes creation. It can also include links to Websites, electronic communication with others and online commerce through a back channel (T-commerce). Three primary forms exist as a means to experience interactivity with television programming: mobile phones (and, to a lesser extent, Personal Digital Assistants (PDAs)), set-top box-based and, 2-screen TV.

### Consequences for Current Content Delivery:

It is expected that producers will progressively 'bundle' the TV programme and the interactive application into the one 'rights' package. Such a scenario, will mean that Australian-based ITV content developers will be excluded from producing the interactive components of imported programmes. However, equity considerations would suggest that the same local content quotas that apply to free-to-air television and Pay TV should also apply to ITV.

Independent applications such as on-line banking and home shopping tend to be produced for banks, retailers and the like. Given that these are essentially sales and advertising channels, existing advertising content quotas should apply.

### Current and Future Status – International:

The UK is the acknowledged world leader in ITV. More than 50 per cent of the UK adult population makes use of some kind of interactive technology, with digital television top-

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1. Screen Digest, July 2003

ping the ranking, with 15 million users.<sup>1</sup> While some 27 million homes in the US have access to ITV, only five to seven million tend to use the service beyond electronic programme guide usage.<sup>2</sup>

There are a number of technology vendor websites that are worth looking at for the material and news they provide. These include

[http://www.nds.com/interactive\\_tv/interactive\\_tv.html](http://www.nds.com/interactive_tv/interactive_tv.html)

<http://www.sciatl.com/>

### Current and Future Status – Australia:

Due to the lack of suitable access infrastructure, ITV in Australia lags behind many countries such as the US and the UK, where usage rates are reportedly over 20 per cent. Hence, the ITV content development industry in Australia also lags behind these other markets in opportunity.

Foxtel has recently stated that it proposes to roll-out ITV service, once Telstra has digitised its HFC cable network. Foxtel is proposing that ITV be a major source of future income.

Roll-out of digital terrestrial television by the free-to-air networks has also begun. Current penetration rates of digital terrestrial television are less than two per cent, although this is expected to lift, as free-to-air broadcasters offer new services, such as ITV and HDTV.

### **Distribution Platform:      Interactive Television: Electronic Programme Guides**

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#### Definition:

An onscreen guide that helps make it easier for viewers to choose and/or go to the large number of channels, Pay Per View (PPV) events, etc. By using the EPG you can often also pay for events such as VOD. More advanced EPGs offer Internet interactivity for browsing, chatting, e-mail etc. EPGs can also keep track of your favourite channels, offer a “reminder” about favourite programmes, restrict access to channels unsuitable for children, offer a television search engine of a sort that can search for types of programmes or themes in programmes. A barker channel is similar to an EPG but is simply used to list or promote programmes on other channels.

#### Consequences for current content delivery:

Gatekeeping, i.e. directing viewers to particular content is usually commercially linked to the set top box (STB) provider. The EU have made attempts to promote interoperability of STBs to avoid such problems.

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1. January, 2002 MORI poll

2. (TVPredictions.com).

## Current and Future Status – International:

Available extensively throughout Europe and North America.

## Current and Future Status – Australia:

Simple EPGs are currently available on digital channels for SBS and ABC as well as the pay TV services. Standards based EPGs that can be interrogated by Personal Video Recorders are not available in Australia

## **Distribution Platform:      Interactive Television: Personal Video Recorders**

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### Definition:

A Personal Video Recorder (PVR) or Digital Video Recorder (DVR) is a type of digital VCR which records video on a computer-like hard disk rather than tape. Since the PVR records video digitally it may also provide functions that makes live television programming viewable as if it were recorded. A viewer may 'stop' the programming on-screen while the PVR continues to record the programming as it continues. When the viewer 'plays' the programme the PVR displays the recorded programme from the point at which it was stopped.<sup>1</sup>

### Consequences for current content delivery:

Its predicted by the likes of Screen Digest that in the long-term a combined unit - such as DVD recorder with PVR capabilities - will become a common feature of the home entertainment set-up.<sup>2</sup>

Another study showed that PVR increases the demand for TV services in general. ITV marketer found in a survey that 69% of PVR users say they always or often fast-forward through commercials; 44% of all PVR owners have more premium channels than before; and 43% have more total channels than they did before.<sup>3</sup>

VCRs will soon become obsolete.

## Current and Future Status – International:

Screen Digest predicts personal video recorders won't become a mass-market phenomenon for at least another four years. Media analysts Screen Digest expect just five million European homes to have a PVR system by 2006. The figure represents around three per cent of all households with a TV and compares to an anticipated penetration rate of 14 per cent in the US.<sup>4</sup>

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1. CRTC, Report on Interactive Television Services
  2. [http://www.ananova.com/business/story/sm\\_649316.html?menu=](http://www.ananova.com/business/story/sm_649316.html?menu=)
  3. <http://www.itvmarketer.com/mktres/pvr/mrpvr010907.htm>
  4. [http://www.ananova.com/business/story/sm\\_649316.html?menu=](http://www.ananova.com/business/story/sm_649316.html?menu=)

Major Satellite (BSkyB and EchoStar) and Cable operators have now started providing customers with the next generation of digital set top box from vendors such as NDA with integrated PVRs. These are bundled with premium content subscriptions for free or on lesser subscriptions for less than US 10 a month.

Initial customer research shows that customers watch almost no real time TV but increase their total viewing time and most importantly there is a substantial reduction in “churn rate” of subscribers to other operators.

### Current and Future Status – Australia:

Foxtel is planning to launch a PVR in 2005. This is 12 to 18 months behind other markets.

### **Distribution Platform:      Internet Content: Narrowband**

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#### Definition:

The world wide web and Internet services provided at dial-up speeds e.g. 56k or less.

### Current and Future Status – Australia:

The Internet is fast becoming a medium of choice for Australians to derive much of their news, information, education and entertainment. In 2000, 50 per cent of the population had accessed the Internet, while by October 2000 there were three million regular users of the Internet in Australia<sup>1</sup>.

### **Distribution Platform:      Internet TV and Walled Gardens**

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#### Definition

In its most basic form, Internet TV simply uses the television set as a ‘display monitor’ for surfing the Internet. However, because a TV set provides a poorer quality picture than a Personal Computer monitor (e.g. text is very difficult to read), and because Internet TV users generally use the Internet for fairly un-intensive ‘web surfing’ purposes, various forms of Internet TV product have spawned, which address these technical limitations of the TV set and user preferences. For example, a ‘walled garden’ service restricts the users to a specified set of Web pages – that are usually selected because they suit the commercial purposes of the Internet TV provider (e.g. they carry related party advertising, e-commerce etc.) and because they have been designed to suit the television display medium (e.g. they are not text dense and contain very simple navigation requirements).

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1. <http://www.afc.gov.au/gtp/wmmnetregusers.html>; <http://www.afc.gov.au/gtp/wmmnetusers.html>



### Current and Future Status – International:

A number of providers, particularly in the US, offer an Internet TV service, including Microsoft.

### Current and Future Status – Australia:

No major providers

### **Distribution Platform:      Peer-to-peer (P2P) Networks**

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#### Definition:

Peer-to-peer networks are essentially sophisticated private communications networks capable of distributing audiovisual material.

#### Consequences for current content delivery:

- Enormous consequences for the copyright industries including:
- Probable cost-cutting of CD and DVD prices;
- Distribution channels opened up for copyright-free material;
- Intellectual property piracy.

### Current and Future Status – Australia:

- Peer-to-peer filesharing programmes include: Kazaa, Morpheus, Gnutella, Limewire, WinMX, itunes.
- Kazaa are planning to distribute two films (with legal copyright clearance) over their networks – an Indian Bollywood film and a Singapore independent feature.
- I-tunes has been the success story of the legal music file-sharing business. Other players include Listen.com, Pressplay, MP3.com and Epitonic.com.

### **Distribution Platform:      Satellite delivery**

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#### Definition:

The distribution of analogue or digital audiovisual content by satellite.

## **Distribution Platform: T-commerce and digital/interactive advertising**

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### **Definition:**

T-commerce: Television-based commerce; systems that allow people to conduct business securely through Internet-enabled television.<sup>1</sup>

M-commerce: Mobile commerce, the systems that allow people to conduct transactions anywhere, anytime, typically refers to use of mobile phones and other portable devices to conduct a variety of transactions.<sup>2</sup>

### **Consequences for current content delivery:**

- Global delivery of marketing campaigns.
- Further blurring of the lines between content and advertising.
- Initial increase in costs of production.

Interactive TV advertising will allow advertisers to more closely observe consumer behaviour by tracking remote control clicks, discover personal preferences and create personal profiles of users in order to push products, services, and advertising related to their profile.

Current interactive advertising in the UK, US and Canada allows consumers to respond to commercials by clicking a button on screen or on a digital remote control. In doing this they may register a request for information, such as receiving a brochure, sample or information, or purchase goods or a service. Another form interactive advertising has taken has involved selling the products and goods seen on television programmes where for example a viewer can click to buy a characters clothing.

### **Current and Future Status – Australia:**

According to the Australian Communications Authority mobile phone penetration in Australia is in excess of 13 million services or 67 per cent of the population – suggesting that Australia is well-positioned for m-commerce services to develop. Australian m-commerce services offerings currently range from services such as ringtones, games, information services (including news and weather information and map services) sending/receiving photos or emails, mobile banking to a limited extent to car parking payments, vending machine purchases, mobile eftpos and video/music downloads.

M-commerce take-up in Australia is limited at this stage for a number of reasons:

- Consumers are unfamiliar with m-commerce applications;
- The slow pace of international standardisation;
- The need for industry interconnectivity agreements; and

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1. [http://www2.datacard.com/smart\\_card\\_center/definition\\_of\\_terms.shtml](http://www2.datacard.com/smart_card_center/definition_of_terms.shtml)

2. [http://www2.datacard.com/smart\\_card\\_center/definition\\_of\\_terms.shtml](http://www2.datacard.com/smart_card_center/definition_of_terms.shtml)

- Little sign of substantive partnerships between mobile network operators and the financial services industry.

T-commerce has yet to make an impact in Australia but is expected to grow with the introduction of digital interactivity in subscription and free-to-air television.<sup>1</sup>

## **Distribution Platform: 2.5G and 3G cellular mobile services**

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### **Definition**

2.5 and 3<sup>rd</sup> generation (3G) cellular mobile services are the next generation phone networks that have recently been introduced into the market in Australia and many overseas countries. Compared to 2G phones, which mainly provide telephony and basic text services, 2.5 and 3G phones will have considerably greater bandwidth capacity available for multimedia purposes. 2.5 and 3G users can send large files (which could contain video, text and audio) from phone to phone, surf the Internet, and will be able to receive streaming video and audio services (i.e. broadcast type services). In many ways, the capabilities of a 3G phone will be approaching that of a broadband Internet user.

### **Consequences for current content delivery:**

Many predict that this next generation of multimedia capable cellular service will provide a rich array of 'personalised' content to users. However, the very nature of the product (portable and personal) means that most of the 'high value' content applications are also likely to be very location specific (e.g. local weather, local maps, nearest chemist, local news update etc.). Given this type of content will be the main focus, by its very nature the content should be largely locally produced.

Mobile phones are increasingly being used as a 'back-channel' for interactive television. Consumers send a text message that is billed at a higher price to promoters like TV stations and the broadcasters share in the revenue generated from the messages sent.

### **Current and Future Status – International:**

3G phone networks are being progressively launched in most advanced economies. Like Australia, the market is still immature and 'killer applications' have yet to be found. Using mobile phones as a interactive back channel for television have been used successfully in reality television series such Big Brother 3.

A 4G trial was held in Japan recently which enabled video of similar quality to high definition television.<sup>2</sup>

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1. Australian Communications Authority, *Mobile Commerce: Regulatory and Policy Outlook Discussion Paper*, August 2003  
 2. Australian Communications Authority, *ACA Futures Panel Quarterly Report*, July 2003

## Current and Future Status – Australia:

Hutchinson Australia has recently launched a 3G network covering the major capital cities. Optus, Telstra and Vodafone have launched 2.5G services and reserve the right (subject to demand) to roll-out 3G. Subscriber numbers for 3G are currently below 100,000. There is great conjecture as to whether 3G services will appeal to users. They are considerably more expensive than 2G services and it is still questionable whether the mobile phone will be used for advanced multimedia purposes.

Spending on mobile phone ringtones is currently at \$20 million.<sup>1</sup>

## **Distribution Platform: Video on Demand (VOD), Near Video on Demand (NVOD) and Pay per View (PPV)**

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### Definition:

This service enables television viewers to select a video programme (often a movie as from the video rental store) and have it sent to them (in a form called a “stream”) over a channel via a network such as a cable, satellite TV network, or DSL.

There are a number of variants which affect business models and customer experience.

- 1 The movie would store in a STB's huge hard drive and the end-users would watch it off their hard drive, eliminating the trip to the video store. The viewer can pause, fast forward, and so forth the movie (or whatever programming they're watching) as if it was running on their own VCR or DVD. This can also be known as Interactive Video on Demand.
- 2 Delivering streaming VOD over a network (typically cable or DSL) in real time to the customer's set-top box. (Typically a digital set up such as digital cable, is required to get TV-based VOD.) The transport control functions (pause, fast forward etc.) are typically supported at the head-end where the content is located/stored.
- 3 In near video-on-demand, requests for the same movie arriving within a period of time are grouped together (i.e., batched) and served with a single multicast stream; thereby reducing the bandwidth requirement compared with the unbatched case. In a streaming environment the same movie may be scheduled to run on different channels at 15 minute interval

### Consequences for current content delivery

VOD and Pay per View (PPV) services can be viewed as an extension to a subscription television service, whereby viewers must pay for the right to view a programme. Only in the case of VOD and PPV, this is conducted on a per-programme basis, rather than on a per-channel package basis.

Various international analysts report that VOD and PPV are growing very quickly, often at the expense of traditional subscription services.

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1. Sue Lowe “Ringtones Soar to tune of \$20m” SMH, 30 August 2003

## Current and Future Status – Overseas

As of mid-2003, approximately 40 per cent of all U.S. cable TV systems were offering VOD, and almost 4 million cable TV subscribers were regularly using the service to watch movies, packaged premium programming, and even “free” programmes and events.<sup>1</sup> VOD services are still a North American phenomenon. Outside of the US and Canada, there are only a handful of cable operators offering VOD. The existing market for home video “playback” products and services, which consists of products like VCRs, DVD players and even PVRs, continues to pose a competitive challenge to the growth of cable-based VOD services. Worldwide subscribers to cable VOD services are projected to increase from about five million at the end of 2003, to almost 14 million in 2007.

## Current and Future Status – Australia:

Partly due to the current low penetration of broadband and Pay TV services in the Australian market there has not been a major push by potential VOD providers to offer a national ‘mass market’ service. Notwithstanding, niche applications and services, such as VOD services in hotels and motels are widespread.

It is expected that, as broadband and Pay TV penetration rates increase, the economic attractiveness of a ‘mass market’ VOD service will improve.

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1. In-Stat/MDR, a market research firm

## APPENDIX 10: THE STRATEGIC IMPORTANCE OF STANDARDS FOR EXPORTS

### Standards

Applications developed for the internet, interactive TV and satellite are primarily based around international standards. Software applications are increasingly utilising standards to increase interoperability and modularity.

Standards are continually evolving, new ones are being created and old one tweak or extended into new areas. Australian producers of digital media, applications and services need to embrace standards and most importantly co-ordinate with each other on their choice of standards to be amongst the first to implement and commercialise important new standards.

Active participation in researching and developing key open standards is an exceptionally potent way of becoming a global market leader. But to do so requires more focus, more resources and a better understanding by management, investors and government bodies of how important standards can be in leading edge companies.

The following section is mostly an extract from section 2 of a previous Creative Industry Cluster Study: **Economic Benefits from Cultural Assets Report** which is available from <<http://www.cultureandrecreation.gov.au/cics/benefits.pdf>>.

### The Concept of Standards

During the early years of software applications, for mainframe, mini-computers and then personal computers, each supplier developed their own way of doing things. As the software industry matured, it became apparent which techniques and formats were effective and were widely-used. Some of these came to be standardised, especially those that needed to be implemented in a consistent manner between different suppliers. As networking technologies linked computers together, it became more critical that computer applications communicate data between themselves in consistent formats.

Formal standards are specifications that have been endorsed by a body with some kind of authority or recognition. Standards bodies may be national associations with representatives from various stakeholder groups (such as Standards Australia), international associations with representatives from various countries (such as the International Standards Organisation), professional associations (such as the Institute of Electrical and Electronic Engineers – IEEE) or industry associations (such as the World Wide Web Consortium – W3C). Standards issued or endorsed by such organisations are referred to as *de jure* standards (but will be referred to in the remainder of this document as “formal standards”).

Some specifications are widely-used but not approved or endorsed by a standards body. These are commonly referred to as *de facto* standards. They may be published (as is the case with RTF, owned by Microsoft, and Postscript and PDF, owned by Adobe), in which case it is feasible for multiple suppliers to implement applications that handle them reliably. Alternatively, they may remain unpublished i.e. not publicly available (e.g. the many

variations of Microsoft Word formats), in which case there is a great deal of difficulty in achieving reliable interchange between applications.

There is an important difference between a document format which is standardised and a software application that has market dominance. The software application is not a standard. The formats it can save its documents in could either be de jure or de facto standards.

Standards are concerned with the communications between “black boxes”, they are not concerned with what is in the black box (in this case the application). So one companies implementation of a standard can be very different to another companies but they can work together so long as they communicate in a standard way with standard document formats.

## Standards and Digitisation

In the cultural sector, libraries have been using formal standards for centuries. Important examples include the Dewey and Library of Congress subject numbering systems, standard catalogue cards and more recently the MARC specification for sharable records. Museums have long been reliant on standard taxonomies for naming the kingdom, phylum, class, order, family, genus and species of living things.

In the creative industries, formal standards have been agreed and implemented within each market segment. In the digital content production industry, standards are a mixture of dominant applications, common practice and formal standards and de facto standards. But standard ways of sharing information between each of the categories of collecting institutions are only slowly maturing. Even more challenging is the sharing of information between the cultural sector and commercial content developers.

## Categories of Standards

The Economic Benefits report team formulated a large list of formal (or de jure) and de facto standards that are relevant to this project. Its length demanded that some structure be imposed on it. No existing structured list was found that served the present need.

A matrix was therefore developed to enable meaningful presentation and analysis. The columns and rows of the matrix reflect categories that have proven useful in practice, and that have appeared in relevant frameworks.

On the horizontal axis the matrix is concerned with the subject-matter that the standard is applicable to:

Media Formats	Metadata Framework Elements	Metadata Controlled Vocabularies	Metadata Unique Identifiers	Processes	Protocols
How data is represented	How catalogue data is structured	Rules about the content of metadata in catalogues	How Items and parties are uniquely identified	How particular actions are to be performed	How data is to be communicated

Format Standards for digital objects of various characteristics, e.g. video or images for different types of usages such as presentation or preservation	Metadata “Standards” providing the structure, syntax and grammar for expressions	Metadata “Standards” providing the controlled vocabularies, such as dictionaries and element value thesauri	Unique identifiers providing the consistent linkages within and between physical and digital objects, parties, rights and transactions	Business, work or technical processes that may be implemented by humans or computers	Protocol Standards provide the syntax for the communication of data between computer systems
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The vertical axis is concerned with the domain the standard is addressing:

Domain	Explanation
Works	Standards for content or material of various types including Presentation & Discovery formats or metadata, Production & Distribution, Preservation & Administration, Structure & Action, FRBR Lifecycle, Input-ingest
Parties	Definitions of identities or roles, including creators, rightsholders, agents, publishers and users. Parties may be individuals or groups and can be fully identified, anonymous or pseudonymous
Rights	Intellectual property rights including ownership and usage permissions, requirements, conditions and constraints
Transactions	Transactions including trading rights over works between parties and delivering works. Transactions result in change in the status of a work or rights to a work
Management	Reporting, accounting and business management information and policies. This becomes more complex as collecting institutions the degree of interaction with commercial content producers and content publishers increases

The full chart can be seen on the following page.

## The Strategic Opportunity in Standards

Australian research and commercial organisations have opportunities to engage with the standards creation bodies and be actively involved in the establishment of new standards. While this is sometimes tedious and political it can potentially be strategically worthwhile. The Australian Open Digital Rights Language has been established as the global standard rights expression language for mobile content with the support of the Open Mobile Alliance. But to achieve that took a substantial investment in time from a chief scientist of a very small company and substantial travel and communications costs. And unfortunately in this case the funds were not available to maintain the momentum to ensure ODRL was adopted within the global education community as it should have been. Another proposal for a proprietary rights expression language has invested very substantial funds to try and ensure that all content including education is managed using their expression language over which they have a patent and will be charging royalty fees for unspecified activities.

Getting a technology accepted as a global standard is expensive and frustrating. But if it is actually accepted and widely adopted then the benefits can be large to the organisation that now how to implement the standard best.

The normal criticism from a company's board is that by standardising some intellectual property you are giving away the crown jewels. But standards tell systems how to commu-



nicate and in what terms. It doesn't specify the actual system or application that produces the communication. There are still very strong strategic advantages from having a system that generates a standardised format or communicate more efficiently than someone else. There are also strong advantages in being able to sell, ship or demonstrate an application six months or a year ahead of competitors.

In areas such as digital content and ICT applications specialist researchers are needed who understand the area. It is highly desirable that specific funding should be available perhaps through the proposed industry development peak body or NOIE to support CDI standards engagement by organisations with a substantial chance of succeeding. This funding would cover the fairly substantial travel and communication expenses involved in participating in all of the standard workgroups and forums.

Creative Industries Cluster Standards: Matrix of the Range of Standards applicable to Collecting Institutions and Content Developers						
Domain	Sub-Domain	Media Formats	Metadata		Processes	Protocols
			Framework Elements	Controlled Vocabularies	Identification	
Works	Presentation & Discovery	Object Presentation eg PNG, PDF, XHTML, MP3, QuickTime	Object Description eg DCMI, TEI, MARC, FGDC, AGLS, IMS LOM, BBC SMEF	Object Description eg EDNA , MPEG 7	Unique Object Identifiers eg ISBN, URI, DOI	Object Personalisation/ protection process eg Watermark
	Production & Distribution	Object Production eg EPSF, TIFF, D1 Video, XML, WAV, Pro_MPEG MXF	Object Description eg DCMI, TEI, MARC, FGDC, AGLS, IMS LOM, BBC SMEF	Object Description & Dictionary eg Getty AAT, LCSH, ProMPEG		Object Identification Process eg
	Preservation & Administration	Object Preservation eg SGML, XML, PDF, Digital Betacam	Administrative Content eg MARC, MODS, ISO 15489	Administrative Content Dictionary eg AGIFT, KAAA		Object Preservation Process eg Archive
	Structure & Action	Object Structure (MarkUp) eg TEI DTD, CALS, DocBook, SVG, OpenEBook	Object Structure eg METS, IMS CP, SMIL			Object Structure (MarkUp) Process eg EAD Guidelines
	LifeCycle Integration		Information Model eg IFLA's FRBR			Media Asset Management Process
	Input	Object Capture (Digitisation) eg TIFF, PDF, Unicode, JPEG2000				Object Capture Process (Digitisation) eg METS, SIP
Parties			Party Metadata Framework eg vCARD, MARC	Party/Roles Dictionary eg LC Relations, ONIX	Unique Party Identifiers	Party Identification Process Unique Party query protocols eg LDAP
					Party Authentication Process Party Authentication Protocol eg Liberty, SAML	Party Authentication Protocol
					Party Authorisation Process Party Authorisation Protocol eg Liberty	Party Authorisation Protocol
Rights		Encrypted Package eg SealedMedia	Object Usage Rights Offers eg ODRL, XrML	Rights Dictionaries eg ODRL, XrML, <index>	Unique rights/sholding identifiers	Provenance Validation Process
			Object Usage Rights Agreements eg ODRL, XrML			Works/Rights/Parties Directory Query Protocol
Transactions		Object Presentation Standards	Acquisition Agreement Metadata		Unique Agreement Identifiers	Object Delivery Standards
		Object Packaging Standard eg IMS, METS DIP	Commercial Settlement Record			Object Acquisition Process (discover, preview, acquire) eg ONIX
			Embedded/ Attached Unique Agreement Metadata eg COLIS IMS/ODRL Agreements			Rights Acquisition Process (Offer to agreement) eg BBC Guidelines
					Transacted Object Personalisation, identification & protection process eg	Commercial Settlement Protocols eg SOAP, WebServices
Management			Party/Works/License Reporting Framework eg ODRL/eBXML	Party/Works/License Reporting Dictionaries eg ?eBXML	Return on Investment Analysis eg PHM 4 step process	

## APPENDIX 11: AUSTRALIAN MULTIPLIERS FOR CULTURE-RELATED INDUSTRIES

The following is an extract from an ABS/DCITA paper Australian Multipliers for Culture-related Industries.

The Industry Classification of the Australian Culture and Leisure Classifications (ABS Cat. no. 4902.0) lists industries consisting of organisations for which the main activity is the production or provision of culture and leisure goods and services.

The culture-related industries (as defined by this classification) are contained in the following input-output sectors:

- Printing and services to printing;
- Publishing; recorded media and publishing;
- Wholesale trade (e.g. record companies and distributors, literature wholesaling);
- Retail trade (e.g. recorded music retailing, visual arts and crafts retailing, literature retailing);
- Scientific research, technical and computer services (architectural services);
- Legal, accounting, marketing and business management services (advertising services and commercial art and display services);
- Motion picture, radio and television services;
- Libraries, museums and the arts;
- Sport, gambling and recreational services (e.g. circuses); and
- Personal services (photographic studios and video hire outlets).

The ABS does not prepare input-output tables showing specific culture-related industries such as libraries or museums because there are insufficient data available on the goods and services used by these industries. The data needed to accurately produce multipliers at this level include:

- the types of goods and services they purchase (in sufficient detail to enable coding to the 106 input-output sectors);
- other costs incurred (wages, taxes, etc.);
- gross operating surplus; and
- the destinations of the goods and services they produce (other industries, consumers, exports, etc.)

Given that this detailed information is not available (as it requires in-depth surveys of the culture-related industries), one alternative is to estimate the input mix of each culture-related industry based on data gathered in collections such as the 1996-97 ABS Service Industry Surveys as well as unpublished input-output data. Where these data sources are not sufficient, the assumption can be made that the input mix is the same as for the input-output sector to which the industry belongs. For example, for those parts of the input mix for museums which are not known, it can be assumed to be the same as for the entire sector, Libraries, museums and the arts. However, as the mix of inputs used by museums would differ somewhat from some other industries in this sector (e.g. music and theatre

productions), the resulting multipliers should be regarded as indicative only and so should be treated with caution.

Table 3 shows estimated output, gross value added and FTE employment multipliers for Australia for selected culture-related industries based on this additional information and allocating inputs to industries on a pro rata basis where no alternative information was available. The gross value added multiplier for the overall culture-related industries was estimated at 1.39. This means that if the demand for cultural goods and services increased by \$1m, then gross value added by all industries would increase by \$1.39m (and therefore Australia's gross domestic product would increase by a similar amount). Of the culture-related industries, the estimated gross value added multiplier was highest for Film and video production and distribution (1.80) and Music and theatre productions (1.79). The FTE employment multiplier for the culture-related industries was estimated to be 22, which was slightly higher than for most other industries. Of the culture-related industries, the FTE employment multiplier was highest for Architectural services (38), Film and video production and distribution (37), and Music and theatre productions (34).

Table 45: Estimated Multipliers For Selected Culture-Related Industries, Australia, 1996-97

	Australian production \$m (a)	Output multiplier	Gross value added multiplier	FTE employment multiplier
Printing	4,861	2.75	1.29	22
Newspaper printing/publishing	4,462	2.70	1.33	19
Other periodical publishing	1,240	2.74	1.31	18
Book and other publishing	1,894	2.76	1.29	17
Architectural services	1,107	3.03	1.60	38
Advertising services	3,342	2.93	1.41	19
Commercial art and display services	1,246	2.86	1.49	24
Film and video production and distribution	474	3.05	1.80	37
Motion picture exhibition	545	2.61	1.28	19
Radio and TV services	3,328	2.83	1.39	19
Libraries and museums	783	2.98	1.74	30
Parks and gardens	591	2.65	1.64	25
Music and theatre productions	397	3.09	1.79	34
Creative arts	463	2.59	1.55	28
Services to the arts	601	2.50	1.40	21
Video hire outlets and photographic studios	1,044	2.68	1.38	26
All cultural industries	26,377	2.79	1.39	22

(a) Australian production of input-output products primary to the industry.

Source: Based on ABS data, including the Australian National Accounts and the Service Industry Surveys.

## Application of multipliers

The following example shows how multipliers can be used to summarise the economic impact of an initial increase in demand for the output of an industry.

Suppose a foreign film company decides to shoot a feature film in Australia and this involves expenditure of \$20m in Australia. Then the economic impact can be estimated as:

Increase in output

\$20m x 3.05 (i.e. \$61m--note that this includes some double-counting)

Increase in gross value added

\$20m x 1.80 (i.e. \$36m--this is approximately the increase in GDP)

Increase in employment

20 x 37 (i.e. the equivalent of 740 people employed full-time for one year)

A practical example of the use of multipliers is provided in an economic impact study of the 1996 Adelaide Festival. It shows how multipliers were used to assess the impact of the Adelaide Festival of Arts on gross value added, income and employment in South Australia.

### Treatment of wholesale and retail industries

Some of the cultural industries are involved in the wholesaling and retailing of cultural goods (e.g. literature wholesaling and retailing). In the Australian National Accounts, wholesaling and retailing activities are viewed to be the provision of services because the product is not significantly transformed in these activities. One of the consequences of this treatment is that the valuations in the tables referred to in this report show industry flows at "basic prices", which is the amount receivable by the producer, less any tax payable, plus any subsidy. For many industries, this differs from the price paid by the purchaser because of taxes and subsidies, transport and insurance costs, and wholesale and retail margins.

For each of the culture-related industries, the value of output at purchasers' prices in 1996-97 was identical to the value at basic prices (i.e. the percentage margin was zero), except for:

- Printing;
- Newspaper printing/publishing;
- Other periodical publishing;
- Book and other publishing; and
- Radio and TV services.

When analysing the impact that an initial change in demand for these industries has on the economy, the initial change should be split up into its components, with the component showing output at basic prices being adjusted by the relevant industry multiplier (shown in table 3), the wholesale margin component being adjusted by the multiplier for the whole-

sale trade industry (shown in table 2) and the retail margin component being adjusted by the multiplier for the retail trade industry (shown in table 2).

For example, suppose we are trying to measure the economic impact on the national economy of staging an arts festival and a survey of attendees indicates that overseas visitors who came specifically for the festival spent \$10m while in Australia and that this initial expenditure of \$10m comprised:

- \$5.0m on accommodation and meals;
- \$2.5m on tickets to the arts festival;
- \$1.2m on personal services (dry cleaning, film processing, etc.);
- \$0.8m on transport; and
- \$0.5m on books.

The expenditure on books should be broken down into the retail margin component, the wholesale margin component and the amount received by the book publisher (say \$0.1m, \$0.1m and \$0.3m respectively).

Table 46: Example Of Calculation Of Multiplier Effect

Expenditure on:	\$m	Relevant multiplier	Gross value added multiplier	Gross value added \$m
Accommodation and meals	5	Accommodation, cafes and restaurants	1.46	7.3
Tickets to arts festival	2.5	Music and theatre productions	1.79	4.475
Personal services	1.2	Personal services	1.44	1.728
Transport	0.8	Road transport	1.44	1.152
Books				
Book retailers	0.1	Retail trade	1.66	0.166
Book wholesalers	0.1	Wholesale trade	1.57	0.157
Book publishers	0.3	Book and other publishing	1.29	0.387
Total	10			15.365

The table shows that in this example, gross domestic product would have increased by approximately \$15.4m as a result of the initial expenditure of \$10m by overseas visitors to the festival.

## Conclusion

Multipliers can be used in assessing the effects on the economy resulting from a change in demand. They are useful for calculating the effects on the country of an increase in exports, or looking at the economic impact of a special event, such as a major festival.

Multipliers can be used to provide an indication of the impact on the economy of a change in exports, an increase in investment, or the staging of a special event. However, their use to support an argument to justify an increase in government expenditure on culture is more

difficult to sustain in an environment where government expenditure is stable. This is because in such instances, an increase in government expenditure in one sector, such as culture, may be offset by reduced expenditure on another sector (e.g. health). Therefore, the net impact may not be large (only to the extent by which the culture multipliers are larger than the multipliers for the sector with reduced funding).

Yet, it should be remembered that a multipliers argument for increased cultural funding by governments is based on the economic benefits only. There are non-economic benefits that flow from increased expenditure on culture which by their nature are not easily measurable, such as giving people a sense of identity, encouraging self expression and creativity, creating and preserving Australia's heritage and traditions, as well as providing an enjoyable experience.

The main advantage of using input-output tables and input-output multipliers is that they provide an objective method of assessing the impact on the economy of an initial change in demand (e.g. as a result of an increase in investment or exports). This assessment can be made in terms of the impact on output, value added, employment, etc.

The estimates of multipliers for the culture-related industries presented in table 3 are indicative only but show that there are some variations in the values of multipliers among the different culture-related industries. Consequently, the use of these multipliers should lead to more accurate estimates of the impact of culture-related projects and events on the national economy.

Source: ABS, Australian National Accounts: Input-Output Tables, 1996-97  
<[http://www.dcita.gov.au/Printer\\_Friendly/0,,0\\_6-2\\_4010-4\\_112503,00.html](http://www.dcita.gov.au/Printer_Friendly/0,,0_6-2_4010-4_112503,00.html)>

## APPENDIX 12: ABOUT THE CONSULTANTS

Peter Higgs of Content Strategies Pty Limited <peter@contentstrategies.com.au>

Peter consults to government and the arts in the area of Rights and Content Management, digitisation and digital distribution strategies. His recent projects include:

- Co-author to Xamax Consultancy Pty Limited of the Creative Industries Cluster Stage Three report on the “Economic Benefits From Cultural Assets: The Digitisation Programmes and Standards Of Collecting Institutions And the Scope for Collaboration With the Creative Industries”. The research and report was conducted on behalf of the Film and Digital Content Branch of the Commonwealth Department of Communications, Information Technology and the Arts (DCITA).
- Co-author of the “Guide to Digital Rights Management” with AIMIA, SecureNet and Gilbert + Tobin that is published by the Department of Communications, Information Technology and the Arts
- Providing advice on the Technological Issues and Implications for the Attorney General Department’s review of the Digital Copyright Amendment Act 2000 being conducted by Phillips Fox.
- Consulting to the Open Training and Learning (OTEN) Division of NSW TAFE on the implementation of the ANTA funded Rights Enabled Learning Object Xchange Demonstration Project.
- Research and Development of a Strategic Whitepaper to the Copyright Agency Limited.

Peter, who has a degree in Commerce Marketing from the University of NSW, has been on the Board of the Australian Interactive Media Industry Association for eight years and has spent extensive periods in Asia, Europe and the USA in the IT, software and interactive media marketplaces.

In Australia he:

- co-founded IPR Systems Pty Limited in 2000;
- was the Director in charge of the OzAuthors Digital Publishing Service joint venture with the Australian Society of Authors;
- was a co-founder of Pacific Advanced Media Studios (PAMS) in 1992;
- has worked for Apple Computer Australia for six years as product marketing manager, small business marketing manager and third party marketing manager;
- was marketing director for Access Australia CMC;
- co-conceived and was project director of the Propagate Project which was a joint venture between Access CMC and Impart Corp.

Tom Kennedy, Managing Director of Brainwaave Interactive Pty Limited, <tk@hyro.com.au>

Tom is acknowledged as one of the most knowledgeable, experienced and best connected executives in the many facets of the Digital Content industries in Australia. He has over 16 years experience in media and technology markets, covering digital film, software publishing, distribution and interactive content creation and management.



Tom founded Brainwaave Interactive Pty Limited as a division of John Fairfax Holdings Limited in 1995 before concluding a management buyout from Fairfax in 1998.

He was Managing Director of Beyond Online Limited from July 1999 – May 2003 including its' public listing in March 2000 (ASX- BYO).

He headed the Asia Pacific operations of Media Vision Inc. a Silicon Valley multimedia pioneer, and has held senior marketing roles with Merisel Pty Ltd. and Panasonic Australia Pty Ltd.

Tom has been deeply involved in the development of the Digital Content Industry in Australia holding a number of key roles with industry associations and projects. He is the past president of the Australian Interactive Multimedia Industry Association (AIMIA) 1997-98 and a board member for the last seven years.

He has been an advisor to the Australian Cultural Network, a member of the Digital Television Advisory Group, and is a member of the Joint Singapore Australia IT Council, and member of the Australian Information Economy Advisory Council (AIEAC).

He is a Director of the Biennale of Sydney, and the Chairman of the Internet Industry Association (IIA).

In 2002 he was appointed a member to the Australian Governments Broadband Advisory Group (BAG) and as a Commissioner of the Australian Film Commission (AFC).

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