AUSTRALIA COUNCIL SUPPORT FOR R&D, SCIENCE AND INNOVATION

INTRODUCTION

This submission includes an outline of Australia Council expenditure relevant to R&D, science and innovation fields. The submission also included reference to:

- impediments to the effective functioning of Australia's innovation system, with a focus on impediments to research collaboration and knowledge transfer; and
- scope for improvements to the level and balance of public support.

Australia Council funding for R&D, science and innovation

The Australia Council is in the practice of developing the expertise of artists and creative practitioners, and facilitates partnerships with technological, scientific, and investment communities. Much of this work depends on critical independence and is highly experimental, which the Australia Council supports as an investment in risk-taking and discovery.

The Council has administered public funding for artists in science and technology-based research and practice through a number of channels including:

1. Direct funding through Artform Boards for experimental and digital media arts practice;
2. A *Synapse - Art and Science* Strategy;
3. Support for cross-disciplinary, industry based research through the Australian Research Council (ARC) National Competitive Grants Scheme; and
4. Strategic allocations supporting industry partnerships in areas such as digital media and commercial design.

Since 2000 total funding administered through these initiatives has reached close to $22 million. While a small proportion of the Australia Council's overall funding allocation, this spend evidences the significant cross-disciplinary activity and exchange occurring between arts and science & technology fields.

A full outline of these initiatives can be found at Attachment A.

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 artists with internationally recognised skills, knowledge and expertise in new media.

Impediments to the effective functioning of Australia's innovation system

At present arts and creativity are not recognised for their contribution to Australia's innovation system. This is inconsistent with the innovation policy frameworks of countries such as the United Kingdom, New Zealand, Hong Kong, Taiwan, Korea, and Denmark who each provide targeted incentives to business and science communities that aim to enhance knowledge transfer and commercialisation opportunities through collaboration with creative practitioners.

The importance of creativity and design as innovation drivers has also been recognised at the January 2006 World Economic Forum Annual Meeting in Davos, Switzerland, which was dedicated to meeting 'the Creative Imperative'.

Commenting on the Annual Meeting Ged Davis, Managing Director said:

> *It is imperative that we learn how to unleash our creative potential to tackle the world's problems. The assumptions, tools and frameworks that business, government and civil society leaders have employed to make decisions over the past decade appear in need of renewal. To successfully meet the challenges we face will require an extraordinary collective response. At the centre of the response will be a greater emphasis on human imagination, innovation and creativity. If leaders in business, politics, multinational institutions and civil society are to remain effective and credible they must learn how best to adopt new policy designs and innovative approaches.*[1]

The Australia Council has been active in seeking opportunities to broaden Australia's national innovation policy framework beyond its focus on the science, engineering and technology sectors. This has included contribution to the following recent Australian Government inquiries:

- House of Representatives Standing Committee on Science and Innovation *Inquiry into pathways to technological innovation* (Joint submission between the Australian Film Commission, the Australian Film, Television and Radio School (AFTRS) and the Australia Council (May 2005) [2] ;
- Prime Minister's Science Technology and Innovation Council (PMSEIC) Working Group *Inquiry into the Role of Creativity in an Innovation Economy* (September 2005) [3]; and
- Digital Content Industry Action Agenda (DCIAA) – contribution to Strategic Industry Leaders Group (SILG) Priorities (October 2005).

A 'creative innovation' strategy

Australia lacks of whole-of-government framework to maximise the contribution of Australia's creative practitioners to Australia's innovation system.

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[1] See http://www2.weforum.org/site/homepublic.nsf/Content/World+Economic+Forum+Annual+Meeting+2006+in+Davos_+World+Leaders+Urged+To+Seize+_The+Creative+Imperative_.html

[2] See http://www.afc.gov.au/downloads/policies/hor_sciinnov_sub_final.pdf

[3] http://www.ozco.gov.au/news%5Fand%5Fhot%5Ftopics/news/creative%5Finnovation/

As noted in the recent *Imagine Australia* report into the role of creativity in an innovation economy, released by the Prime Minister's Science, Engineering and Innovation Council (PMSEIC) Working Group in December 2005:

> *Australia* [is] *strongly represented in creative industries such as media content, advertising and architecture, but weak in achieving R&D collaborations with cultural institutions and the creative and design industries. Australia is also weak in making collaborative links between the SET* [science, engineering and innovation] *and HASS* [humanities, arts and social science] *sectors*[4].

Resource impediments were identified as a significant obstacle to closer collaboration between arts and science, limiting the scale and impact of existing R&D programs.

In response to the PMSEIC *Imagine Australia* report, the Australia Council's governing board has recently endorsed a 'Creative Innovation Strategy' (CIS), which offers a coordinated approach for the Australian Government to support creativity as a valuable contributor to national innovation policy.

The CIS identifies and clarifies the many initiatives supported by the Council that enhance Australian creativity and build pathways to successful innovation, spanning creative skills, enterprise and leadership.

The CIS also includes a commitment to build capacity through industry and research partnerships. These initiatives represent a solid basis from which to build future partnerships across government portfolios, industry and research sectors, in order to maximise the effective functioning of Australia's innovation system.

A copy of the CIS is attached for your information.

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[4] *Imagine Australia – The role of creativity in an innovation economy*, Prime Minister's Science, Engineering and Innovation Council (PMSEIC) Working Group, p30. See: http://www.dest.gov.au/NR/rdonlyres/B1EF82EF-08D5-427E-B7E4-69D41C61D495/8625/finalPMSEICReport_WEBversion.pdf

ATTACHMENT A

OUTLINE OF PROGRAMS AND INITIATIVES

1. Direct support for artists working in science and technology contexts

The New Media Arts Board (NMAB) was established in 1998 to support new media artists researching across science, technology and digital media contexts. From 2000, the NMAB invested over $17m in research and development initiatives through the following:

- Over 300 project grants to individual new media artists and arts organisations including the national peak body the Australian Network for Art & Technology (ANAT); and
- Support for national and international residencies, strategic initiatives and industry partnerships through Australian Research Council (ARC) Linkage Grant Industry Partnerships and *Synapse Residencies*.

In 2005, as part of a broad reorganisation of the Council's structures, the NMAB was dissolved with support for new media arts practice now available through all artform boards. A new Inter-Arts Office has also been established to support arts/science initiatives.

An analysis of Australia Council funding for new media practice was published in July 2006 and is available for download from the Australia Council website[5].

2. A *Synapse – Art and Science* Strategy

A *Synapse – Art and Science Strategy* was established in 2003 by the NMAB to encourage creative and experimental collaborations between scientists and artists, and to further enhance public engagement with both science and art. The strategy is a partnership initiative between the Australia Council, the Australian Network for Art and Technology (ANAT), and the Australian Research Council (ARC).

This initiative was highlighted in the PMSEIC *Imagine Australia* report as an excellent existing mechanism to promote R&D collaboration across the arts and sciences.

Synapse offers support through residencies, fellowships and ARC industry partnerships for artists to undertake significant research projects in scientific organisations and contexts, such as the Australian Commonwealth Scientific and Research Organization (CSIRO), and the CRC for Field Robotics. Examples of these are listed below.

ARC Industry Partnerships

To date, four Synapse art/science collaborative research projects have been supported by the ARC in areas that include robotics, distributed and decentralised systems and human/machine interaction, digital/audio technology and immersive cinema.

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[5] See: http://www.ozco.gov.au/news_and_hot_topics/hot_topics/new_media_scoping_study_discussion_paper_released/

This partnership provides the opportunity for the Council to lever additional ARC funding in support of cross-disciplinary research and practice. Total spending under the Synapse program to date has been approximately $350,000, leveraging over $1 million in ARC funding.

One recent outcome was an industry research collaboration 'Fish/Bird' between the Australian Centre for Field Robotics, Artspace Sydney, the Australian Network for Art and Technology, Patrick Systems and Technology and the Australia Council for the Arts. As highlighted in the *Imagine Australia* report

> *The sensing system developed for the Fish-Bird art/ science collaboration has lead to further collaborative work with Professor Subhash Challa of the University of Technology, Sydney on shared and cooperative control of wheelchairs and walkers within a nursing home environment. Just as the audience and the robots share the installation space in Fish-Bird, Challa's research aims to investigate how robotic wheelchairs and cooperatively-controlled walkers can share room space with frail and able-bodied people in a nursing home. More funds dedicated to these types of initiatives are needed.*[6]

ANAT Residency Program

Through the Australian Network for Art and Technology (ANAT), the Australia Council provides support to artists seeking to undertake a three-month residency at a scientific institution. Total support of $60 000 per annum has been offered over two years (2003 and 2004).

In collaboration with the Australian Network for Art & Technology (ANAT), the Australia Council 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

An additional three-year commitment of $600,000 to support ongoing Synapse arts science partnerships was announced in March 2006. For more information on all aspects of the Synapse Art and Science Strategy, including profiles and examples of work funded see:
http://www.ozco.gov.au/arts_in_australia/projects/projects_new_media_arts/synapse/

3. Additional support for cross-disciplinary, industry based research through the ARC National Competitive Grants Scheme

In 2004 the Australia Council and the ARC established a Memorandum of Understanding (MOU) to enable the two agencies to work together to support innovation in areas where Australia can be globally competitive and deliver benefits to the community. The MOU supports information sharing between the two agencies and does not include any special funding provisions.

[6] *Imagine Australia*, p31

The Australia Council is active in supporting a number of ARC Linkage Projects as an industry partner. As described above, a significant area of Linkage support is for art-science research collaborations in the context of the Australia Council's *Synapse – Art and Science Strategy* (see below).

The Australia Council also participates as an industry partner in the ARC Centre of Excellence for Creative Industries and Innovation (iCi) at the Queensland University of Technology (QUT).

Since 2000 over $1 million in Australia Council funding has been allocated to successful ARC-supported collaborative and cross-disciplinary research projects, which has in turn leveraged additional investment from the ARC and other industry partners of over $10 million.[7]

The Creative Innovation Strategy includes an ongoing commitment to building new partnerships and research collaborations through ARC Linkages.

4. Strategic allocations for new industry partnerships

In 2005 the Australia Council identified support for industry development opportunities for Australian artists and arts organisations as a strategic priority. In 2006 it committed new funds to support two new strategic initiatives to enhance artists' incomes:

a. *The Story of the Future*: targeted support for Australian writers to develop next-generation narratives for games and other interactive applications (Literature Board funding of $900,000 over three years);

b. *Maker to Manufacturer to Market* (MMM): assistance for entrepreneurial craftspeople and designers to make a prototype, manufacture a product and package their work for a range of commercial markets ($365,000 over three years)[8]; and

c. These initiatives also build on a 2004-05 strategic initiative called *Mobile Journeys* which supported the development of a consortium of organisations interested in exploring the creative applications of mobile devices and possible public or non-commercial distribution models for wireless-based content ($55,000).

A table outlining Australia Council support for R&D, science and innovation is attached overleaf for your information.

[7] This includes ARC Linkage projects and one successful application under the ARC Centres of Excellence program, which received $7 million in ARC funding.
[8] http://www.ozco.gov.au/grants/other_support_visual_arts/mmm_2006/

FIGURE 1: AUSTRALIA COUNCIL SUPPORT FOR AUSTRALIAN ARTISTS IN R&D SCIENCE AND INNOVATION CONTEXTS

No	Name of program	Board or Division	Completed (c) or ongoing (o) or planned (p)	Administered funds (since 2000)	Committed funds (2005-6 to 2007-8)	Total funds	Reports or evaluations
1.	Direct support for artists working in science and technology contexs	New Media, Inter-Arts and Visual Arts	O	$18,400,000	Ongoing funding through Visual Arts Board and Inter-Arts Office	$18,409,000	New Media Arts Scoping Study and Discussion paper[9]
2	Synapse Art and Science Strategy (includes support for ARC Linkages)	Inter Arts Office	O	$364,000 (Industry Partnerships and Residencies)	$650,000	$1,014,000	For more information see Australia Council website[10]
3	ARC Linkages 2000-05 (excl Synapse)	Council-wide	O	$434,000	$713,000[11]	$1,147,000	Not completed
4.	Strategic allocations to industry partnerships						
a	Maker to Manufacturer to Market	Visual Arts Board	O	$90,000	$255,000	$345,000	Pilot recently completed. See website[12]
b	Story of the Future	Literature Board	P	$0	$900,000	$900,000	Not applicable
c	Mobile Journeys	New Media Arts Board / Research	C	$55,000		$55,000	Completed
	TOTAL			**$19,343,000**	**$2,518,000**	**$21,870,000**	

[9] See: http://www.ozco.gov.au/news_and_hot_topics/hot_topics/new_media_scoping_study_discussion_paper_released/

[10] See: http://www.ozco.gov.au/arts%5Fin%5Faustralia/projects/projects%5Fnew%5Fmedia%5Farts/synapse%5Fartscience%5Finitiative/

[11] Includes funds committed to ARC applications not yet approved

[12] See: http://www.ozco.gov.au/arts_resources/assessment_meeting_reports/mmm_vac_may_2005_assessment/