

Workforce Development Plan

Western Australian Creative Industries

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FutureNow – Creative and Leisure Industries Training Council
for the WA Department of Training and Workforce Development



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1. Foreword

FutureNow - Creative and Leisure Industries Training Council

FutureNow - Creative and Leisure Industries Training Council Inc brings together industry leaders, training organisations and action groups to make recommendations to government regarding workforce development strategies for Western Australia.

Working across the creative and leisure industries, FutureNow facilitates the continual improvement of workforce skills to drive productivity and deliver a competitive edge for our industries now and looking forward.

FutureNow industry sectors include:

- Hospitality, Tourism and Events
- Sport and Recreation
- Arts and Culture
- Media
- Information Services
- Telecommunications
- Printing
- Sport and Recreation

Economical and demographic changes will impact heavily on the Western Australian workforce in the forthcoming years and strategic business and human resource planning is critical to the success and sustainability of our industry sectors.

To achieve this goal, the attraction and retention of staff; quality skills training and education; and increasing productivity is essential to enable Western Australian businesses to be sustainable and globally competitive.

The key objective of FutureNow's Creative Industry workforce development plan is to:

Identify the skills and workforce development priorities for Western Australia's Creative Industries and foresee emerging influences on workforce development and training issues.

This report describes the environment in which the Creative Industries are currently operating in Western Australia. It sets out the industry critical skills which are necessary for future sustainability and growth and establishes the context in which these industries are essential not only to the existing lifestyles of the existing population, but in attracting and retaining the thousands of new workers from interstate and overseas that will be vital to Western Australia's future growth and economic prosperity.

This report is viewed as an organic document that will be continually updated, validated and improved. It will be circulated widely for stakeholder scrutiny and feedback and will be subject to continuous improvement to ensure timely quality input to the State's annual workforce development and training strategies.



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FutureNow – Creative and Leisure Industries Training Council

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3. Overview / Summary of Issues

Creative Industries

3.1 Strategic Environment

Creative Industries

FAST FACTS: Creative Industries	
Industry Sectors	<p>Arts and Culture</p> <ul style="list-style-type: none"> • Acting • Arts Administration / Management • Dance • AboriginalArts • Design • Journalism, Writing and Publishing • Libraries • Museums and Collections • Music • Performing Arts • Photography • Photo-imaging • Technical Production • Theatre • Visual Arts, Crafts and Design • Television • Screen • Radio • Broadcasting • Multimedia • Interactive Digital Media • Production <p>Information and Communications Technology</p> <ul style="list-style-type: none"> • Information Technology • Telecommunications • Information Services <p>Printing</p> <ul style="list-style-type: none"> • Print Production • Printing • Graphic Design • Graphic Pre-press
Industry Size	<ul style="list-style-type: none"> • The Creative Industries in Australia employed 473,552 people in 2006¹ and the printing industry employed 41,085 people in 2006². In 2006 there were more than 150,000 creative industry employees embedded (employed) in non-creative industries³⁰ • 40,304 people were employed in creative industries as their main job in Western Australia in 2006³ and the printing industry employed approximately 8,000 people in 2006⁴
Qualification Profile	<ul style="list-style-type: none"> • 75% of employers in the arts and cultural industries provided informal (in-house) training to staff in 2007⁵ • 38,598 ICT students were enrolled in VET and training courses in Australia in 2007⁶

Economic Contribution	<ul style="list-style-type: none"> The Australian industry gross product of the Creative Industries was approximately \$31.1 billion in 2007-08⁷ and the ICT industry is estimated to have generated revenue of more than \$85 billion in 2008-09⁸. The Printing industry is expected to generate industry revenue of \$8.8 billion in 2009-10⁹
Critical Skills Shortages	<ul style="list-style-type: none"> Telecommunications Technician (General Communications Tradesperson), Communications Linesperson and ICT Project Manager
Skills in Demand	<ul style="list-style-type: none"> Small Offset Printer, Binder and Finisher, Network Manager, ICT Project Manager, ICT Security Specialist, ICT Customer Support Officer, Data Communications Tradesperson, Telecommunications Cable Jointer, Appliance Service and Installation Personnel (data installers, computer hardware installers and PDS repairers), Small Offset Printer (digital printer), Camera Operator (film, television or video), Gallery or Museum Curator, Arts Administrator or Manager, Music Professionals (record label operators and music publishers)
Key Recommendations and Strategies	<p>Key recommendations and strategies for workforce development in the Western Australian creative and leisure industries are provided in Section 4 in order of the following Themes:</p> <ul style="list-style-type: none"> Theme 1: Labour Market and Supply Theme 2: Workforce Participation Theme 3: Planning and Coordination Theme 4: Attraction and Retention Theme 5: Training and Productivity

a) Overview of the Creative Industries

The *Creative Industries* influence on Australian society's values, priorities and aspirations far outweighs the relative size of the Cultural and Creative Industries workforce or economic contribution.¹⁰ The economic, social, industrial and cultural contributions made through the creative industries are increasingly being recognised as fundamentals to an advanced and thriving economy. In Western Australia they are vital in determining the lifestyle image, retaining workforce talent and supporting other industry sectors.

The need for a Workforce Development Plan to guide our Creative Industries has never been stronger. The capacity of to work with all industries to promote a liveable, creative, accessible, vibrant and functioning city and State is essential to attracting skilled people to live and work in Western Australia.

The report *Australia's Creative Economy*, released by the ARC Centre of Excellence for Creative Industries and Innovation¹¹ references the term 'Creative Industries' as those industries that are "focused on linking creativity with commercial markets: these industries use creativity as their source of value, generating ideas into new intellectual property (IP) and then using and commercialising that IP in innovative ways - often through industry inter-action on a project-by-project basis".

The mapping analysis produced by the City of Perth in 2007, *Perth's Creative Industries*¹², states that the most widely accepted definition of the Creative Industries is "activities that focus on creating and exploiting intellectual property products".

For the purposes of this workforce Development Plan, the Creative Industries include the broad sectors of:

- Arts and Culture;
- Information and Communications Technology; and
- Printing.

These broad sectors are further detailed below:

Arts and Culture

- Acting
- Arts Administration / Management
- Dance
- Aboriginal Arts
- Design
- Journalism, Writing and Publishing
- Libraries
- Museums and Collections
- Music
- Performing Arts
- Photography
- Photo-imaging
- Technical Production
- Theatre

- Visual Arts, Crafts and Design
- Television
- Screen
- Radio
- Broadcasting
- Multimedia
- Interactive Digital Media
- Production

Information and Communications Technology

- Information Technology
- Telecommunications
- Information Services

Printing

- Print Production
- Printing
- Graphic Design
- Graphic Pre-press

The Creative Industry sectors are relatively diverse, although they share an important enabling role in the Australian economy. While the industry sectors can be seen as significant in their own right, there is a clear set of basic creative skills which underpin and align with many parts of the economy.

More recently, opportunities to support emerging local Creative Industries have been identified such as: film and television; fashion and jewellery design; architecture; and software design, as well as sectors such as music which have long been considered a strong local industry for Western Australia.

Throsby, D. (2008) *Creative Australia: The Arts and Culture in Australian Work and Leisure* states:

*The potential for metropolitan Perth's further growth as a creative city has doubtlessly been enhanced by recent significant increases in support for the arts provided by recent Western Australian Governments.*¹³

Creative Industries Terms and Definitions

CREATIVE Terms and Definitions	
Term	Definition
Creative Industries	<p>United Nations Education, Scientific and Cultural Organisation (UNESCO) defines the Cultural Industries, which are closely related to the Creative Industries as those that: “combine the creation, production and commercialisation of contents which are intangible and cultural in nature”.</p> <p>Digital media, IT plus software, computer games and electronic publishing; architecture; art and culture; crafts; design and designer fashion; music; and the visual and performing arts.¹⁴</p>
Cultural Goods	<p>Consumer goods which convey ideas, symbols, and ways of life; inform or entertain, contribute to build collective identity and influence cultural practices.</p> <p>The product of individual or collective creativity — thus copyright-based — cultural goods are reproduced and boosted by industrial processes and worldwide distribution.</p> <p>Books, magazines, multimedia products, software, records, films, videos, audio-visual programs, crafts and fashion design constitute plural and diversified cultural offerings for citizens at large.</p> <p><i>United Nations Education, Scientific and Cultural Organisation definition.</i></p>
Cultural Services	<p>Cultural services are those activities aimed at satisfying cultural interests or needs. Such activities do not represent material goods in themselves: they typically consist of the overall set of measures and supporting facilities for cultural practices that government, private and semi-public institutions or companies make available to the community.</p> <p>Services include the promotion of performances and cultural events as well as cultural information and preservation (libraries, documentation centres and museums). <i>United Nations Education, Scientific and Cultural Organisation definition</i></p>
Creatives	<p>Those people employed in <i>Creative Occupations</i>, the <i>Creative Workforce</i>, <i>Creative Industries</i> and <i>Cultural Industries</i>.</p>
Creative Occupations	<p>A selection of occupations that produce creative goods or services. They may be participants at any stage of the production process but it is the involvement of such people primarily in creative functions (rather than, for example, retail sales) that distinguishes them.¹⁵</p>
Embedded Creatives	<p>Those people employed within the defined <i>Creative Occupations</i> who are not working within the defined <i>Creative Industries</i>.¹⁶</p>
Creative Trident	<p>A methodology for analysing a single, highly detailed, census data table of the number of people employed for every occupation across every industry. The methodology focuses on counting those in specialist occupations and industries and those who are not.¹⁷</p>
Creative Workforce	<p>The people employed in all the specialist creative occupations or <i>Support</i> occupations in specialist firms and organisations operating within the <i>Creative Industries</i> and those employed in <i>Creative Occupations</i> 'Embedded' in other industries.</p> <p>The Creative Workforce is determined using the Creative Trident methodology with the selection based on the Creative Segments grouping definition.¹⁸</p>
Creative Economy	<p>The term creative economy now refers to the growing role of creative industries and creative people in our economy and society.</p> <p>Analysts' view that is becoming a crucial emerging concept for Australia because the creative economy will secure our competitiveness in the global future. (<i>Cunningham, 2008</i>)</p> <p>Creative economy comprises advertising, architecture, art, crafts, design, fashion, film, music, performing arts, publishing, research and development, software, toys and games, TV and radio, and video games. (<i>Howkins 2001</i>)</p>

CREATIVE Terms and Definitions	
Term	Definition
Creative Clusters	A cluster of creative enterprises. A creative cluster includes non-profit enterprises, cultural institutions, arts venues and individual artists alongside science parks and media centres. Creative clusters are places to live as well as to work, places where cultural products are consumed as well as made. They are open around the clock, for work and play. <i>www.creative clusters.com</i>
Clustering	The principal strategy that the creative sector as a whole adopts to address these structural issues is to pool resources and band together into networks, clusters, quarters and other kinds of partnerships. The usual definition of a business cluster is Michael Porter's, in <i>The Competitive Advantage of Nations</i> : <i>...geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also co-operate.</i> Silicon Valley in the United States is often cited as an example.
Creative Class	A class of workers whose job is to create meaningful new forms. It is composed of scientists and engineers, university professors, poets and architects, and also includes: <i>People in design, education, arts, music and entertainment, whose economic function is to create new ideas, new technology and/or creative content. (Florida, 2002, p. 8)</i>

DIGITAL Terms and Definitions ¹⁹	
Term	Definition
Digital Professionals	Digital Technology Professionals in all sectors and Digital Media Professionals in all sectors.
Digital Technology Professionals	Those in Digital Technology occupations in all industries as defined by SOC code (IT and Telecommunications occupations).
Digital Media Professionals	Those in Digital Media occupations in all industries: advertising; video, film and photography; publishing; radio and TV occupations.
Digital Technology Industry	The Digital Technology Industry vertical as defined by SIC code (IT and Telecommunications industry vertical).
Digital Media Industry	The Digital Media Industry vertical: advertising; video, film and photography; publishing; radio and TV industries.
Digital Industries	The Digital Technology Industry plus the Digital Media Industry.
Digital Technology Sector	The Digital Technology Industry plus the Digital Technology Professionals in other industries.
Digital Media Sector	The Digital Media Industry plus the Digital Media Professionals in other industries.
Digital Sectors	The Digital Technology Sector plus the Digital Media Sector.
Digital Economy	An economy that is based on electronic goods and services produced by an electronic business and traded through electronic commerce. That is, a business with electronic production and management processes and that interacts with its partners and customers and conducts transactions through Internet and Web technologies.
Digital Divide	The gap between people with effective access to digital and information technology, and those with very limited or no access at all. It includes the imbalance both in physical access to technology and the resources and skills needed to effectively participate as a digital citizen.

TECHNOLOGY Terms and Definitions		
Term	Acronym	Definition
Information Technology	IT	A term that encompasses all forms of technology used to create, store, exchange, and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations, and other forms, including those not yet conceived). It is used for both telephony and computer technology.
Information Communications Technology	ICT	An umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them.
Internet Service Provider	ISP	A company that provides individuals and other companies' access to the Internet and other related services such as web site building and virtual hosting.
Internet Protocol	IP	The method or protocol by which data is sent from one computer to another on the Internet.

Overview: Arts and Culture

Arts and cultural sectors are considered to be essential components of Western Australia's lifestyle. These sectors contribute to opportunities for community to participate in a full and rich society. Arts play a key role in shaping and enriching the Western Australian cultural landscape and add to the lifestyle choices that everyday Australians are able to make.

The arts and cultural sector is a mixture of small or micro businesses combined with large media enterprises.²⁰ There is generally a high level of contract, casual and volunteer employment, which is often project based on an on-demand, as-needed basis and is therefore somewhat tenuous.

IBSA Environmental Scan 2010 Sectoral report - Cultural & Creative Industries highlights;

Estimating the size of the Cultural and Creative Industries workforce is not a straightforward process as the industries are not fully captured by ABS data. Large numbers of cultural and creative workers are employed within other industries in crucial enabling functions of design, innovation, records management and communication.²¹

These factors present unique challenges for workforce planning in these sectors. There are vast shortcomings in the available employment data collected by the ABS. Data is based on ongoing employment. The notion of a broad education or training in the arts and cultural industries has been seen for generations as a useful way to establishing future career and life opportunities.

ABS Census data (2006) indicates 3.8% of the Australian workforce, 3.0% of the Western Australian workforce is employed in Cultural Industries.²²

There is a likelihood the size of the Creative Industries workforce has been underestimated as there is a difference between the way individuals view themselves and the way they are categorised through data collection.²³

This method of capturing employment numbers may not give a true representation of people working in *creative industry* positions. These positions may be within other industry sectors. (e.g. a graphic designer employed in an administration role, designing corporate/business promotional and communication products).

ANZSIC Categories

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Arts and Culture:

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Arts and Cultural Employment			
DIVISION R	ARTS AND RECREATION SERVICES		
Subdivision	89 Heritage Activities		
Group		891 Museum Operation	
Class			8910 Museum Operation
Subdivision	90 Creative and Performing Arts Activities		
Group		900 Creative and Performing Arts Activities	
Class			9001 Performing Arts Operation
Class			9002 Creative Artists, Musicians, Writers and Performers

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Arts and Cultural Employment			
Class			9003 Performing Arts Venue Operation
DIVISION M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES		
Subdivision	69 Professional, Scientific and Technical Services (Except Computer System Design)		
Group		699 Other Professional, Scientific and Technical Services	
Class			6991 Professional Photographic Services
DIVISION J	INFORMATION MEDIA AND TELECOMMUNICATIONS		
Subdivision	55 Motion Picture and Sound Recording Activities		
Group		551 Motion Picture and Video Activities	
Class			5511 Motion Picture and Video Production
Class			5512 Motion Picture and Video Distribution
Class			5513 Motion Picture Exhibition
Class			5514 Post-production Services & Other Motion Picture & Video Activities
Group		552 Sound Recording and Music Publishing	
Class			5521 Music Publishing
Class			5522 Music and Other Sound Recording Activities
Subdivision	56 Broadcasting (except Internet)		
Group		561 Radio Broadcasting	
Class			5610 Radio Broadcasting
Group		562 Television Broadcasting	
Class			5621 Free-to-Air Television Broadcasting
Class			5622 Cable and Other Subscription Broadcasting
Subdivision	60 Library and Other Information Services		
Group		601 Libraries and Archives	

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Arts and Cultural Employment

Class			6010 Libraries and Archives
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ANZSCO Classifications

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of Arts and Culture is as follows:

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of Arts and Cultural Employment

2111	Actors, Dancers and Other Entertainers
2112	Music Professionals
2113	Photographers
2114	Visual Arts and Crafts Professionals
2121	Artistic Directors, and Media Producers and Presenters
2122	Authors, and Book and Script Editors
2123	Film, Television, Radio and Stage Directors
2124	Journalists and Other Writers
2246	Librarians
2324	Graphic and Web Designers, and Illustrators
2726	Welfare, Recreation and Community Arts Workers
3993	Gallery, Library and Museum Technicians
3994	Jewellers
3995	Performing Arts Technicians
4514	Gallery, Museum and Tour Guides
5997	Library Assistants
6394	Ticket Salespersons
7114	Photographic Developers and Printers

The development of Creative Industries also has an important impact on demand for other business and financial services. Creative and related industries skills are used by education providers (e.g. librarian assistants), hospitality businesses (e.g. staging and lighting) and tourism businesses (e.g. live performances).

This embedding of 'creatives' across a broad range of industry sectors highlights the underpinning of creative skills and workers in Western Australian businesses and how these skill sets become absorbed into employment positions not strictly deemed or perceived as 'creative'.

Overview: Information and Communications Technology

The *Information and Communications Technology (ICT)* label is often used to describe a range of occupations from those solely involved with the provision of ICT goods and services, to auxiliary roles such as technical support, trainers and researchers. ICT is a large and diverse sector and advances in digital technology make it subject to more rapid change than any other.

As identified in the Australian Computer Society's *ICT Statistics Compendium*²⁴, broad ICT employment occurs in the following groupings:

- the providers of ICT goods and services (usually called the ICT Industry)
- the purchasers and users of ICT goods and services, including the government and private sectors who also employ a large number of specialists to help them apply their ICT purchases
- the trainers, teachers and researchers into ICT who generally (but not always) operate within the universities and colleges
- people who provide technical support to ICT, but who might, more properly, be categorised as electrical or electronics specialists
- people working in call-centres, or in desktop publishing and graphic design

According to the Australian Computer Society, "a particular problem for ICT statistics is that the ICT industry is not recognised as such within official Australian Government labour market and other statistical data as there is no such designation in ANZSIC at any level".²⁵

ANZSIC Categories

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Information and Telecommunications Technology:

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of ICT Employment			
DIVISION J	INFORMATION MEDIA AND TELECOMMUNICATIONS		
Subdivision	57 Internet Publishing and Broadcasting		
Group		570 Internet Publishing and Broadcasting	
Class			5700 Internet Publishing and Broadcasting
Subdivision	58 Telecommunications Services		
Group		580 Telecommunications Services	
Class			5801 Wired Telecommunications Network Operation
Class			5802 Other Telecommunications Network Operation
Class			5809 Other Telecommunication Services
Subdivision	59 Internet Service Providers, Web Search Portals & Data Processing Services		

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of ICT Employment			
Group		591 Internet Service Providers and Web Search Portals	
Class			5910 Internet Service Providers and Web Search Portals
Group		592 Data Processing Web Hosting & Electronic Info Storage Services	
Class			5921 Data Processing and Web Hosting Services
Class			5922 Electronic Information Storage Services
Subdivision	60 Library and Other Information Services		
Group		602 Other Information Services	
Class			6020 Other Information Services
DIVISION M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES		
Subdivision	70 Computer System Design and Related Services		
Group		700 Computer System Design and Related Services	
Class			7000 Computer System Design and Related Services

ANZSCO Classifications

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of Information and Telecommunications Technology is as follows:

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of ICT Employment.	
2252	ICT Sales Professionals
2324	Graphic and Web Designers, and Illustrators
2611	ICT Business and Systems Analysts
2612	Multimedia Specialists and Web Developers
2613	Software and Applications Programers
2621	Database and Systems Administrators and ICT Security Specialists
2631	Computer Network Professionals
2632	ICT Support and Test Engineers
2633	Telecommunications Engineering Professionals
3123	Electronic Engineering Draftpersons and Technicians

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of ICT Employment.

3124	Electronic Engineering Draftpersons and Technicians
6212	ICT Sales Assistants
3131	ICT Support Technicians
3132	Telecommunications Technical Specialists
3423	Electronics Trades Workers
1351	ICT Managers
2232	ICT Trainers
2247	Management and Organisation Analysts
2249	Other information and Organisation Professionals

All businesses depend on ICT skills, required for information, communication, infrastructure and systems. ICT is heavily utilised and depended upon in Western Australia's growth industries such as manufacturing, mining, finance and business services.

IBSA Environmental Scan 2010, Sectoral report - ICT Industry 2010 highlights:

The ICT industry is a major employer, but ICT companies employ only 50% of the total ICT workforce. ICT technical and professional workers are employed in all other industries. By the broadest definition, ICT employment accounts for nearly 5.5% of total Full Time Equivalent (FTE) employment in Australia, more than many other Australian industries.

Rapid development and growth of ICT sectors and new technology will significantly influence Western Australian business by driving the integration of ICT skills, contributing to technological and communications advancement, and offering infrastructure and support skills required in this new digital economy.

Overview: Printing

The printing and graphic arts sector is a major manufacturing force in Australia and its products are used by all industry sectors.

As defined by *IBSA Sectoral Report - Printing and Graphic Arts Industry 2010*, this manufacturing industry has two distinct sectors:²⁶

- Production
- Supply

Printing and Graphic Arts Industry	
Production	Supply
Binding and Finishing Cartons and Corrugations Sacks and Bags Graphic Design Publishing Mailhouse	Ink Manufacture Graphic Media - including paper and consumables Engineering Management Information Systems

Source: *IBSA Sectoral report Printing and Graphic Arts Industry 2010*

According to *IBSA's 2009 E-Scan*²⁷ there are two distinct printing industry segments:

- Heavy Printing: industrial scale printing plants for the production of large print runs.
- Small-Scale Specialised Printing: using digital offset machinery.

Enhanced printing technology and economies of scale no longer act as a barrier of entry to the industry, widening opportunities for the small scale and digital types of print business.

Printing and Graphic Arts are all activities that incorporate design through to the production of products partnered with the sophisticated range of computer-managed printing machinery used to create everything from books, brochures, newspapers, magazines, food labelling and product packaging.

ANZSIC Categories

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Printing:

The Australian New Zealand Standard Industrial Classifications (ANZSIC) Categories of Printing industry employment			
DIVISION C	MANUFACTURING		
Subdivision	16 Printing (including the production of recorded media)		
Group		161 Printing and Printing Support Services	
Class			1611 Printing
Class			1612 Printing Support Services

ANZSCO Classifications

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of Printing is as follows:

The Australian New Zealand Standard Classification of Occupations (ANZSCO) '4 Level' Classification of Printing employment	
8995	Printing Assistants and Table Workers
3921	Binders, Finishers and Screen Printers
3922	Graphic Pre-press Trades Workers
3923	Printers

IBSA Environmental Scan 2010, Sectoral report - Printing and Graphic Arts Industry 2010 highlights:

The Printing and Graphic Arts industry is a small, but critical sub-sector, enabling industry supporting the operations of businesses and organisations across all sectors. It is, however, one of the largest manufacturing sectors in Australia, employing more than 115,000 people.²⁸

The supply of products and services to all business sectors presents printing and graphic arts as a supporting sector aligned and linked to other industries. Likewise the embedding of printing and graphic arts skills in businesses not included in the print sector such as advertising firms, legal firms and businesses that used high volume printed material, indicates the critical aspect of this sector.

This support and underpinning of all *other* sectors demonstrates the broad application, distribution of printing and graphic arts within businesses and the Western Australian economy.

Workforce Development Planning

According to IBSA's Environmental Scan 2010, key workforce development themes shared by all of the Creative Industries are: sustainability, productivity, innovation and the effects of the digital economy.

These shared drivers highlight the need for closer integration of ICT, business, creativity and design capabilities and alert us that adaptability and skills in leadership, business planning and risk management are also critical to successful businesses of the future.

Innovation and Business Skills Australia's Environmental Scan consultations have also identified a crucial role for the Vocational Education and Training (VET) system and workforce development planning in:

- delivering flexible training with clear pathways into industry and higher education;
- focusing on successful outcomes for the learner/employer;
- providing greater responsiveness to individual business needs; and
- building the foundation skills of the workforce – literacy, numeracy and basic business skills as a solid base for further skill development.²⁹

Innovation and Business Skills Australia conducted industry consultation groups and surveys to determine the workforce development needs of the Creative Industries. Identified workforce development needs from the IBSA 2010 EScan are shown in the following three tables;

Identified Workforce Development Needs – Arts and Cultural Industries		
Workforce Development Challenge	Impact on	Critical Future Skills
The speed of technological change	<ul style="list-style-type: none"> • Content developers • Video production • Television and radio • Performing and visual artists • Musicians • Libraries and information services 	<ul style="list-style-type: none"> • Intellectual Property (IP) protection and copyright • Converging technologies • Internet and digital business skills
Environmental sustainability	<ul style="list-style-type: none"> • Entertainment venues • Museums / Galleries • Libraries and information services • Screen, television and radio • Artists and designers • Glass blowing • Kiln operators 	<ul style="list-style-type: none"> • Carbon auditing and bookkeeping • Use of energy efficiency solutions • Waste management
Changing business and employment structures	<ul style="list-style-type: none"> • Film and television • Performing arts • Visual arts • Music education • Museums and libraries 	<ul style="list-style-type: none"> • Knowledge management • Communications and customer relations • Business planning • Building community partnerships
The global economy and business pressures	<ul style="list-style-type: none"> • All sectors reliant on public funding and / or exposed to global competition 	<ul style="list-style-type: none"> • Business management • Negotiation and collaboration • Licensing • Marketing and commercialisation

Source: IBSA Environment Scan 2010

Identified Workforce Development Needs – Information and Communication Technology Industry		
Workforce Development Challenge	Impact on	Critical Future Skills
National Broadband Network rollout	<ul style="list-style-type: none"> • Telecommunications workers (cableers) • Network engineers • ICT professionals supporting the installation and use of broadband technologies 	<ul style="list-style-type: none"> • Knowledge and safety skills for fibre optic cables • User interface implementation and support, including customisation of off-the-shelf products to support e-commerce and transactional services • Small office and home office network support • Administration of cloud computing applications
Digital switchover	<ul style="list-style-type: none"> • Digital television installers • Software developers 	<ul style="list-style-type: none"> • Programming and systems design for wireless devices • Implementation and support of wireless technologies
Emergence of the digital economy	<ul style="list-style-type: none"> • ICT occupations supporting the integration of ICT into other industries 	<ul style="list-style-type: none"> • Mobile applications and software development • Business continuity / security • Data farms / servers and data consolidation • Adaptability to diverse industries and contexts
Environmental sustainability	<ul style="list-style-type: none"> • IT services • Systems integration • Software support • Wholesale and retail distribution and manufacture of ICT products and components 	<ul style="list-style-type: none"> • ICT sustainability planning • Green auditing, monitoring and reporting • Energy efficiency planning, installation and management • E-waste management • Potential implications of a carbon pollution reduction scheme • Standards and targets that may be adopted for green technology

Source: IBSA Environment Scan 2010

Identified Workforce Development Needs – Printing and Graphic Arts Industry		
Workforce Development Challenge	Impact on	Critical Future Skills
Environmental sustainability	<ul style="list-style-type: none"> All sectors within the industry 	<ul style="list-style-type: none"> Environmental certification ISO quality audit processes
Speed of technological change	<ul style="list-style-type: none"> All sectors within the industry 	<ul style="list-style-type: none"> Advanced computer and IT skills New equipment and processes in digital printing
Structural change in the industry	<ul style="list-style-type: none"> All sectors within the industry 	<ul style="list-style-type: none"> Marketing, communications and customer relations. Design and creativity
An ageing workforce	<ul style="list-style-type: none"> All sectors within the industry – especially traditional production side sectors 	<ul style="list-style-type: none"> Succession planning and exit strategies New business models and processes
Limited industry attractiveness of potential workforce entrants	<ul style="list-style-type: none"> All sectors within the industry 	<ul style="list-style-type: none"> Workforce planning Identification and promotion of career pathways
Lack of a post entry training culture	<ul style="list-style-type: none"> All sectors within the industry 	<ul style="list-style-type: none"> Workforce development planning Ability to identify return on investment from training

Source: IBSA Environment Scan2010

Size and Distribution – Creative Industries

Australia

In 2007, there were around 107,000 businesses operating in the Creative Industries. While this has been broadly steady over recent years, the Creative Industries have higher entry and exit rates than the average over the wider economy.³⁰

The Australian Bureau of Statistics Survey of *Work in Selected Culture and Leisure Activities* states:

- 183,200 people were involved in teaching at least one of the creative arts (radio; television; film and video; music and performing arts; art and craft; writing and publishing; and design) in the 12 months to April 2004.
- The majority of those teaching creative arts were female (63%).³¹

Close to 75,000 people employed in cultural occupations in Australia were born overseas.³²

Around 2.5% of all employed Aboriginal people in Australia worked in cultural occupations as their main job in 2006.³³

The telecommunications sector in Australia employs several hundred thousand people.³⁴

Western Australia and Perth

Western Australia is the largest and the fastest growing Australian State with a population of growth rate of 2.9% (at end Sept qtr 2009, ABS), cultural employment is nearly twice as high in Perth as it is in the rest of the state.³⁵

In Western Australia, 337 Aboriginal people were employed in a cultural occupation as their main job in 2006, representing 2.2% of all employed Aboriginal people in Western Australia.

The report by the City of Perth, *Perth's Creative Industries - An Analysis 2007* surveyed metropolitan Perth (the entire Perth region including, but not confined to, the City of Perth LGA), found:

- Based on April 2006 data, the Creative Industry workforce has grown at more than four times the rate (7.3%) of the state's total workforce (1.8%) with the largest employing Creative Industry segment being software.
- Metropolitan Perth's Creative Industries have an average annual growth in excess of 5% with particularly strong growth in software and music.
- In April 2006 there were 11,000 Creative Industry businesses registered for GST and a high number of entities not registered for GST, i.e. sole traders, micro-businesses and 'hobbyists'. Design and visual arts with its strong sole practitioner focus, shows good employment and non GST enterprise density growth, but no growth in the density of GST registered firms.
- Film TV and radio have consistency in employment and business growth averaging around 2.5% while music and performing arts, software and Interactive media and general creative arts show high employment density growth but low growth in the density of GST registered firms.
- Software and interactive media development accounts for one half (50%) of Perth's Creative Industries.
- The mining industry's workforce consists of 2.3% 'embedded' creative occupations.

Incomes and Employment in Western Australia Labour Force and Employment by Industry			
Total Labour Force 2008/2009		Employment by Industry 2006	
		Information Technology	Arts and Recreation Services
Gascoyne	5,068	0.5%	0.80%
Goldfields - Esperance	29,609	0.80%	0.70%
Great Southern	31,115	0.70%	0.70%
Kimberley	14,606	1.10%	0.90%
Mid West	25,148	0.70%	0.60%
Peel	44,775	1.00%	1.20%
Pilbara	22,897	0.40%	1.40%
South West	82,569	0.80%	0.80%
Wheatbelt	38,625	0.40%	0.50%
Regional WA	294,410	0.70%	0.80%
Perth	865,058	1.50%	1.40%
Total WA	1,159,468	1.30%	1.20%

Source: *Incomes and Employment 2006-2009 Statistical Snapshot*, Western Australian Department of Regional Development and Lands³⁶

Measuring the Creative Industries

Measuring and documenting Western Australia's Creative Industries workforce presents challenges when collecting data, given the overlapping and embedded nature of this workforce within other industry sectors.

As outlined in Dr Dawn Bennett's paper *Creative ex-pats: Globalisation and Creative Communities:*

Leading cultural economist David Throsby's (2008) report encompassed the 53,000 people identified within the 2006 national census as working within the production or creation of art, and acknowledged that census data probably underestimates the artist population by over 50%.³⁷

The ambiguity of data collection in the Creative Industries makes it problematic to gauge a true representation of this demographic.

The 'Creative Trident' as defined in *Australia's Creative Economy: Definitions of the Segments and Sectors by ARC Centre of Excellence for Creative Industries & Innovation³⁸* measures the Creative Industries' impact on the broader economy by including both specialist creative industry activity and creatives employed in other sectors in the economy.

It includes three categories:

- Creative occupations within the core creative industries (specialist creatives)
- Creative occupations employed in other industries (embedded creatives)
- Non-creative occupations employed in the creative industries (support workers)

ARC Centre of Excellence for Creative Industries and Innovation recommends Australia use international comparative measures.³⁹

The ARC's, *Creative Trident* format was used in Western Australia's Department for Culture and the Arts statistical snapshot *Arts and Culture in Australian Life* found that in 2006:

- 473,552 people had their main job in the cultural industries in Australia and;
- 40,304 people were employed in cultural activities as their main job in Western Australia (approximately 2%).⁴⁰

People Employed in Cultural Activities as their Main Source of Employment			
Occupation and Industry	Number Employed in Australia	Number Employed in WA	WA as a % of Australia
Cultural occupation in a cultural industry	157,191	12,214	8%
Cultural occupation in a non-cultural industry	127,602	12,419	10%
Non cultural occupation in the cultural industry	188,759	15,671	8%
Total number employed in cultural industries:	473,552	40,304	9%

Source: DCA – Statistical Snapshot Arts and Culture in Australian Life

The Five Largest Groups Per Number Employed In The Australian Cultural Sector In 2006 (DCA 2008)	
Cultural Industry Sectors	Number of People Employed
Design workers	59,336
Architects and urban planners <i>*note: this sector is not included in the 'Creative Industries' for the purpose of this workforce development plan.</i>	32,037
Printing workers	31,077
Library and archive workers	25,739
Writers and print media workers	23,765

Source: DCA – Statistical Snapshot Arts and Culture in Australian Life

There is a lack of Western Australian data for the Creative Industries. In order to truly gauge our creative economy and creative workforce, uniform measurement systems must be used to capture data with international comparative measures including:

- Value Chain – pre-creation, creation, realisation, consumption of content and post-sale;
- Creative Economy employment for both industries and occupations;
- Broader estimate of creative employment to include specialist creatives, support workers and embedded creatives;
- Measure social and economic role of creativity; and
- Measure voluntary exchange markets.

Western Australia's Creative Industries is growing, however measuring this industry and its sectors is problematic as 'creatives' are embedded in all industries and are not stand alone. This makes it challenging to gauge the actual size and distribution of the Western Australian Creative Industry workforce.

Viewing the creative economy from both an industry and occupational perspective can contribute to mapping the creative economy with a cross-classification of employment by segment, sector, industry and occupation. This allows broad classes of employees to be included in an estimate of the creative workforce.¹⁰

Measuring Western Australia's creative workforce, including specialist creatives, support workers in the Creative Industries and creatives embedded in other industries⁴¹ will provide an accurate and meaningful picture of this industry.

Demographics of Workforce – Creative Industries

Population and Population Density

IBISWorld estimates there were around 317,000 people (Australia wide) employed in Creative Industries in 2007-08, and employment in Creative Industries grew at an average annual pace of 3.0%, slightly faster than total employment growth of 2.8%. Employment grew relatively strongly in film, television and radio and software development and interactive content segments.⁴²

The *Creative Industries Economic Analysis*⁴³ uses the creative trident method to measure the Australian creative workforce. This includes creatives embedded in non-creative industries. This alters the estimate of the creative workforce significantly and reveals that less than half of the people in creative occupations are employed in creative industries. This method equates to:

- an embedded creative workforce of 1.7%; and a
- a creative occupations total of 4.8% at 2006.

The Report *Perth's Creative Industries - An Analysis 2007* survey results of Creative Industries within the Metropolitan Perth states, "Metropolitan Perth's Creative Economy represents approximately 5.2% of total employment and 8.6% of all enterprises. Software and Interactive Media Development accounts for one half (50%) of Perth's Creative Industries".⁴⁴

Gender

In Australia the Creative Industries workforce predominately comprises of 54.7% male workers (ABS 2006 Census data).⁴⁵ Distribution of gender within creative industry sectors varies considerably and the generalisation across sub sectors does not show this important demographic detail. For example: 90% of telecommunications workers are male (2006), while 85% of library workers are female (2006).⁴⁶

Age Profile

The ageing workforce demographic is affecting the Western Australian Creative Industries. Commentator and advisor to corporate Australia on consumer, cultural and demographic trends Bernard Salt highlights:

2011 will see, for the first time in Australia's short history, more workers being eligible to leave the workforce than those over 15 who are eligible to enter.

Population and workforce ageing presents challenges for Australia and other OECD countries. As documented by Innovation and Business Skills Australia's Environmental Scan 2010⁴⁷, industries which respond with greater flexibility will find benefits in workforce attraction and retention. Effective approaches for re-skilling and retaining older workers will be required in most of the Creative Industries but particularly in the printing sector, the libraries sector, and the telecommunications sector.⁴⁸

The IBSA's Escan survey found that 56% of respondents said it was not easy to move quickly to adjust staff numbers to suit business changes. Employers in some sectors, notably music education, museums and libraries, reported the ageing of Australia's population was having an impact with the imminent retirement of a large cohort of highly skilled workers. Employers will need to find mechanisms to retain knowledge within their organisations.⁴⁹

The demographic cohort that is 'Generation-Y' is key to the ageing workforce problem. Many members of Generation-Y have chosen to delay commencing a full time career longer than any generation before them. Highlighted in the report *New Generations at Work: Attracting, Recruiting, Retraining & Training Generation Y* by McCrindle Research:

Those aged 20-24 are three times more likely to change jobs in a year than those aged 45-54. Nearly 1 in 4 of those aged 20-24 change jobs in any given year. Generation-Y are still an enormous generation comprising more than 1 in 5 Australians or 4.2 million.⁵⁰

The age profiles of Creative Industries sectors and occupations vary significantly, however ageing population is being felt most severely in sectors that where new entrants to the workforce were limited.⁵¹ In Western Australia this has occurred for a variety of reasons including reduced training opportunities (e.g. telecommunications) and limited opportunities or attractiveness of the industry (e.g. printing).

This ageing workforce will see a significant increase in the participation of women in the workforce, and part-time and casual workers driving the development of significantly more flexible workplaces.

Work Hours

Financial reasoning will influence women participating in the ageing workforce and will impact workplace structure. The most common work pattern for women is broken employment periods with some part-time work, while the most common pattern for men is continued full-time employment. A sufficient amount of superannuation to live on is much more likely to be accumulated by men than women.⁵²

Monash forecasts a rise in the share of part-time work and lower average hours worked. This is because participation rates for mature-aged workers are projected to rise and mature-aged workers have a greater tendency to work part-time hours than workers aged 25 to 44 years.

Demographics: Arts and Culture

Arts and culture employment opportunities can be limited in some sectors of the arts and cultural industries. Work is often part time, casual or project based.

Australia: Arts and Culture Sector Demographics

A thriving cultural industry is vital in maintaining Australia's unique cultural identity, especially in the global context. However, due to society's general undervaluing of all cultural activities, this makes it extremely difficult for most artists to generate sufficient income to work in their chosen area of interest, skill or expertise on a full-time basis. Many individuals therefore work full or part-time in other areas (including teaching) to supplement any actual or potential arts-related income.⁵³

Libraries and Museums – In Australia 87% of libraries employ between 0-19 employees, while 13% employ between 20-199 staff with no establishments exceeding 200 staff. 63% of Library staff work full-time.⁵⁴ Australian Museums comprise of about 1,193 enterprises and employ about 7,769 employees representing 1.6% of the Australian workforce.⁵⁵

Creative and Performing Arts - Employment in this sector is difficult to measure given the high degree of casualisation and part-time nature of the workforce.

Industry employment is approximated by converting the industry wage amounts estimated into full time equivalent (FTE) workers and averaging labour costs per FTF staff. Applying this estimate, total employment in this sector amounts to around 13,819 full-time equivalent workers.¹⁶⁰

Work Hours

In Australia, about 64% of those employed in cultural occupations as their main source of employment worked full time (35 hours or more in the week prior to the Census 2006).

In 2006, of people employed in cultural occupations:

- 63.8% (181,652) worked at least 35 hours per week;
- 19.0% (54,191) reported that they worked between 16 and 34 hours; and
- 12.1% (34,584) worked between 1 and 15 hours.

Therefore about 31.2% of those employed in a cultural occupation worked part-time compared to Australia's total part-time workers of 29.5%.⁵⁶

Part-time and casual workers in Australia are without leave entitlements. According to *ABS Forms of Employment, Australia* (November 2009), one in five, or 20% of Australian workers were casual employees and they did not have paid holiday or sick leave entitlements. 32% of people employed in Arts and Recreation services did not have paid leave entitlements.⁵⁷

Gender

The number of females employed in the creative arts is growing. IBISWorld Industry Report, *Creative Arts in Australia 2010* indicates the number of females employed in cultural occupations increased 10.8% over five years to 2006, but the number of males increased only 3.6%.⁵⁸

The ABS census data 2006 showed 25,739 people were employed as library and archive workers of which 85% were female.⁵⁹

Volunteers

Volunteer work within this sector is high and is associated with people's value of art and culture in the community. An estimated 2.4 million Australians aged 15 years and over were involved in some form of unpaid work in culture and leisure activities during a period of 12 months in 2007. This high level of voluntary involvement in the Cultural and Creative Industries demonstrates the importance to Australian social and cultural life beyond the generation of income.⁶⁰

There were around 7,000 volunteers working in the library sector, performing around 65,000 hours of unpaid work in 2007-2008. This equated to one volunteer worker for every two paid employees.⁶¹

Volunteers are high contributors in the museum and art gallery sector. According to an ABS industry survey during the year 2007-08 in Australia:

- Social History Museums employed a total of 1,886 paid staff and 12,752 volunteers equalling 267,762 hours worked over the year.
- Art Galleries/Museums employed 2,509 paid staff and 3,741 volunteers equalling 58,364 hours.
- Historic Properties/Sites employed 1,411 paid staff and 4,898 volunteers equalling 79,561 hours.
- 'Other' Classified Museums employed 2,050 paid staff and had access to 2,035 volunteers, who worked a combined 39,062 hours.⁶²

Western Australia: Arts and Culture Sector Demographics

In 2007 11% of Western Australians were employed in 'craft' and 8.9% in 'music'.⁶³

There is a below average share of artists in Queensland and Western Australia. This may be related to Federal and State Government cultural expenditure. Additionally this reflects the availability of arts training and education facilities.⁶⁴

Western Australia has 9% of the national library workforce.⁶⁵ IBISWorld believes the number of libraries will grow in Western Australia as the population in the regions increases.⁶⁶

Australian School Libraries Report states, Western Australia has no or limited (<1.0 FTE) professional staff in their libraries. Western Australia reported lower numbers of Teacher Librarians employed and high numbers of para-professional staff such as Library Officers.⁶⁷

The arts and culture sectors are heavily reliant on volunteers for support. This high level of volunteering demonstrates the value of arts and culture in the community.

There is a high level of female participation in this sector. This may be due to the flexible part-time nature of this industry.

Many workers are employed on a casual or part-time basis resulting in a population without employment benefits such as superannuation. Supplemental employment in other industries is common for individuals to support their practice of arts and culture.

Demographics: Information and Communications Technology

As described in the Information and Communications Technology Training Package (ICA05)⁶⁸, ICT has truly become 'all pervasive' and is fast becoming the 'new literacy' as ICT competencies are increasingly necessary for effective participation in business and modern society.

Australia: ICT Sector Demographics

*The IBSA Sectoral Report - ICT Industry 2010*⁶⁹ reveals ABS survey results (2007-08) that across Australia, almost one quarter (22.5%) of all businesses, and 88.1% of large businesses (with more than 200 people) employed IT specialists.

The survey found that the construction industry is the least likely to employ IT specialists (13.6%) and that the mining (52.4%) and financial and insurance services (50.5%) industries were most likely to use contractors or consultants for IT support.⁷⁰

As cited in *The IBSA Sectoral Report - ICT Industry 2010 (page 4)*⁷¹:

The ICT industry is estimated to have generated revenue of more than \$85 billion in 2008-09 including some 30,000 companies, and is characterised by a large number of small businesses employing around 20% of the industry's workers, and a small number of much larger organisations employing a large proportion of the ICT industry workforce.

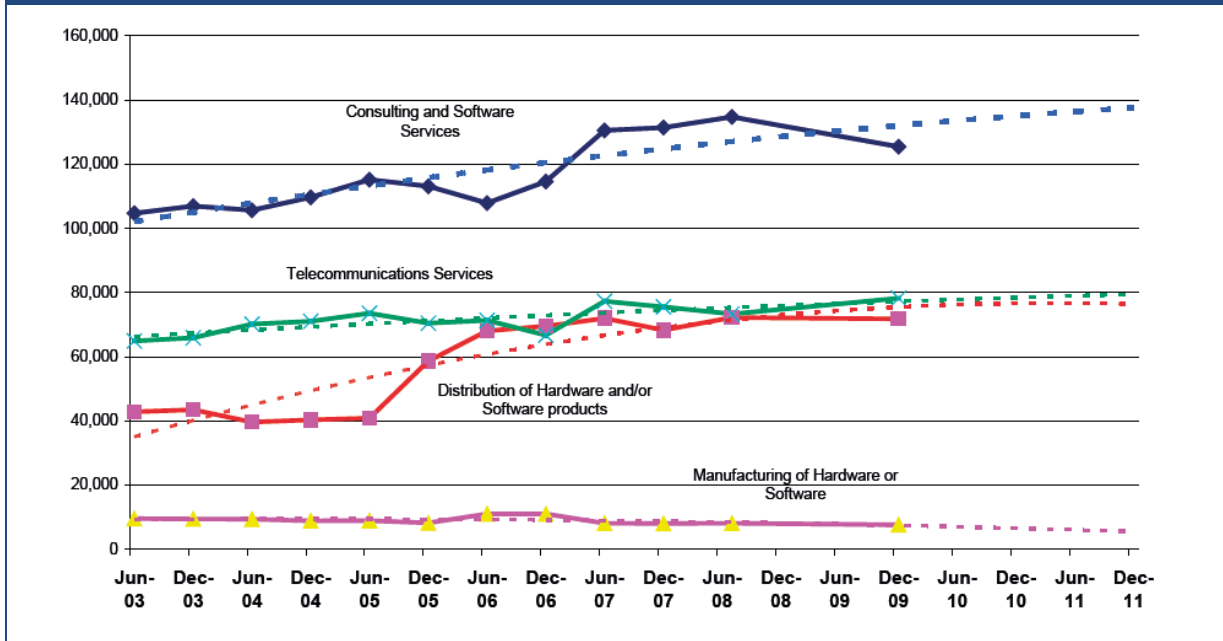
The Internet Service Provider sector employed 3.5% of the Australian workforce in 2009/10 growing 1.6% on 2008/09 figures. Internet services include the provision of dial-up and fixed broadband connections and may provide support services including web page hosting, web development, domain services, intranets development and administration, and e-commerce based services.⁷²

By the end of 2009-10, Internet Service Provider sector employment will increase by 19.7% to 7,522 people. Part of the employment increase will represent the beginning of the massive National Broadband Network (NBN) project.⁷³

ICT Industry by State ⁷⁴					
FTE Workforce	Consulting and Software Services	Manufacturing	Distribution of Hardware and/or Software products	Telecommunications Services	Total
NSW	47 930	2 903	35 010	29 515	115 357
VIC	37 235	1 805	24 413	22 179	85 631
QLD	17 290	883	5 786	10 599	34 558
WA	10 227	314	3 472	7 769	21 783
SA	3 461	1 482	1 725	5 387	12 055
ACT	6 657	122	898	821	8 498
TAS	1 954	56	276	1 360	3 647
NT	614	90	193	333	1 230
TOTAL	125 368	7 654	71 774	77 963	282 759
% of Total	44.3%	2.7%	25.4%	27.6%	

Source: *CIER Whitehorse Top 250 ICT industry analysis by state and territory Dec 2009*, by ICT industry grouping.

Line Graph: Employment Structure of the Australian ICT Industry 2003-2009



Source: Australian ICT Statistical Compendium 2010. Data; Centre for Innovative Industry Economic Research Inc.⁷⁵

Age Profile

The median age for occupations within the ICT sector in February 2009 ranged from 28 years for ICT sales assistants up to 47 years for telecommunications technical specialists.

The telecommunications component of the ICT workforce is generally older than the industry average of 39, while IT occupations generally have a younger workforce.

Software and applications programmers are younger while telecommunications workers are older – particularly for telecommunications technical specialists.⁷⁶

Age Demography of ICT Workers⁷⁷

ANZSCO Job-type	% over 40	% over 55	Total	Median Age
3420 Electronics and Telecommunications Trades Workers (nfd)	100.00%	48.33%	1 045	53.54
2232 ICT Trainers	75.00%	24.58%	4 740	46.20
3132 Telecommunications Technical Specialists	87.18%	0.00%	3 954	45.26
2247 Management and Organisation Analysts	54.25%	19.39%	50 576	41.92
2249 Other Information and Organisation Professionals	51.10%	15.26%	14 375	40.73
1351 ICT Managers	53.23%	8.29%	43 771	40.35
2600 ICT Professionals (nfd)	50.98%	15.11%	13, 72	40.21
3424 Telecommunications Trades Workers	47.67%	6.25%	13 957	39.12
2633 Telecommunications Engineering Professionals	42.41%	6.90%	8 524	38.28
2611 ICT Business and Systems Analysts	40.71%	7.51%	22 010	38.06
3131 ICT Support Technicians	39.66%	11.33%	48 374	37.95

Age Demography of ICT Workers ⁷⁷				
ANZSCO Job-type	% over 40	% over 55	Total	Median Age
2632 ICT Support and Test Engineers	47.61%	1.57%	9 199	37.83
2621 Database and Systems Administrators, and ICT Security Specialists	39.14%	6.47%	41 817	37.66
2252 ICT Sales Professionals	38.69%	10.33%	12 216	37.61
2613 Software and Applications Programmers	38.19%	6.03%	74 565	37.44
2631 Computer Network Professionals	34.06%	3.53%	23 629	36.40
6212 ICT Sales Assistants	27.94%	7.60%	21 921	34.44

Gender

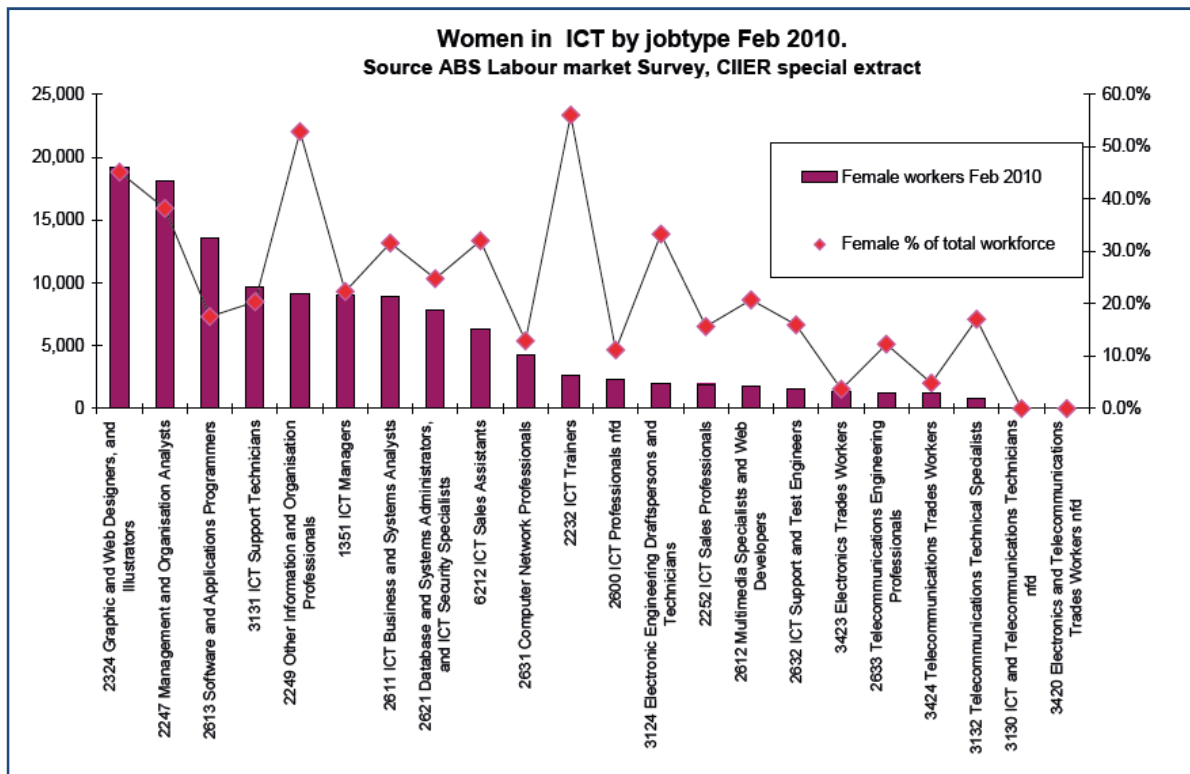
The *IBSA ICT Sectoral Report* shows, in August 2009 Australia wide nearly 29% of ICT managers were female, exceeding the overall level of female participation of 22.9%.⁷⁸

However the *ACS Australian ICT Statistical Compendium (2010)* shows a total of 23.5% of total female ICT employment across all industries in Australia.⁷⁹

Female to male proportionality is also higher in the soft-skills occupations, with ICT trainers, management and organisational analysts and graphic and web designers having the highest female percentages, whilst electronics and telecommunications trades workers are predominately male.⁸⁰

Australian Female ICT Managerial, Professional, Technical, and Trade Employment FTE Feb 2010 by Industry	Female ICT Employment	Female % of total ICT Employment
Professional, Scientific and Technical Services	40 128	21.6%
Public Administration and Safety	15 656	32.0%
Information Media and Telecommunications	12 864	20.3%
Financial and Insurance Services	12 536	30.3%
Health Care and Social Assistance	6 883	63.5%
Education and Training	5 741	25.0%
Manufacturing	5 679	20.6%
Wholesale Trade	5 004	21.5%
Retail Trade	4 715	16.7%
Electricity, Gas, Water and Waste Services	3 077	37.4%
Other Services	2 498	13.4%
Arts and Recreation Services	2 316	36.3%
Administrative and Support Services	1 305	16.1%
Transport, Postal and Warehousing	1 147	15.1%
Mining	496	17.4%
Rental, Hiring and Real Estate Services	359	48.6%
Accommodation and Food Services	0	0
Agriculture, Forestry and Fishing	0	0
Total for All Industries	122 797	23.5%

Source: *Australian ICT Statistical Compendium 2010, Feb 2010, ABS Labour market Survey, CIIER special extract.*⁸¹



Source: *Australian ICT Statistical Compendium 2010*⁸²

Western Australia: ICT Sector Demographics

According to *The Centre for Innovative Industry Economic Research*⁸³ Western Australia's growth in ICT was driven by increasing demand for ICT services in the construction and mining industries.

This is also supported by the *Australian Computer Society, 2009 Remuneration Survey Report*.⁸⁴ The report shows that Western Australia's private sector demand for ICT workers is significantly higher than other states and the public sector within Western Australia. Industry competition and demand for skilled ICT workers driven by the mining sector seems to be influencing remuneration in Western Australia.

IBISWorld reports Western Australia has seen its household broadband internet penetration surge over the past three years. In 2007-08, penetration rates reached 54%, up from 30%.⁸⁵

Employment in Western Australia in 2009 of Computer Maintenance Services employees including repair of computer peripheral equipment, maintenance service and computer repair services was 8.8%.⁸⁶

IT Consultants employed in Western Australia in 2009 were 6.4% of the national figure. IT Consultants provide expert advice and assistance in the fields of writing, modifying, testing, and supporting software to meet the needs of a particular customer.⁸⁷

The *Centre for Innovative Industry Economic Research Inc.* shows Western Australia's contribution to national ICT sector job growth from July 2003 to December 2009 as 12% (7,017).⁸⁸

“Where we Work” - ICT Employment in Western Australia		
	WA	Australian Total
1351 ICT Managers	2 347	40 247
2232 ICT Trainers	273	4 636
2247 Management and Organisation Analysts	2 054	47 328
2249 Other Information and Organisation Professionals	1 590	17 258
2252 ICT Sales Professionals	863	12 462
2324 Graphic and Web Designers, and Illustrators	3 013	42 633
2600 ICT Professionals (nfd)	1 742	20 898
2611 ICT Business and Systems Analysts	1 343	28 048
2612 Multimedia Specialists and Web Developers	1 542	8 322
2613 Software and Applications Programmers	4 203	77 422
2621 Database and Systems Administrators, and ICT Security Specialists	1 488	31 458
2631 Computer Network Professionals	1 283	33 346
2632 ICT Support and Test Engineers	590	9 762
2633 Telecommunications Engineering Professionals	565	9 841
3124 Electronic Engineering Draftspersons and Technicians	0	6 038
3130 ICT and Telecommunications Technicians (nfd)	286	286
3131 ICT Support Technicians	1 616	47 631
3132 Telecommunications Technical Specialists	0	4 779
3420 Electronics and Telecommunications Trades Workers (nfd)	0	870
3423 Electronics Trades Workers	4 423	35 278
3424 Telecommunications Trades Workers	3 097	24 869
6212 ICT Sales Assistants	2 249	19 634
Total	34 526	523 046

Source: *Australian ICT Statistical Compendium 2010*⁸⁹

The Western Australian ICT sector is innovative, productive and is likely to grow exponentially in the future. Information technology and a heavy reliance on communication is now engrained in our society and underpins other industries.

The Western Australian Department of Commerce highlights that state advantages in information technology and telecommunications include a highly educated and skilled workforce, stable legal and political systems, established traditions of creativity, efficient infrastructure and an exceptional quality of life.⁹⁰

Demographics: Printing

While some sectors of the Creative Industries may have a younger cohort than many other industries, the change in balance means there will be less young people entering the workforce. For sectors of the Creative Industries that are struggling to promote themselves to the younger generation, such as printing, this presents a great challenge.

Australia: Printing and Graphic Arts Sector Demographics

The printing sector is expected to generate revenue of \$8.8 billion and to employ 41,085 people in 2009-10, making it one of the largest manufacturing industries in Australia. However, the industry is stagnating.⁹¹

ABS data shows in February 2009, 49,500 people were employed in the printing sector.

Printing Industries Association of Australia's PRINT21 Report⁹² states that in Australia:

The printing and related industries (excluding pulp and paper manufacturing) comprise of some 6,000 firms. Of these, 58 are large firms (greater than 200 employees) employing 39,000 people. The overwhelming majority of firms are small and medium enterprises employing some 62,000 people.

According to Australasian Paper Industry Association (APIA) report, *Paper, Part of Everyday* (2010):

At the end of 2007, Australia's paper and printed products industries together employed over 76,000 people including;

- *Pulp & Paper Manufacturing and Converting employing 23,800 with wages of \$1,470 million*
- *Paper Merchants employing 2,100 with wages of \$108 million*
- *Printing employing 50,300 with wages of \$2,325 million.*⁹³

IBSA Environmental Scan 2010, Sectoral Report - Printing and Graphic Arts Industry identified significant growth areas in the printing and graphic arts sector including web-offset printing, flexography and packaging, electronics, management information systems and software development of imposition programs.

Services to the printing sector are expected to generate revenue of \$700 million and to employ 4,333 people in 2009-10. Services to printing include pre-press:

- art and copy preparation (including typesetting), graphic art, photography (i.e. shooting negatives), image assembly and imposition (stripping) and plate-making; and
- finishing and post-press operations include folding, die-cutting, cutting, trimming, scoring, stitching, gluing and perforating.⁹⁴

However data from IBISWORLD Industry Report⁹⁵ shows employment in the printing sector has declined by -2.5% during 2009-2010.

Work Hours

The sector has a predominantly full-time workforce with 84.9% workers employed full-time in the year to February 2009.⁹⁶

Gender

The production side of the printing sector is male-dominated with male workers making up 68.2% of the total workforce in the year to February 2009.⁹⁷

Age Profile

As cited in *IBSA Environmental Scan 2010, Sectoral Report - Printing and Graphic Arts Industry*, the printing sector had an older workforce on average with a median age of 42 years in 2008.

Western Australia: Printing and Graphic Arts Sector Demographics

In Western Australia, 95% of the printing sector is comprised of small to medium enterprises which employ approximately 8,000 people. Demand for the printing trades in general is aligned to economic conditions and the levels of business activities in Western Australia.⁹⁸

There is a general decrease in supply of qualified printing tradespeople with Labour Force Survey (LFS) data indicating that overall, there has been a decline in the employment in the printing trades from November 2007 to November 2008, with the exception of screen printers.⁹⁹

ABS data shows that Western Australia accounted for 8.8% of all actively trading businesses in this sector in June 2007 and 9.5% of employing businesses.¹⁰⁰

IBISWorld reports Western Australia employs 7.6% of Image Processing and Printing Services in Australia with 6.5% of national revenue.¹⁰¹

IBISWorld Report – Printing in Australia forecasts Western Australia will have 5% share of national revenue in 2010.

IBISWorld Report – Services to Printing in Australia forecasts Western Australia will have 7% share of national revenue in 2010 (pre-press, finishing and post-press operations).

In the Western Australian printing sector, the manufacturing sub-sector has a predominantly male workforce with a large number of ageing workers.

Printing is experiencing a shift in practice with new and emerging technologies supporting the processing of services to printing sectors.

Qualification Profile of Workforce – Creative Industries

The structure of the Creative Industries has strong implications for training, skill development opportunities and demand. IBSA's 2009 E-Scan suggests:

Contract or casual workers are generally less likely to engage in employer sponsored training. Career pathways may not always be apparent for experienced workers and those who are new to the sector.¹⁰²

Education and Qualifications in Western Australia Field of Highest Qualification			
	Information Technology	Creative Arts	Society and Culture
Gascoyne	20	56	178
Goldfields - Esperance	192	288	994
Great Southern	200	407	1,504
Kimberley	81	230	686
Mid West	141	227	971
Peel	336	511	1,903
Pilbara	130	181	771
South West	543	1,019	3,378
Wheatbelt	143	342	1,284
Regional WA	1,786	3,261	11,669
Perth	14,757	18,634	56,163
Total WA	16,543	21,895	67,832

Source: *Education and Qualifications – Field of Highest Qualification (2006) Western Australian Department of Regional Development and Lands.*¹⁰³

VET Participation and Qualification Completions in IBSA Training Packages 2005-2007						
Number of VET Participants by Training Package 05 - 07	VET Participants			Quals Completed		
	2005	2006	2007	2005	2006	2007
CUF - Film, TV, Radio and Multimedia						
Certificate III and below	3 722	4 145	4 689	1 057	1 178	1 005
Certificate IV and above	3 403	3 787	3 691	1 262	1 320	965
Total	7 125	7 932	8 380	2 319	2 498	1 970
ALL CUE - Entertainment						
Certificate III and below	536	2 372	2 478	271	138	1 035
Certificate IV and above	357	512	436	179	170	81
Total	893	2 884	2 914	450	308	1 116
ALL CUS - Music						
Certificate III and below	2 456	2 619	2 501	828	756	656

VET Participation and Qualification Completions in IBSA Training Packages 2005-2007

Number of VET Participants by Training Package 05 - 07	VET Participants			Quals Completed		
	2005	2006	2007	2005	2006	2007
Certificate IV and above	2 393	2 348	2 443	997	980	754
Total	4 849	4 967	4 944	1 825	1 736	1 410
ALL CUV - Visual Arts, Craft and Design						
Certificate III and below	3 719	5 913	6 834	448	882	922
Certificate IV and above	1 353	3 389	4 116	343	777	827
Total	5 072	9 302	10 950	791	1 659	1 749
ALL CUL - Museum and Library/Information Services						
Certificate III and below	939	868	892	423	387	373
Certificate IV and above	2 228	2 352	2 426	391	394	310
Total	3 167	3 220	3 318	814	781	683
ALL ICP - Printing and Graphic Arts						
Certificate III and below	2 612	2 570	2 362	882	674	493
Certificate IV and above	258	364	351	130	114	77
Total	2 870	2 934	2 713	1 012	788	570
ALL ICA - Information & Communications Technology						
Certificate III and below	36 688	40 778	37 316	8 004	7 715	9 100
Certificate IV and above	15 415	14 077	12 711	4 811	4 007	2 880
Total	52 103	54 855	50 027	12 815	11 722	11 980
ALL ICT - Telecommunications						
Certificate III and below	8 481	8 425	9 142	3 639	2 610	2 559
Certificate IV and above	1 494	1 462	1 552	753	411	539
Total	9 975	9 887	10 694	4 392	3 021	3 098

Source: NCVER data provided to IBSA for Escan 2009

Qualification Profile: Arts and Culture

Apprenticeship & Traineeship Statistics				
Apprenticeship & Traineeship Statistics - All Commencements, In Training By Qualification				
Arts, Sport & Recreation				
Qualification	Commenced		In Training	
	2008	Till Nov 2009	2008	Till Jan 2010
CUF20401 - Certificate II in Broadcasting (radio)	0	0	0	0
CUF20107 - Certificate II in Creative Industries (media)	4	7	4	2
CUL20199 - Certificate II in Library and Information Services	0	0	0	0
CUL20104 - Certificate II in Library/Information Services	5	2	3	2
CUE20103 - Certificate II in Live Production, Theatre and Events	25	22	15	16
CUS20101 - Certificate II in Music Industry (foundation)	2	0	1	0
CUF20301 - Certificate II in Screen	0	0	0	0
CUF30301 - Certificate III in Broadcasting (radio)	1	0	1	0
CUF30501 - Certificate III in Broadcasting (remote area operations)	3	0	1	0
CUL30199 - Certificate III in Library and Information Services	0	0	0	0
CUL30104 - Certificate III in Library/Information Services	3	1	3	2
CUF30601 - Certificate III in Multimedia	1	0	0	0
CUS30101 - Certificate III in Music	0	2	0	2
CUS30201 - Certificate III in Music Industry (technical production)	0	2	0	3
CUF30101 - Certificate III in Screen	1	0	1	0
CUE30303 - Certificate III in Venues and Events (customer service)	1	2	2	0
CUF40601 - Certificate IV in Broadcasting (radio)	5	0	2	0
CUL40199 - Certificate IV in Library and Information Services	0	0	0	13
CUL40104 - Certificate IV in Library/Information Services	0	0	0	0
CUF40401 - Certificate IV in Screen	1	0	1	0
CUF40107 - Certificate IV in Screen and Media	4	1	4	0

Source: Department of Training and Workforce Development, Apprenticeship & Traineeship Statistics - All Commencements, In Training by Qualification. Calendar Years. Source TRS cube as at January 2010.

Apprenticeship & Traineeship Statistics
Commencements By Trade Group. Calendar Years. Source TRS cube as at July 2010
Arts, Sport & Recreation

	Traineeship		Apprenticeship		Total Apprenticeships & Traineeships	
	2008	2009	2008	2009	2008	2010
Kimberley	8	0	0	0	8	6
Pilbara	0	0	0	0	0	2
Gascoyne	1	0	0	0	1	0
Mid West	1	6	0	0	1	9
Wheatbelt	4	3	0	0	4	6
Goldfields - Esperance	2	3	0	0	2	4
Great Southern	3	5	0	0	3	7
South West	7	7	0	0	7	30
Peel	7	8	0	0	7	31
Rural WA	33	32	0	0	33	95
Perth	101	113	0	0	101	197
Total WA	134	145	0	0	134	296

Source: Department of Training and Workforce Development, Apprenticeship & Traineeship Statistics - Commencements by Trade Group. Calendar Years. Source TRS cube as at July 2010.

Training is available for the arts and cultural sectors with vocational education and training (VET), in schools, through adult community education and at universities.

The growth and recognition of the value of the Creative Industries and the creativity economy provides opportunities for Australia's education and training providers to further expand.¹⁰⁴

Through an online survey and industry consultation IBSA gathered employers' views on training and workforce development.

Of the Cultural and Creative Industries respondents to the survey:

- 66% reported that it was easy to provide on-the-job training
- 50% said it was easy to train new starters
- 52% said it was not easy to allocate time to plan training
- 47% said it was not easy to evaluate the return on investment for training
- 56% reported that the current financial situation had resulted in cuts to the formal training budget.

IBSA²³ survey respondents reported on the type of training they provide for their staff:

- 75% train staff using informal training
- 13% train staff using full accredited qualifications
- 12% train staff using units of competency
- 12% do not provide staff training

In line with the low level of formal training reported in the Escan survey, Cultural and Creative Industries employers at IBSA consultations reported that:

- The training system is not responsive enough to change in response to emerging industry needs, e.g. print to web for journalists, and as a result occupations do not align well with qualifications.

- Single units or recognised skill sets work well for many people, but funding is connected to qualifications.
- There are problems with the availability of training, especially in regional areas – cost and the lack of provider ability to apply technical skills to different contexts deters employers from engaging with the VET system.¹⁰⁵

Qualification Profile: Information and Communications Technology

Apprenticeship & Traineeship Statistics Apprenticeship & Traineeship Statistics - All Commencements, In Training By Qualification Information Technology and Telecommunications				
Qualification	Commenced		In Training	
	2008	Till Nov 2009	2008	Till Jan 2010
ICA20199 - Certificate II in Information Technology	0	0	0	0
ICA20105 - Certificate II in Information Technology	26	17	20	16
ICA20201 - Certificate II in Information Technology (applications)	0	0	0	0
ICT20202 - Certificate II in Telecommunications	23	19	18	8
ICT20302 - Certificate II in Telecommunications Cabling	10	12	5	10
ICA30105 - Certificate III in Information Technology	29	18	25	17
ICA30299 - Certificate III in Information Technology (general)	0	0	0	0
ICA30199 - Certificate III in Information Technology (software applications)	0	0	0	0
ICT30202 - Certificate III in Telecommunications	22	25	18	26
ICT30302 - Certificate III in Telecommunications Cabling and Customer Premises Equipment	1	4	1	6
ICA40805 - Certificate IV in Information Technology (multimedia)	1	0	1	0
ICA40399 - Certificate IV in Information Technology (network management)	0	0	0	0
ICA40405 - Certificate IV in Information Technology (networking)	19	24	21	28
ICA40205 - Certificate IV in Information Technology (support)	18	11	18	22
ICA40705 - Certificate IV in Information Technology (systems analysis and design)	0	2	0	2
ICA40599 - Certificate IV in Information Technology (technical support)	0	0	0	0
ICA41101 - Certificate IV in Information Technology (website design)	0	0	0	0
ICA40305 - Certificate IV in Information Technology (websites)	0	0	0	1

Source: Department of Training and Workforce Development Apprenticeship & Traineeship Statistics - All Commencements, In Training by Qualification. Calendar Years. Source TRS cube as at January 2010

**Apprenticeship & Traineeship Statistics
Commencements By Trade Group. Calendar Years. Source TRS cube as at July 2010
Utilities, Electrotechnology & Printing**

	Traineeship		Apprenticeship		Total Apprenticeships & Traineeships	
	2008	2009	2008	2009	2008	2010
Kimberley	5	3	0	0	5	12
Pilbara	6	2	0	0	6	11
Gascoyne	1	2	0	0	1	5
Mid West	7	9	0	0	7	21
Wheatbelt	16	6	0	0	16	59
Goldfields - Esperance	7	7	0	0	7	15
Great Southern	4	9	0	1	4	32
South West	36	28	0	2	36	56
Peel	6	2	0	0	6	16
Rural WA	88	68	0	3	88	227
Perth	224	235	13	17	237	271
Total WA	314	303	13	20	327	499

Source: Department of Training and Workforce Development, Apprenticeship & Traineeship Statistics - Commencements by Trade Group. Calendar Years. Source TRS cube as at July 2010

As illustrated in Australian ICT Statistical Compendium in 2007:¹⁰⁶

- 36,598 ICT students were enrolled in Vocational Education and Training Courses (36.7% of entire VET student population);
- 36,297 were enrolled in ICT qualifications at Australian universities (5.3% of total university student population); and
- and 1,315 students were enrolled in private higher education ICT courses throughout the country (2.5% of total private higher education student population).

ICT in Western Australia had:

- 18 students completing their Masters;
- 85 students achieving a Graduate Diploma or Certificate; and
- 256 students completing their Undergraduate course.

The trend nationwide for domestic ICT student enrolments (including VET, university and private higher education providers) has been steadily declining since 2001. The Department of Education, Employment and Workplace Relations reveal the numbers of student enrolments has decreased from 17,436 in 2001 to 7,839 in 2007.¹⁰⁷

In the Summary of the 2008 Higher Education Statistics, commencing student enrolments increased for most broad fields of education between 2007 and 2008, including Information Technology (up 6.3%) and Creative Arts (up 7.3%).¹⁰⁸

This reverses the trend in declining enrolments in ICT in recent years. However, it is important to note that the increase was for overseas students only:

- commencements for overseas students increased 14.8% to 11,826 (or 63.1% of all students commencing in this field)
- commencements for domestic students decreased - 2.6%

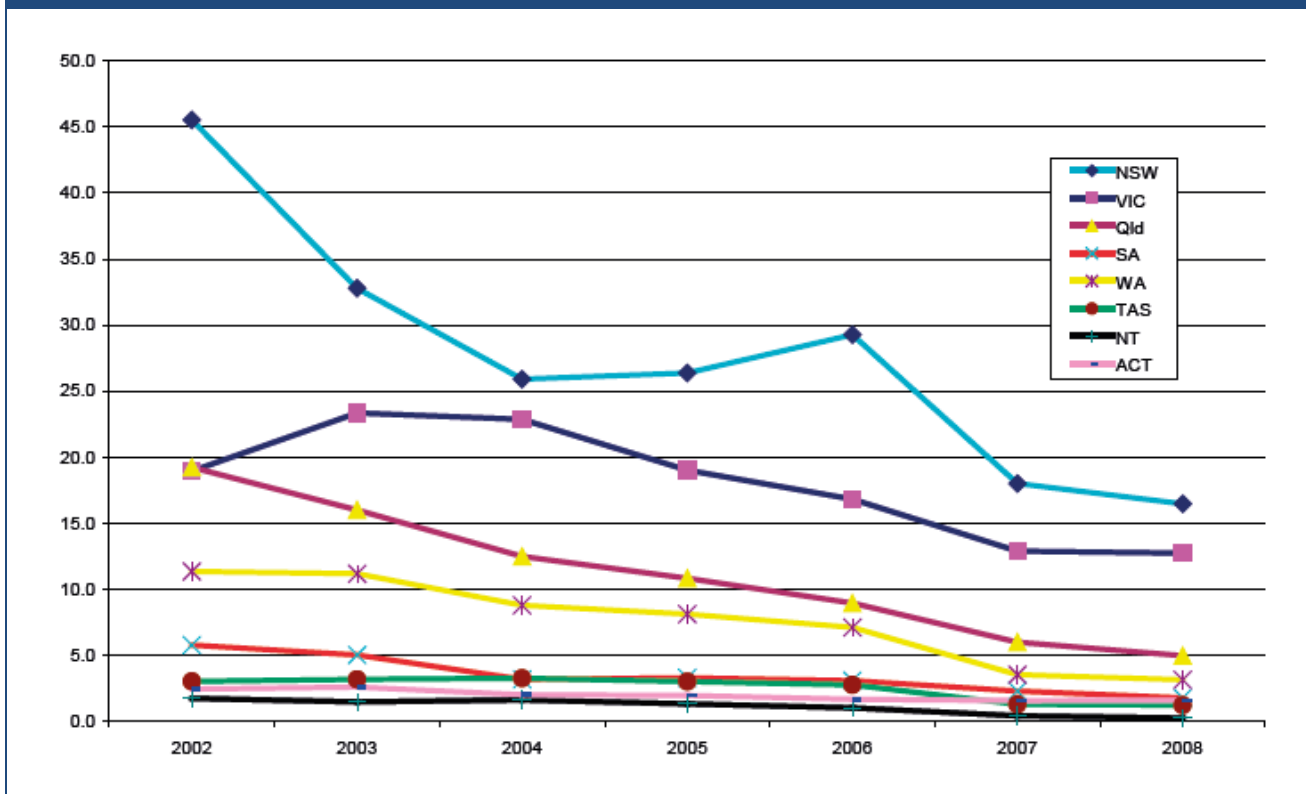
Commencing Domestic Students by State, Higher Education Provider and Broad Field of Education, Full Year 2008

	State Sub-total
ICT Domestic	689
Total Domestic	28 148
ICT International Students	892
Total International	16 155
Information Technology Total	1 581
TOTAL Domestic and International	44 303
ICT % of Total Students at Provider	3.57%
Domestic ICT % of total ICT at WA Providers	43.58%

The telecommunications sector has a large technical workforce comprised of well trained and highly skilled individuals who, at the VET level, have typically been 'un-credentialed'. With the advent of the ICT97, ICT02 and the new ICT10 Telecommunications Training Packages, a framework now provides for recognition of existing employees' capabilities and for the attraction and development of new entrants to the industry.¹⁰⁹

Currently in Western Australia there are minimal Registered Training Organisations delivering qualifications in the telecommunications sector.

Information Technology VET Enrolments by State 2002-2008 ¹¹⁰ - '000 Enrolled



Source: Australian ICT Statistical Compendium 2010, Australian Computer Society

Qualification Profile: Printing

Apprenticeship & Traineeship Statistics				
Apprenticeship & Traineeship Statistics - All Commencements, In Training By Qualification				
Printing and Graphic Arts				
Qualification	Commenced		In Training	
	2008	Till Nov 2009	2008	Till Jan 2010
ICP20199 - Certificate II in Printing and Graphic Arts (desktop publishing)	0	0	0	0
ICP20205 - Certificate II in Printing and Graphic Arts (desktop publishing)	16	11	13	10
ICP21299 - Certificate II in Printing and Graphic Arts (print production support)	0	0	0	0
ICP20405 - Certificate II in Printing and Graphic Arts (print production support)	2	2	1	2
ICP20505 - Certificate II in Printing and Graphic Arts (screen printing)	1	1	0	0
ICP30399 - Certificate III in Printing and Graphic Arts (graphic pre-press)	0	0	6	3
ICP30205 - Certificate III in Printing and Graphic Arts (graphic pre-press)	6	5	12	12
ICP30305 - Certificate III in Printing and Graphic Arts (multimedia)	1	0	0	0
ICP31499 - Certificate III in Printing and Graphic Arts (print finishing)	0	0	1	0
ICP30705 - Certificate III in Printing and Graphic Arts (print finishing)	7	1	6	7
ICP31399 - Certificate III in Printing and Graphic Arts (printing)	0	0	24	9
ICP30505 - Certificate III in Printing and Graphic Arts (printing)	19	16	20	22
ICP32199 - Certificate III in Printing and Graphic Arts (screen printing)	0	0	1	1
ICP30605 - Certificate III in Printing and Graphic Arts (screen printing)	0	1	0	1

Source: Department of Training and Workforce Development Apprenticeship & Traineeship Statistics - All Commencements, In Training by Qualification. Calendar Years. Source TRS cube as at January 2010

Apprenticeship & Traineeship Statistics
Commencements By Trade Group. Calendar Years. Source TRS cube as at July 2010
Utilities, Electrotechnology & Printing

	Traineeship		Apprenticeship		Total Apprenticeships & Traineeships	
	2008	2009	2008	2009	2008	2010
Kimberley	5	3	0	0	5	12
Pilbara	6	2	0	0	6	11
Gascoyne	1	2	0	0	1	5
Mid West	7	9	0	0	7	21
Wheatbelt	16	6	0	0	16	59
Goldfields - Esperance	7	7	0	0	7	15
Great Southern	4	9	0	1	4	32
South West	36	28	0	2	36	56
Peel	6	2	0	0	6	16
Rural WA	88	68	0	3	88	227
Perth	224	235	13	17	237	271
Total WA	314	303	13	20	327	499

Source: Department of Training and Workforce Development, Apprenticeship & Traineeship Statistics - Commencements by Trade Group. Calendar Years. Source TRS cube as at July 2010

Printing in Western Australia currently has a large number of independent, small to medium sized operations.

IBSA Environmental Scan 2010 survey 65% of all respondents reported that they provided informal training for staff. One third of all respondents reported that they trained staff using whole qualifications.¹¹¹

Through an online survey and industry consultation, IBSA gathered employers' views on training and workforce development. Of the printing and graphic arts sector respondents to the survey:

- 69% said it was easy to provide on-the-job training
- 35% said it was easy to get access to relevant training
- 46% said it was not easy to give staff time off to attend formal training

E-Scan survey respondents reported on the type of training they provide for their staff. Of the printing and graphic arts sector respondents:

- 61% train staff using informal training
- 35% train staff using full accredited qualifications
- 6% train staff using units of competency
- 10% do not provide staff training

Australia's Creative Digital Industries Survey: Employability of Aspiring Creatives

The ARC Centre of Excellence for Creative Industries and Innovation, *60Sox Employer Survey*¹¹² gathered data from 50 employers in Australia's Creative Digital Industries about the employability of aspiring creatives (recent graduates and/or people with less than two years industry experience).

The survey included questions on employer characteristics, recruitment and training practices, employers' views of the capabilities of aspiring creatives, and participation in communities of interest/networks, mentoring and internships.

Notable findings for this project are as follows:

- Over 80% of employers indicated that aspiring creatives only accounted for between 0% and 20% of all workers.
- Employers were more attracted to 'creative talent and/or the necessary job skills' than qualifications when employing creative graduates and technical graduates.
- Employers were most likely to indicate that it was difficult to recruit aspiring creatives with the 'right' skills and attributes.
- Over the previous 12 months, employers had recruited around half of their new workers from interstate and overseas.

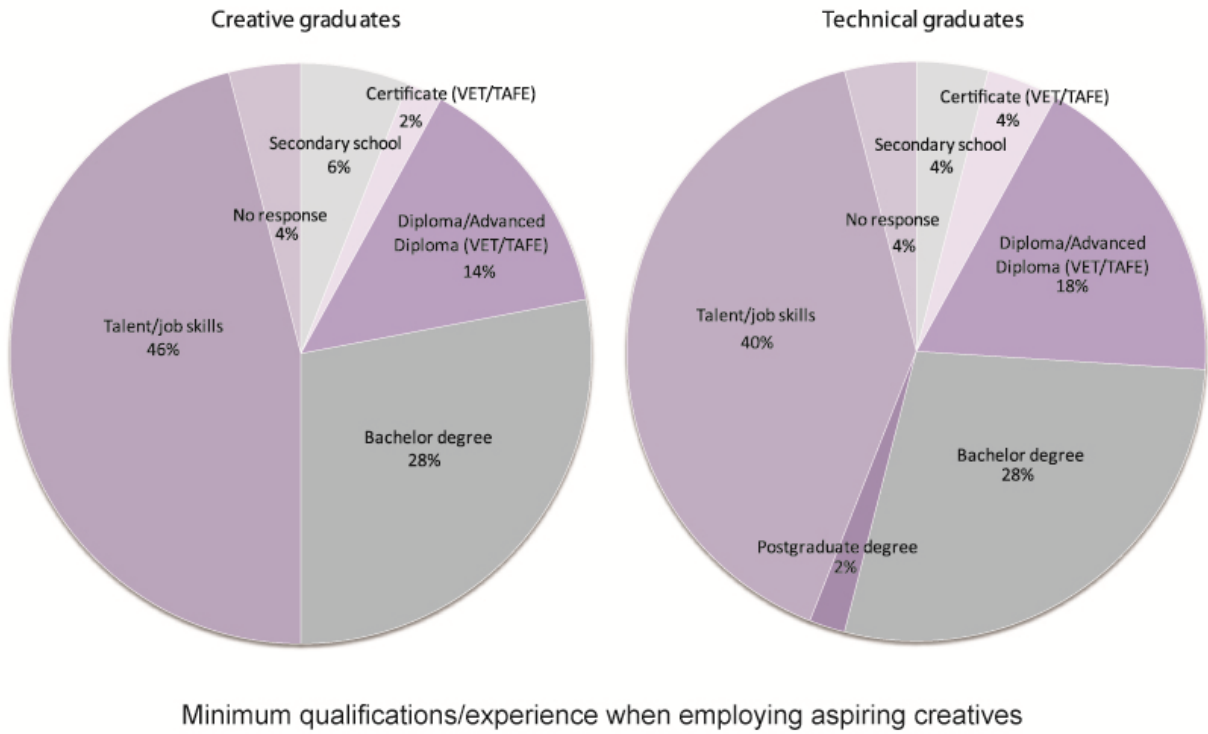
Most employers indicated the capabilities of aspiring creatives for skills and attributes were below their expectations when compared to the level of importance they placed on these skills and attributes to their workplaces.

When compared to the views of employers, aspiring creatives over-rated their capabilities for skills and attributes as well as their software skills; and slightly under-rated their capabilities in the areas of business skills, positive self-esteem and motivation.

This measurement of 'capability gaps' identified the largest gaps of aspiring creatives in the areas of:

- problem-solving skills;
- communication skills;
- initiative and enterprise skills;
- team work skills;
- learning skills;
- self-management skills: and
- careers goals/planning skills.

From Education to Work in Australia's Creative Digital Industries
 Comparing the opinions and practices of employers and aspiring creatives



Source: ARC Centre of Excellence for Creative Industries and Innovation, 60Sox Employer Survey.¹¹³

Trends Analysis – Creative Industries

The Creative Industries will be challenged by rapid changes in technology and industry structure as new occupations and fields emerge. The Creative Industries workforce will increasingly be employed in other industries as a driving force for design, innovation and creativity.¹¹⁴

Labour and Skills Shortages

According to research by the Western Australian Chamber of Commerce and Industry (CCI),¹¹⁵ Western Australia will need to find an extra 400,000 workers over the next ten years, with a likely shortfall of 150,000 if there are no measures to grow the workforce.

Resource sector growth in recent years has resulted in significant labour and skills shortages in Western Australia, leading to recent efforts by the State Government to develop workforce development plans for all industry sectors and encourage interstate and overseas migration.

Western Australian CCI's latest snapshot of state, national and international economies, *Outlook*, found that "while conditions remain challenging, the Western Australian economy is set to return to strong growth in 2010".¹¹⁶

The Australian Olivier Job Index¹¹⁷ surveyed 197,439 'Positions Vacant' advertisements on commercial job sites in January 2010; their findings show Western Australia had the strongest growth with a 7.47% rise.

Trends Analysis: Arts and Culture

The Australia Council recently released the report *More Than Bums on Seats: Australian Participation in the Arts* (2010) identified the key factors which impact Australian's future participation in the arts and barriers and incentives to participation. Key findings from the report are:¹¹⁸

- The arts are strongly supported by the community
- Attitudes towards the arts are increasingly positive
- The internet is now a key tool for the arts
- Interest in Aboriginal arts is growing
- There are significant opportunities to build arts audiences

Nine in ten Australian's think arts should be an important part of the education of every Australian. Australians also widely believe that the arts make for a richer and more meaningful life, and that there are plenty of opportunities to get involved.¹¹⁹

Internet

One in three Australians use the internet for the arts, mostly for attendance-related activities (such as researching artists/events or downloading music), but some are using it for creative participation (such as posting works of art, writing blogs or working with others to create art).¹²⁰

More than half of all 15-24 year olds had used the internet to engage in some form of art during the last year and were more creative online. The most widespread online art creations were writing and visual art/film/video, while the most frequent mode of creative participation was contributing to online communities or social networks concerned with art in some way.¹²¹

Aboriginal Arts

Of the three quarters of people who had attended visual arts and crafts, theatre, dance or music in the past 12 months, nearly a quarter (23%) had attended arts created or performed by Aboriginal or Torres Strait Islander artists. Attitudes to Aboriginal arts are increasingly positive, indicating a great opportunity to grow the Aboriginal art sector across Australia.¹²²

Libraries

IBISWorld Industry Report, *Libraries in Australia 2009*¹²³ estimates, by 2014-15, it is likely the primary use of libraries will be to access the internet. Archives and university libraries will retain their roles but attendance will fall. Students will increasingly be encouraged to study online. This will force libraries to make their content available online – in particular academic journals.

IBISWorld forecasts that the trend toward a rising proportion of the economy-wide workforce being in part-time and casual employment will continue. Secondary school and higher education participation rates are also expected to rise. These trends will tend to boost demand for library services as all of these groups tend to be high users of library services.

The continuing rise in overseas students who attend private schools (particularly in years 11 and 12) and tertiary institutions will likely boost library usage.

People aged over 65 years of age who attend libraries do so more frequently than younger groups, and an ageing Australian population will also tend to stimulate overall demand.

Cultural Venues

ABS data between 1991 and 2006 undertook population surveys relating to attendances at cultural venues. The overall Australian population participation rate at art galleries by persons aged 15 years and over had fallen until recently. Between 1999 and 2002, the participation rate at art galleries in Western Australia was 29.0% (the population attendance rate increased in all Australian States and Territories, excluding Victoria).¹²⁴

Music

IBISWorld expects little change in the Sound Recording Studio sector with the exception of a modest increase in Western Australia. Western Australia is experiencing economic and disposable income growth well above the national average and as such will find growing demand from a young population with a greater interest in music, and an advertising sector that is also growing beyond the national rate.¹²⁵

The trend for arts and culture will see an increase in technology used to produce and deliver a range of content in Western Australia. Access to arts via the internet will continue to rise alongside participation rates in libraries, galleries and live performance.

Part-time and casual employment will continue to favour the arts and cultural industries, particularly in the library sector.

*The creative arts sector is facing far brighter growth prospects to 2014-15, in terms of funding and support, as a sustained period of robust economic growth is forecast. This is expected to lead to a far more positive operating environment in which to obtain increasing government, business and private financial support for this industry.*¹²⁶

Trends Analysis: Information and Communications Technology

According to the Western Australian Department of Commerce,¹²⁷ the growth in employment in Western Australia's ICT sector has outstripped the national average, indicating the state's increasing contribution to the knowledge economy.

National Broadband Network

The National Broadband Network rollout will have a major and immediate impact on the need for skilled labour. Over the longer term it will drive change and boost demand for ICT skills in all other industries.¹²⁸

Industry journal, *Communications Day*, April 2010, suggests "as many as 30,000 workers will have to be trained and certified to build the national broadband network if the NBN Companies' ambitious target of up to 5,000 connections per day is to be met."¹²⁹

IBISWorld Industry Report, *Internet Service Providers in Australia* (20 January 2010) states:

*Corporate demand for communications equipment is expected to be robust beyond 2009-10 as firms continue to seek productivity gains and sales growth through the use of information technology. Corporate communications networks will be increasingly integrated. E-commerce systems will be increasingly rolled out and utilised.*¹³⁰

*Many companies will seek wireless solutions to communications needs. Information technology will continue to have an increasing role in supply chain management. Growing data traffic will require new equipment to increase capacity. These developments will promote growth in expenditure on communications equipment.*¹³¹

Market Outlook

Peoplebank's *National IT Market Outlook 2010*, has predicted that the IT sector will rebound in 2010 to near-record levels, and while salaries are yet to shift significantly on 2009 rates, surging demand suggests an IT skills shortage will be evident as early as mid-year.¹³²

The Peoplebank *National IT Market Outlook* Report indicates that:

- Demand for some skills has risen by up to 218% on 2009
- NSW, VIC and WA are leading the way with signs that a long boom is ahead for IT skills.
- The skills shortage is likely to be evident as early as mid-2010 with consequences including jobs volatility and salary surges.
- The consequences of the predicted skills shortage are likely to include upward pressure on salaries and contract rates, as well as rising staff turnover as employees pursue contract and higher-paying roles.

The Peoplebank *Perth IT & T Market Outlook 2010*, notes that demand will be particularly evident for contract workers with business analysis, project management, Web 2.0 skills and experience in the banking, utilities and resources sectors.¹³³ The report recommends that workers in the information technology and technology (IT & T) sector "should gain skills and experience in the key demand sectors, which will be offering excellent conditions and career progression in the months and even years ahead".¹³⁴

The Hudson Report: *Employment Expectations* conducted a nation-wide survey of over 6,000 hiring managers; the report concludes that a candidate shortage will begin to take

hold again during the course of 2010, particularly in the second half, which will drive a steady growth in ICT salaries.¹³⁵

Computer technology will become more mobile, leading to a shift away from large commercial centres. This may feed growth in Perth and regional Western Australia, particularly locations supporting resources.

Overall, trends and data analysis indicate that the economic rebound in Western Australia will put upward pressure on ICT salaries within the six months to 2011, resulting in across-the-board rises. ICT sector data on remuneration for 2009 suggests that private sector demand is significantly higher in Western Australia than in many other states, commensurate with high demand for ICT skills in the mining industry.¹³⁶

The *Salary Index Report*¹³⁷ found that ICT employers in Western Australia were concerned about the personnel requirements of scheduled, large-scale projects.

Companies have started focusing heavily on employee attraction and retention strategies to protect their IT capabilities for 2010 and beyond. Australian IT's *Predictions 2010*¹³⁸ states that "Retention would go beyond remuneration and would include flexibility, training and a defined career path".

Trends in new and emerging technologies such as growing demand for mobile devices and 'cloud computing' will continue to expand and come to dominate information transactions because they offer many advantages, allowing users to have easy, instant and individualised access to tools and information wherever they are, locatable from any networked device.¹³⁹

The National Broadband Network partnered with new and emerging information technology including mobile devices and online systems, supported by the demand for corporate communications and growing e-traffic, will continue to drive Western Australia's ICT sector growth particularly in occupations relating to telecommunications, project management, Web 2.0/3.0 and ICT related skills to support the resources and utilities sectors.

Trends Analysis: Printing

The printing and graphic arts sector is experiencing a significant period of transformation triggered primarily by the emergence of the digital economy. New business models and opportunities are expanding the industry into a range of related fields including information management, design, marketing and multimedia. At the same time an ageing workforce and constraints on the recruitment of young people could limit the ability of the industry to take up new opportunities.²⁸

The Printing Industries Association of Australia Printing Industry Trends Report¹⁴⁰ for September 2009 quarter saw activity levels continue to remain depressed, yet there are signs of a significant improvement in business confidence compared to the same period a year earlier as well as the previous quarter these were:¹⁴¹

- Labour reported easier to obtain.
- Moderating material and wage cost pressures.
- Finance reported harder to obtain.
- Reduced orders, production, sales, net profits, employment, overtime levels, selling prices, levels of material stocks and investments in plant, machinery and buildings.
- Increased number of outstanding debtors.

The IBISWORLD Industry Report, Services to Printing in Australia¹⁴² states:

Local printers have reduced, and will continue to reduce, labour costs by investing in high technology equipment in an effort to enhance cost competitiveness. They will be in a good position to leverage off internet technologies to receive and deliver jobs.

The price for a high-powered laser colour printer with built-in collating and binding functions is rapidly falling. This will promote growth in small print-run books (dBooks) and in future may represent a new distribution platform for mass appeal books and magazines.¹⁴³

Print21 saw a need for printers to add services such as:

- direct mail;
- customised printing;
- electronic ordering;
- compatibility with customers' systems;
- convenient quick print; and
- printing using specialised substrates.

Printers may need to develop closer relationships with customers, and take on customers' in-house printing activities to:

- manage customer stocks;
- provide warehousing of stock supplied and data;
- manage image and information databases; and
- become a one-stop shop.¹⁴⁴

The outlook for general business expectations within the printing sector over the next six months remains favourable for most states, particularly in Western Australia. Companies from most states reported moderate increases in wages during the 2009 September quarter while respondents from Western Australia reported reduced average wages.

Opportunities for Western Australian printers to diversify into other markets such as multimedia, design and digital printing may provide expanding business alternatives or niche markets.

Summary - Trends Analysis

Arts and culture sector will be challenged by rapid changes in technology and industry structure as new occupations and fields emerge. Workers with cultural and creative skills will be increasingly sought by other industries as a driving force for design, innovation and creativity.¹⁴⁵

Information and Communications Technology and the rollout of the National Broadband Network (NBN) will have a major and immediate impact on the need for skilled labour in the ICT sector. Over the longer term it will drive change and boost demand for ICT skills in all other industries as the availability of fast broadband transforms the nature of business.¹⁴⁶

Printing and graphic arts sector is going through a significant period of transformation triggered primarily by the emergence of the digital economy.¹⁴⁷ The ageing workforce will need to be addressed to ensure the printing's future.

Economic Drivers – Creative Industries

Creative Industries Contribution to the Australian Economy

Creatives are employed throughout the entire economy. According to the 2006 Census, there were more than 150,000 creatives embedded in non-creative industries. This was more than one-third of the total creative workforce. The property and business services, manufacturing and government administration and defence industries employ the most creatives.¹⁴⁸

Creatives embedded in non-creative industries contribute to their economic output. However, it is not possible to measure the contribution of embedded creatives to the industry in which they are employed based on currently available datasets.¹⁴⁹

Not for Profit organisations and volunteers in the Creative Industries contribute to the Australian economy and are measured in a 'dollar' value. The Australian Bureau of Statistics report *Australian National Accounts: Non-Profit Institutions Satellite Account (2006)*¹⁵⁰ reports:

- Not for Profit institutions contributed close to \$43 billion (or 4%) to the Australians economy.
- The culture and recreation contribution to this figure was 16%.
- Volunteers contributed 623 million hours to non-profit institutions, equating to 317,200 full time equivalent jobs. The economic value of these hours was estimated to be \$14.6 billion.

Economic Drivers: Arts & Culture

As cited in Creative Industries Economic Analysis (2009):¹⁵¹

The gross product of the Creative Industries was around \$31.1 billion in 2007-08. This is equivalent to a 2.8% share of Gross Domestic Product”.

Over the three years to 2007-08, the Creative Industries grew at an average rate of 3.4%. When viewed over a longer time period, growth in the Creative Industries has been significantly faster than in the broader economy.

Screen and Media

The film, television and radio segment contributes around 15% of the total Industry Gross Product (IGP) of the Creative Industries. In terms of IGP, the segment is dominated by free-to-air television, which makes up almost two-thirds of the segment. The IGP of the television sector grew by almost 10%.¹⁵²

Music and Performing Arts

Over the period from 2004-05 to 2007-08, music and performing arts has contributed around 3.5% of the total Industry Gross Product (IGP) of the Creative Industries. In terms of IGP, recorded media manufacturing and publishing businesses make up nearly half the IGP of the segment, with music and theatre productions contributing a further 27%.¹⁵³

IBISWorld data shows in 1999-2000, there were a total of 194 government subsidised music and theatre production companies that had a total revenue of \$307.8 million of which:

- box office takings were \$120.4 million;
- total government funding was \$116.7 million; and
- \$29.8 million was derived from fundraising.¹⁵⁴

Other income accounted for \$40.9 million including:

- symphony and choral production had total revenue of \$94.4 million;
- drama production had total revenue of \$71.4 million;
- opera production total revenue of \$58.3 million;
- dance production companies had total revenue of \$42 million;
- musical theatre production companies had total revenue of \$16.7 million; and
- other performing arts production companies had total revenue of \$23.5 million.¹⁵⁵

In 1999-2000, there were a total of 551 non-government subsidised music and theatre production companies that had total box office takings of \$112.8 million and a combined total revenue of \$197.6 million, or an average of \$358,600 each including:

- musical theatre production revenue of \$81 million;
- music production had total revenue of \$63.9 million;
- drama production companies with a total revenue of \$18.9 million;
- dance production companies that had a total revenue of \$1.5 million;
- symphony and choral production had total revenue of \$2.1 million;
- opera production organisations with a total revenue of \$1.3 million; and
- other performing arts production companies had a total revenue of \$28.9 million.¹⁵⁶

2001 ABS information indicated that 71% of organisations generated annual revenue of under \$50,000 and a further 28% achieved annual revenue of between \$50,000 and \$500,000. In 2010, little is estimated to have changed, although with economic conditions being tougher, many smaller firms are expected to exit the industry.¹⁵⁷

IBISWorld forecasts that the Music and Theatre Productions sector will generate \$795 million in revenue in 2009-10.

Performing Arts venues in Australia in 2001, ABS information indicated that 51% of organisations had annual revenue of under \$50,000 and a further 44% had annual revenue of between \$50,000 and \$500,000.¹⁵⁸

Live Entertainment

The Live Entertainment sector generated revenues of \$1.88 billion during 2008.¹⁵⁹ The main revenue drivers were:

- box office income 56.2%;
- other income 32.6%; and
- Government funding contributing 11.2% to total industry turnover.¹⁶⁰

The Live Entertainment sector was broken down by event categories.

- The Non Classical Music category, by far the largest performance category generated a value add of \$405.8 million to the economy in 2008, representing 40.2% of the total value add by the sector.
- The Musical Theatre and Classical Music categories which created a value add of \$169.3 and \$129.5 million respectively, each representing around 16.8% and 12.8% of the total value add of the Live Entertainment sector.¹⁶⁰

Libraries, Museums and Galleries

Government funding for libraries has fallen to around 91.2% of total income but has gained additional revenue from other sources (e.g. donations, exhibitions) in 2009-10. Social History Museums total income received was \$224.5 million, of which 51.3% was derived from government grants and funding.¹⁶¹

In 2007-2008, Art Galleries/Museums total revenue received was \$396.0 million, with 65% sourced from government grants and funding. Historic Properties/Sites total income received was \$135.3 million with 46.4% was sourced from government. 'Other' classified museums total revenue was \$242.7 million with 75.1% received from government.¹⁶²

IBISWorld estimates that the Australian Museums sector will generate \$1,221 million in revenue in 2009-10, a fall of 2.4%.¹⁶³

Visual Arts and Craft Funding

Funding through the Australia Council Visual Arts and Craft (VACS) has stimulated economic outcome. Fifteen VACS-funded organisations increased their sales of art and craft from an average \$3.3 million a year (2001–2003) to \$3.8 million (2007–2008).¹⁶⁴

Funding of artists to make new work under the Visual Arts and Craft Strategy (VACS) between 2001 and 2009 has increased by:

- Established artists 60%
- Individual artists 34%.

VACS-funded organisations derived an average 53.3% (\$44.8 million) of total income from earned and philanthropic sources from 2004 to 2008. Earned income has increased from \$19.3 million in 2004 to \$68.7 million in 2008.¹⁶⁵

The States and Territory arts agencies have increased direct support for individual artists from an average \$1.25 million (average 2001–2003, inflation adjusted) to \$1.9 million (average 2007–2009).¹⁶⁶

VACS has provided \$3.3 million in funding to Aboriginal visual arts activities through the Australia Council from 2004 to 2010. Aboriginal organisations funded by the Australia Council VACS

program have achieved an average of \$1.2 million in earned income each year from 2004 to 2008.¹⁶⁷

Sales of art and craft by VACS-funded organisations averaged \$3.9 million a year. Some funded organisations are now selling on-line, reaching new national and international markets.¹⁶⁸

The research paper *New Models New Money: A Foundation for the Artist* (2010)¹⁶⁹ states:

As the global knowledge economy grows, industries based on the arts and sciences will become even more significant. Writers, visual artists, performers, musicians, composers are like scientists: unique individuals with highly specialised skills, knowledge, discipline and talent, who generate new ideas and new ways of understanding the world.

Like scientists, artists have an important contribution to make to public policy and commercial enterprises – some of which we have scarcely begun to imagine.¹⁷⁰

Economic Drivers: Information and Communications Technology

Innovation and Business Skills Australia Environmental Scan 2010 states “the ICT sector in Australia is a key productivity enabler for other industries”. The Australian ICT sector is estimated to have generated revenue of more than \$85 billion in 2008-09.¹⁷¹

Software development and interactive media is the largest Creative Industry segment, contributing around 44% of the Creative Industry's Industry Gross Product (IGP).¹⁷²

IBISWorld data indicates in 2009-2010, Computer Consultancy Services in Australia will have \$22,214.6 million of revenue.¹⁷³ Around half of the sector revenue is derived from operations in manipulating or developing hardware and software for specific purpose.

Systems analysis is worth 27% of sector revenue while systems design and programming generates 23%.

Computer Maintenance services in Australia in 2009-2010 will have sector revenue of \$2,043.9 million with commercial users accounting for 65%.¹⁷⁴

The maintenance of mainframes and servers, comprises 22.6% of total sector revenue including maintenance of microcomputers (PCs), LAN networks and associated peripheral equipment represents approximately 81.6%.

IBISWorld estimates that in 2007-08 the installed base of PCs was over 16.5 million, approximately two-thirds of the PCs purchased in 2007-08 were laptops.¹⁷⁵

The telecommunications market in Australia generated revenues of more than \$37 billion in 2007-2008. Of this, 65% is generated from the household segment of the telecommunications market, like IT, telecommunications is a critical enabler of other industries.¹⁷⁶

By the end of 2009-10, the Australian ISP sector will reach revenue of \$5.9 billion. The National Broadband Network (NBN) project will ultimately usher Australian society into a new era of living and business. It is forecasted by the end of 2014-15 industry revenue will hit \$9.1 billion.¹⁷⁷

Economic Drivers: Printing

The printing sector is expected to generate revenue of \$8.8 billion and to employ 41,085 people in 2009-10, making it one of the largest manufacturing industries in Australia.¹⁷⁸

Paper and print creates almost \$21 billion of income every year. With a population of around 21 million, that means every year, the average Australian consumes \$980 of paper and printed material.¹⁷⁹

According to IBISWorld Industry Report *Printing in Australia*, the Australian Printing sector is forecast to have a decline of -3.0% in Industry Gross Product and generate industry revenue of \$8,804.8 million.

In the year 2000, book printers generated revenue of between \$250 million and \$300 million (Printing Industries Association of Australia, January 2009). The sheet-fed printing market in Australia was worth \$1.9 billion and heat-set printing market was believed to be worth approximately \$1.5 billion. The advertising market accounted for over 40% of total demand for printing.¹⁸⁰

According to the Australasian Paper Industry Association (APIA) 2010 report the Australian domestic printing sector in 2005 estimated to be valued at:

- Newspapers/Journals \$6.8 billion;
- Other Printed Materials \$5.3 billion;
- Books and Brochures \$3.6 billion.¹⁸¹

IBISWorld expects the value of printing exports forecast to amount to \$40.4 million in 2009-10, down 8.0% in real terms compared with the estimated value of exports in 2008-09.¹⁸²

Services to printing are expected to generate revenue of \$0.7 billion in 2009-10 and is forecast to decline due to technological developments (such as 'computer-to-plate', and digital printing); and by a disintermediation in the printing process.¹⁸³

Businesses in the writing, publishing and print media segment contribute around 22% of the aggregate Industry Gross Product (IGP) of the Creative Industries.¹⁸⁴

Printing Imports

Australian consumption of printing and communication paper far outstrips domestic production. This results in an annual balance of trade deficit that at the end of 2008-9 was approaching \$1 billion. Over the last decade, on average, this deficit has grown by 4.8% per annum.¹⁸⁵

Imports have increased to around \$1.1 billion per annum while in contrast exports have been falling and are currently at around \$125 million.¹⁸⁶

Almost \$630 million of books and brochures are imported into Australia every year, with about \$300 million of imported magazines and newspapers and another \$230 million of other printed matter.¹⁸⁷

Creative Industries Contribution to the Western Australian Economy:

Arts & Culture

Key economic findings of *Perth's Creative Industries – An Analysis*¹⁸⁸ give an overview of the contribution that the Creative Industries make to Western Australia's economy. This survey of Perth's Creative Industry workers within the City of Perth and the Local Government Authority in 2006 shows:

- The total economic impact of the creative industries is \$10.6bn, comprising \$4.6bn direct and \$6.0bn indirect or flow-on contribution.
- Growth in Creative Industry earnings is 25% higher than other industry areas.
- There were 11,000 creative industry businesses registered for GST in April 2006 (6.6% of all industries) and an additional 19,700 creative industry entities that were not GST registered.
- Perth's Creative Industries generate a total of \$687 million in exports, which is 20% of total output (compared to about 16% average exports across non-creative sectors).

Creative Industry segments initial flow on effects (Perth's Creative Industries – An Analysis, 2007, p. 8)			
Output	Initial Effects	Flow on Effects	Total Effects
Music and Performing Arts	\$126m	\$205m	\$331m
Film, TV and Radio	\$453m	\$656m	\$1,109m
Advertising Services	\$298m	\$443m	\$741m
Software and Interactive Multimedia	\$2,310m	\$2,802m	\$5,112m
Publishing	\$690m	\$802m	\$1,572m
Architecture	\$387m	\$520m	\$907m
Visual Arts and Design	\$355m	\$494m	\$848m
Total	\$4,609m	\$6,012m	\$10,621m (3.4% of output for all Perth industries)

Source: City of Perth's Report *Perth's Creative Industries – An Analysis*

Music and Theatre production revenue¹⁸⁹ 2010 - IBISWorld Estimates Western Australia will have 4.5% of total Creative Industry revenue (\$795 million).

In 2007 Western Australia's total income for performing arts venues was \$15.3 million.¹⁹⁰

In 2008, the economic contribution of the Live Entertainment sector in Western Australia included a Total Industry Output of \$203.1 million; Industry Value Add at \$109.6 million or 10.8% of Value Add by State.¹⁹¹

Information and Communications Technology

According to Information Communications and Technology Industry Collaboration Centre (ICTICC) website industry overview, "the ICT sector in Western Australia is comparable in size to Agriculture, Fisheries and Forestry combined, and is the state's 12th largest industry, valued at around \$2.9 billion". In 2004/05 ICT goods and services in Australia produced revenue of \$54.4 billion, with Western Australian revenue in 2004 estimated at more than \$6.6 billion. In 2004/05, the Western Australian ICT sector provided direct

employment for 23,000 Western Australians and exported goods and services totalling \$5.14 million.¹⁹²

The ICT sector in Western Australia is vibrant and innovative, and experiencing strong growth in industries where ICT plays a large part in this state, including the resources, oil and gas, financial services and other industries.¹⁹³

ICT is indirectly responsible for between 107,000 and 161,000 jobs in the State - accounting for between 10% - 17% of the State's workforce. This is on top of the 23,000 jobs that the ICT sector creates directly.¹⁹⁴

Over the period of September 2006 to December 2009 ICT usage in Western Australian has grown from 663,000 to 1,036,000.¹⁹⁵

ICT Industry Revenue estimates \$A million ¹⁹⁶					
	Computer Services	Manufacturing	Wholesale Trade	Telecommunications	Total
WA	\$1.5	\$0.1	\$0.8	\$4.3	\$6.7
Australian Total	\$18.5	\$2.7	\$17.3	\$43.1	\$81.5

Source: Australian ICT Statistical Compendium 2010. Data: CIER Whitehorse Top 250 ICT Industry Survey and Model December 2009

Printing

Western Australia accounted for 6.6% of Australian printing sector revenue in 2001-02 and in 2010 will have 7.0% sector revenue.¹⁹⁷

IBISWorld Services to printing in Australia report shows Western Australia has a 5.0% of total Australian sector revenue.¹⁹⁸

Value of the Creative Industries

As described in the *Creative Industries Economic Analysis (2009)* the term 'creative economy' now refers to the growing role of Creative Industries and creative people in our economy and society. Economic analysts' predict that:

*Creative Industries are becoming a crucial emerging concept for Australia because the creative economy will secure our competitiveness in the global future (Cunningham, 2008).*¹⁹⁹

In *Economics and Culture*, leading Australian academic David Throsby identified "aesthetic, spiritual, social, historical, symbolic and authentic components of cultural value".²⁰⁰ The paper highlights "that these values must be respected, even though they aren't money. The arts can never be reduced to figures but economics is central to the way the arts are managed".

There is a range of core statistical data useful to describe creative industry, arts and cultural heritage activity. However, as noted by Holden:

*The value of culture cannot be adequately expressed in terms of statistics. Audience numbers and gallery visitor profiles give an impoverished picture of how culture enriches us. Current forms of impact measurement are necessary, and they need to be improved, but they can never be sufficient.*²⁰¹

The recognised importance (economic and otherwise) of the Creative Industries differs from state to state and from region to region. Overall, around Australia the Creative Industries are seen to.²⁰²

- Stimulate economic growth and diversify the economy;
- Meet the career aspirations of the next generation;

- Regenerate urban areas;
- Retain and attract skilled and talented people; and
- Enhance regional or city identity.

International Research and Commentary

There has been a great deal of international research and commentary regarding the economic drivers and impacts in the Creative Industries.

In 2007 the Department of Canadian Heritage published an *Economic Impact Model for the Arts and Heritage* as an online tool for non-economists to calculate the economic impacts of expenditures on arts and heritage activities at the provincial, territorial and national levels.²⁰³ This generated reports for assessing impacts on regional economies, organisational spending, and visitor spending.

On behalf of the Arts Council of England, Michelle Reeves' report *Measuring the Social and Economic Impact of the Arts* criticised a lack of conceptual clarity and narrow conceptualisations of social and economic impact, the reliance on self-reporting with little corroborating evidence, an over reliance on official statistics which often give a partial picture, and the lack of a common framework of research principles, assessment processes and standards for evaluation.

John Howkins, a noted UK researcher states:

The creative economy is revitalising manufacturing, service, retailing and entertainment industries. It is changing where people want to live, work and learn – where they think, invent and produce.

The creative economy is based on a new way of thinking and doing. The primary inputs are our individual talent or skill. In some sectors the output value depends on their uniqueness, in others, on how easily it can be copied and sold to large numbers of people.

The creative economy brings together ideas about the creative industries, the cultural industries, creative cities, clusters and the creative class.²⁰⁴

Impact of Government Policy / Decisions – Creative Industries

Award Modernisation

With the commencement of Modern Awards and the National Employment Standards (NES) on 1 January 2010, the creative and leisure industries are faced with the task of understanding and ensuring compliance with the new components of the workplace relations system.

New Modern Awards which impact upon the Creative Industries include:

New Modern Award Name	Code
Amusement, Events and Recreation Award 2010	MA000080
Book Industry Award 2010	MA000078
Broadcasting and Recorded Entertainment Award 2010	MA000091
Business Equipment Award 2010	MA000021
Clerks—Private Sector Award 2010	MA000002
Commercial Sales Award 2010	MA000083
Contract Call Centres Award 2010	MA000023
Electrical, Electronic and Communications Contracting Award 2010	MA000025
Graphic Arts, Printing and Publishing Award 2010	MA000026
Journalists Published Media Award 2010	MA000067
Live Performance Award 2010	MA000081
Manufacturing and Associated Industries and Occupations Award 2010	MA000010
Miscellaneous Award 2010	MA000104
Professional Employees Award 2010	MA000065
Travelling Shows Award 2010	MA000102

Significant change is likely to see casual employment become entitled to a loading in addition to a basic hourly rate with penalties for hours worked on Saturdays, Sundays, Public Holidays and evenings.

These loading and penalty rates have raised concerns among the industry due to the highly casual workforce and atypical working hours.

National Broadband Network: 21st Century Broadband

The Australian Government announced in April 2009 it would establish a new company to invest up to \$43 billion over eight years to deliver superfast broadband to Australian homes and workplaces. The Government's investment in the National Broadband Network (NBN) will provide high speed broadband to meet the growing need for advanced telecommunications services over the long term and aid in the delivery of services in areas such as education and health.

Following the Federal election outcome in September 2010, the National Broadband Network (NBN) rollout will now be actioned and while the schedule for the rollout in Western Australia is not known at this time. The implications for labour and skill shortages are expected to be significant. As the NBN project evolves, field construction staff will be in high demand. In the long run, the

eight-year project is set to create about 25,000 jobs. Innovation and Business Skills Australia (IBSA) has projected a shortfall of 8,000 workers nationally.

The NBN, together with telecommunications regulatory reforms being undertaken by the Government, will enhance the competitive dynamics of the telecommunications sector. This direct investment is supported by investments in infrastructure to sustain the innovation.²⁰⁵

Australia currently has very low levels of broadband penetration into the home user market segment. The Australian Industry Group (2008) noted Australia ranked:

- 23rd out of 127 economies in terms of accessibility to digital content across a wide range of platforms including fixed-line internet wireless, internet mobile network satellite;
- 27th in terms of quality of competition in the ISP sector;
- 19th in terms of high-speed monthly broadband subscriptions; and
- 29th in terms of lowest cost of broadband.²⁰⁶

Not only will the speed of the NBN permit new products, services and capabilities to be accessed at home it will advantage other users such as medical and educational.²⁰⁷

NBN Digital Education Revolution

In addition to the NBN, the Australian Government has several of 'Digital Education Revolution' initiatives. These include the Government investing funding of \$2 billion to provide:

- the National Secondary School Computer Fund, to provide for new information and communication technology (ICT) for all secondary schools with students in years 9 to 12;
- the Fibre Connections to Schools initiative, a contribution of up to \$100 million to support the development of fibre-to-the-premises (FTTP) broadband connections to Australian schools;
- collaboration with States and Territories and Deans of Education to ensure new and continuing teachers have access to training in the use of ICT that enables them to enrich student learning;
- \$32.6 million over two years to supply students and teachers with online curriculum tools and resources to support the national curriculum and conferencing facilities for specialist subjects such as languages;
- the development of online learning and access that will enable parents to participate in their child's education; and
- \$10 million over three years to develop support mechanisms to provide vital assistance for schools in the deployment of ICT provided through the National Secondary School Computer Fund (DEEWR, 2008b).²⁰⁸

NBN Skilled Workforce

NBN Co which is responsible for the rollout is seeking systems engineers, network planners, testers, systems architects, project managers and IT professionals. There will also be a huge demand for cabling with the potential to retrain copper wire specialists with optic fibre skills. The literature around the NBN rollout suggests that the demand for labour is as yet an unknown quantity with differing points of view within the industry.

Studies of existing data suggest the NBN initiative could suffer through the lack of available skills in the Australian labour market. Major labour gaps and shortages are apparent. These include:

- Current numbers of available cabling and network engineers falls well below expected demand.
- The expected regional availability of competent telecommunications workers in the occupations required to build and maintain the NBN appears to be grossly inadequate.

- The definition of competence for existing telecommunications workers and the 'next generation' technologies proposed in the NBN has not been specified and is not adequately regulated under the existing Australian Communication and Media Authority (ACMA), national cabler registration service.
- Convergence of technologies means boundaries between the cabling related occupations and other ICT, electrical and utilities.²⁰⁹

In *The Australian Newspaper's Australian IT: Predictions 2010* executive search specialist Debra Kwasnicki highlighted that "retention will be a major issue in the coming years for the ICT industry, and if the NBN begins to roll out in Western Australia, the industry will have to identify people who are capable of managing large scale vendor services".²¹⁰

While the current activity of telecommunications sector is concentrated in the major east coast states and capital cities, a need for cablers and cable joiners to connect rural and remote households can be expected to create region-specific short to medium term skill shortages.²¹¹

The demand for skills to undertake the NBN roll-out is significant and important. The greater impact on skills will flow from the long term impact of the network on commerce generally, as the improved digital infrastructure further transforms the way people communicate and do business.²¹²

Industry Journal, *Communications Day* states:

*As many as 30,000 workers will have to be trained and certified to build the national broadband network if NBN Co's ambitious target of up to 5,000 connections per day is to be met, according to national training body CITT. The 30,000 would be in addition to the 63,000 registered cablers, many of whom will also need various levels of retraining.*²¹³

Hays IT Australia states "In certain skill sets there will be no choice but to fill the positions with overseas workers".²¹⁴

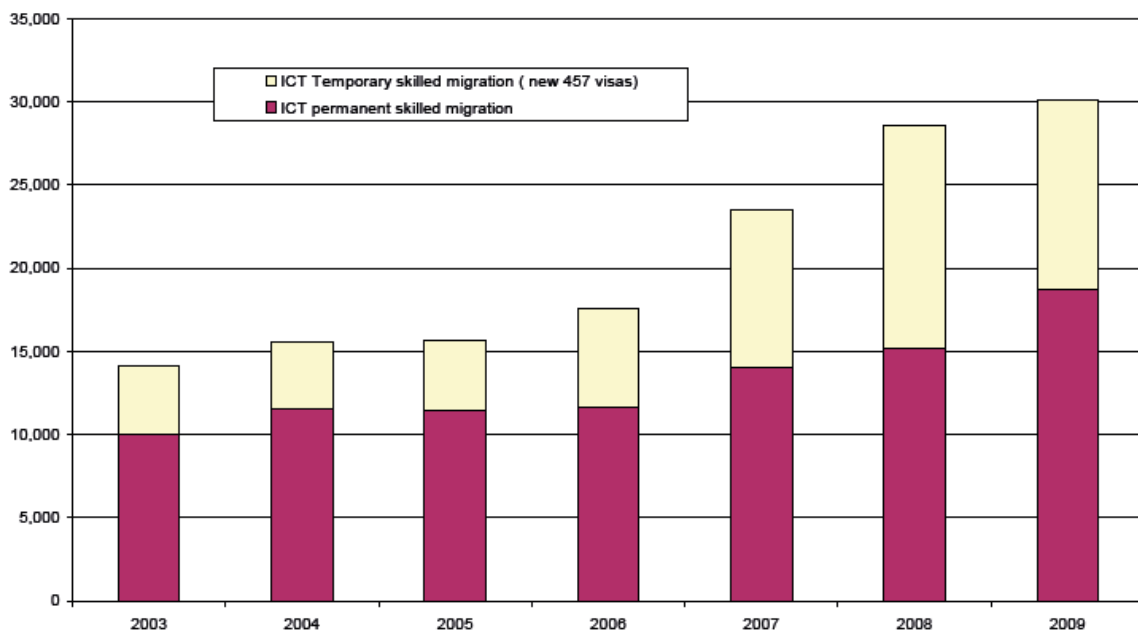
General Skilled Migration Program Reform

In recent years skilled migrants have filled workforce gaps via the sub-class 457 visa scheme. Of the Creative Industries, on a National level the ICT sector has been the largest employer of 457 (Temporary Business, Long Stay) visa holders. While the number of visa applications for the Information, Media and Telecommunications have decreased. There is an industry belief that many ICT sector skilled migrants are now brought in under the mining or construction industry classifications.²¹⁵

The Australian Government has confirmed that it will reform the General Skilled Migration (GSM) program in an effort to make it more responsive to the needs of industry and employers and better address the nation's future skills needs.

The new arrangements will be designed to give first priority to skilled migrants who have a job to go to with an Australian employer. This program could benefit the Creative Industries with predicted skills shortages in the telecommunications, ICT and printing sectors.

ICT Migration to Australia - 2003-2009 ²¹⁶



Inwards permanent migration levels have increased since 2006; short-term migration has reduced in the last year, after growing rapidly since 2005.

National Cultural Policy

In October 2009, the Federal Minister for the Arts Peter Garrett announced plans for the development of a national cultural policy.²¹⁷ **Not finalised to date.*

Regulatory Requirements – Creative Industries

Regulatory Requirements: Arts and Culture

There are a number of work areas within the arts and media industry sectors which are impacted by licensing requirements:²¹⁸

- **Restricted Electrical License** - Electrical licensing requirements impact most significantly on work in the areas of audio, lighting and vision systems. A licensed electrician must undertake some activities within these work areas. In certain venues, some technicians will possess a restricted electrical license, these technical general units are imported from the Electrotechnology training package.
- **Rigging** - A rigging license is required to undertake rigging work in the entertainment industry. Requirements relate to skills described in the Building and Construction Training Package. The need for entertainment riggers to obtain a construction related license is an important consideration for the workforce. Additionally, some telecommunications workers are required in their jobs to operate at heights and use equipment which requires them to have a Riggers license.
- **Pyrotechnics** - As the use of Pyrotechnics is heavily regulated in Western Australia, any worker operating in this area consults with the relevant State explosives and dangerous goods authority and/or WorkSafe to ascertain the relevant licensing requirements for the handling, use, transport and storage of pyrotechnic supplies. This is a mandatory requirement.
- **Intellectual Property and Copyright** ²¹⁹ - All arts and culture workers are protected and must adhere to [the Copyright Act 1968](#) is the legislation whether creating art or managing a collection of other people's work.

Computer software, CD-ROMs and the Internet have made compliance with copyright law more complex. Online images for use in creative work are subject to Copyright and that too for artists own creative works on the internet.

Under Australian law, the owner of the copyright in an artistic work has the exclusive right to reproduce, publish and communicate the work to the public, for example by printing it in a book or showing it on a website. To copy art works which are protected by copyright, permission from the copyright owner must be received.²²⁰

Viscopy is a service managing the rights in artistic works on behalf of the artists. Viscopy provides licensing services to customers working in arts sectors including in books, on websites, greeting cards and posters, in newspapers, magazines, television, exhibition catalogues, merchandise, advertising and film.²²¹

- **Media Codes and Regulations**

Television - The content of free-to-air commercial television is regulated under the Commercial Television Industry Code of Practice which has been developed by Free TV Australia and registered with the Australian Communications and Media Authority (ACMA).²²²

Free TV Australia checks most national TV commercials for compliance with Federal and State law, any mandatory Codes and the Commercial Television Industry Code of Practice through Commercial Advice (CAD). CAD has produced a checklist of “matters covered by

legislation, standards, codes and guidelines which might affect the production and placement of television commercials”²²³

[The Commercial Television Industry Code of Practice](#) regulates the content of commercial television. The section on advertising covers commercials directed at children, host selling and premium charge telephone services, and stipulates the scheduling for the advertising of alcoholic drinks, betting and gambling, products of a ‘particularly intimate nature’ such as condoms, sanitary napkins, tampons and vaginal deodorants and telephone sex lines into classified time zones. The Code is authorised by the ABA under the Broadcasting Services Act, and complements the ABA Children’s TV Standards.²²⁴

Radio - Under a system of co-regulation, Commercial Radio Australia in consultation with its members, the ABA and members of the public, has developed the Commercial Radio Code of Practice. The Codes are comprised of eight different codes of practice which prescribe minimum standards for programs broadcast on all commercial radio broadcasting stations.²²⁵

Print - The Australian Publishers’ Bureau (APB) has together with the ACCC issued guidelines on misleading and deceptive advertising. The APB clears print advertisements for Slimming Weight Management and Alcohol products.²²⁶

The Outdoor Media Association (OMA) in addition to their own industry Code of Ethics, endorses and supports the AANA Advertiser Code of Ethics.²²⁷

Alcoholic Beverages Advertising Code - The Australian Associated Brewers, The Distilled Spirits Industry Council, The Winemakers Federation of Australia and Liquor Merchants Association have agreed to abide by a new Alcoholic Beverages Advertising Code introduced in April 2004.²²⁸

Distilled Spirits Industry Council of Australia Inc (DSICA) members have developed a statement of the responsible practices for advertising and marketing to provide guidance to all those involved in the promotion of their respective brands. This applies to all activities undertaken to advertise and market distilled spirits. These activities include brand advertising, consumer communications, promotional events, packaging, labels, and distribution and sales materials.²²⁹

Tobacco Advertising Prohibition Act - Tobacco Advertising is prohibited under the Tobacco Advertising Prohibition Act. There are several exceptions which include Point of Sale Advertising and Advertising through sponsorship of sports.

Body Image Voluntary Industry Code of Conduct - The National Advisory Group on Body Image, appointed by the Australian Government in 2009, developed the Voluntary Industry Code of Conduct and aims to build on and further encourage the positive steps that are being taken within the fashion, media and advertising industries to bring about long-term cultural change.²³⁰

*The Code outlines Principles to guide industries to adopt more body image friendly practices. It encourages more diversity in the selection of models, a wider range of clothing sizes in retail fashion, the use of realistic and natural images of people, and disclosure when images have been digitally manipulated.*²³¹

Australian Association of National Advertisers

- [AANA Code of Ethics](#) - The overarching code of Australian advertising industry self-regulation, this code has the objective of ensuring all advertising is ethical, and prepared with a proper sense of obligation to consumers and fairness to competitors.²³²

- [AANA Code for Marketing and Advertising Communications to Children](#) - Revised after extensive community consultation in May 2008, this code is designed to ensure that advertising and marketing communications directed at Australian children is conducted within prevailing community standards.²³³
- [AANA Food and Beverages Advertising and Marketing Communications Code](#) - Based on International Chamber of Commerce principles, this code is designed to ensure a high sense of social responsibility in advertising and marketing of food and beverage products and services in Australia.²³⁴
- [Environmental Claims in Advertising and Marketing Code](#) - The object of this code is to ensure that advertisers and marketers develop and maintain rigorous standards when making Environmental Claims and to increase consumer confidence to the benefit of the environment, consumers and industry.²³⁵

Graphic Design Services – The sector is not regulated, however, individuals can become members of the Australian Graphic Design Association which currently has around 30% of the sector employees as members. There is no specific qualification required for membership.

*The Association is seeking to establish an accreditation scheme that will include minimum standards of qualifications and work quality to be attained by individuals.*²³⁶

Regulatory Requirements: Information and Communications Telecommunications

The telecommunications regulator is the Australian Communications and Media Authority (ACMA). The legislation covering ACMA activities involves a broad range of national activities from carrier licensing for radio spectrum and the ACMA Cabling Provider Rules Registration.

- **ACMA Open Registration Cabling License** - An *Open Registration* enables a worker to complete any task in relation to Telecommunications cabling. This new course replaces the old AUSTEL and BCL License which required a cabler to complete Endorsement *Courses* to install specialist telecommunications cabling.

Under the requirements for *Open Registration* endorsements are now voluntary. A cabler holding an *Open Registration* can legally install specialist cable types without gaining Endorsements on their Registration. Some cabling companies will request cablers to have voluntary endorsements as part of their Registration. An example is: High speed Data transmission the most common endorsements are Structured Cabling Systems (SCS), Optical Fibre and ACMA Restricted Registration Cabling Course.

- **Restricted Registration** - A Restricted Registration is the minimum registration required to install sensor cabling for a Fire Alarm, Security Alarm or Nurse Call unit.
- **International Restrictions - Internet Content** - The availability of commercially developed content, such as television programs, is legally restricted to the country of origin and those international operators that have agreements with content owners can distribute in other countries.²³⁷

Entities offering content over IPs in Australia will need to have IP distribution rights to the content in order to offer it through their services.²³⁸

- **Telecommunications Code of Practice 1997** - Telecommunications Act 1997 requires carriers to comply with a Ministerial Code of Practice and places requirements on carriers to conduct their activities for which they are to exercise their statutory rights and immunities in a way that responds to the rights of individual land owners, affected utility service organisations and management authorities and to broader community concerns on environmental issues.
- **E Marketing and Spam** - The SPAM Act 2003 regulates the sending of commercial electronic messages by email or SMS. The [Australian Communications and Media Authority](#) has a useful information on complying with the Spam Act.

Impact of Globalisation – Creative Industries

As the global economy emerges from the financial crisis, it is important that Western Australia's Creative Industries are able to grow with workforce needs in a global environment.

As Western economies move from reliance on manufacturing to a 'knowledge economy' the importance of strengthening relationships between education and training, financial and Creative Industries has become apparent.

The technological imperative of maximising production through innovation, the cost of labour as manufacturing moves overseas to cheaper labour costs and the market imperative to stimulate new ideas, consumer demands and creative endeavors has influenced the global economy.

Human Resources

Global opportunities example - David Atkins Enterprises is a leading, Australian global live event and theatre production company. They create and produce ceremonies, arena events, musicals and live productions in Australia, Asia, America, Europe and the Middle East.

David Atkins was producer and artistic director for the Sydney 2000 Olympics Opening and Closing Ceremonies. In 2006 he created and produced the Opening and Closing Ceremonies for the 15th Asian Games in Doha, Qatar. These Ceremonies exceeded any previous Asian games Ceremonies in scale, spectacle and impact and surpassed both the Sydney and Athens Ceremonies in terms of innovation and technology.

In 2010 he created and produced the Opening, Closing and Victory Ceremonies for the 2010 Olympic Winter Games in Vancouver, Canada, as well as the largest outdoor multimedia display in history for the Opening Ceremony of Expo 2010 in Shanghai, China.²³⁹

Improved Technology

Digital printing - The advent of digital photography, and its subsequent adoption by the vast majority of the Australian public, with the ability to place orders for digital prints online, rather than delivering film to a developer, means that international operations are a genuine possibility in the image processing and printing services in Australia.²⁴⁰

IBISWorld's outlook suggests that the current dominance of major players and department stores suggests the sector will remain highly globalised particularly as large companies attempt to move into Chinese markets in an attempt to establish a growth market.²⁴¹

Digital publishing - Newspaper Printing or Publishing in Australia level of globalisation is high and the trend is increasing. The availability of local and foreign newspaper titles on the internet has increased accessibility to newspapers across geographic borders.²⁴² This may impact on printed news circulation, price increases and a need to offer alternative news sources.

Libraries - The provision of digital information via the internet is experiencing a high level of globalisation for Libraries in Australia.²⁴³ More libraries are becoming increasingly involved in digital content supply.

IT - IT consulting is a growth market with increasing competition from overseas players and will likely result in a loss of industry share for the systems design segment. The hardware consulting segment has grown with the rapid influx of companies utilising internal servers for information storage has changed, as companies take more of their work online, the need to maintain efficient hardware is likely to become more important.⁸⁷

IBISWorld expects the major IT players to continue to establish branches in India and China (along with other low-cost Asian nations) in order to provide services at more competitive prices which will also contribute to a drop in the share of revenue raised by these services.²⁴⁴

Global Economy - International free trade agreements are increasingly exposing the industry to global competition and the rising Australian dollar will directly impact the competitiveness of exporters and businesses competing against cheaper imports. Businesses importing into Australia, such as parts of the entertainment sector, may benefit from the stronger international purchasing power.²³

International visitors are increasingly participating in cultural events when in Australia and some Australian productions (shows) are sent on overseas tours.²⁴⁵

ICT - The ICT sector's increased globalisation is also a threat to smaller firms - companies without an international presence may lose large contracts. These factors will lead to large players gaining greater market share and the industry experiencing greater concentration.²⁴⁶

IBISWorld expects the ICT sector to increase in concentration as larger participants consolidate operations by sending low-skilled jobs offshore and reduce the number of establishments they have, but increase the size of major ones. This cutting of costs by large firms that already possess economies of scale is likely to create further price pressure on smaller firms, forcing many out of the industry, or into niche markets.²⁴⁷

The demand for locally-based services is being slowly affected by the increasing trend in outsourcing software development and client services activities to highly skilled yet lower cost countries. IBISWorld reports:

*Nations such as India and China, are increasingly willing and capable of providing these services at a far lower cost than firms in developed countries. In a bid to lower costs to clients and increase price-competitive contracts and tenders, potential clients of Australian firms are looking offshore for their routine programming and systems design assistance.*²⁴⁸

The computer maintenance sector of IT has a medium level of globalisation with a steady trend. IBISWorld estimates foreign-owned companies account about 26% to 50% of industry revenue.²⁴⁹

Mobile Workforce – The creative arts sector will be subjected to increasing globalisation as more artists, particularly in literature and music, become internationally successful due to increases in exposure and many Australian creatives moving overseas.²⁵⁰

Education and Training - As the world becomes increasingly more interconnected and global markets for skills and innovation develop even further, it will be crucial for Australia to have enough highly skilled people able to adapt to the uncertainties of a rapidly changing future.

According to The Bradley Review, “higher education will clearly be a major contributor to the development of a skilled workforce but, as never before, we must address the rights of all citizens to share in its benefits. Higher education will continue to be a cornerstone of our legal, economic, social and cultural institutions and it lies at the heart of Australia’s research and innovation system”.²⁵¹

In late 2009 the Organisation for Economic Cooperation and Development released an interim report linked to the studies of 17 countries, *Learning for Jobs*, which illustrates the rich international diversity in vocational systems. The Learning for Jobs study revealed:

For vocational training to live up to its potential, we need a modernised approach, with highly professional teachers and trainers, preparing young people for the demanding jobs of the future.

We need to recognise that as economies evolve, new jobs will emerge, in the environmental industries, in health care and elsewhere. The training needs to deliver not just a first job, but the adaptability and capacity to learn other skills, to allow for an evolving career.²⁵²

Globalisation and improved technology can provide Western Australia with extended opportunities to work globally whilst residing locally. This is changing the way we do business and differing business models.

The global economy is impacting on local business and is driving competition for dollar value in most sectors but is more pronounced in the ICT sector with increased consolidation of services to low-skilled jobs offshore reducing costs.

The knowledge economy is influencing the availability of digital content online and international information, news, media and social activity engagement. This provides opportunities for Western Australians to utilise the internet to work on world projects and promote its own knowledge based economy and skilled workforce.

Social Impact – Creative Industries

In Australia there is great interest among policymakers in considering social as well as economic impacts when developing policies and programs for creative and cultural activities and in encouraging collaboration between creative fields and other social and economic initiatives in the pursuit of social objectives.²⁵³

Despite widespread increasing public support and engagement with the arts, there is a lingering perception that the arts are an optional extra rather than an essential component of a contemporary nation with tangible economic and social benefits.²⁵⁴

A vital and thriving cultural industry is vital in maintaining Australia's unique cultural identity, especially in the global context. However, due to society's general undervaluing of all cultural activities, this makes it extremely difficult for most artists to generate sufficient income to work in their chosen area of interest, skill or expertise on a full time basis. Many individuals, therefore, work full or part time in other employment areas (including teaching) to supplement any actual or potential arts-related income.²⁵⁵

As cited in IBISWorld, Creative Arts in Australia:

It follows that the production of art has a social value, whether through initial creation or performance, that will extend beyond the immediate consumers of that art. It also follows that in an economic system based on voluntary exchange markets, the social value of art will not be fully reflected in private transactions. Australia Council, 'But What Do You Do For a Living?' (1994, pp. 54).

The live entertainment sector also generates a number of intangible benefits that are not captured in economic metrics. These included improved social cohesion, lifestyle improvement, diversity and increased creativity. It is the combination of economic, social and cultural contribution that makes it so important to Australia.²⁵⁶

Community Capacity Building

There is an ongoing need in Western Australian to focus on and maintain training, workforce development and community capacity building in declining regional environments. The Creative Industries can positively influence the development, social wellbeing and capacity of communities.

Deidre Williams' paper *How The Arts Measure Up*, states:

The value of community art is in its expression of community culture, as part of the culture of wider society. Community art becomes a part of the process of community cultural development. This process recognises the importance of community as fundamental to cultural expression, along with the space for social interaction and resources for artistic production. It values community artistic expression as an important way in which communities can: create a sense of place; affirm their values; assert their differences; and communicate their aspirations.²⁵⁷

Community arts projects are highly effective in communicating ideas and information and increasing awareness and understanding of different cultures and lifestyles. Community arts projects can also be powerful catalysts for driving social change.²⁵⁸

Western Australia is home to unique and diverse communities distributed across vast distances and landscapes. As cited in the Western Australian Department of Culture and the Arts document, *Creating Value, An Arts and Culture Sector Policy Framework 2010 – 2014*²⁵⁹.

Engagement in culture and the arts has the capacity to enrich and transform individuals, communities, environments and Western Australia. It is essential to our personal and community growth, invoking a sense of belonging (2010, pp. 5).

To measure the delivery of public value through the principles of creativity and engagement, the Department of Culture and the Arts will measure key drivers of public value:

- Quality;
- Impact;
- Reach; and
- Value.²⁶⁰

Digital Divide

The widespread availability and uptake of high-speed broadband at its importance to the Australian evolution and economy, is likely to highlight the 'digital divide'.

The digital divide is the gap between people with effective access to digital and information technology, and those with very limited or no access at all. It includes the imbalance both in physical access to technology and the resources and skills needed to effectively participate as a digital citizen.²⁶¹

Data from the 2006 Australian Census revealed distinct divisions in internet access for different population groups. In 2006 only 30% of the 1.4 million households earning less than \$500 per week had internet connectivity, compared to 61% of all households.

Digital literacy and the ability to use information and communications technology has become one of the most critical skills for participation in modern society.²⁶²

As outlined in the report *E-Skills UK*²⁶³ there is a pressing need for increased 'digital economy' skills amongst leaders and managers and 'digital work' skills amongst people needing to use technology in their jobs. The ability to generate new jobs in all sectors depends on the quality of the 'digital skills pool'.

Developing the digital literacy of the population has the potential to not only boost productivity and participation but also to increase social inclusion. Digital literacy holds enormous potential to improve the participation of low socio-economic groups, disadvantaged children and their families, and regional and remote communities.²⁶⁴

To address this issue and develop digital literacy in Australia provisions *for language, literacy and numeracy* (LLN) definition is to change to *digital, language, literacy and numeracy* (DLLN).

The *Universal Declaration of Human Rights*, outlined by the United Nations states "access to, and participation in culture and arts is a basic human right"²⁶⁵

Research indicates that engagement in culture and arts activities is essential to community social and economic well being. It delivers public value through building tolerance, cultural resilience, and transformative and enriching experiences.²⁶⁶

The arts have an importance beyond the objects, insights and experiences created. In addition to the intrinsic cultural value, the arts play an important institutional role. They define life in a civilised society, help build intellectual capacity, aid social cohesion and are the bedrock of increasingly significant Creative Industries.²⁶⁷

Technology and Innovation – Creative Industries

The Creative Industries are on the frontline of technological change and while new technologies can bring business opportunities, niche markets and cost efficiencies, they can also mean significant re-skilling, higher consumer expectations, increased global competition and new legislation and regulation.²⁶⁸

As stated in the research paper April 2010 *New Models New Money: A Foundation for the Artist*,

*We are on the cusp of a major change. Digital technology is making it possible for more people to explore, express and find audiences for their creativity. This is changing the relationship between artists and audiences and challenging many long-standing business models. It is also presenting exciting new possibilities.*²⁶⁹

The 2008 review of the National Innovation System, *Venturous Australia*, led by Dr Terry Cutler highlights: “the role for human capital as a key driver of innovation”. Some evidence suggests innovation by Australian businesses is being constrained by skills shortages. Many of the skills needed by Australian businesses to drive innovation are the Creative Industries sectors of information communications technology and marketing.

According to IBSA Environmental Scan, *Cultural and Related Industries Extract March 2009*, “A survey of Australian businesses in April 2008 found that skills shortages had impacted 68% of Australian businesses over the preceding year” (AIG/Deloitte 2008).

The AIG/Deloitte survey 2008 also found that innovations within 42% of businesses were restricted by skills shortages and 46% in small businesses.²⁷⁰

Cultural and related industries also contribute readily to innovation. The Cultural Ministers Council (CMC) has identified that governments and businesses are increasingly aware of the important role of creativity and the Creative Industries as drivers for innovation and economic growth in the broader economy.²⁷¹

According to the *IBSA E-Scan – Cultural and Creative Industries* (2010), the four skills most commonly used to undertake innovative activities are information technology, marketing, business management and financial skills.²⁷²

The Creative Economy strategy states, “The difference between creativity and innovation is, creativity is personal and subjective. Innovation is group-led, competitive and objective. Creativity can lead to innovation. Innovation seldom leads to creativity”.²⁷³ This difference needs to be recognised in order to build future successes.

Technological Convergence

Technological convergence is affecting the way that people work in the creative industries. In a study for Innovation Business Skills Australia (IBSA), the Centre for International Economics has stated that “Convergence is redefining the boundaries between industries – many of the cultural and Creative Industries that were once separated now need similar skills.”²⁷⁴

While technology is blurring many of the traditional boundaries across this sector, there is also considerable divergence in the interests and perspectives of these industries. The performing arts themselves are diverse both in the range of art forms and also in the training and skill requirements of artists — which span from amateur to professional performers.²⁷⁵

The impact of technological convergence has been profound in the areas of communications and Creative Industries and the range of businesses and skills impacted has been extensive. The ICT sector will continue to be at the forefront of change and will become even more heavily integrated into all other industries as new technologies are widely adopted. ICT workers will need generic and transferable skills to adapt to constant change and to the requirements of different industries and employers.

Creative Industry sectors that were once distinct such as broadcasting, telecommunications and information technologies now overlap. Evolving technology and overlap in training has directed the convergence.

An example of technological convergence is with the Perth Institute of Contemporary Art's, National Graduate Show 'Hatched' in 2010:

Hatched 2010, encompasses art forms as diverse as painting, drawing, collage, photography, printmaking, textiles, installation, performance, video, sound art, kinetic sculpture and exploring new presentation platforms such as YouTube and 3D gaming.

The show demonstrated the convergence of technology within visual arts by the new generation artist in a digital and knowledge based economy.

Technological Change

The pace of technological change is accelerating. This is manifested in dramatically increasing server and data storage capacity requirements, the development of more 'intelligent' physical infrastructure, the integration of information processing beyond the desktop into everyday activities with enhanced content and network management capabilities.²⁷⁶

Technological change, particularly digitisation and the almost universal access to a low cost communications platform provided by the internet is changing the way that people, organisations and industries work.²⁷⁷

Examples given in Innovation and Business Skills Australia's Environmental Scan 2010 of the impact of technological change on the creative industries are:²⁷⁸

- New web-enabled mechanisms for interacting with customers, suppliers and stakeholders are reshaping business operations and consumer expectations;
- Technologies developed for social or entertainment purposes are increasingly adopted as business tools; and
- Businesses in all industries feel the imperative of remaining alert to the potential of new technological developments.

The uptake of new technologies in the evolving digital economy is also likely to bring about future changes to copyright law with the ability to claim and protect copyright which may require the reconsideration of business models and income streams. These changing attitudes to the protection of intellectual property will directly impact on artists and content owners in the Creative industries.

According to IBSA's Environmental Scan 2010, "printing, arts and cultural sectors will be most challenged by the need to up-skill and forge new business models in the face of changing consumer requirements and intellectual property environments".²⁷⁹

Access to new and emerging technologies has implications on artistic practice, audience engagement, publishing and other forms of distribution and presentation. Rapid advancement in new media technologies has fuelled artists' interest in creating work that uses these new forms and multi-art form practice.²⁸⁰

Escalating use of technology is impacting museums, libraries and information services sector. There is an increasing need for those working in the collections sector, library assistants and technicians to be able to work with technology in addition to their technical and customer service skills. This is now reflected in the training and qualifications available.

Technology is driving change in the Creative Industries. Research shows that one in three Australians (and more than half of all 15-24 year olds) are now using the internet to access the arts and creative industries.²⁸¹

**Australia Council for the Arts Report
More Than Bums on Seats: Australian Participation in the Arts (2010)**

Consuming	% of all internet users	Avg occasions per year
Researched or found out more about an artist or art event	35	32
Watched or listened to music online	30	86
First heard about an artist or art event	26	34
Downloaded music online	22	65
Watched/downloaded performances and/or art works by professional artists, excluding music	14	38
Watched/downloaded performances and/or art works by non-professional artists, excluding music	11	43

Software and In-house Publishing

The emergence of software such as Adobe's PDF format and the reduction of price of the hardware, software with the rapid evolution of variable data digital printing devices and digital photography has seen prepress task readily absorbed into organisations such as chain stores, architects, mining companies, education, small business, government and more. The level of sophistication of 'in-house publishing' undertaken in these organisations varies and may include preparation of simple fliers, newsletters, adverts, reports and promotional material.²⁸²

It is estimated that 60% to 80% of graphic design/desktop publishing is still undertaken with the intent of having it printed.²⁸³

'Desktop Publishing' has become the term used by the printing and graphic arts sectors when the production of printed material is conducted by those with little or no knowledge and/or training in the technical requirements of preparation of artwork for printing.

The printing sector is frequently faced with problems when it receives the digital files as 'finished artwork' ready for printing and yet it is not. Lacking the background of training in the printing sector software, users have no real understanding of the strictures of preparing artwork for print.²⁸⁴

Companies facing issues in preparation of artwork for printing have usually undertaken software specific training but have not undertaken prepress training. They are unaware of the effect of incorrect files have on the process. This often causes dissatisfaction, frustration and cost overruns, for both the printing company and those preparing the artwork.²⁸⁵

Digital Printing

The Australian Printing Industries Association submission to the Productivity Commissions' Copyright Restrictions on the Parallel Importation of Books Study²⁸⁶ highlights technological changes including the proliferation of the internet and the increasing tendency to purchase books online coupled with the release of electronic devices such as ebooks, as well as plans to produce electronic versions of printed textbooks all pose serious competitive challenges for the Australian book printing sector.

Technological change has also started to blur the current distinction between book printers and booksellers. The bookseller Angus and Robertson for example has started to introduce 'print-on-demand' facilities in its bookstores allowing customers to order books that are currently out of print. In less than 15 minutes the selected title is printed, bound and handed to the customer.²⁸⁷

In November 2007 Dymocks launched a website containing over 120,000 digital books for download. This advent of digital books or e-books may reduce commercial printed copies in circulation even further.

Internet, Social Media and Cloud Computing

The new era of the internet, Web 2.0/3.0, is forming rapid changes within all industries especially the Creative Industries. The use of the internet has continued to grow exponentially for personal and business uses.

New uses of the internet are capitalising on its large storage space and instant communication applications have become an essential element of business and personal application.

- **Social Media** - Social media has enabled more consumer directed choices influencing design, marketing, interactive digital development and a personalised instant economy e.g. to Opt in online environments.

Security and personal identity protection has become apparent with data located worldwide. Gathering intelligence with data mining, data spooling (e.g. Craigslist) is constantly targeting individuals and business.

- **Cloud Computing** - 'Cloud' is a metaphor for the internet. 'Cloud computing' is a phrase that is being used today to describe the act of storing, accessing and sharing data, applications and computing power in cyberspace.²⁸⁸

Cloud computing is now unlocking the limitations of local data servers and promoting a roaming ability for all users to access information and work from any location with an internet connection. Companies are now choosing to store data in the cloud reducing technology infrastructure costs and repairs for local servers.

The *Future of the Internet* survey expects that by 2020 “most people will access software applications online, and will share and access information through the use of remote server networks, rather than depending primarily on tools and information housed on their individual, personal computers”. The survey outcomes suggested that cloud computing will become more dominant than the desktop in the next decade.²⁸⁹

Survey results were based on a non-random online sample of 895 internet experts and other internet users. From the survey 71% of respondents agreed with the statement:

*By 2020, most people won't do their work with software running on a general-purpose PCs. Instead, they will work in Internet-based applications such as Google Docs, and in applications run from smartphones. Aspiring application developers will develop for smartphone vendors and companies that provide Internet-based applications, because most innovative work will be done in that domain, instead of designing applications that run on a PC operating system.*²⁹⁰

These respondents also said:

The desktop will not die out but it will be used in new, improved ways in tandem with remote computing and they expect that a more sophisticated desktop-cloud hybrid will be people's primary interface with information.

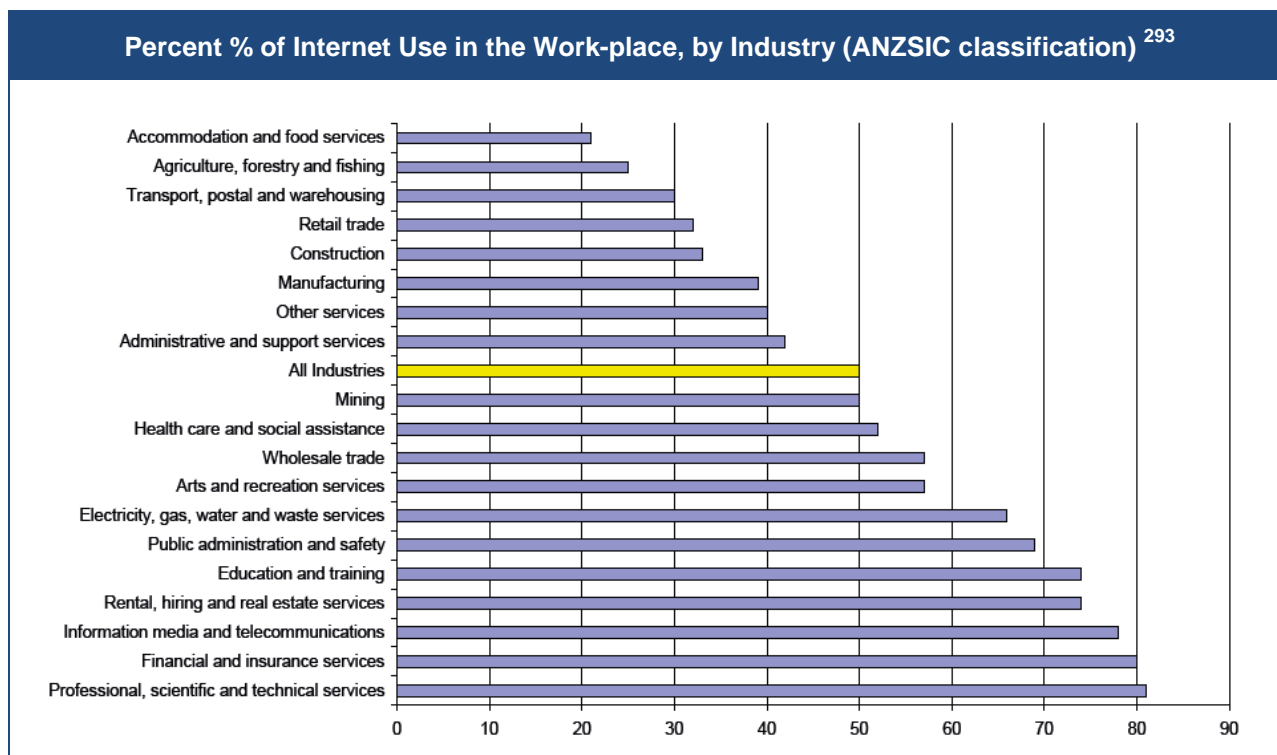
However limiting factors for cloud computing include:

*The lack of broadband spectrum to handle the load if everyone is using the cloud; the variability of cost and access in different parts of the world; and complex legal issues, including cross-border intellectual property and privacy conflicts.*²⁹¹

- **Mobile Devices and Applications** - Mobile devices, pocket devices and smartphones driving the move to the cloud and shift from the desktop computer.

As cited in the report, *The Future of Cloud Computing* Jonne Soininen, head of Internet Affairs and former system engineering manager, Nokia Siemens Networks states;

*The boundary between smartphones and the PC is already blurring by new, better, and more powerful mobile devices coming to the market. People have now the possibility to have the same computing power truly portable in their pockets, which was previously only available them on a bulky desktop or laptop. Being always connected to the services and applications on the internet is a must and not an option in the future.*²⁹²



Music

Advances in digital technology and the internet as a mass, global communication network have had a dramatic effect on the way music is performed, recorded, promoted and distributed.

Technology has enabled consumers to change how they purchase music which has challenged the record company monopoly on music distribution.²⁹⁴ Downloading to personal devices is becoming increasingly dominant and according to smartcompany.com.au compact disc sales have been in steady decline.

The implications for employment and training in music are significant.²⁹⁵ Musicians who wish to promote and distribute their music now require strong marketing and IT skills. This is illustrated with:²⁹⁶

- home studios equipped with digital audio workstations;
- a decline in sales of physical products such as CDs, countered by a dramatic rise in digital sales through outlets such as iTunes;
- new approaches to music distribution through the internet;
- new forms of online marketing and social networking linking musicians directly with fans e.g. MySpace.

In 2009 globally, for the first time, more than one quarter of record companies' revenues came from digital channels. Fans today can access and pay for music in diverse ways – from buying tracks or albums from download stores, and using subscription services, to using music services that are bundled with devices, buying mobile apps for music, and listening to music through streaming services for free.²⁹⁷

In the digital era, the music sector is diversifying its business models and revenue streams. “The à-la-carte download model, pioneered by iTunes, remains the largest revenue source in the online sector and has more than 100 million accounts across 23 countries” (Apple). Recent innovations in the à-la-carte sector include the introduction of variable pricing, which has increased the conversion of track purchases to album sales, as well as the launch of the iTunes LP and the rollout of free downloads internationally.²⁹⁸

- **Music companies and partnerships** - Music companies have started to partner with ad-supported services such as MySpace Music and We7, Internet Service Providers (ISPs) such as Sky in the UK, mobile operators such as Vodafone, handset makers such as Nokia and Sony Ericsson and online video channels such as Hulu and VEVO.²⁹⁹
- **Music subscriptions bundled with devices** - Mobile handset manufacturers Nokia and Sony Ericsson started offering unlimited music services bundled with mobile phones in 2008. The global reach of these players brings enormous opportunities. Nokia is the biggest mobile device manufacturer in the world selling more than 450 million phones every year.³⁰⁰
- **Digital downloads** - Strong downloading demand helped Australia become one of the few developed music markets to achieve overall growth in the first half of 2009, as the rise in digital music sales offset a small decline in revenues from physical formats. Digital album sales nearly doubled in the first half of 2009, representing almost 8% of overall album sales, and digital albums are proving especially popular in the early days after a title's release (ARIA). For example Western Australian artists Eskimo Joe saw digital album sales of between 15 and 20% of total first week sales.³⁰¹

National Broadband Network Rollout

The Creative Industries will be influenced heavily by Australia's National Broadband Network (NBN) rollout, a major infrastructure undertaking that will also impact across the labour market and economy.

Demand for the user technologies that accompany a high-speed broadband network content will require new skills and expertise not only in the ICT sector, but also within the Creative Industries and the education and training industry.³⁰²

The Australian Communications and Media Authority report, *IPTV and Internet video delivery models states*; “Internet video viewing is becoming more common and the National Broadband Network could further encourage the take-up of IPTV (Internet TV) and internet video services in Australia”.³⁰³

Given the ground-breaking role it will play in the future of Australian industry and society and its potential productivity dividends across all industries, the NBN rollout should be a catalyst for the adoption of comprehensive and business and creative approaches.

The NBN provides a platform for significant innovation. This innovation can be leveraged to promote use of broadband and related technologies to achieve workforce and industry outcomes.³⁰⁴

Internet Video Content

Australians now have access to a wide variety of ways to access video content including, mobile devices, iPods, iPads, phones, laptop computers, PCs, internet televisions and gaming consoles.

The Australian Communications and Media Authority report, *IPTV and Internet video delivery models 2010*³⁰⁵ identifies new models for delivering content including;

- Mobile TV - content distributed to mobile devices over a broadcast network, currently not commercially launched in Australia.
- IPTV - content offered by Internet Service Providers, set-top box, digital television, over an IP network.
- Web TV - can be commercially developed content, content produced specifically for the web and can offered on a pay-per-view basis.
- Internet TV - typically catch-up television for free to air and subscription broadcasters.
- Independent set-top boxes - devices offered by operators other than subscription television providers. Content can be accessed over the internet.
- Game consoles - access to film and television content over IP, typically pay-per-view.
- Mobile video - offered by mobile service providers.³⁰⁶

The National Broadband Network will be able to support the provision of IPTV and high quality video. It is also expected that this network will encourage growth in the provision and take-up of these entertainment services.³⁰⁷

Industry Magazine *B&T TODAY* (05 September 2010) announced Australia's first commercial television catch-up service, through Sony games consoles.

*The partnership between Yahoo!7 and Sony will see an expansion of on-demand content offering across music, movies, games and TV. All PlayStation3 (PS3) owners registered on the free to join, and play1 PlayStation Network will now be able to watch full length episodes of their favourite shows through Yahoo!7's PLUS7 service. There are approximately one million PS3 owners in Australia who can take advantage of the subscription-free service.*³⁰⁸

The development of the communications and media sectors will be heavily influenced by the increasing merging of voice, internet and content delivery functions over time. The services will be further entwined as the roles of hardware production, communications access and content combine.³⁰⁹

The increasing ability of consumers to choose when, where and how they consume content will encourage the fragmentation of audiences. Users will increasingly choose their own time for content consumption on their own preferred device rather than consume television content at the appointed time.³¹⁰

Digital Television Switch Over

The switchover to digital television broadcasting is almost upon Western Australia with some areas beginning the changeover in the second half of this year and the anticipated completion date is December 31st, 2013.

This rollout will have an immediate impact on the telecommunications and media workforce in Western Australia over the coming years, particularly an increased demand for digital television installers.

Digital Piracy

Digital piracy has been a problem most associated with music. Today Creative Industries including movie, publishing and television, regard 'monetising' the online world and addressing digital piracy as their greatest challenges.³¹¹

Simon Renshaw, Los Angeles-based manager of a long list of major artists says:

"The music industry was hit first, but now with increased broadband you have a situation where all the creative industries are at a tipping point. You can see it in the collapsing DVD market; you can see what's going on in TV, newspapers and magazines. And now we're

seeing the same thing in the book publishing business and you're going to start seeing piracy of novels and reference books.

*What I worry about is that we are heading into a world where copyright has no value and where there's no incentive for anyone to provide patronage and support for the creators of intellectual property".*³¹²

- **Music Piracy** – The growth of illegal file-sharing has been a major factor in the decline in legitimate music sales over the last decade, with global industry revenues down around 30% from 2004 to 2009. In virtually every country of the world, spending on recorded music has fallen since illegal file-sharing became widespread.³¹³
- **Movie Piracy** - The movie sector is also seeing the impact of digital piracy. The Motion Picture Association of America (MPA) estimates that illegal streaming and film downloads now account for 40% of its piracy problem by volume.³¹⁴
- **Book Piracy** - Book publishers are also grappling with the challenge of developing new business models for the digital era. Academic book piracy has been a problem for publishers for some years. Now it is also seen as major threat to the much larger consumer book sector.³¹⁵
- **Pre-Release Piracy** - Pre-release tracks, albums, movies and books leaked days or weeks before official release is a highly damaging and costly problem. "Pre-release copies of Wolverine were downloaded 100,000 times in 24 hours after a leak in April 2009".³¹⁶
- **Internet Service Providers** - The music sector and other creative sectors around the world are seeking to engage Internet Service Providers (ISPs) in curbing digital piracy on their networks.

In most countries, including Australia, this requires help from governments in establishing a consistent and effective response from the entire Internet Service Provider (ISP) community. A number of governments including France, UK, New Zealand, South Korea and Taiwan, have enacted legislation to require such cooperation or are in the process of doing so.³¹⁷

Libraries

As outlined in the paper by Robert McEntyre, *Australia's 21st Century Community Library Services Model* (2010), shares innovative ideas for Australian libraries including:

- Partnerships with Apple, Telstra, and ICT sector that enables all Australian public library services and their users to access emerging technologies and programs.
- Partnerships between the public library system, the school library system, the TAFE and university systems and third party sectors for the development and delivery of community education programs and initiatives.
- Libraries are operated by *Social Imagineers, Infoentertainers, Infoexperts* and *Infotechnologists* who access centralised and standardised national, state and local management and support services including *Transliterators*.³¹⁸
- **Future Libraries** - A future library was shown at the 20th Abu Dhabi International Book Fair in March 2010 and is a concept that heralds 'a new generation in libraries'. Future libraries are likely to feature 24-hour, self-service facilities with vending machines stocked with

books, CDs and DVDs allowing users to take out and return them any time of the day or night.³¹⁹

Shenzhen City in China with a population of nearly 14 million is home to the jewellery, printing and fashion industries. It has about 500 library outlets including around 40 library vending machines.³²⁰

Libraries will also have Playstations and Xbox consoles as well as 'lifestyle zones' where visitors can relax and listen to a CD or audio book.³²¹

- **Community Creative Spaces** - In 2006 futurist Thomas Frey commented that "the role of the library within a community was changing and the way people interacted with the library and its services was also changing".³²²

A suggestion was to experiment with creative spaces. Possible uses for these creative spaces included band practice rooms, podcasting stations, blogger stations, art studios, recording studios, video studios, imagination rooms and theatre-drama practice rooms.³²³

- **Re-imagining Library Services** - The 2008 National and State Libraries Australasia (NSLA), *Re-imagining Library Services Strategic Plan* outlined new opportunities in service delivery. It included ten identified projects including:
 - open borders - opening up access to e-resources and services across the libraries;
 - virtual reference - integrating virtual reference as a core function;
 - community created content - identifying and implementing a framework and tool set for everyone to create and transform online content; and
 - collaborative collections - delivering efficiencies through collaborative collecting.³²⁴

Sustainability – Creative industries

Issues surrounding productivity, environmental sustainability and energy efficiency are expected to increasingly impact on businesses, future legislative requirements and consumer expectations. Public awareness and concern about environmental issues are continuing to increase and international and domestic policy responses to climate change and sustainability issues will affect the Australian economy and workforce.

Environmental Sustainability

Addressing the challenges of environmental sustainability will require new skills and knowledge in ICT and the design sectors of the Creative Industries, as these will play an important role in the development of environmental sustainability solutions that can be applied in other industries.

The Innovation and Business Skills Australia's Environmental Scan 2010 highlights that building capability for occupations that are yet to emerge in this field, will be an important element of workforce planning.³²⁵

With a focus on minimising waste and maximising the benefit arising from each input, productivity is also integrally linked with environmental sustainability as well as with ongoing business profitability.

Art and Design

Issues around environmental sustainability will be of critical importance to the design sector in relation to making objects that are fit-for-purpose. Additionally, as an issue of social concern, environmental sustainability will be a significant influence on visual artists – it is already being emphasised in public funding application guidelines and is likely to continue as a prevalent theme and/or requirement.³²⁶

Telecommunications

The telecommunications sector also will be heavily affected by the Green Skills Agenda for sustainable urban ecology. Training will need to reflect the ability of telecommunications to contribute to sustainability.

ICT

A RMIT study commissioned by Australian Information Industry Association (AIIA) is the first time the ICT sector has been able to benchmark its green capacity and will provide the basis for improvement across the board.³²⁷

AIIA CEO Ian Birks said: “Besides mitigating the direct impact of technology use on the environment, the ICT industry is uniquely positioned to improve environmental performance across the economy.”³²⁸

Among the key findings released, the Australian Computer Society (ACS) report quantifies ICT's share of Australia's total carbon emissions at 2.7%; technology is directly responsible for more than 7% of all electricity generated nationally.

- The biggest components of ICT carbon emissions are data centres at 18.8%, followed by PCs (15.8%), printers and imaging equipment (15.7%) and servers (14.7 %).
- Mobile phones and portable equipment account for only 1% of ICT energy consumption despite their widespread use.
- Enterprise ICT carbon footprint is split over many sectors, with Education (7.3%) and Healthcare and Social Assistance (5.9%) leading consumption.

- Household ICT usage represents more than the largest six industry sectors combined – at 34.6% of the total.³²⁹

In July 2009, the Australian Computer Society (ACS) released an addendum to its Green ICT Policy which has, as a key recommendation, the extension of the Star Energy Rating system to cover all domestic and commercial ICT goods.³³⁰

The ACS supports the approach being proposed by the Australian Government in the Whole of Government ICT Sustainability Plan Discussion Paper (September 2009) of setting measurable targets around the four key areas in identifying:

- mandatory environmental standards for government ICT procurement;
- whole-of-government ICT energy usage standards and/or usage targets;
- a whole-of-government ICT energy consumption target and reporting arrangements; and
- a carbon pollution reduction scheme for the government's use of ICT and of the sustainability initiatives.³³¹

ACS Green ICT Policy - Following the Government's proposal to introduce the Star Energy Rating System to television sets, the ACS has bolstered its Green ICT Policy to include:

- A compulsory manufacturer take back policy taking into consideration the European Waste Electrical and Electronic Equipment and Restriction of Hazardous Substances in Electrical and Electronic Equipment directives, which requires ICT manufacturers to take back old ICT hardware when new hardware is purchased or upgraded. The ACS supports take back programs such as 'Byte Back'.
- As the largest single purchaser of ICT goods and services in Australia, the Federal Government is in a commanding position to lead by example in tackling the growing e-waste problem by ensuring that its ICT procurement guidelines and programs contain a take back clause for all its ICT equipment suppliers.
- New ICT supply contracts and new policies that are going to be implemented following on from the Government's acceptance of all the recommendations from the Gershon review into the use of ICT in the Federal Public Sector provide a perfect opportunity to put this policy into action.
- Introduce the Star Energy Rating system for all domestic and commercial ICT goods. This will allow consumers and ICT professionals to compare the energy consumption of ICT products and make the best choice in terms of reducing energy use and costs for businesses and households.³³²

Green ICT Checklist - As part of its Green ICT Policy, the ACS has developed a check list for use by ICT professionals in developing green ICT policies and programs for their organisations.

The Green ICT Checklist includes;

- Look at power consumption and reduction in power consumption when upgrading ICT hardware.
- Newer operating systems allow computers and other hardware to be put into sleep mode during periods of inactivity.
- Investigate carbon offset programs to offset ICT carbon emissions.
- Implement server virtualisation.
- Implement desktop virtualisation using ultra small and thin clients on the desktop which will reduce power consumption, reduce PC maintenance costs, increase security and set up new workgroups quickly.
- Deploy integrated telephony by replacing stand alone handsets with soft phone clients on computer workstations.

ICT based solutions are going to be a key factor in reducing emissions and increasing Australia's international competitiveness and generate global opportunities for Australian ICT professionals and Australian businesses.³³³

Printing

In 2009 the Printing Industries Association of Australia launched an environmental certification program, 'Sustainable Green Print'. The program is supported by non-accredited training and linked to ISO quality audit processes. Ensuring the Printing and Graphic Arts workforce develops the skills required for environmental certification will be a major training focus for the industry in the immediate future.

The Australasian Paper Industry Association (APIA) awareness raising campaign, *Paper Part of Everyday* provides an insight into the printing and paper industries sustainable practises.

Once paper is printed, folded, packaged and labelled, it is consigned for distribution to retail outlets like newsagents, direct distribution firms such as Australia Post and catalogue walkers, bookshops, stationery stores, government departments and corporations; Over 47% of this form of paper is recycled through specific recycling collections for re-processing in Australian and international paper manufacturing facilities.

Paper Part of Everyday shows in Australia:

- In total, over 2.5 million tonnes of paper and paperboard are recovered and recycled in Australia every year.
- Almost 66% of some grades of paper, for example, newspaper, are recovered and recycled.
- The paper and printing industry rely on recycling because recycled paper is often cheaper than original fibre.
- The Australian pulp and paper manufacturing industry's largest facility is also one of the Australia's largest producers of renewable energy, making more than 200,000 megawatt hours of renewable electricity every year.
- Australia's printers have moved increasingly to the use of vegetable based inks and dies that can break down naturally and aid the paper recycling process.
- Many expensive and damaging chemicals have been entirely removed from the paper and print industries and others have been significantly reduced.³³⁴

Training

The recent announcement by the Australian Government of funding and programs to support the creation of up to 50,000 new green jobs and training opportunities to build a stronger and greener Australian economy highlights the importance placed upon the development of skills for a sustainable future.³³⁵

In line with the Government's *National Green Skills Agreement*, an imperative to implement its Green Skills Policy, IBSA is undertaking work to ensure that all qualifications have skills for sustainability embedded and that any newly emerging job roles with a core emphasis on sustainability are reflected in the qualifications.

b) Industry Occupational Overview – Creative Industries

Supply and Demand of Training – Creative Industries

Innovation and Business Skills Australia Environmental Scan 2010

Innovation and Business Skills Australia reported in their 2010 E-Scan that:

- Almost one third of students enrolling in units from the Telecommunications Training Package indicated that it was 'a requirement of their job'. This indicates that the VET competencies are clearly aligned with industry requirements and/or regulation.
- A significant proportion of students enrolling in units from the Museum and Library/Information Services Training Package stated that they 'wanted to try a different career'.
- A significant proportion of students enrolling in units from the Music Training Package and the Visual Arts, Crafts and Design Training Package did so for 'personal interest or self-development' highlighting the way in which vocational skills, careers and small businesses in some sectors of the Cultural and Creative industries are frequently built from personal interests.

Training Package Demand (Australia)	2007 (000's)	2008 (000's)	% Change
Entertainment	2.9	3.3	13.2
Information and Communications Technology	50	49.1	-1.8
Museum and Library/Information Services	3.3	3.3	-0.9
Music	4.9	4.9	-1.5
Printing and Graphic Arts	2.7	2.8	3.9
Screen and Media	8.4	7.9	-5.6
Telecommunications	10.7	12.5	16.8
Visual Arts, Craft and Design	11	11.3	3.3

Source: *NCVER Australian Vocational Education and Training Statistics: Students and courses, 2008, July 2009*

Current and Emerging Skill / Labour Gaps – Creative industries

During 2010, continued skill shortages will become a primary concern of the creative industries. While this will be to a lesser extent than 2008, in many areas it appears likely that industry will continue to find it difficult to find certain skills.

The National Skills Council Innovation Business Skills Australia E-Scan states: *'Skills needs remain a primary concern of employers; despite easing of shortages during 2009 employers will continue to find retention difficult.'*³³⁶

Information and communications technologies skills require opening skills pathways and promoting ICT careers – especially when ICT capabilities are increasingly important to the wider economy.

Printing industry opportunities are available as a consequence of technology and innovation with some related job roles not widely known to industry entrants. A lack of RTOs who deliver printing qualifications constrains development of skills pathways.

Printing Industry Association of Australia's PRINT21 Action Agenda identified a shortage of people in the industry with skills that span the knowledge spectrum of the printing process, financial management, sales and marketing management, as well as information technology.³³⁷

IBSA's 2009 E-Scan Occupations and Qualifications in Demand

ANZSCO	Occupation / Job Role	Qualification	TP Code
CULTURAL AND RELATED INDUSTRIES			
232414	Web designer	Certificate III in Information Technology	ICA30105
		Certificate IV in Interactive Digital Media	CUF40207
		Certificate IV in Information Technology (Websites)	ICA40305
261212	Multimedia Specialist and Web Developer	Certificate IV in Information Technology (Websites)	ICA40305
		Diploma of Information Technology (Website Development)	ICA50605
212318	Video Producer	Certificate IV in Interactive Digital Media	CUF40207
212312 212111	Artistic Director	Diploma of Screen and Media	CUF50107
		Advanced Diploma of Screen and Media	CUF60107
232411	Graphic Designer	Certificate III in Design Fundamentals	CUV30303
		Certificate III in Printing and Graphic Arts (Multimedia)	ICP30305
		Certificate IV in Interactive Digital Media	CUF40207
		Certificate IV in Information Technology (Multimedia)	ICA40805
		Diploma of Interactive Digital Media	CUF50207
272611	Community Cultural Development Officer	Certificate IV in Arts Administration	CUV40503
		Diploma of Arts Administration	CUV60103
599912	Post-production Media Technician	Certificate II in Creative Industries (Media)	CUF20107
		Certificate III in Media	CUF30107
		Certificate IV in Screen and Media	CUF40107

ANZSCO	Occupation / Job Role	Qualification	TP Code
		Certificate IV in Interactive Digital Media	CUF40207
		Diploma of Screen and Media	CUF50107
211311	Photographer	Diploma of Photoimaging	CUV50407
232413	Multi / New Media Designer	Certificate III in Printing and Graphic Arts (Multimedia)	ICP30305
		Certificate IV in Interactive Digital Media	CUF40207
		Certificate IV in Information Technology (Multimedia)	ICA40805
		Diploma of Interactive Digital Media	CUF50207
		Certificate III Micro Business Operations [customised for innovation]	BSB30307
		Certificate IV in Small Business Management [customised for innovation]	BSB40407
		Dip of Small Business Management [customised for innovation]	BSB51107
139911	Arts Administrator / Manager	Certificate IV in Arts Administration	CUV40503
		Diploma of Arts Administration	CUV60103
249299	Private Teacher / tutor (art, dance, drama, music)	Certificate IV in Training and Assessment	TAA40104
211213	Musician (Instrumental)	Diploma of Music	CUS50101
		Advanced Diploma of Music	CUS60101
399512	Camera Operator (film, television or video)	Certificate IV in Broadcast Technology	CUF40307
399312	Library Technician	Certificate III in Library/Information Services	CUL30104
		Certificate IV in Library/Information Services	CUL40104
		Certificate IV in Museum Practice	CUL40204
149912	Cinema Theatre / Facilities Manager	Diploma of Venues and Events	CUE50403
		Advanced Diploma of Venues Events	CUE60403
212312	Director (film, television, radio or stage)	Certificate III in Live Production, Theatre and Events (Technical Operations)	CUE30203
		Certificate IV in Live Production, Theatre and Events (Technical Operations)	CUE40303
		Diploma of Live Production, Theatre and Events (Technical Operations)	CUE50303
		Advanced Diploma of Live Production, Theatre and Events (Technical Operations)	CUE60203
		Certificate IV in Screen and Media	CUF40107
		Diploma of Screen and Media	CUF50107
	Knowledge Manager	Certificate III in Library/Information Services	CUL30104

ANZSCO	Occupation / Job Role	Qualification	TP Code
		Certificate IV in Library/Information Services	CUL40104
		Certificate IV in Museum Practice	CUL40204
INFORMATION AND COMMUNICATIONS TECHNOLOGIES			
261212	Multimedia Specialist and Web Developer	Certificate III in Printing and Graphic Arts (Multimedia)	ICP30305
		Certificate IV in Interactive Digital Media	CUF40207
		Certificate IV in Information Technology (Multimedia)	ICA40805
		Diploma of Interactive Digital Media	CUF50207
263112	ICT Helpdesk Officer	Certificate III in Information Technology	ICA30105
		Certificate IV in Information Technology (Networking)	ICA40405
263312 263111	Computer Network Professionals	Certificate III in Information Technology	ICA30105
		Certificate IV in Information Technology (General)	ICA40305
		Diploma in Information Technology (General)	ICA10105
		Certificate IV in Information Technology (Networking)	ICA40405
		Diploma of Information Technology (Networking)	ICA50405
		Advanced Diploma of Information Technology (Network Security)	ICA60205
261111 261313	Software and Applications Programmer	Certificate IV in Information Technology (Programming)	ICA40505
		Diploma of Information Technology (Software Development)	ICA50705
313199	ICT Support Technician	Certificate III in Information Technology	ICA30105
		Certificate IV in Information Technology (General)	ICA40305
		Diploma in Information Technology (General)	ICA10105
212415	Technical Writers	Certificate IV in Information Technology (Websites)	ICA40305
		Diploma of Information Technology (Website Development)	ICA50605
135111 135199	Chief Information Officer	Diploma of Information Technology (Project Management)	ICA50205
		Advanced Diploma of Information Technology (Process Improvement)	ICA60105
		Advanced Diploma of Information Technology (Network Security)	ICA60205

ANZSCO	Occupation / Job Role	Qualification	TP Code
263299	ICT Support and Test Engineers	Certificate III in Information Technology	ICA30105
		Certificate IV in Telecommunications Networks	ICT40508
		Certificate IV in Information Technology (General)	ICA40305
		Diploma in Information Technology (General)	ICA10105
135112	ICT Project Manager	Diploma of Information Technology (Project Management)	ICA50205
		Advanced Diploma of Information Technology (Process Improvement)	ICA60105
261111 261112	ICT Business and Systems Analyst	Certificate IV in Information Technology (Programming)	ICA40505
		Diploma of Information Technology (Networking)	ICA50405
		Diploma of Information Technology (Website Development)	ICA50605
		Advanced Diploma of Information Technology (Network Security)	ICA60205
135199	ICT Managers	Diploma of Information Technology (Project Management)	ICA50205
		Advanced Diploma of Information Technology (Process Improvement)	ICA60105
		Advanced Diploma of Information Technology (Network Security)	ICA60205
312412	Digital Communication Technician	Certificate II in Telecommunications Digital Reception Technology	ICT20508
		Certificate III in Telecommunications Digital Reception Technology	ICT30508
		Certificate IV in Telecommunications Engineering	ICT40208
262111 262112 262111 263212 263299 263311 263312	Database and Systems Administrator ICT Security Specialist ICT Professional	Advanced Diploma of Information Technology (Network Security)	ICA60205
		Advanced Diploma of Information Technology (Network Security)	ICA60205
		Diploma in Information Technology (General)	ICA10105
		Diploma in Information Technology (Systems Analysis and Design)	ICA50805
		Diploma of Information Technology (Software Development)	ICA50705
		Diploma of Information Technology (Networking)	ICA50405
		Advanced Diploma of Information Technology (Network Security)	ICA60205

ANZSCO	Occupation / Job Role	Qualification	TP Code
		Diploma of Information Technology (Websites)	ICA50405
313214 342414	Broadband Technician	Certificate II in Telecommunications	ICT20208/02
		Certificate III in Telecommunications	ICT30208/02
		Certificate IV in Telecommunications Engineering	ICT40208
PRINTING AND GRAPHIC ARTS			
232411	Graphic Designer	Certificate III in Design Fundamentals	CUV30303
		Certificate IV in Interactive Digital Media	CUF40207
		Associate Diploma of Creative Product Development	CUV60307
		Certificate III in Printing and Graphic Arts (Graphic Design Production)	ICP30105
		Certificate III in Printing and Graphic Arts (Multimedia)	ICP30305
899511 899512	Printing Table Worker / Printer's Assistant	Certificate II in Printing and Graphic Arts (Print Production Support)	ICP20405
		Certificate III in Printing and Graphic Arts (Print Production Support)	ICP30605
392111	Binder and Finisher	Certificate II in Printing and Graphic Arts (Converting, Binding and Finishing)	ICP20605
		Certificate III in Printing and Graphic Arts (Print Finishing)	ICP30705

Driven largely by the combined impact of international competition and new technologies, there has been a substantial shift in the Australian labour force towards employment in occupations and industries requiring high levels of skill. Employment forecasts for 2016 show a shift towards high-skill occupations.³³⁸

The Productivity Commission estimated that in 2000, more than half of all jobs required post-secondary qualifications, compared with less than 40% of jobs twenty years earlier.³³⁹ More recently, the Australian Industry Group has estimated that 86% of occupations now need a post school qualification.³⁴⁰

Emerging Occupations – Creative Industries

The implications of technological developments for training and workforce development are varied. It is clear that innovation will continue at a rapid pace and will be increasingly important to the way people live, communicate and the competitiveness of the Australian economy.

For Australia to access the full benefits of this wave of technology, it will need access to a highly skilled workforce. The Australian Government has noted that expanding Australia's ICT skills base in particular, by promoting technology-focused VET, is important to ensure Australian businesses are ready and able to participate fully in the digital economy (DBCDE 2008).

IBSA's 2009 E-Scan notes that ICT has acute skill needs – at a time when the importance of ICT to the wider economy is growing rapidly. Addressing this problem will require a concerted and coordinated response from industry and government to promote careers in ICT and ensure that the pathways into ICT are open to as many participants as possible.

IBSA's 2009 E-Scan national survey indicated that creative industry stakeholders believe the following industry occupations / job roles are likely to experience growth over the coming five years:

- Web designer
- Graphic designer
- Multimedia designer
- Video producer
- New media designer
- Artistic director
- Other writers
- Community cultural development officer
- Post-production media technician
- Arts administrator/manager
- Photographer
- Director (film, television, radio or stage)
- Private teachers/tutors (art, dance, drama, music, teacher(s))
- Cinema theatre or facilities manager
- Camera operator (film, television or video)
- Library technician
- Multimedia specialist and web developer
- ICT help desk officer
- Computer network professionals
- Software and applications programmer
- Database and systems administrator or ICT security specialist
- ICT network and support professional
- ICT support technician (other)
- Technical writers
- Chief information officers
- ICT support and test engineers
- ICT business and systems analyst
- ICT managers
- ICT project manager
- ICT professional

These findings have been taken into account and contextualised into the Western Australian environment when identifying creative industry critical occupations.

A key example of the impact of technological change on occupations is in the Music industry. Technology has enabled consumers to change the way they purchase music (price has also been

a key consideration), which has challenged and perhaps even deposed the record company monopoly on music distribution.³⁴¹

The media generally, including the development and distribution of content, will continue to be changed significantly by technology. While print based newspapers are expected to stagnate or decline and filled by web-based information, which will be accessed by various electronic devices (IBSA E-Scan, 2009, p. 30).

Looking ahead to the specific impacts of the transition to digital broadcasting on employment, it is apparent that the digital environment will increase available spectrum from 2013. This will increase the number of channels available for broadcast television, which would be expected to result in employment growth (Media Entertainment and Arts Alliance [MEAA], 2009). The precise impact is difficult to predict because the regulatory arrangements will determine factors such as Australian content requirements.

Globally

The United States Bureau of Labor Market Information Business Principles for Workforce Development O*NET-SOC taxonomy 2010, O*NET identified 159 new and emerging occupations from within the seventeen industries. The vast majority of these new occupations are so new and few that they are not adequately captured in the Occupational Employment Survey including:³⁴²

- Software Quality Assurance Engineers and Testers
- Computer Systems Engineers/Architects
- Network Designers
- Web Developers
- Web Administrators
- Information Technology Project Managers
- Electronic Commerce Specialists
- Video Game Designers
- Telecommunications Specialists

Declining Occupations – Creative Industries

IBSA's 2009 E-Scan national survey indicated that stakeholders believe the following creative industry occupations / job roles to be likely to decline over the coming five years:

- Printing Machining and Production
- Graphic Pre-press Trades Worker including Pre-Press Designer
- Printer's Assistant
- Media Producer (excluding video)

3.2 Labour and Skills Needs

Creative Industries

Industry Critical Occupations

Definition: An Industry Critical Occupation is a skilled occupation that **is** in critical demand (ie crucial to industry operations, growth and development, and/or could seriously harm business viability if not addressed).

An Industry Critical Occupation is **not** an occupation that is:

- seasonal
- a labour shortage
- low or unskilled
- difficult to fill because of industry pay and conditions
- a result of attraction and retention issues

Criteria as a guide

The criteria to be used in determining industry critical occupations are:

- Forecast strong demand
- Licensing / regulatory requirement
- Lag time for training
- Demographics
- Worklife cycle
- New / emerging technology occupations
- Difficult to fill (vancancy rates)
- Barriers to participation / entering occupations / retention
- Excessive hours of work
- Regional challenges
- Decline in training effort
- Competition between industries (i.e. same occupation)
- Other forces / events (i.e. CHOGM)

Critical Skilled Occupations for the Creative and Leisure Industries in Western Australia

Occupation	ANZSCO Classification	Critical Skills Criteria	Yes/No	Evidence
Telecommunications Technician (General Communications Tradesperson)				
342414				
Certificate III in Telecommunications ICT30210 or equivalent Certificate III in Telecommunications Cabling ICT30310 or equivalent	Forecast strong demand	Yes	National Broadband Network Forecast	
	Licensing / regulatory requirement	Yes	ACMA Open Registration Cabling License	
	Lag time for training	Yes	1 Year for institutional training graduate.	
	Demographics	Yes	The median age for telecommunications technical specialists is up to 47 years. The telecommunications workforce is generally older than the all ICT occupation average of 39.	
	Worklife cycle	Yes	Life cycle stage is growth.	
	New / emerging technology / occupations		Demand for the user technologies that accompany a high-speed broadband network content will require new skills and expertise. National Broadband Network could further encourage the take-up of IPTV (Internet TV) and internet video services in Australia. Increased demand for digital television installers. New technologies demand for the 'Smart Home' will increase demand for skills and expertise.	
	Difficult to fill (vacancy rates)	Yes	Positions are hard to fill and this will increase with the National Broadband Network rollout.	
	Barriers to participation / entering occupations / retention		Low awareness of career and training options within the industry. The supply and promotion of industry relevant and realistic information remains a barrier to providing appropriate training advice. Difficult to recruit staff with 'experience' when technology is so new and ever changing.	
	Excessive hours of work	No		

	Regional challenges	Yes	Access to training and compliant work placements in industry.
	Decline in training effort	No	
	Competition between industries (i.e. same occupation)	No	
	Other forces / events (e.g. CHOGM)	Yes	Access to skilled migration to combat critical skill shortages in the short term.
Communications Linesperson 342413			
<p>Certificate III in Telecommunications ICT30210 or equivalent</p> <p>Certificate III in Telecommunications Cabling ICT30310 or equivalent</p>	Forecast strong demand	Yes	National Broadband Network Forecast
	Licensing / regulatory requirement	Yes	ACMA Open Registration Cabling License
	Lag time for training	Yes	1 Year for institutional training graduate.
	Demographics	Yes	The median age for telecommunications technical specialists is up to 47 years. The telecommunications workforce is generally older than the all ICT occupation average of 39.
	Worklife cycle	Yes	Life cycle stage is growth.
	New / emerging technology / occupations		Demand for the user technologies that accompany a high-speed broadband network content will require new skills and expertise. National Broadband Network could further encourage the take-up of IPTV (Internet TV) and internet video services in Australia. Increased demand for digital television installers. New technologies demand for the 'Smart Home' will increase demand for skills and expertise.
	Difficult to fill (vacancy rates)	Yes	Positions are hard to fill and this will increase with the National Broadband Network rollout.
	Barriers to participation / entering occupations / retention		Low awareness of career and training options within the industry. The supply and promotion of industry relevant and realistic information remains a barrier to providing appropriate training advice. Difficult to recruit staff with 'experience' when technology is so new and ever changing.

	Excessive hours of work	No	
	Regional challenges	Yes	Access to training and compliant work placements in industry.
	Decline in training effort	No	However training needs to be increased to accommodate future industry demands.
	Competition between industries (i.e. same occupation)	No	
	Other forces / events (e.g. CHOGM)	Yes	Access to skilled migration to combat critical skill shortages in the short term.
ICT Project Manager 135112			
Diploma of Information Technology (Project Management)	Forecast strong demand	Yes	Support to ALL industries including the resource sector with constant, fast pace, technology changes.
	Licensing / regulatory requirement	No	
	Lag time for training	Yes	1 to 2 Years for institutional training graduate.
	Demographics		From 28 years for ICT sales assistants up to 47 years for technical specialists 29% of ICT managers, are female. ICT companies employ only 50% of the total ICT workforce.
	Worklife cycle	Yes	Life cycle stage is growth.
	New / emerging technology / occupations		The ICT industry will be heavily integrated into all other industries as new technologies are widely adopted. ICT workers will need generic and transferable skills to adapt to constant change and to the requirements of different industries and employers. Technological change, by the internet is changing the way that people, organisations and industries work. Cloud Computing, Social Media, internet Communications, internet video content and new online business/personal interactions will continue to emerge and transform the ICT sector. Mobile devices, pocket devices and smartphones driving the move to the cloud and shift from the desktop computer. Many companies will seek wireless solutions to communications needs.

			Information technology will continue to have an increasing role in supply chain management. Growing data traffic will require new equipment to increase capacity.
	Difficult to fill (vacancy rates)	Yes	Migration of ICT workers into the resources sector has resulted in short supply in CBD and metropolitan area.
	Barriers to participation / entering occupations / retention	Yes	The Commonwealth Government's Productivity Placement Program (PPP) initiative does not include funding for skills sets, only full qualifications. No funded Skill Sets aligned to Industry Certifications
	Excessive hours of work	No	
	Regional challenges	Yes	Access to training and compliant work placements in industry.
	Decline in training effort	Yes	More people completing Industry Certifications to enter the workforce quicker than full nationally endorsed qualifications.
	Competition between industries (i.e. same occupation)	Yes	Industry prefers to recognise own certifications instead of nationally endorsed qualifications.
	Other forces / events (e.g. CHOGM)	Yes	Access to skilled migration to combat critical skill shortages in the short term.

Skilled Occupations in Demand for the Creative and Leisure Industries in Western Australia

Skilled Occupations in Demand: Creative Industries

Identified Skill Gaps/Shortages in Western Australia – as identified in the FutureNow Input to State Training Profile – Creative Industries 2010-2012 and industry consultation in 2009-2010.

ANZSCO Code	Occupation	Training Package Qualification
392312	Small offset printer	Certificate IV in Printing and Graphic Arts (Printing)
392111	Binder and finisher	Certificate III in Printing and Graphic Arts (Print Finishing)
135199	Network manager	Diploma of Information Technology (Networking)
135112	ICT project manager	Diploma of Information Technology (Project Management)
262112	ICT security specialist	Advance Diploma of Information Technology (Network Security)
313112	ICT customer support officer	Certificate IV in Information Technology (Support)
342413	Data communications tradesperson (emerging skills)	Certificate III in Telecommunications
342412	Telecommunications cable jointer (underground and specialist cable jointing)	Certificate III in Telecommunications Certificate III in Telecommunications Cabling
313111	Appliance service and installation personnel (data installers, computer hardware installers and PDS repairers)	Certificate III in Telecommunications
392312	Small offset printer (specialisation – digital printer)	Certificate III in Printing and Graphic Arts (Instant Print)
399512	Camera operator – film, television or video	Certificate IV in Screen and Media (Camera/lighting operator)
224212	Gallery or museum curator	Advance Diploma of Arts Management Advance Diploma of Museum Practice
139911	Arts administrator or manager	Certificate IV in Arts Administration
211299	Music professionals nec – record label operators and music publishers	Diploma of Music Business

3.3 Issues, Barriers and Opportunities

Creative Industries

Training in the Creative Industries

Creative Industries Training – Issues/Barriers and Opportunities/Strategies

Issues and Barriers to Employment	Recommendations, Opportunities and Strategies
<p>Industry Image</p> <ul style="list-style-type: none"> • Industry image proves a challenge in attracting the right people to undertake training in the sector. • Creative Industries seen as ‘sexy industries’ or ‘soft option’. • Low awareness of career and training options within the industry. 	<ul style="list-style-type: none"> • Promote training ethos in industry. • Return on investment education for employers to allow for PD and alternative PD delivery. • Increase participation in workplace training. • Increase industry awareness to public and career advisors.
<p>The Speed of Technological Change</p> <ul style="list-style-type: none"> • Funding to allow training providers to acquire capital equipment is not sufficient. • Training providers are limited to deliver training with existing resources and not the myriad of existing or new equipment in the industry. 	<ul style="list-style-type: none"> • FutureNow to facilitate, promote where necessary, partnerships with industry and RTOs to gain access to new technologies. • FutureNow, RTOs and IBSA to develop partnerships with IT vendors and providers. • Promote multi skilling through the Creative/Cultural to combine technical and artistic skills.
<p>Lack of Career Information and Advice</p> <ul style="list-style-type: none"> • The supply and promotion of industry relevant and realistic information remains a barrier to providing appropriate training advice. 	<ul style="list-style-type: none"> • FutureNow and industry to promote job roles/career pathways to emphasise digital technical and creative components of Printing & Graphic Arts. • FutureNow to identify and promote clear pathways between VET and higher education particularly for creative and cultural. • Develop innovative approaches to promote careers to Gen Y. • Develop partnerships between government departments for careers promotion. • Training Councils to participate in expos and work with school VET coordinators.

Funding

- Insufficient funded training hours for the creative industries.
- Outdated resources hinder growth and development for training in industry.
- Funding is only provided for full qualifications.

- Demonstrate need for increase funding for training hours and resources and explore innovative funding methods for new training opportunities.
- ICT - establishing funding models that support the delivery of skill sets and recognise successful outcomes from training beyond qualification completions.
- Explore the development of an apprenticeship system to create one that would work in Cultural and Creative industries.

Aging Workforce

- The printing and telecommunications sectors are experiencing an ageing workforce (typically workers are male and an average age 49 years).
- Lack of job flexibility to suit ageing demographic.

- Attract younger workers to printing, telecommunications, libraries and museums.
- Retain older workers with redesign of jobs to suit demographic needs.

Lack of Flexible Training

- An increased use of RPL to formally qualify these workers support for VET, and assist in employers with retaining existing workers.
- Duty of care for U18s and work placements.

- Improve RPL process with alternative assessment and reduce paper work for assessors and evaluate 'from the sideline'.
- Generic skills mapped to AQF levels, underpinning skills and knowledge with a standardised marking guide/key.
- Enabling more on-the-job assessment, workplace-based and third party training delivery.
- Explore new and modified learning modes and simulation options.
- Alternative training solutions.

Engaging Aboriginal People

- Aboriginal people are under-represented in the Western Australian labour force.

- Develop Aboriginal training to employment strategy.
- Act on recommendations from 'Training Together, Working Together' strategy.

Publicly Funded Training Places

- The Commonwealth Government's Productivity Placement Program (PPP) initiative does not include funding for skills sets, only full qualifications.

- Industry certifications to be mapped to Training Packages and to develop skill sets.
- FutureNow to advocate to governments and IBSA for relevant skills sets to be funded under PPP or where applicable DTWD.

Importance of Training

- The importance of training is not recognised by many SMEs and they are reluctant to release employees to undertake training.

- Develop onsite training with promotion utilising industry contacts supported by testimonials to build training recognition.

- Awareness of Training Packages in industry remains poor and not well understood.

- Build awareness and promote industry ownership of Training Packages.

Employment in the Creative and Leisure Industries

Creative Industries Employment – Issues/Barriers and Opportunities/Strategies

Issues and Barriers to Employment	Recommendations, Opportunities and Strategies
<p>Number of Small to Medium Enterprises</p> <ul style="list-style-type: none"> • Large number of SME and project based self employment. 	<ul style="list-style-type: none"> • Development of Creative Clusters³⁴³ • Explore Creative Cluster evaluation for enterprise growth and cultural development. • Explore creative incubators for creative business development.
<p>Workforce Age</p> <ul style="list-style-type: none"> • High demand for skilled employees in the short, medium and long term. • Cynicism and non acceptance of new workplace style. 	<ul style="list-style-type: none"> • Educate ‘older workers’ about flexible work styles. Reduce judgment and discourse about job roles, responsibilities, hours and productivity. • Develop strategies to address intergenerational gaps within workplaces. • Career advice with more clearly identifying career pathways between/across production & supply areas of industry. • Identify career opportunities for older workers promoting and fostering generic skills. • Promote succession planning and exit strategies within industry. • Investigate alternative avenues and labour pools to expand the traditional workforce.
<p>Limited Literacy and Numeracy Skills</p>	<ul style="list-style-type: none"> • Increase and make available support for literacy and numeracy support.
<p>Insufficient Creative Industry Data</p> <p>There is a lack of ‘Western Australian’ data for the creative industries, including workforce numbers, creative workers employed in other industries and volunteers contributing to the creative economy.</p>	<p>In order to truly gauge our creative economy and creative workforce uniform measurement, systems must be used to capture data with international comparative measures including:</p> <ul style="list-style-type: none"> • Value Chain – pre-creation, creation, realisation, consumption of content and post-sale; • Creative Economy employment for both industries and occupations; • Broader estimate of creative employment to include specialist creatives, support workers and embedded creatives;

	<ul style="list-style-type: none"> • Measure social and economic role of creativity; and • Measure voluntary exchange markets.
The Global Economy and Mobility of Workforce <ul style="list-style-type: none"> • Migration of creative workforce interstate and overseas. • New graduates moving interstate and overseas. 	<ul style="list-style-type: none"> • Attract creatives to WA following the example from the UK promoting itself as The World's Creative Hub. Promote the down under lifestyle, proximity to Asia and low cost travel. • Review tax incentives for local new graduates to 'stay a year' and work in their field of study. • Investigate a new graduate scheme for employers who employ a new graduate who has no industry experience. • Research circumstances behind creative migration. • Attraction and retention for employees including, interests/experience matching their job role/agency, technical challenge/complexity of work job security, ability to contribute to making a difference and desire to gain experience in a different working environment and promote best practice in workforce development.
Staff Retention in Regional Areas <ul style="list-style-type: none"> • Staff multitasking in regions leading to burn out 	<ul style="list-style-type: none"> • Work with government, associations, and industry for advancement of conditions and job expectations for regional workers. • Promote job rotation for short and midterm regional placements.
Staff Up Skilling <ul style="list-style-type: none"> • Demand for workers to be 'multi skilled' across a range of disciplines 	<ul style="list-style-type: none"> • Promote employer exposure to alternative cross skilling and inter skilling frameworks for professional development and alternative PD delivery. • Research circumstances of increase multi skilling, multi tasking, job expectations and labour requirements to for fill duties. • Stimulate skills development and cross-media collaboration for new business benefits.
Consumer Demand in Knowledge Economy <ul style="list-style-type: none"> • 24/7 lifestyle places demand for constant information, particularly on the web. • Pressure for constant information increases errors including intellectual property and copyright. 	<ul style="list-style-type: none"> • Authorities to investigate impact of pressure/time errors to copyright and intellectual property and public available information • Increase education and awareness to employers and employees about infringement of copyright and intellectual property.

National Broadband Network

- Encourage and engage in promotion of Digital Careers to accommodate future technology.
- Investigate mobile computer technology to aid growth in Perth and regional WA especially locations supporting resources.
- Education and promotion of new flexible employment arrangements.
- Encourage multiplatform content development utilising increased internet speeds across a range of digital media and promote opportunities to extend services and develop new experience formats.

Technological Change and New Software and Hardware

- Technology/software enabling merging of job positions with untrained workers producing sub industry standard.
- Reduces integrity of some skills and traditional craft.
- Software enables devalue of skills and positions.

- Investigate tax breaks and financial incentives to support industry in upgrading to new technologies and train staff.
- Research circumstances of multitasking resulting in workers undertaking work across a number of ANZSCO identified occupations.

Technological Change and New Positions

- Difficult to recruit staff with 'experience' when technology is so new and ever changing.

- Promote benefits of in house training and up skilling for new technologies.
- Evaluate employee underpinning skills and map to new position/technology/task.

OHS Legislation

- Gap in this skills base between student to professional.

- Encourage continue awareness of safety standards and procedures within schools and the training sector and relating it back to real industry practice.

Lack of Public and Private Investment in the Creative Sector

- Lack of sustained paid employment opportunities in Western Australia resulting in migration out of the industry, interstate or overseas.

- Sustained investment in the infrastructure (like creative clusters) and technologies (broadband network) that supports the creative.
- Identify investment opportunities for creative industries, enabling professionals to create and work ensuring continued existence, sustainment and success of creative industries in Western Australia.
- Investigate interventions to provide support for technology and premise infrastructure.
- Explore loans schemes for creative business and entrepreneurs.³⁴⁴
 - Community development investment models based on a financial return, ranging from low-cost loans, to artist run foundations and 'angel' relationships with benefactors and investors.
 - The provision of micro-loans and mutual credit schemes to artists, either by governments or private financial institutions.
- Fellowships based on the basic pension or unemployment benefit, supplemented with a modest stipend to facilitate entrepreneurial business development and access to business development mentoring – equivalent to the long-running Australian New Enterprise Incentive Scheme but with a more explicit focus on artists.
- Investigate tax exemptions for copyright income, delayed tax payment in development phase of creative project, charitable remainder trusts.
- Explore infrastructure support and workspaces through subsidised rental in public buildings and tax offset for private property owners.

Lack of Public Awareness

- Early awareness education at school for exposure to the creative industries.
- Promote creative industries as a viable career pathway.
- Develop awareness of creative industry innovation for social and industry solutions in other sectors.
- Foster skills, knowledge exchange from the creative industries into other industry sectors.

3.4 Call for Industry Action

Creative Industries

Call for Industry Action

What can industry employers do to increase their business' sustainability and make a positive contribution to the growth of the tourism, hospitality and events industries in Western Australia?

Some examples include: ³⁴⁵

- Increase participation in formalised (accredited) training to better equip employees with the skills they need to do their job productively and professionally.
- Implement long term business strategies to train the next generation of employees with increased effort into apprentices and trainees.
- Up-skill and/or multi-skill existing workers in your business.
- Consider increasing wages and pay for performance to retain skilled workers where viable.
- Document standard operating procedures and/or gain accreditation in industry.
- Improve the selection process when taking on casual staff to reduce time and effort to train them for employment.
- Reduce the 'burn out' of staff. Look after your greatest assets (your staff!). Pay attention to rostered hours, split shifts, lack of days off and the over-accrual of annual leave. This may result in: a reduced likelihood of accidents in the workplace; reduced stress levels; improved morale and commitment; reduced absenteeism; decrease in staff turnover; and improved productivity.
- Ensure your workplace is an enjoyable place for staff to work. Social activities that bring employees together as a team on a regular basis may improve retention and loyalty e.g. staff meetings incorporating product tastings or attending industry functions.
- Revisit your customer service strategies and enhance the abilities of your staff to deal with these potentially damaging situations through training and professional development.
- Develop mentoring programs to increase the effectiveness, professionalism and confidence of staff through the support of a more experienced employee or external industry professional.
- Create opportunities for ongoing and valuable work experience. Better workplace experience may encourage a better understanding of the nature of the industry, and increase access to potential future employees.
- Create a positive work culture by paying attention to employee's work needs: praise staff; provide development opportunities; create informal leadership roles; and communicate effectively.

- Consider flexible working arrangements such as flexible working hours, flexible leave options, gradual retirement, part time work, job sharing, or working from home. These arrangements may increase your access to more suitably qualified employees, or increase retention and the investment you have already made in your existing employees.
- Reduce levels of casual staffing – this may improve retention and will also enhance the image of industry as not just a transient employment pathway, but one of authentic, realistic and exciting career opportunities!
- Increase positivity and partnerships - Industry Associations and Organisations to work in partnership and support of each other for positive growth and development. Fractured industry views and political motivations ultimately demonstrate some industries as troubled sectors unable to see the 'bigger picture' for the benefit of all stakeholders. This has a negative image impact on prospective young people, parents and schools considering and endorsing careers in the creative industries.
- Help us here at the Training Council:
 - Help us to help you – give us your feedback, tell us what's working and what's not in your industry sector.
 - Tell us what training you need and what skills your future workers will need.
 - Support the employment of graduates, trainees and apprentices and help them to become leaders of the future.
 - Support and provide advice to the quality training providers that work so hard to supply you with your future skilled workforce.
 - Support FutureNow – Creative and Leisure Industries Training Council and get involved with our work and contribute to the professionalism, productivity and growth of our creative and leisure industries in Western Australia.

How Can Training Improve Your Business?

Many workers in the Creative Industries in Western Australia do not have a post-school qualification. This has highlighted a need for government to invest in training and provided an opportunity for industry sectors to take advantage of the diverse range of training options that can benefit their businesses, employees and customers.

Just some of the benefits of nationally accredited Vocational Education and Training include:

- Training is flexible and can be undertaken on or off the job;
- Training can be tailored to your business needs;
- Federal and State funding incentives are available to eligible employers and employees;
- All VET qualifications are created and endorsed by industry professionals;
- Qualifications and competencies gained are nationally recognised; and
- VET training provides a skilled workforce resulting in:
 - increased knowledge and skills;
 - increased productivity;
 - increased quality of service;
 - increase in staff retention;
 - increase in staff morale; and an
 - increase in customer satisfaction.

Handy Links to Training Information in WA

FutureNow – Creative and Leisure Industries Training Council - www.futurenow.org.au

Department of Education, Employment and Workplace Relations - www.deewr.gov.au

WA Department of Training and Workforce Development - www.trainingwa.wa.gov.au

Apprenticentre - www.trainingwa.wa.gov.au/apprenticentre

Small Business Training Institute - www.smallbusinesssolutions.wa.gov.au

Innovation Business Skills Australia - www.ibsa.org.au

National Training Information Service - www.ntis.gov.au

Business Growth Centre - www.bgc.wa.gov.au

4. Action Plan / Priority Action

Creative Industries

4.1 Theme 1: Labour Market and Supply

Creative Industries

Creative and leisure industry operators in Western Australia are currently experiencing:

Critical skills shortages: in occupations such as telecommunications technicians, communications linepersons and ICT project managers.

Skills and labour shortages across industry (particularly in regional and remote areas): a significant change in technology with a rapidly evolving digital knowledge economy (predominantly skill and labour shortages) due to technology are evident in the corporate communications sectors directed by the National Broadband Network and emerging information technology with growing e-traffic).

Strategies and actions to improve the labour market and supply include:

- **Improve Industry Image** (6 – 12 months) - Joint initiatives through the Department of Education, Department of Training and Workforce Development, Department of Culture and the Arts, other Training Councils, Curriculum Council, Industry Associations and FutureNow to:
 - Increase training, pathways and careers promotion to schools, VET facilitators, advisers and the community through positive and realistic mediums – demonstrate industry occupations embedded in other industries and their contribution to the economy - scholarship road show – promote success stories – involve young industry professionals as ambassadors.
 - Work with other Training Councils to identify workforce development and training opportunities to enhance productivity and return on investment for businesses, the industries and in turn, the State economy.
 - Utilise WA Training Award winners and Apprentice and Trainee ambassadors as champions of training in careers expos, school visits and in case studies about success stories in priority industries.
 - Build industry awareness for career, training and occupation pathways for vertical and horizontal advancement. Pathways emphasising creative and technical skills for careers, occupations and job roles.
 - Department of Training and Workforce Development to develop new media engagement promoting training and careers for Generation Y.
- **National Broadband Network** (6 – 12 months) - Following the Federal election outcome in September 2010, the National Broadband Network (NBN) rollout will now be actioned and while the schedule for the rollout in Western Australia is not known at this time, the implications for labour and skill shortages are expected to be significant. As the national broadband network project evolves, field construction staff will be in high demand. In the long run, the eight-year, \$43billion project is set to create about 25,000 jobs. Innovation and Business Skills Australia (IBSA) has projected a shortfall of 8,000 workers nationally.

The NBN Co which is responsible for the rollout is seeking systems engineers, network planners, testers, systems architects, project managers and IT professionals. There will also be a huge demand for cabling with the potential to retrain copper wire specialists with

optic fibre skills. The literature around the NBN rollout suggests that the demand for labour is as yet an unknown quantity with differing points of view within the industry.

It is recommended that FutureNow and the EUPA Training Council which both have a level of coverage of the type of skills that might be required, should conduct a joint project as a matter of urgency into ascertaining the immediate and future requirements for labour in WA as a result of the NBN rollout and develop strategies to address the findings.

- **Competing Industries** (6 – 12 months) - FutureNow in Partnership with Registered Training Organisations and Industry Associations to create a promotion strategy for recruiters in industry to market the benefits of work/lifestyle/family employment arrangements versus a work/salary focus marketed by competing industries (such as the resource industry for jobs other than hospitality occupations).
- **Promote VET to Industry** (1 – 3 years) - FutureNow to identify and promote global and best practice industry promotion and to provide industry associations and operators with simple and easy information (to produce regional publications for distribution online) about the benefits of training, training options, apprenticeships and traineeships, training providers, government initiatives, and key links.
- **Funded Training Places** (1 – 3 years) - Department of Training and Workforce Development to increase access to publicly funded training places (for school aged and mature aged students) particularly in pathways to skill shortage occupations in the hospitality industry. A whole of government approach to gathering and sharing real industry data and analysis for better workforce development planning will be essential to justify an increase in funding and initiatives.
- **Create Skills Sets** (1 – 3 years) - Department of Training and Workforce Development, to negotiate with the Federal Government to allow funding through the Productivity Places Program (PPP) for skill sets to provide upskilling and retraining opportunities for existing workers and job seekers in occupations where full qualifications are not required. This will result in short and long term benefits for workers and businesses and through increased take-up of training will benefit the promotion of skills development generally.

FutureNow to negotiate with the Department of Training and Workforce Development for the funding of skill sets for identified occupations where full qualifications are not required by industry. For example:

- Apprentice/Trainee Employer and Supervisor Skills Set to provide desperately needed assistance for employers and supervisors of apprentices and trainees in the workplace (skills set for the mentoring, training and support of apprentices and trainees and management of contractual obligations);
- Industry specific Supervisory Skills Set for existing workers in the creative industries.
- **On the Job Training** (1 – 3 years) - Access to quality training in the work place may provide opportunities to increase apprentice and trainee numbers. FutureNow to work closely with industry in identifying and planning workplace training and assessment versus the off the job component of training. Additionally, FutureNow will encourage Registered Training Organisations (RTOs) to:
 - increase flexible and online training options and technologies where suitable;
 - increase quality on the job training and assessment in metropolitan, regional and remote areas to service the demand (promotion available to industry through Department of Training and Workforce Development, Apprenticentre, FutureNow and RTO Network portals); and
 - develop the provision of Cultural Awareness Training which may improve industry entry and retention of Aboriginal employees.

- **Skilled Migration (1 – 3 Years)** - The following recommendations are not a proposal for the replacement of Australian Apprentices, but to act as complimentary strategies to respond to critical skill shortages:
 - The Department of Training and Workforce Development to negotiate with the Federal Government to review the impacts and changes to the Skilled Occupation List (SOL) for industries experiencing critical skills shortages (such as sectors of the creative and leisure industries), and to identify new initiatives to assist employers to recruit under the employer nominated sponsored Visa;
 - In conjunction with industry peak bodies, identify and develop migration strategies for attracting skilled workers for the creative industries with a focus on telecommunications, information communications technology (ICT) and printing with infrastructure and world class technology to support and retain new creative migrants in Western Australia;
 - Government and industry to promote the establishment of relationships with identified countries that provide access to suitably qualified workers. Include the development of training programs to required Australian standard qualification levels, then link to a fast track visa nomination process. An example of this would be partnership arrangements between Bali, Indonesia and Western Australia for the sourcing of experienced and qualified hospitality professionals (such as chefs) to gain entry into Australia on short term working visas providing a short term solution to skill shortages whilst medium to long term strategies for training and workforce development are implemented in Western Australia;
 - Reassessment of Visa categories to obtain workers quickly when work is required or projects are approved and to review hindering eligibility criteria restrictions on known hospitality/tourism professional cultures such as Indonesia (Bali), Malaysia and the USA (462 Visas) would allow access to more qualified industry professionals in critical skills shortage occupations;
 - Employers wishing to recruit through skilled migration should prove that they have exhausted all means of recruiting Australian apprentices and have displayed a commitment to training.

Measures of Success

To measure the success of these actions, positive outcomes would include:

- Increase in school student participation in creative and leisure industry VET in Schools.
- Increase number of school leavers following a creative and/or leisure industry training pathway.
- Increase general knowledge about creative and leisure industry workers and roles within workplaces and other industries.
- Increase in Registered Training Organisation on the job training placements / visits (regional and remote).
- Increase in industry apprenticeship, traineeship and school based traineeship commencements and completions.
- Increased publicly funded training places (particularly in pathways to occupations experiencing skills shortages).
- Creation and implementation of publicly funded Skills Sets (hospitality, supervision, events).
- Inclusion of skilled migration occupations to alleviate skill shortages across the creative industries.
- Decline in industry operator job vacancies.
- Utilisation of 'ambassadors' to promote training and careers within the creative and leisure industries.
- Development of promotional strategies to target alternative labour pools.
- Increase in minority group's participation in the workforce.

4.2 Theme 2: Workforce Participation

Creative Industries

To service the demand for skilled employees in the short, medium and long term, the Creative Industries must expand the traditional workforce to include under-represented workforce entrants such as matured aged people, women, parents, welfare recipients, retired/semi-retired people, people with disabilities, Aboriginal Australians and overseas workers. However the following points must be acknowledged prior to the implementation of any strategies and actions:

- It must be accepted that some creative and leisure industry occupations are not the right choice of industry for many long-term unemployed, due to the customer service focus requirements; and
- Classroom training is often not the best option for Aboriginal entrants, people with language and literacy problems and some others. Government funding for programs in this area is usually ad-hoc, short term, unreliable for investment decision-making, and not targeted at small to medium enterprise in industry.

Strategies and actions to improve workforce participation include:

- **Lack of Career Information and Advice** (6 – 12 months) – Ensure relevant and realistic careers and training information for the creative industries is promoted to prospective employees and students. FutureNow to liaise with Government departments and industry bodies/associations and ensure training council participation in relevant expos and events.
- **Changing Gender Balance** (6 – 12 months) – FutureNow to promote careers to females in industry areas which in the past have been male dominated e.g. Telecommunications, ICT and printing.
- **Employment Conditions** (1 – 3 Years) - Department of Training and Workforce Development, Registered Training Organisations and FutureNow to better promote VET training for management and business skills providing key industry associations and industry operators with the knowledge to better facilitate improved business practices, strategic planning and flexible working arrangements.
- **Recognition of Prior Learning (RPL) and Skills Sets** (1 – 3 Years) - Department of Training and Workforce Development (DTWD), Registered Training Organisations and FutureNow to consider a greater focus (and funding) on specific, focused and accelerated programs for mature age entrants to the industry. These should include better RPL processes across industry and shorter, sharper training options in the areas of hospitality operations, supervision and events (Skills Sets) *Skills Sets funded through Federal Government Productivity Places Program (PPP) and where applicable DTWD.
- **Literacy and Numeracy** (1 – 3 Years) – Increase availability of support for literacy and numeracy:
 - FutureNow to identify industries and employers that would benefit from literacy and numeracy training;
 - Workplace English Language and Literacy Program (WELL) to be targeted by Registered Training Organisations working with FutureNow to access funding for existing worker literacy and numeracy training;
 - FutureNow to work with Industry Skills Councils to ensure literacy and numeracy is appropriately included in Training Packages; and
 - Commonwealth and State Governments to review effectiveness of literacy and numeracy delivery outcomes from training packages.

- **Personal Income Tax Reform** (1 – 3 Years) – Personal income tax reform is critical to improving workforce participation. Examples of reforms may include:
 - Increases to the tax free threshold, a flattening of the scales and the longer term reduction of the top marginal tax rate to align with the company tax rate;
 - Addressing effective marginal tax rates to maximise the incentives to move from income support payments to increased participation in paid work;
 - Off-set tax credits against pay roll tax for all recognised training (not just apprenticeships) undertaken by organisations. *applying to organisations with pay roll over \$750,000pa; and
 - Incentives for employers to provide more full time employment places e.g. tax credits, retention bonuses, training vouchers.

- **Expanding the Traditional Workforce** (1 – 3 years) – The creative industries needs to expand the traditional workforce to service the demand for skilled workers. Department of Training and Workforce Development, Registered Training Organisations, FutureNow and industry to work in partnership to improve apprenticeship/traineeship participation rates and other training opportunities by developing new strategies (while maintaining existing strategies) to target: people with disabilities; parents and welfare recipients returning to the workforce; mature aged workers; Aboriginal people; overseas workers; and the existing workforce. Existing strategies in the creative industries include the promotion of training, careers and employment opportunities to prisoners and attracting mature age workers into industry.

Promote the benefits of expanding the traditional workforce to increase the pool of suitable applicants by FutureNow to include under- represented workforce entrants such as matured aged people, women, parents and welfare recipients, retired/semi-retired people, people with disabilities, Aboriginal Australians and overseas workers:

- Department of Training and Workforce Development and FutureNow to develop innovative approaches to attract and engage workers, with lifestyle choices, generic skills recognition, cross industry/sector cross skilling and career advancement e.g. identify innovative approaches to engage younger workers, Generation Y, with new media, lifestyle choices and cross industry/sector cross skilling and career advancement;
- FutureNow working with industry associations/operators to research redesign of jobs and job descriptions to suit demographic needs and choices; and
- Small to Medium Enterprise, Department of Training and Workforce Development, FutureNow with industry associations to promote and engage older workers with information expo e.g. a Mature Workers Expo.

Alternative labour pools to be investigated to service the demand for skilled workers and volunteers. FutureNow to identify and promote employment strategies which aim to expand the traditional workforce (e.g. Golden Gurus social inclusion program which provides mature age Australians (aged 50 years and over) with a range of opportunities to support community organisations and small businesses:

- Department of Training and Workforce Development to develop an education and awareness strategy for 'mature workers' about skill shortages and new flexible work styles enabling part time work, flexible hours and work from home options - 'Contemporary Employment Practices';
- Department of Training and Workforce Development and government agencies to deliver specialist career advice to clearly identify career pathways between and across areas of an industry and career/job matching for older workers promoting and fostering generic skills with past work/life duties and experience;
- Department of Training and Workforce Development and Government agencies to utilise public libraries for learning, gaining skills and exposing mature aged members of

the community to workforce opportunities as this older demographic has the highest percentage of the population visiting libraries;

- Department of Training and Workforce Development, FutureNow and industry associations to promote flexible work arrangements for women, including older female workers, mothers of school aged children, single mothers, return to work women and women who have never worked but have generic skills from volunteering, community and school positions;
 - Department of Training and Workforce Development, Registered Training Organisations, Department of Education, FutureNow and employment agencies to promote return to work programs and case studies of 'Women at Work'; and
 - Department of Training and Workforce Development, Government agencies and industry associations/operators to use volunteering in the creative industries as a step towards employment for alternative labour pools to gain skills and to generate social outcomes and exposure to the workforce or alternative careers.
- **Engaging the Aboriginal Labour Force (1 – 3 years)** – Promote the establishment of sustainable training to employment pathways especially in regional and remote Western Australia for Aboriginal populations. The employment of Aboriginal people must be increased by industry within the mainstream creative industries:
 - Department of Training and Workforce Development, Registered Training Organisations and FutureNow to identify and facilitate the delivery of appropriate specialist cultural awareness training programs for employers and non-Aboriginal employees to improve successful employment and retention outcomes (in metropolitan, regional and remote areas);
 - Vocational Education and Training (VET) programs targeting Aboriginal participants need to be refined to include culturally appropriate support, mentoring and training;
 - Department of Training and Workforce Development through Aboriginal Workforce Development Centre to engage and enable Aboriginal people to educate promote and build community awareness and actions for workforce participation. Encourage 'Family' consultation/participation of Aboriginal staff's employment requirements, needs and access. Understanding and allow for family engagement and flexibility; and
 - Develop an Aboriginal training to employment strategy for the creative industries by identifying 2-3 industry sectors for pilot programs and work with industry, Department for Culture and the Arts, Aboriginal leaders, Aboriginal Workforce Development Centre, Registered Training Organisations and FutureNow to implement pilot.
- **People with Disabilities (1 – 3 Years)** – Work with State and Federal Government Departments to further develop strategies to encourage work-trial and work-experience programs with support for people with disabilities to increase experience, exposure and chances of securing employment:
 - Department of Training and Workforce Development, Registered Training Organisations and FutureNow to develop and/or identify existing disability awareness training programs in appropriate industry occupations;
 - Federal Government to review Supported Wage System to reward competencies as well as productivity and integrate these skills assessments into a strategy that builds a competency portfolio for each individual to encourage skill development and workplace learning;
 - Department of Training and Workforce Development, Registered Training Organisations and Department of education to increase diversity and innovation in vocational training courses and pathways for people with a disability and remove the presence of artificial skill-based barriers that impacts on access to on the job training, traineeships and career development from school to post-school study and work options; and

- State and Federal Government to formulate improvements to the Disability New Apprentice Wage Support (DNAWS) scheme, including increased funding, provision of appropriate supports for work experience, traineeship and apprenticeship schemes (including the Australian Apprenticeship Access Program and school-based apprenticeships).
- **Creative Talent Pathways** (1 – 3 Years) – FutureNow to research and review best practice based on overseas and Australian models (e.g. Talent Pathways initiative in the UK), to identify appropriate pathways that support and inspire people from all backgrounds to pursue careers in the creative sectors and to implement viable career and training pathway choices in partnership with the Department of Training and Workforce Development.
- **Ageing Workforce and Increased Population** (3 – 5 years) – FutureNow to ensure greater promotion of careers within industries which are experiencing the effects of Australia’s ageing population (e.g. printers).

Measures of Success

To measure the success of these actions, positive outcomes would include:

- Greater exposure of creative industry career pathways.
- Increased promotion of careers within industries which are experiencing the effects of the ageing workforce.
- Increased participation in Vocational Education and Training (VET) and Recognition of Prior Learning (RPL) by existing industry employees and employers.
- Development, implementation and funding of critically needed Skills Sets in industry to provide licensing and industry short term solutions while long term strategies and actions are underway.
- Changes to personal income tax reform resulting in employment growth.
- Greater participation of females amongst sectors of the workforce (ICT, telecommunications and printing).
- Increased participation of under-represented workforce groups in industry training and employment and utilising flexible work arrangements.
- Increased participation of the Aboriginal workforce.
- Increase uptake of pathways for training and job opportunities for disabled persons, especially school to training transition pathways.
- Access to critically needed skilled migration by small to medium enterprise.
- Increase in seasonal industry operator partnerships.

4.3 Theme 3: Planning and Coordination

Creative Industries

Access to industry relevant data, research and analysis is a serious obstacle to the development of sustainable business planning and coordination by creative and leisure industry operators. Key areas of concern include gaps in, or the lack of:

- Timely and broadly available operational data in industry sectors;
- Data structured by sector, rather than occupation, and the lack of data covering many creative industry occupations;
- Regional workforce data for entire industry sectors, and the various sub-sectors within them;
- Consistency and regularity of collection; and
- Availability and comparability of data from existing sources.

Strategies and actions to improve workforce planning and coordination include:

- **Business and Management Skills Promotion** (6 – 12 months) - Department of Training and Workforce Development, Registered Training Organisations and FutureNow to increase focus on the promotion of enhancing business and management skills of managers through Vocational Education and Training (VET). This is required to develop and maintain the capacity of managers in the industry to strategically plan and run operations effectively, implement succession planning and to attract, develop and retain staff.

- **Industry Research and Analysis** (1 – 3 Years) –

Readers of this Plan will note that many of the bibliographical references reflect Australian rather than Western Australian data. WA data is often not available and even where FutureNow has subscribed to data sources such as *IBISWorld* disaggregated data at the State level is not available.

Also many industries such as ICT cross all industries, while tourism does not have its own ANZSIC code, even though its economic contribution warrants Ministers at both State and Federal levels. Other examples include design and the components from other industries that contribute to tourism such as transport, retail, culture and recreation.

Robust research is needed to underpin key policies and industry workforce development in the creative industries. Current and ongoing research is vital to understand market developments, labour market trends and industry performance, and to anticipate the impacts of climate change, shifting consumer preferences and demography.

Key stakeholders capable of compiling comparative research and data include Government Departments, Regional Development Commissions, Industry Training Councils and key industry associations/organisations. Once research and data are available, they must be provided as broadly as possible in a format that enables stakeholders and government to make informed decisions.

Creative industry research and analysis: Department of Training and Workforce Development, Government Departments and agencies and industry associations/operators to:

- Use comparative measures to gauge employment in the creative economy to include specialist creatives, support workers and embedded creatives in other industries such as the Creative Trident developed by the Australian Research Council - Centre of

Excellence for Creative Industries and Innovation; measure creative industries with a Value Chain for creative products: pre-creation, creation, realisation, consumption of content and post-sales.

- Develop a finer resolution of classification to measure 'Creative Workforce' opposed to 'Creative Occupations' for great accuracy of data.
- Develop measures of the creative economy including the social and economic role of creativity, the emergence of a 'creative class' which is important to accelerating economic growth in a region.
- Measure voluntary exchange markets which are directly associated with the social value of art and the large numbers of volunteers in all creative industry sectors.
- Research and assess business with higher proportion of creatives performing better including profitability, output growth and productivity growth.

FutureNow to work with industry associations such as FORM and the Chamber of Arts and Culture WA to undertake research and analysis and articulate and champion the existence, depth, size and contribution of the creative economy in WA beyond the State Government's current concept of culture and the arts.

FutureNow, Department of Training and Workforce Development, Department of Culture and the Arts and Department of Commerce, Science and Innovation to undertake research identifying the link between creativity and innovation and productivity growth.

- **Workforce Development** (1 – 3 years) – FutureNow to:
 - Assist National Skills Councils such as Innovation and Business Skills Australia with the development of national workforce development strategies for sectors within the creative industries by facilitating and providing Western Australian input and feedback.
 - Act on outcomes of reports, projects and pilots from key government, regulatory and industry authorities.
- **Creative Clusters** (1 – 3 Years) – Development of creative clusters to support the large number of SMEs (Small to Medium Enterprise) and project based self employment within the creative industries to grow innovation and productivity in Western Australia.³⁴⁶
 - Department of Training and Workforce Development, FutureNow and Department of Culture and the Arts to research and explore Creative Cluster evaluation for enterprise growth and cultural development.
 - Department of Training and Workforce Development and Department of Commerce, Science and Innovation to develop creative incubators for creative business development to build and enhance creative industries in Western Australia leading to innovation, support for other industries (including the resource sector) and contribution to lifestyle appeal/experiences.

Measures of Success

To measure the success of these actions, positive outcomes would include:

- Increased participation in Vocational Education and Training (VET) and Recognition of Prior Learning (RPL) by existing industry employees and employers.
- A cross-government approach to the compilation of research, data and analysis. Results to be shared with Government agencies, industry training councils and key industry associations.
- Concise data of the Western Australian creative industry workforce by occupation and economic contribution.
- Clear numbers of volunteers in creative industry sectors and their value in a voluntary exchange market.
- Measurement of creative industries influence on lifestyle and attracting people to Western Australia from interstate and overseas.

- Public funding in the creative industries to accurately reflect the critical needs of industry.
- Growth of creative industries SMEs (Small to Medium Enterprise) and projects generating employment and stimulating economy growth.
- National Skills Councils, Industry Training Councils and key industry associations to share information for workforce development planning.

4.4 Theme 4: Attraction and Retention

Creative Industries

Typically in many sub-sectors of the creative industries, operators employ younger people and sustain a culture of flexible but limited working arrangements to suit this demographic with high rates of part-time and casual employment and a highly mobile workforce. Formalised training is not always seen as a necessity with on-the-job informal training common practice. This may prohibit organisational/business growth and sustainability in the medium to long term.

There is a lack of readily recognisable career pathways due to the lack of full time employment in some industry sectors. The combination of a preponderance of part time and casual work, low profit margins, high penalty rates (result of the modern awards), long and varied hours, low pay and hard working conditions has contributed to a perception of an industry culture that is not attractive to career aspirants.

Volunteerism is significant in areas of arts and culture.

A shortage of trained/qualified personnel in industry sectors experiencing extreme skills shortages also encourages poaching by competing businesses and industries due to skill shortages and high overall business performance expectations/pressures.

Strategies and actions to improve attraction and retention include:

- **Improve Industry Image** (6 – 12 months) – Explore the possibility of joint initiatives through the Department of Education, Department of Training and Workforce Development, Department of Culture and the Arts, Curriculum Council, Industry Associations and FutureNow to increase training, pathways and careers promotion to schools, Vocational Education and Training (VET) facilitators, advisers and the community through positive and realistic mediums – scholarship road show - promote success stories - involve young industry professionals as ambassadors.
- **Business and Management Skills Promotion** (6 – 12 months) - Department of Training and Workforce Development, Registered Training Organisations and FutureNow to increase focus on the promotion of enhancing business and management skills of managers through Vocational Education and Training (VET) to implement or enhance retention strategies including greater collaboration between management and staff to establish and maintain a culture that fosters innovation and rewards effort.
- **Flexible Working Conditions** (6 – 12 months) - Promotion of the benefits of flexible working conditions as a recruitment and retention tool by FutureNow such as working hours and salary conditions to attract workers such as retirees, single parents and return to work mums may increase access to suitable long-term employees. FutureNow to also promote the advantages of job redesign to include flexible working hours, job sharing, casual and part time arrangements, and the use of non financial rewards to suit the cross generational make up of the workforce.
 - Contemporary Employment Practices: Department of Training and Workforce Development, FutureNow and industry associations to research and build currency of emerging, new positions within the workforce and promote in house training and up skilling for new technologies.
- **Mobility of Workforce** (1 – 3 Years) - Joint initiatives between the Department of Education, Department of Training and Workforce Development, FutureNow and industry associations for attraction and retention of workers in the creative industries in Western Australia:

- FutureNow to work with Department of Culture and the Arts and Department of commerce, Science and Innovation to promote and attract creatives to WA following the example from the UK promoting itself as The World's Creative Hub;
 - Department of Training and Workforce Development and Department of Immigration and Citizenship to research circumstances behind creative industry migration and develop strategies to retain new graduates in Western Australia;
 - Department of Training and Workforce Development, FutureNow and industry associations to identify attraction and retention strategies for employees including, interests/experience matching their job role/agency, technical challenge/complexity of work job security, ability to contribute to making a difference and desire to gain experience in a different working environment and promote best practice in workforce development; and
 - Staff retention in regional and remote areas: Government agencies to work with industry associations/operators to undertake research into attraction and retention.
- **Young Cohort of Industry** (1 – 3 years) – With a large portion of young people employed in and attracted to creative industry occupations, flexible work/life arrangements and identified career pathways for progression are needed to retain existing employees. FutureNow to assist employers and peak industry bodies/associations in promoting flexible working conditions and the benefit of promoting horizontal career pathways to attract and retain young workers.
 - **Employment Conditions** (1 – 3 years) – FutureNow and associated industry partners to ensure that all careers promotion activities accurately reflect the industry's conditions to make sure that new entrants/graduates to the industry have realistic expectations. FutureNow to also promote work-life balance benefits and continue with the theme of promoting creative and leisure industry employment as lifestyle careers.
 - **Industry Support of Training** (1 – 3 years) – Industry to work in closer partnership with Registered Training Organisations (RTOs) to establish more flexible training arrangements to meet the needs of industry. Greater promotion is needed of successful industry/RTO partnerships and examples of 'best practice' which could be modelled in other sectors.
 - **Transient Nature/Mobility of the Workforce** (1- 3 years) – FutureNow in conjunction with the National Industry Skills Councils to promote global mutual recognition and portability of qualifications and industry standards to enable transferability of qualifications internationally.
 - **Human Resource Management** (1 – 3 Years) - Industry recruiters to improve the attraction and retention of staff by using customised recruitment tools and screening processes that assess aptitude for the industry, establish attitude to work, recognise relevant prior learning and experience, and establish skills gap for potential and existing employees.
 - **Cultural Awareness Training** (1 – 3 Years) - Department of Training and Workforce Development and Registered Training Organisations to increase the provision of cultural awareness training to improve the employment and retention of Aboriginal employees.
 - **Access to Employment** (1 – 3 Years) - Access to employment in industry is not only difficult for people living in the metropolitan area, but is extremely difficult or non-existent in areas of minimal or poor infrastructure, regional and remote areas. Government to:
 - improve infrastructure (reasonably priced accommodation for workers, child care facilities etc) to enable better access to employment;

- increase availability of public transport during industry operational times (early mornings, late evenings, weekends and public holidays) in areas / regions with a high density of industry employees (e.g. Cultural and events precincts);
- personal income tax reform. Increase the tax free threshold and address effective marginal tax rates to maximise the incentives to move from income support payments to increased participation in paid work;
- reduce red tape to enable urgently needed land releases for the development of housing and tourism growth (hotels, venues etc);
- Increase capacity for hotel rooms in Perth;
- Improve access to regional destinations with the development of regional airports and capitalising on opportunities for international aviation gateways; and
- Improve bids/funding, development and marketing for events in Western Australia.

Measures of Success

To measure the success of these actions, positive outcomes would include:

- An increase in school student participation in Vocational Educations and Training (VET) in Schools.
- Increase in industry apprenticeship, traineeship and school based traineeship commencements and completions.
- Identification and application of strategies for greater retention of young workers.
- New graduates being employed locally in field of study and residing in Western Australia longer.
- Increased participation in Vocational Educations and Training (VET) and Recognition of Prior Learning (RPL) by existing industry employees and employers.
- Increase of alternative job descriptions to suit demographics especially older, part time workers.
- Increased migration of employees from interstate and overseas for lifestyle and career opportunities in the creative industries in occupations experiencing skill shortages.
- Increase of mature workers re-entering or staying in workforce.
- Decline in industry operator job vacancies.
- Increased participation of the Aboriginal workforce.
- Improved infrastructure - accommodation for workers, child care facilities, public transport.
- Personal income tax reform.
- Increased land releases for housing and tourism growth.
- Increased capacity for hotel rooms in Perth.
- Regional airport / international aviation gateway developments.
- Increased successful bids for events in Western Australia.

4.5 Theme 5: Training and Productivity

Creative Industries

Many employees in the creative industries do not have a formal post-school qualification. This perpetuates the myth that these industry sectors do not require skilled workers and is a deterrent to training and serious consideration as a long term career choice.

Many employers are unaware of formalised vocational education and training, industry qualifications, recognition of prior learning and flexible training options. An opportunity exists to increase this awareness through promotion and industry association / operator initiatives.

Through Vocational Education and Training, new entrants and existing workers in industry can enhance business sustainability, economic contribution, quality of service delivery, and Australia's reputation/competitiveness on a global scale.

Strategies and actions to improve training and productivity include:

- **Promotion of Industry Training and Careers** (6 – 12 months) – Explore the possibility of joint initiatives through the Department of Education, Department of Training and Workforce Development, Department of Culture and the Arts, Curriculum Council, Industry Associations and FutureNow to increase training, pathways and careers promotion to schools, Vocational Education and Training (VET) facilitators, advisers and the community through positive and realistic mediums – scholarship road show - promote success stories - involve young industry professionals as ambassadors.
- **Promotion of Training to Existing Workers in Industry** (6 – 12 months) - FutureNow to identify and promote global and best practice industry promotion and to provide industry associations and operators with simple and easy information about the benefits of training, training options, training providers, government initiatives and key links. An increase in skilled workers will increase productivity and quality of service/products:
 - Department of Training and Workforce Development, Education Department and FutureNow initiative to develop onsite training promotion utilising industry contacts supported by testimonials to build training recognition while fostering industry ownership of Training Packages;
 - Department of Training and Workforce Development to research circumstances of increased multi skilling, multi tasking, job expectations and labour requirements to fulfil duties within occupations aligned to ANZSCO (Australian New Zealand Standard Classification of Occupations);
 - Department of Training and Workforce Development to educate and promote skills development with cross-media/industry collaboration for new/emerging business benefits and encourage uptake/engagement of Digital Careers to accommodate future technology to stimulate knowledge/creative economy growth and innovation; and
 - Department of Training and Workforce Development and Registered Training Organisations to support the creative and leisure industry workforces' continual development and up skilling by offering new and modified learning modes and simulation options suited to industry sectors such as master classes.
- **Industry Perception of Training Providers** (1 – 3 years) – FutureNow to ensure greater industry input and participation in training package reviews, continuous improvement processes etc to ensure training package content is meeting the needs of industry.
- **Professional Development for VET Coordinators and Teachers** (1 – 3 Years) - Teachers, Vocational Education and Training (VET) / Enterprise and Vocational Education

(EVE) Coordinators and others responsible for student industry contact and work placements must be provided with professional development in the areas of school to business partnerships, effective communication, networking and nurturing business relationships. Professional Development in these areas may help ease the burden of dealing with business operators, developing sustainable partnerships, and increasing knowledge of industry sectors. This may result in increased work place training and experience opportunities for students and greater exposure to prospective employees for industry operators.

- **Increase Recognition of Prior Learning (RPL) Uptake and Outcomes** (1 – 3 Years) – Department of Training and Workforce Development, Registered Training Organisations (RTOs) and FutureNow to promote opportunities to provide Recognition of Prior Learning (RPL) and skills gap training for existing workers. RTOs to ensure streamlined RPL processes are available to increase participation/completion. FutureNow to promote key industry identities undertaking RPL.
- **Funding Models** (1 – 3 Years) – Department of Training and Workforce Development to review funding models to allow for increases in funding for training hours and resources and explore innovative funding methods for new training opportunities, partial completion when industry certification is aligned to certain units of competency.
 - E.g. Department of Training and Workforce Development and FutureNow to investigate the UK model of Creative Apprenticeships and Centres of Excellence and Skills Academies.
- **Increase Publicly Funded Training Places in Industry** (1 – 3 Years) – Department of Training and Workforce Development to increase access to publicly funded training places (for school aged and mature aged students) particularly in pathways to skill shortage occupations.
- **Create Skills Sets** (1 – 3 years) – Department of Training and Workforce Development in partnership with FutureNow to create publicly funded Skills Sets (funded through Federal Government Productivity Places Program (PPP) and where applicable, DTWD), to provide short term solutions for skilled labour and increase industry exposure:
 - Apprentice/Trainee Employer and Supervisor Skills Set to provide desperately needed assistance for employers and supervisors of apprentices and trainees in the workplace (skills set for the mentoring, training and support of apprentices and trainees and management of contractual obligations);
 - Supervisory Skills Set for existing workers in the creative industries;
- **On the Job Training** (1 – 3 years) - Access to quality training in the work place may provide opportunities to increase apprentice and trainee numbers. FutureNow to encourage Registered Training Organisations (RTOs) to:
 - increase flexible and online training options and technologies where suitable;
 - increase quality on the job training and assessment in metropolitan, regional and remote areas to service the demand (promotion available to industry through Department of Training and Workforce Development, Apprenticentre, FutureNow and RTO Network portals); and
 - develop the provision of cultural awareness training and targeted support, mentoring and training programs may improve industry entry and retention of Aboriginal employees.

- **Access to Quality Training, Work Placements and Infrastructure** (1 – 3 years) – FutureNow to promote flexible training arrangements such as online, on-the-job, Recognition of Prior Learning, skills gap training, and short course skills set training especially in regional and remote areas of Western Australia.
- **Industry Employment / Training Disconnect** (1 – 3 Years) - the industry employment and training disconnect is misleading (and potentially disillusioning) tourism, hospitality and events students. Unrealistic graduation expectations are common with misconceptions about the real world nature of the jobs for which they are qualified. Realistic training outcomes must be communicated by Registered Training Organisations (RTOs), Industry Training Councils (ITCs) and careers advisers (focus on RTO marketing materials during auditing process through Training Accreditation Council (TAC)).
- **Auditing of Registered Training Organisations (RTOs)** (1 – 3 Years) – Where industry identifies poor performing RTOs, FutureNow to work with the Department of Training and Workforce Development, State Training Board and Training Accreditation Council (WA) to address remedial action. The importance of RTO quality compliance is vital to the promotion and reputation of the training system, the impact on career options for graduates, and the confidence of employers of apprentices and trainees.
- **Vocational Education and Training (VET) Articulation to Higher Education** (1 – 3 Years) - The promotion of and actualisation of VET graduate articulation to higher level qualifications and tertiary studies may be achieved through recognition of VET qualifications and industry requirements. This may result in improved career opportunities and an improved industry image of 'professional' occupations. FutureNow to support collaboration between schools, Registered Training Organisations and universities to ensure smooth training pathway transitions for students.

- **Overseas Students** (1 – 3 Years) – Changes to skilled migration and student visa requirements by the Australian Government need to be cognisant of the negative impact of such decisions including:
 - The reduction in the casual labour pool for hospitality workers; a reduction in student workforce available to industry; decrease in skilled graduates applying for Permanent Residency to live and work in Australia; decrease in economic contribution (education); decrease in economic contribution (tourism - visiting friends and relatives); and decrease of specialist employment opportunities for Australian industry lecturers.

Strategies to increase international students to come to Australia for genuine education and training experiences are required.

- **Linking Industry-Specific Programs with the Vocational Education and Training (VET) Sector** (1 – 3 years) – FutureNow to facilitate industry feedback into training package reviews and continuous improvement processes to ensure industry-specific programs/licensing/compliance requirements are met within the training package.
- **Work-readiness of Graduates** (1 – 3 years) – FutureNow to:
 - Invite input, participation and feedback from industry into training package reviews, and encourage closer industry/Registered Training Organisation partnerships to ensure graduates have the skills and knowledge that meets industry standards; and
 - Encourage industry to support workplace learning, on-the-job training components, traineeships/apprenticeships etc to provide students with 'real work' opportunities which will assist with the transition from training to work.
- **Lack of Formal Qualifications in Industry** (3 – 5 years) – FutureNow, Registered Training Organisations (RTOs) and peak industry bodies/associations to promote

opportunities to provide Recognition of Prior Learning (RPL) and skills gap training to existing workers. Promote to industry the benefits of training and ensure awareness of flexible training options and funding/incentives available.

Measures of Success

To measure the success of these actions, positive outcomes would include:

- Increase in school student participation in creative and leisure industry Vocational Education and Training (VET) in Schools.
- Increase in Registered Training Organisation on the job training placements / visits (regional and remote).
- Increase in creative and leisure industry Vocational Education and Training (VET) course enrolments.
- Increase in industry apprenticeship, traineeship and school based traineeship commencements and completions.
- Creation of apprenticeship system for Cultural and Creative industries.
- Increased Recognition of Prior Learning (RPL) administered by Registered Training Organisations with a streamlined system.
- Increased participation in Vocational Education and Training and Recognition of Prior Learning by existing industry employees and employers.
- Decline in industry operator job vacancies.
- Increase in Aboriginal training leading to employment and retention.
- Increase in funding, new funding models for emerging training opportunities and publicly funded training places (particularly in pathways to skill shortage occupations in the creative industries).
- Creation and implementation of publicly funded Skills Sets.
- Inclusion of skilled migration / overseas student strategies to alleviate skill shortages across sectors of the creative industries in Western Australia e.g. telecommunications and printing.
- Increase in student articulation from Vocational Education and Training to higher education.
- Creative school students identified with a 'Find Your Talent' with Individual Education Plans (IEPs) directed to creative education and training pathways.
- RTO complaints reduced.

5. The Way Forward – Approach and Linkages

Creative Industries

Information Gaps

Research and statistics (other than Census) is unavailable for many sectors within the creative industries portfolio of FutureNow, and where available, often overlaps and duplicates key statistical information.

Shaping the future through better data collection and workforce planning³⁴⁷

Department of Training and Workforce Development data pertaining to institutionalised training delivery (commencements, in training and completions) is vital to making recommendations on funding decisions based around demand versus supply.

Industry stakeholders and experts maintain that the lack of comprehensive analysis of industry trends is a serious obstacle to the development of sustainable business plans by industry operators. Key areas of concern include gaps in, or the lack of:

- Timely and broadly available operational data in industry sectors
- Data structured by sector, rather than occupation, and the lack of data covering many creative and leisure industry occupations
- Regional workforce data for industries, and the various sectors within them
- Consistency of collection
- Availability and comparability of data from existing sources

Without comprehensive and consolidated information on workforce and industry growth, sound investment decisions on staff recruitment and training are problematic. Moreover, failure to invest in skills development will support low productivity, industry loss of critical mass and reduce innovation.

The end result is a negative image of the creative and leisure industries, feeding skills attrition and labour shortages. Lack of reliable labour market information will hamper the speed of the market adjustment process and therefore the duration of shortages or surpluses. The availability of good quality labour market information to relevant stakeholders is essential for an efficient market. This is even more the case after events like the economic shocks in 2008 to react fast and adapt to new market situations.

Partnerships

A whole of government approach to workforce development and the sharing and distribution of key labour and economic data to Industry Training Councils is vital to ensure workforce development in Western Australia successfully achieves the required labour and skills needed to facilitate growth and economic sustainability for industry employees, business operators and local economies throughout the State.

In addition to the role of government, Industry Training Councils must provide working partnership links to all key stakeholders such as government, National Skills Councils, schools, industry associations/organisations and operators, Partnership Brokers, registered training organisations and the community. Clear communication and ongoing participation by all parties will enhance opportunities for growth and development.

6. Performance Update

Creative Industries

Updates to Action Plans / Priority Actions outlined in Section 4 Themes will be provided by FutureNow – Creative and Leisure Industries Training Council on an annual basis (or as requested by the WA Department of Training and Workforce Development). These themes will be assessed by prescribed methods to measure the success of recommended objectives and strategies.

6.1 Theme 1: Labour Market and Supply

6.2 Theme 2: Workforce Participation

6.3 Theme 3: Planning and Coordination

6.4 Theme 4: Attraction and Retention

6.5 Theme 5: Training and Productivity

Annual Performance Update due by 30th June 2011.

7. Consultation: Key Associations and Stakeholders

Creative Industries

The consultation process for this Workforce Development Plan developed by FutureNow – Creative and Leisure Industries Training Council included representatives of the following key industry association/organisations from November 2009 to June 2010:

Creative Industries

- ABC Perth
- Australian Computer Society (WA)
- Ausdance (WA)
- Australian Graphic Designers Association (WA)
- Community Arts Network WA
- Country Arts WA
- FutureNow Board of Management
- Industry Operator Representatives (art and culture, information technology, telecommunications and printing sectors)
- Integracom
- Media, Entertainment and Arts Alliance (WA)
- Museums WA
- Perth International Arts Festival
- Perth Institute of Contemporary Art
- Printing Industries Association of Australia (WA)
- Registered Training Organisation Representatives (public and private)
- Screenwest
- Western Australian Music Industry
- Western Australian Youth Music Association

8. References: End Notes

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**Please note: all References and Links were correct as at 30th September 2010.*

**FutureNow – Creative and Leisure Industries Training Council recommends that industry operators and registered training organisations seek professional advice or undertake suitably relevant due diligence before making significant business decisions based on information contained within this Workforce Development Plan.*