



Australian Government



AUSTRALIA COUNCIL

SUBMISSION TO

**THE PRIME MINISTER'S SCIENCE, ENGINEERING
AND INNOVATION COUNCIL**

**Inquiry Into The Role Of Creativity In The Innovation
Economy**

10 SEPTEMBER 2005

INTRODUCTION

The Australia Council is grateful for the opportunity to contribute to PMSEIC's consideration of the role of creativity in the innovation economy. This submission provides recommendations as to how the Australia Council can facilitate greater interaction and collaboration between creative arts and science, engineering and technology (SET) sectors and contribute significantly to Australia's innovation economy.

Creativity is of increasingly strategic value to nations such as Australia in making the transition to innovation and knowledge-based economies. The Australian Government has recognised the strategic value of innovation through its ten-year, \$8.3bn funding commitment *Backing Australia's Ability*.

Creativity – defined as the ability and imaginative skill to bring into existence new concepts and forms, often by linking seemingly disparate ideas – is a central component of innovation, which can usefully be understood as the *implementation* of creative ideas, the incorporation of novel ideas into practical use.

Establishing an innovation system that maximises the long-term strategic value of creativity and creative practitioners will depend not only on the capacity of various actors in the system, which include cultural agencies, business, education and research institutions across creative and SET sectors, but also on the effectiveness of linkages between these various players, and access to appropriate financial investment.

The Australia Council has a vital role to play in facilitating and strengthening these linkages, including new partnerships between the creative arts and SET sectors. We support a wide range of artforms and small to medium creative businesses, as well as facilitating partnerships with education and research institutions and state, territory and local governments. We have also undertaken significant activity in this area over the past 18 months, including in-depth research into the industry assistance needs of creative practitioners and pilot programs to address current barriers to market access.

A recent reorganisation was based on the fact that the Australia Council needs to be more than a central funding provider if it is to drive improvement in the arts sector by building the capabilities of artists and arts organisations. These structural changes mean we are now even better positioned to respond to the changing creative environment, and to facilitate exciting linkages and collaborations to further embed creativity within Australia's national innovation system.

The core functions of the Australia Council in maximising the value of creativity for Australia's innovation economy can be understood as:

- Helping to nourish a climate of creativity, through direct and indirect support for arts and education, artists, creative practitioners and organisations;
- Acting as a broker between artists and creative practitioners and organisations, government, cultural agencies and industry both nationally and internationally; and
- Growing the creative industries nationally and internationally, through partnerships and industry development assistance that facilitate pathways to commercialisation and innovation and address barriers to market access.

SECTION ONE

KEY RECOMMENDATIONS

The Australia Council's recommendations to the PMSEIC Working Group are presented in the context of the Australian Government's commitment to a national coordinated approach toward meeting its objectives in the following related areas:

- Accelerating broadband take-up through the National Broadband Strategy Implementation Group's National Broadband Strategy; and
- Accelerating the production, distribution and marketing of digital content and applications domestically and internationally through a comprehensive Digital Content Strategy, which includes the Digital Content Industry Action Plan.

The Australia Council strongly supports the need for a whole of government strategy to facilitate a co-ordinated approach to government investment in creativity and innovation and accelerate the production of creative content across the cultural and creative industries.

The Australia Council's leadership and success in promoting and facilitating partnerships across the science and technology sectors means it is now well placed to play a pivotal role in progressing a co-ordinated strategy across federal and state cultural agencies.

New measures and incentives are required to enhance the contribution of artists and creative practitioners to Australia's innovation economy, which would build on the Australian Government's investment in skills and education, technology innovation, regional sustainability, trade and industry development.

We have developed *Creative Catalyst* strategy comprising of 4 key initiatives, which we believe support the innovation value chain of developing creative thinkers and ideas through to supporting pathways to commercialisation. **Figure 1** illustrates this strategy across the organisation.

The key elements of *Creative Catalyst* include:

- Support for Arts and Education in Schools - *Creative Schools*
- Support for Cross-Disciplinary research - *Synapse – Cross Disciplinary Research*
- Support for creative leaders and international exchange – *Creative Leadership*
- Support for innovation and commercialisation of creative enterprises - *Create + Accelerate*

The *Creative Catalyst* strategy reflects the outcome of significant, in-depth research and analysis into creative skills development and creative industry trends, as well as extensive sector consultation.

Our work in this area has included:

- Initiating several research projects into arts and education, which have provided important evidence of the link between an arts education, creative thinking and innovation;
- Initiating the *Synapse* strategy to encourage creative and experimental collaborations between artists and scientists through linkages with the Australian Research Council (ARC), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and ANAT;
- In-depth industry analysis of income and employment trends of artists, resulting in the paper *A Strategic Responses to the Income and Employment Trends of Individual Artists*¹ which included an Action Plan for improving artists incomes;
- Pilot approaches to removing barriers to market access in high-growth industries such as mobile content development and homewares design/retail markets (*Mobile Journeys & Makers to Manufacturer to Market*);
- Work with the Australian Local Government Association in supporting the *Small Towns Big Picture* project – a partnership between the Victorian Cultural Development Network and La Trobe University’s Centre for Sustainable Development to measure the health of communities by using the arts and local artists to determine the social, economic and environmental sustainability of regional centres.
- The establishment of an Inter-Arts Office to support hybrid arts including new media projects that use an interdisciplinary process where artists and practitioners from non arts fields collaborate – artists and scientists/artists and engineers etc.
- The creation of a Key Organisations section with the objective of analysing, developing and supporting the ongoing sustainability of small to medium arts organisations.

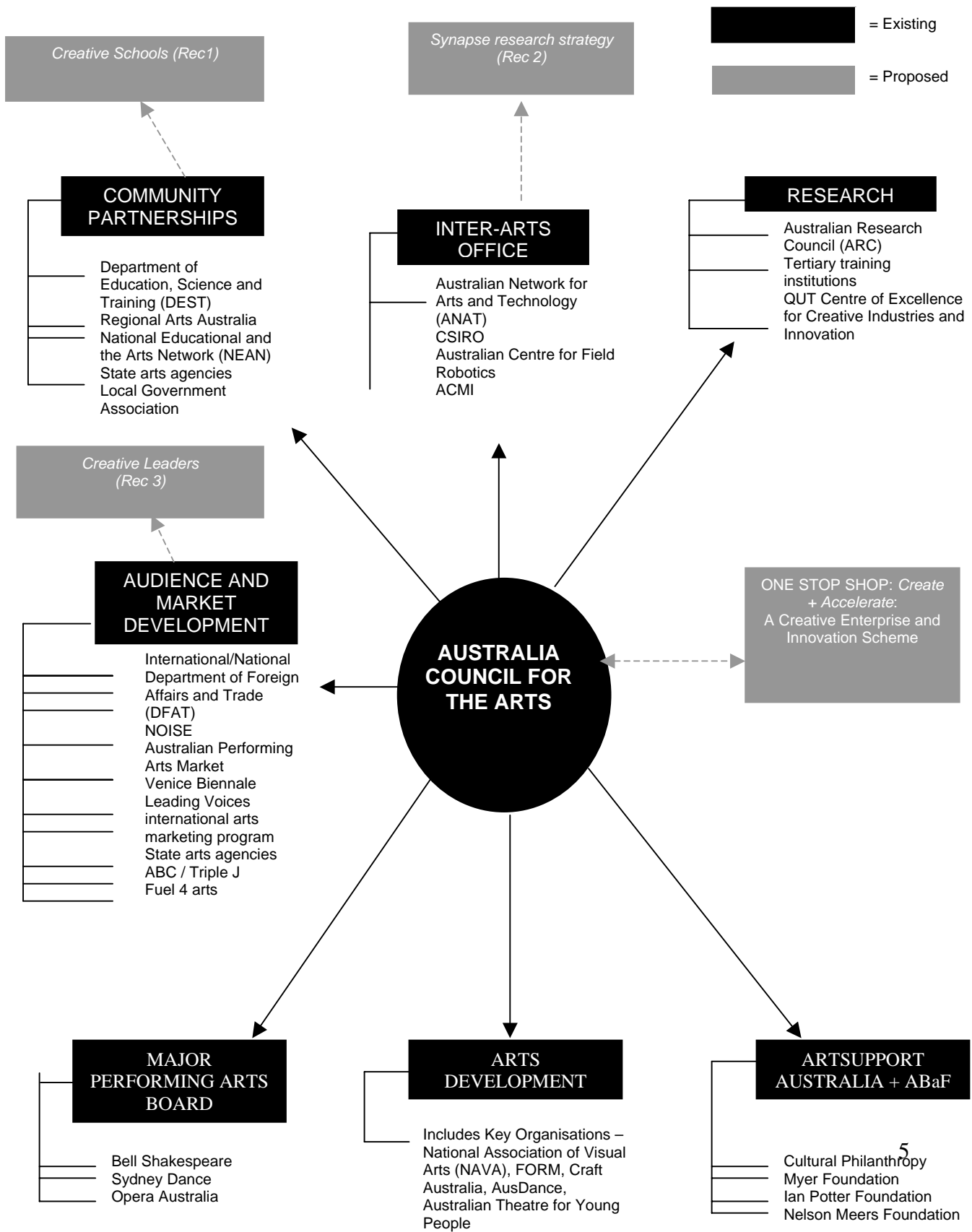
Consultation in the development of this Strategy has included the Department of Communications, IT and the Arts (DCITA); the Department of Education, Science and Technology (DEST), the Council for Humanities Arts and Social Sciences (CHASS); the Australian Research Council (ARC); National Endowment of Science, Technology and the Arts (NESTA) Chairman Chris Powell; the Australian Business Arts Foundation (ABAF) and ArtsSupport; the Australian Film Commission (AFC); the Australian Film Television and Radio School (AFTRS); FORM WA; Craft Australia; Feral Arts; NOISE; the Offices of the Minister for Communications, IT and the Arts Senator Helen Coonan and the Minister for Arts & Sport Senator Rod Kemp; the Australian Centre for Field Robotics; dLux media arts and leading creative industry researchers including Kate Oakley.

¹ Based on data collected as part of Professor David Throsby’s *Individual Artist Surveys* commissioned by the Australia Council between 1983 – 2000. The latest of these was published in 2003 as part of *Don’t Give Up Your Day Job – An economic study of professional artists in Australia*.

The Australia Council's proposed *Creative Catalyst* strategy

The Australia Council's proposed *Creative Catalyst* Strategy builds on existing expertise and partnerships in the provision of direct and indirect support for creative practitioners and organisations. Partnerships and stakeholders listed below are indicative only.

FIGURE 1 – The *Creative Catalyst* strategy builds on existing Australia Council partnerships



1. Arts and Education

The Australia Council is currently working with the Cultural Ministers Council and the Ministerial Council for Education, Employment, Training and Youth Affairs to develop a National Statement on Education and the Arts. The statement acknowledges that our future prosperity demands a well-informed and active citizenry, consisting of individuals able to communicate well, think originally and critically, adapt to change, work cooperatively, be able to connect with both people and ideas and be capable of finding solutions to problems as they occur.²

The Council has collaborated with the Department of Education, Science and Training and the National Education and the Arts Network (NEAN) to undertake research on the impact of school-based arts participation on student learning and development. The findings demonstrate that arts programs in schools can effectively improve the development of those skills described above as well as improve student attitudes to learning and contribute to improvement in teaching quality.

Recommendation 1: Creative Schools

Building on the principles of the National Statement, the Australia Council proposes a national initiative designed to give Australian children (5-18 years) the opportunity to develop their creative potential through sustainable partnerships between schools and creative individuals and organisations. *Creative Schools* would be a collaborative initiative between the Australia Council's stakeholders and the NEAN, which includes education departments of all Australian, state and territory governments. Ideally the program would be geographically based, with specific initiatives to target disadvantaged schools. It would aim to foster long-term collaborations between local primary and secondary schools, and artists and companies residing and operating in local communities. The program would also look to engage large creative companies to donate funding.

A number of our key organisations have established educational programs as part of their business plans – *Creative Schools* would build on these to develop a co-ordinated strategy to:

- Produce a database of educational programs currently run by arts organisations, for public and private schools to access in developing *Creative Schools* partnerships;
- Establish a *Creative Schools* Awards program for innovative, best-practice partnerships;
- Provide funding to enable disadvantaged schools to implement educational arts programs for up to 10 weeks;
- Implement a raising awareness campaign about creative learning activities targeted at schools and selected businesses;
- Provide opportunities for big business to be involved in creative applications planning and delivery in the classroom; and
- Improve learning outcomes and capacity for creative thinking by children and young people.

Potential partnerships: DEST, ICTs and creative businesses (Telstra, IBM, Intel, Sony etc) and state and territory governments.

² Information Statement, 18th MCEETYA meeting, 12-13 May 2005 Canberra

2. Cross-disciplinary research

The Australia Council has taken a leadership role in establishing a comprehensive and coordinated approach to cross-disciplinary research collaboration through its *Synapse – Art and Science Strategy*. A Memorandum of Understanding (MOU) between the Australia Council and the Australian Research Council (ARC) supports innovation in areas where Australia can be globally competitive and deliver benefits to the community. This relationship recognises practice-based research as R&D and has resulted in significant support for the creative practitioners working in science and technology contexts.

*Synapse*³ aims to encourage creative and experimental collaborations between creative practitioners and scientists through three streams:

- Australian Research Council Linkage Grant Industry Partnerships
- Synapse Residencies
- Synapse Database

Critical to the success of *Synapse* has been the involvement of a range of key stakeholders – including the Australian Research Council (ARC), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Network for Art and Technology (ANAT).

Recommendation 2: Synapse research strategy

Through our existing MOU, the Australia Council recommends the expansion of *Synapse* to establish a comprehensive cross-disciplinary research strategy for the creative arts. This would:

- Develop a targeted strategy to include a broader range of emergent, cross-disciplinary areas, including linkages between creative content, information and communications technologies (ICTs) and educational, health, regional sustainability and services industry content;
- Build on *Synapse* database to include a broader range of practitioners, CRCs and R&D firms, cultural agencies and research institutions;
- Increase the number of stakeholders to include a range of inter-disciplinary and industry-based organisations;
- Invest in international collaborative research networks, exchanges and fellowships;
- Expand and promote pathways to commercialisation, including advocacy of existing opportunities as part of ARC Linkage grants, and investigation of new mechanisms for commercialisation of creative arts and practice-based research such as training and incentive programs;
- Increase the profile of industry-funded research and development across disciplines – including amendments to the R&D tax concession scheme to encourage industry investment in cross-disciplinary and multidisciplinary research; and

Potential partnerships: DIST, cultural agencies, educational and research institutions, industry.

³ See http://www.ozco.gov.au/grants/other_support_new_media_arts/synapse/

3. Creative leadership

Inspiration, talent and complex problem solving lie at the heart of creativity. The *Creative Leadership* program would help nourish the conditions that support creativity and grow Australia's international reputation as an innovative and forward-thinking nation. It would build on the Australia Council's strong track record in building international networks to support its strategies in the areas of education and the arts, audience and market development, regional development and young people and the arts.

The program would enable Australia's top creative minds to link into international networks and hubs such as the Center for Creative Leadership (CCL) in Greensboro, North Carolina, the Leadership Learning Lab, the Banff Centre, Banff, Canada and the Learning Lab, Copenhagen, Denmark.

Recommendation 3: Creative leadership program

The *Creative Leadership* Program would consist of:

- A creative enterprises leadership program to inspire an export-oriented culture among young creative entrepreneurs to help achieve international reputation and success;
- A program of visiting international speakers / visionaries to generate dialogue and collaboration with key creative skills development hubs and emergent digital content production models. Workshops and issues based forums to accompany these events.
- Mentoring opportunities to develop the next generation of cultural leaders.

Potential partnerships: DFAT, Creative Leadership Lab (Qld), Center for Creative Leadership (CCL) in Greensboro, North Carolina, the Leadership Learning Lab, the Banff Centre, Banff, Canada and the Learning Lab, Copenhagen, Denmark, Intel Research, MIT Media Lab, Ars Electronica, NM2 (see <http://www.ist-nm2.org>).

4. Innovation and commercialisation

In 2004 the Australia Council developed an Action Plan for creative industry development. This was based on a growing recognition of significant entrepreneurialism among creative practitioners, who increasingly operate across multiple sectors as ‘micro-businesses’. Lack of start-up capital and business development skills currently preclude many from accessing business development opportunities. Skills and knowledge for intermediaries and brokers in this area is also limited. While state and national governments have small business and industry development programs, many creative practitioners experience difficulty accessing these programs as they operate on a smaller scale and turnover. Return on investment can also be slower than other sectors, and as a result creative enterprises are often ineligible, non-competitive or lose funding after one or two years.

A critical priority is to develop adequate support mechanisms that address barriers to market access. The Australia Council has initiated an analysis of available industry assistance programs (IAPs) to identify existing federal and state government support for creative enterprises, particularly micro-businesses.

The Australia Council has also initiated two pilot initiatives to facilitate market access in the areas of mobile content development and design/manufacturing.⁴ These initiatives have recognised the importance of early collaboration between creative arts practitioners and industry to successful product development and prototyping in creative industries.

Recommendation 4: Create + accelerate – A creative enterprises and innovation scheme

Create + accelerate would provide a one-stop shop for support and advisory services in the area of creative enterprise development and innovation. This would provide brokering support between the Australia Council’s existing partnership initiatives and expertise – including indirect and direct support to artists, international and national audience and market development, cross-disciplinary research and cultural philanthropy – and creative enterprises. *Create + Accelerate* would also administer a new scheme providing new pathways to commercialisation. Target areas for assistance could include: design, digital storytelling, regional infrastructure, exports and indigenous arts.

The core services of *Create + Accelerate* would comprise:

- A website providing access to information on existing industry assistance programs (IAPs) for creative industries, including a ‘money map’⁵;
- A point of access for advisory and information services to support new partnerships between creative and collaborative project teams and industry;
- A public database to facilitate partnerships and collaborations between companies and practitioners to contribute to creative product development and commercialisation;⁶

⁴ *Mobile Journeys* was supported through the New Media Arts Board and *Maker to Manufacturer to Market* through the Visual Arts/Craft Board.

⁵ This is based on the map featured at <http://www.culture.gov.au/moneymap/default.html>

⁶ With a potential fee-for-service introduced based on Austrade model.

- A competitive, seed funding scheme to assist highly innovative and collaborative projects at the early stages of commercialisation to establish or refine the commercial viability of a product or service;
- A mentorship scheme providing practitioners with the opportunity to access highly-focused mentoring in business development;
- Competitive funding for intermediaries and brokers in regional areas to provide creative practitioners with industry access, networks and business advice, modelled on the highly-successful UK Creative Industry Development Agency (CIDA).⁷

Potential partnerships: DIST, DEST, Austrade, AusIndustry, ICT and design companies.

Summary

The Australia Council's leadership and success in promoting creativity across science and technology contexts has helped foster a strong field of established and emerging practitioners with internationally recognised skills, knowledge and expertise.

Our achievements in this area reflect the importance of partnerships and investments that recognise and reward originality and independence, risk-taking, and multi-disciplinary collaboration as key drivers of creativity and innovation.

In recognition of the increasingly strategic value of creativity to Australia's innovation economy, a co-ordinated investment by government in the policy settings and conditions that support creative content production and distribution is a matter of priority. This would build on the Australian Government's investment in skills and education; technology innovation and infrastructure rollout; regional infrastructure and sustainability; trade; and industry development.

Recommendations presented in this submission in the areas of creative innovation and enterprise assistance; cross-disciplinary research; arts and education and creative leadership outline an ongoing, critical role for the Australia Council in facilitating the right mix of multi-sector partnerships and investments that nourish and reward creativity and build Australia's reputation as a culturally rich and innovative nation.

⁷ see <http://www.cida.co.uk/>

SECTION 2

EXAMPLES AND CASE STUDIES

Introduction

In his presentation to PMSEIC's third meeting in June 1999, Mr. John Rimmer, then Chair of the Australia Council's New Media Arts Fund, summarised the contribution of artists to innovation as follows:

Artists throughout the ages have always had a role in using their practice to interpret and critique cultural innovation. Engagement and experimentation with the new communications media and new vocabularies (made possible by technical and cultural innovation) are critical elements in the development of a living culture. Our challenge is to keep alive the process of experimentation, and to continue pushing forward the boundaries into the future...

Artists are not only embracing all aspects of computers and telecommunications, but also the concepts and artefacts of a wide range of biological and physical sciences and technology. Many are already working collaboratively and successfully with science and technology in areas as diverse as telematics, visualisation, mathematics, medical imaging, sound and, with new 'materials' such as plasma, electricity and tissue culture. These examples can serve to change the concept and understanding of 'what an artist is' and, more importantly, 'what an artist can do'.⁸

Much of John Rimmer's 1999 presentation to PMSEIC remains pertinent to the current Inquiry, and is recommended to the Working Group.

In the meantime, the world has not stood still and if anything the ways in which artists and creative practitioners contribute to innovation and commercialisation in science, engineering and technology (SET) contexts has multiplied.

This submission profiles examples that contribute to creativity in the innovation economy in the following areas:

1. Creative education
2. Digital content and applications
3. Design and manufacturing
4. Arts and science partnerships

Examples and case studies

1. Creative education

In the context of a transition to an innovation economy, the labour market of the future will demand high-level, generic skills such as flexibility, sophisticated communication skills, the capacity to re-engage with education and training throughout a working life, imagination and cross-cultural understanding.

Over the last five years the Australia Council has commissioned research to substantiate international findings that a creative education at school contributes to development of the skills, attributes and knowledge that constitute a capacity for

⁸ *Clash of Cultures, New Partnerships, Innovation*, Agenda Item 6, PMSEIC Third Meeting 25 June 1999, p3.

innovation. This Australian research has shown that early exposure to a ‘creative education’ can:

- improve competencies in problem solving
- enhance skills of planning and independent learning
- foster self-reflective learning processes
- help develop the skills of co-operation and collaboration
- develop skills in organising and perseverance in working to achieve goals
- develop communication skills
- enhance literacy and numeracy
- provide ‘authentic’ learning tasks, connected to the real world of work.⁹

Informed by the research findings, the Australia Council is currently working with the Cultural Ministers Council and the Ministerial Council for Education, Employment, Training and Youth Affairs to develop a National Statement on Education and the Arts. The statement acknowledges that our future prosperity demands a well-informed and active citizenry, consisting of individuals able to communicate well, think originally and critically, adapt to change, work cooperatively, remain motivated when faced with difficult circumstances, able to connect with both people and ideas and capable of finding solutions to problems as they occur¹⁰.

The national statement is intended as a guide for the necessary convergence of arts & education resources/infrastructure to achieve a seamless creative learning system - delivering innovation, enterprise and productivity. In such a system educators and artists work together to foster learning environments where creativity emerges through constant exchange of ideas and feedback and the right balance between skills and challenge.

2. Digital content and applications

Many of today’s artists and creative practitioners are exploring the narrative and interactive potential of multi-player games, sonic architectures and next generation digital and wireless platforms. But in doing so they aren’t just producing new content – they’re creating new genres, software applications and platforms used in the production of films, micro-movies, advertisements, soundtracks and games. ‘Locative media’ is an example of an emerging field of advanced creative practice that explores location-specific content applications for access via portable, networked and location-aware mobile devices. Importantly from a business perspective it offers compelling content for data-rich mobile applications.

Some examples of the contribution of artists to the growth of the digital content industry are profiled below.

- **Mobile Journeys**

⁹ Backing Our Creativity – an overview of research on the impact of arts participation on student learning and development, Dr Mary Ann Hunter, Australia Council 2005

¹⁰ Information Statement, 18th MCEETYA meeting, 12-13 May 2005 Canberra

The Australia Council has recognised the strategic significance of collaborative networks that fuse both content creation and distribution of creative ideas. In 2004-05 funding was provided through the New Media Arts Board (NMAB) for a consortium of organisations working under the name of *Mobile Journeys* dedicated to exploring the creative potential of mobile devices and to fostering the development of Australian mobile culture.

The consortium included arts organisations, broadcasters, film agencies and industry bodies including ABC New Media and Digital Services, The Australian Interactive Media Industry Association (AIMIA), DLux media arts, Australian Network for Art and Technology (ANAT), the South Australian Film Commission (SAFC) and Mnet.

Mobile Journeys comprised a two-stage program of activities. The first stage of Mobile Journeys was held in January-February 2005 and reached over 300 people directly through the provision of a set of master classes for artists, community workshops and professional forum days that enabled arts practitioners to meet with international experts, industry professionals and funding bodies in order to better understand the models and modes by which they could bring their work to market and thus to a wider audience. It engaged some of Australia's brightest minds with the creative potential of mobile devices and provided a forum for practitioners, already forming ideas, to meet and exchange with others with similar interests or relevant expertise. A second stage of Mobile Journeys shifted the focus to content development and exhibition combined with a series of linked industry forums.

- **Intimate transactions**

Intimate Transactions is an Australian project featuring at Ars Electronica festival in September 2005 and at the Institute of Contemporary Arts in London in October. It is a new type of interactive installation that allows two people located in separate spaces to interact simultaneously using only their bodies. As this highly immersive experience evolves, each participant begins to sense their place in a complex web of relations that connect them, and everything else within the work.

Intimate Transactions is underpinned by ideas synthesized from theories of critical ecology, ecological subjectivities and the systemic flow of energy and matter within scientifically defined ecologies. It therefore questions how might principles of ecological science and philosophy lead to the evolution of new forms of process, practice and outcome in the media arts. To achieve this *Intimate Transactions* brings together practitioners working in the fields of media arts, interactive design, performance, telematics, ecological sustainability, interactive sound-scape design, custom electronics, furniture design and human-computer interfaces.

Intimate Transactions has its genesis in Time_Space (TPS), an initiative of the New Media Arts Board of the Australia Council managed by Performance Space, Sydney.

- **NOISE festival**

Previously a month-long festival, NOISE now profiles artists aged between 12 and 25 all year long, as they submit artwork for exhibition and distribution on television, radio, in print and online to a broad audience across Australia and internationally. Young artists and their new work will be celebrated across the media through a program of opportunities and a series of media events that will coincide with key NOISE projects during 2005 and throughout the course of the initiative.

New NOISE projects in Singapore and north-west England will provide the first opportunity for artists from overseas to participate in NOISE and also for Australian young artists to present work internationally. NOISE Australia has built partnerships with arts organisations and artists in these regions, expanding the reach of young Australian talent across different cultures and markets.

One of the first NOISE projects to launch is the Qantas Spirit of Youth Awards (SOYA). SOYA offers young Australian artists the chance to win \$10,000 in cash and flights, plus mentorships with industry experts.

The Australia Council initially supported three media-based youth arts and culture festivals: LOUD and NOISE in 2001 and 2003. In 2004 as part of the 2004-05 Federal Budget \$5 million in funding was announced NOISE 2005 to 2008.¹¹

- **Sonic Landscapes and *Audio Nomad***

From 1999-2001 Dr Nigel Helyer participated in the NMAB's strategic *Arts and Industry Partnerships* scheme, which included a residency and collaboration with Lake Technology on a project called *Sonic Landscapes*. *Sonic Landscapes* employed a 3D immersive sound-scape, accurately positioned by cartographic software, upon a physical terrain. The technology used in the *Sonic Landscapes* user interface is capable of operating with a 2cm positional accuracy when employing differential GPS (Global Satellite Positioning) and with a one degree accuracy for rotational head orientation, which, when combined with Lake's headphone delivers a virtual speaker array offering the user a highly realistic immersive audio environment. The collaboration with Lake Technology contributed to the development of commercially exploitable intellectual property in digital and audio technology.

Dr. Helyer continues to research the development of mobile hand-held, location-aware devices for augmented and virtual reality systems through a project called AudioNomad, currently underway at the Human Computer Interface Lab, School of Computer Science & Engineering, University of NSW. This is supported by the Australia Council through an ARC Linkage Grant Industry Partnerships. Commercial applications for the technology developed through AudioNomad could include hand-held audio devices that assist vision-impaired users to navigate complex urban environments and marine safety systems able to generate audio warnings from an analysis of a ship's geo-spatial position.

¹¹ See media release at http://www.ozco.gov.au/news_and_hot_topics/media_releases/more_noise_for_young_artists/ and website at <http://www.noise.net.au/splash.asp>

- **Blast Theory**

Blast Theory is an interdisciplinary artists' group renowned internationally as one of the most adventurous groups working with interactive media. Their work explores interactivity and the relationship between real and virtual space with a particular focus on the social and political aspects of technology. Using video, computers, performance, installation, mobile and online technologies they confront head-on our media saturated world in which popular culture rules, and seek to raise questions about the ideologies present in the information that envelops us.

They, along with another UK artist group **the phone book**, are specifically interested in developing new creative applications to be used on next generation wireless devices. While these groups set out to push people's understanding of themselves in relation to interactive media, their work has also attracted much commercial attention, gaining the support of companies like Siemens, Motorola and Nike.

As well as arts funding, the group works with partners such as BBC Interactive, The Science Museum in London and British Telecom. Blast Theory's first major interactive game was commissioned out of a strategic initiative by the Arts Council England, BBC Online and b.tv/The Culture Company.¹² Since 2000, Blast Theory has been exploring the convergence of online and mobile technologies in collaboration with the Mixed Reality Lab at the University of Nottingham.

Blast Theory was brought out to Australia in 2004 as part of the **Thinkers in Residence**¹³ program funded by the **South Australian Government**. As part of the Adelaide Festival they produced *I Like Frank* – the world's first mixed reality game for 3G phones. They have created a spin-off called Everpresence to further exploit commercial opportunities. Masterclasses, mentoring, internships, seminars and lectures are central to the group's dissemination of its research around the world.

- **Feral Arts Association Inc and Placeworks**

Feral Arts have developed *Placeworks* - a software program and web server facility. Placeworks is a multimedia database that operates as an on-line museum, and digital story creation tool. It uses international geo-code standard digital maps to interface the database, enabling users to manage and share a wide range of digital media types including text, photos, graphics, music, videos, sound files, URL's, streaming video feeds (etc). Essentially, Placeworks is an online 'keeping place' and 'collaborative space', a tool to support local ownership of arts and cultural information and products, linking that information and communities into broader planning and development processes. Placeworks has already been used successfully in projects with Upper Burdekin Enterprises, Queensland Catholic Education Commission and Dajarra community.

In its 2005-2007 business plan, Feral Arts plans further testing, research and product development, aiming to broaden the impact and benefit of Placeworks to build sustainable new income streams for the organisation. The approach is to adapt the

¹²The strategic initiative was called Shooting Live Artists

¹³ See Public Lecture notes at http://www.thinkers.sa.gov.au/images/BT_Public_Lecture_notes.pdf which detail recommendations and strategies to promote creativity and innovation

core product for use in specific contexts through project partnerships. The method is to identify new markets and devise pilot projects that both engage that sector and enhances Feral Arts' core program.

Feral Arts' expertise lies in their community research and development partnerships, delivered through arts-focused ccd projects. Current barriers to Feral Arts' ability to further develop Placeworks product and marketing program are:

- difficulty in supporting diversification of growth within operational funding;
- limited business, marketing and promotion expertise in product development and intellectual property and;
- under-developed links with business sectors.

This model could be explored for co-ordinated content delivery by cultural agencies.

3. Contemporary Craft/design, manufacturing and forestry

The intersection of contemporary craft/design and manufacturing is another area in which creativity plays an important role in fostering innovation and commercialisation in SET. For example, Swinburne Design School has as part of their training program undertaken a research project funded through the Cooperative Research Centre to explore new technological applications for the design and manufacture of furniture using untested raw materials developed by the forestry industry.¹⁴

This collaboration by forestry with the creative industry has been critical to assess the viability of new timber materials being developed as alternative timbers sources to old growth forests. The positive testing of these materials results in information being passed on to manufacturers who then have access to new raw materials for production thereby increasing the viability of Australian forests.

In the Swinburne case, the result of design testing and product development has also led to participation in the Milan Furniture Design Fair at Sallone Satellite, with the potential outcome of engaging international manufacturing agreements. Swinburne University's involvement in this prestigious design event serves not only to showcase the talents of Australia's prevailing designers but assists in the dissemination of the research, putting significant Australian innovation and research into a global context.

FORM

FORM: Contemporary Craft and Design is Western Australia's peak professional association for designers, artists and craftspeople working in 3D media. FORM's activities span two broad and related areas - industry development and market development – through which FORM fosters and showcases creative innovation and excellence in contemporary craft and design, develops the commercial capacity of small businesses in the industry and builds relationships with diverse public and private sector organisations.

¹⁴ See <http://www.hed.swin.edu.au/design/news/index.html>. Thanks to Craft Australia for their contribution to this submission.

FORM's flagship industry development initiative is its award-winning Designing Futures project, which provides design, marketing and business management training to professional and emerging practitioners. Begun in late 2001 as a fine wood and studio furniture industry development program, Designing Futures attracted significant public and private sector support for the fledgling industry. The value of the corporate partners, in particular, was nationally recognised when FORM together with Rio Tinto WA Future Fund and Wesfarmers Arts won the 2003 Australia Business Arts Foundation (ABAF) Community Councillors' Award.

In 2004, Designing Futures expanded to encompass all craft and design disciplines, with a particular emphasis on the growth of industry clusters. Clusters have been developed in Denmark, Dwellingup and Perth, with the potential for new clusters in other regions. A comprehensive Cluster Development Program is now being delivered. By the end of 2006, a cluster development 'model' will be created for the efficient development of the craft and design industry in the State. The model will show the value of clustering within Western Australia's creative industries to investors and policy makers, and seek to attract funding for more widespread cluster development in the State.

FORM's other industry development programs include a curated exhibitions program, symposia on a wide range of issues impacting the craft and design industry, and numerous electronic and printed publications.

FORM also actively fosters a commercial market for contemporary Australian craft and design. FORM operates a retail outlet that occupies a prominent position in the heart of Perth city. In 2004, FORM also won a five-year management consultancy to manage a new retail space in Kings Park. Purpose built and located on Fraser Avenue, this outlet, Aspects of Kings Park, showcases the highest quality craft and design to more than 5.6 million annual visitors to Kings Park. It adds value to the Government's Tourism, Arts, Industry and Environmental portfolios, and supports the growing craft and design sector.

These varied facets of FORM present an integrated and comprehensive approach to enriching and promoting Western Australian creativity.

Visual Arts/ Craft Board – 'Maker to Manufacturer to Market'

The Australia Council's analysis of long-term income and employment trends among craft practitioners identified this group as being a target for industry development assistance. In response the VACB has developed a pilot strategic initiative called *Maker to Manufacturer to Market* (MMM) that tests the idea of income sustainability in the craft/design sector. The purpose of the initiative is to encourage successful best practice models of industry practice in the Australian contemporary craft design sector.

The MMM program was released on 1 February 2005, with three grants of \$30,000 announced on 1 June 2005. Submissions received covered furniture, jewellery, kitchenware, lighting, textiles, tiles and other special items. Target markets were identified as 'apartment living', tourism and the gift market.

See also the **National Design Centre**¹⁵ - Australia's first major public design centre

4. Arts and Science Partnerships¹⁶

Artists working in SET contexts also play a crucial role in communicating scientific discoveries to wider audiences. Partnerships between artists and scientists help to disseminate highly esoteric and technical ideas in science to a wider population. Artists are able to take scientific knowledge and concepts to new audiences through exhibitions and public events thus making the valuable research work more accessible and giving people a direct experience of scientific discoveries. In this context artists can play an essential role in raising the public's scientific literacy, and facilitate an enriched understanding of important changes taking place.

The Australia Council's *Synapse* initiative provides opportunities for artists and scientists to work together, and seeks to promote the benefits of such collaborations to the wider community. By developing awareness and understanding of arts/science practice, *Synapse* aims to advance the role the arts plays in Australia's innovation system.

The *Synapse* initiative currently involves three streams:

- Australian Research Council Linkage Grant Industry Partnerships
- *Synapse* Residencies
- *Synapse* Database

The Australian Research Council Linkage Grant Industry Partnerships

Under an agreement with the Council, the Australian Research Council accepts applications that propose the Australia Council as an industry partner on significant arts/science research collaborations. Three exciting research collaborations have been supported since 2003 under this scheme:

- **Example: Australian Centre for Field Robotics - University of Sydney**

The Australian Centre for Field Robotics (ACFR) at the University of Sydney is a partner in the Australian Research Council (ARC) Centre of Excellence in Autonomous Systems. Dr David Rye, Dr Steve Scheding, Dr Mari Velonaki and Dr Stefan Williams form the core art/science collaboration at this institution. Areas of research include robotics, distributed and decentralised systems and human/machine interaction.

Synapse Residencies

Many artists have strong, established links with particular science organisations throughout the nation. While some artists apply successfully for funding through the Council's normal grants program to undertake such activity, the *Synapse* Residencies program profiles the benefits of artist/science organisation relationships by offering support for artists to undertake a science residency.

¹⁵ See <http://nationaldesigncentre.com/> and media coverage at <http://www.theage.com.au/news/Arts/Best-on-show/2005/05/18/1116361606114.html>

¹⁶ See http://www.ozco.gov.au/grants/other_support_new_media_arts/synapse/

In collaboration with the Australian Network for Art & Technology (ANAT), the Australia Council has offered the following four Synapse Residencies to artists in 2004:

- Peter Charuk (NSW), CSIRO Marine Research, Hobart
- Annemarie Kohn (SA), E-World Lab, University of South Australia, School of Computer and Information Science
- Julie Ryder (ACT), Australian National Botanic Gardens and the Centre for Plant Biodiversity Research, Canberra
- David O'Donovan (VIC), Centre for Astrophysics and Supercomputing, University of Swinburne

SECTION 3

BEST PRACTICE INTERNATIONAL MODELS

There are a range of cutting-edge initiatives internationally that set out to achieve objectives similar to those identified by the Working Group and the Digital Content Industry Action Agenda (DCIAA). The following are worth exploring as part of the development of new policy models in Australia.

1. Arts and education - Creative partnerships (UK)¹⁷

Creative Partnerships is the Department of Culture, Media and Sport (DCMS)' and Arts Council England's flagship programme in the cultural education field.

The idea is to give school children aged 5-18 and their teachers the opportunity to explore their creativity by working on sustained projects with creative organisations and individuals including architects, theatre companies, museums, cinemas, historic buildings, dance studios, orchestras, film-makers and website designers.

Research into similar projects in the UK and US has shown that this approach can make a major contribution to delivering some key priorities, including:

- A broader and richer curriculum, which will stimulate pupils' imagination and excite their interest in learning
- Raising standards of attainment across the curriculum, including literacy and other basic skills
- Promoting creativity and innovation in teaching, right across the curriculum
- Improved teacher recruitment and retention
- Creating a distinct school ethos and strengthening the school's place in the community
- Improved pupil self-confidence and attitudes to learning
- Equipping young people with skills that are in demand in the creative economy

The Creative Partnerships model will be particularly effective in reaching the young people most at risk of exclusion, who are often turned off by more academically based approaches.

2. Digital media funding - Canada

Canada is considered among the world's best new media producers and is close in population size to Australia (20 million here and 32.5 million there).

There are two major funds for new media in Canada: The Bell Fund - a private fund for projects with both new media and broadcasting elements; and the Canada New Media Fund operated by Telefilm Canada, the main national government agency.

¹⁷ See <http://www.creative-partnerships.com/aboutcp/> and http://www.culture.gov.uk/arts/arts_education/creative_partnerships.htm

In addition, several provinces offer tax incentives to Canadian companies for their labour expenditure. Other forms of assistance indirectly support new media: R&D tax credits, assistance to small businesses and business development assistance.

By themselves, the two national new media funds account for A\$17.2million, *three times* more than the total spent by all government agencies in Australia. Most interesting about the Canadian model is not the bottom-line figures, although these are impressive, but where the money comes from.

The secret of the Canadian model is in fact *regulation*. The Broadcasting Act governing the Canadian industry established that in return for licences to broadcast and distribute programming in the Canadian market, ‘each element of the broadcasting system shall contribute to the creation and the presentation of Canadian programming’.

There are two main sources behind Canadian financing:

Firstly, on change of ownership of a television broadcaster, the buyer is required to create a benefit package worth ten per cent of the value of the transaction and propose how the money will be contributed to the industry.

Secondly, to serve the objectives of the Broadcasting Act, all cable and satellite companies must contribute five per cent of their gross revenue to the content industry – known as the Broadcasting Distribution Undertaking or BDU Contributions.

The companies can split the five per cent – generally four per cent goes to the Canadian Television Fund, the largest Canadian Fund, while one per cent is allocated by the companies to a private fund of their choice. This has given birth to 20 different private funds in Canada. Those funds have developed their own mandates and niches (children programming, documentaries, new media) adapted to the parent company’s priorities. The funds have to be independently administered and invest in ‘priority programming’ – which excludes news, sports and current events.

The Bell Fund

The Bell Fund administers the 5% revenue (BDU) contribution of Bell Express Vu. Its mandate is to advance the Canadian broadcasting system by encouraging the creation of Canadian digital media and promote partnerships and sustainable models in the broadcast and new media sectors. It has funded 340 projects over seven years.

The Canada New Media Fund

The Canadian New Media Fund is a public fund operated by Telefilm Canada, a cultural investor in Film, TV and new media. Its mandate is to support the creation of high-quality cultural content for the Canadian public.

3. Creative Enterprise Development and Research Collaboration – UK

NESTA

In 1998 the UK established the National Endowment for Science Technology and the Arts (NESTA). NESTA was set up by Act of Parliament in 1998. It was given a core endowment of £200 million [raised in 2003 to £250 million] from the National Lottery and charged with using the income from it to support innovation and creativity in the UK. As well as supporting innovative individuals through Awards and Fellowships, NESTA acts as a catalyst, advocating for the economic and cultural value of innovation, through partnerships, collaboration and information sharing.

NESTA awardees work across a wide array of creative endeavours, from music to microbiology, performance art to artificial intelligence. Areas funded to date include close to 500 awards across the areas of Learning, Fellowship and Invention and Innovation. The awards assist individuals to explore new ideas, develop new products and services, or experiment with new ways of nurturing creativity in science, technology and the arts. NESTA also recently launched a new Creative Pioneer programme that aims to help graduates from the creative industries to develop entrepreneurial skills.

NESTA can be distinguished from other investors in the following ways:

- Early investing with no expectation of short-term financial success;
- Broad criteria for investment based not only on perceived commercial potential but also social and cultural value
- Supports include financial support as well as mentoring to marketing expertise.

In Australia there are no specific research or industry assistance agencies dedicated primarily to the digital content industries or the broader creative industries. Existing government research agencies and industry investment currently focus on science and technology.

Creative London

Creative London is a new initiative that champions and supports London's creative industries. Through the LDA and private and public partners, Creative London works to increase employment and prosperity, and provide opportunities for Londoners to participate in one of the leading centres of the global creative economy. In particular, Creative London has four main objectives:

- Ensure the continued growth and development of London's creative industries
- Maximise their contribution to London's economy
- To enhance the regenerative capacity of London through the increased engagements of its citizens in the arts and other cultural activities
- To make sure that London's diverse communities benefit from, and contribute to, this expansion

Creative London follows from the work of the Mayor's Commission on the Creative Industries. This was a six month inquiry into London's creative industries, exploring how they can be better supported, and how their contribution to London's economy

can be maximised. The Mayor and the LDA have identified the creative industries as a priority sector for London, worth £21 billion to the London economy and employing more than 500,000 people.

The creative industries in London employ over half a million people, generate over £20 billion in turnover and display one of the fastest growth rates of job creation in any sector. They are essential to the success of the modern economy and London has strength in depth across the board, from architecture to crafts and from pop music to software.

Some statistics:

- Second biggest sector in London (after financial and business services)
- £21 billion annual turnover
- London's fastest growing sector
- 1 in 5 new jobs are in the Creative Industries
- Predicted to grow at twice the average rate for the economy

Creative London is being led by the London Development Agency, the Mayor's agency for business and jobs. The LDA invests more than £300 million a year to support the growth of new and existing businesses, the creation of new jobs, and the development of new communities. It works to promote and grow London's strengths as the world's leading financial centre, its most vibrant cultural centre, an outstanding centre for higher education and research and the busiest global transport hub. The LDA is working with a number of other partners on all Creative London initiatives.

- **Design**

Design in Britain – British Design Council

See: http://www.design-council.org.uk/webdav/harmonise?Page/@id=6016&Session/@id=D_YxJrJm2cNbEx6RXWL N1X&Document/@id=8175

New Zealand Government's Growth and Innovation Framework

As part of the New Zealand Government's **Growth and Innovation Framework** design-based innovation, creativity and efficiency has been identified as enabling business to create higher-value products for a global market.¹⁸

Strategy focuses on:

- a. Creative leadership
- b. the commercialisation of creativity
- c. global connectedness and branding,
- d. Design and technology-led innovation.

Priorities:

¹⁸ See <http://www.nzte.govt.nz/section/11756.aspx>

- Encouraging investment to help the vertical niche industries grow and build capability for international excellence and global reach.
- Moving the sector towards independence from government funding.
- Developing links between design and science and technology innovation in businesses, and
- Strengthening our existing international relationships and using them to create pathways for our creative and design-led industries to add value, and develop new strategic alliances and commercial arrangements in new and emerging markets.
- Helping small creative enterprises by facilitating collaborative business models, e.g. clusters to enable them to take ideas to the global market, and by working with the Foundation for Research Science and Technology on research and development and commercialisation approaches.

Target industries

- Screen production
- Fashion
- Textiles and apparel
- Digital media
- Music
- Visual culture

Approaches include

- Identifying high value opportunities
- Developing strategic alliances
- Improving access to emerging trends and technologies
- Building links between design, science and technology
- Creating small business clusters
- Building on success in experiential tourism and entertainment

FIGURE 2

Insert A: One Stop Shop *Create + Accelerate*: A creative enterprise and innovation scheme

