

# Innovative Research Universities Australia

## Response to DEST Knowledge Transfer Project

Developing a culture of engagement in Australian universities  
through the formation of sustainable partnerships

January 2006

**I**NNOVATIVE **R**ESEARCH **U**NIVERSITIES **AUSTRALIA**

Flinders University • Griffith University • La Trobe University  
Macquarie University • Murdoch University • The University of Newcastle

# Response – DEST Knowledge Transfer Project

Developing a culture of engagement in Australian universities through the formation of sustainable partnerships

January 2006

## Introduction

This response builds on the IRU Australia's earlier discussion paper *The Third Mission of Universities – Business and Community Engagement, Outreach and Regional Development: Building a case for Third Stream funding of Australian universities (August 2005)*. The purpose of that paper was to stimulate discussion within the sector about whether a case could be developed for a uniquely Australian Third Stream funding model that allows for the efficient and effective transfer and application of university knowledge in partnership with business, government and the broader community.

Drawing on studies and observations from Australia and overseas, this paper contends that engagement<sup>1</sup> activity between universities and their communities is both thriving and well supported in some areas – especially those where commercial benefit or other direct economic impact can be demonstrated. Over and above this, there is extraordinary growth in demand for university knowledge services and products in areas where economic benefits are longer-term or cannot be easily measured in the short to medium term. The IRU Australia argues that as engagement activities have increased there are also increasing 'gaps' in support for engagement activities. If Australia is to fully exploit the potential of universities in the provision of knowledge transfer products and services, and satisfy community and business demand, then additional funding and incentives are needed. Engagement funding would enable universities to:

- Establish systems and support for engagement activities;
- Promote a culture of engagement amongst staff so that it is recognised as core business;
- Identify opportunities and respond more efficiently than at present;
- Build long-term partnerships with identified users of knowledge transfer products and services; and
- Fund additional projects internally until a case exists to secure external funding.

<sup>1</sup> The term 'engagement' is used in this response to describe the full range of knowledge transfer activities carried out in partnership with business and the community. Knowledge transfer implies a one-way flow, whereas engagement indicates a reciprocal partnership. 'Third stream' will apply only to references to the UK.

Examples from the US of the strong engagement between universities and industry are often cited and yet readily dismissed on the grounds that US industry is more enlightened and more benevolent, with wealth to match. The IRU Australia maintains that in this country further government incentives are needed in the short term to create a better climate for investment between industry and universities. This is necessary if Australia is to have any chance of creating a US-style environment where both industry and the community instinctively look to universities for the provision of knowledge services and products.

Australia however has some special characteristics, such as a higher proportion of Small and Medium-sized Enterprises (SMEs) than in other OECD countries and, due to geographical spread, a greater focus on regional issues and initiatives. The under-utilisation of university engagement services by SMEs and communities in Australia represents an imbalance in government policy and funding that should be addressed. The influential Lambert Review<sup>2</sup> in the UK suggested a number of ways in which links between universities and non-collaborating SMEs should be strengthened. One recommendation was to expand the successful Knowledge Transfer Partnerships scheme, which provides in excess of £32 million annually to enable partnering between universities and industry (mainly SMEs)<sup>3</sup>. Further detail on Lambert Review observations with respect to SMEs is also contained in Attachment Three. There is little reason why a program such as Knowledge Transfer Partnerships could not apply to SMEs, non-profit organisations, and community-based projects alike.

Evidence of growth in demand for university knowledge transfer from industry and other commercial users can be seen in the National Survey of Research Commercialisation<sup>4</sup>, which reveals that staff (FTE) employed in university commercialisation companies grew from 57.5 in 2000 to 91 in 2001, and then to 104 in 2002. The

<sup>2</sup> Lambert, R., (2003), *Review of business-university collaboration*. Final report, HM Treasury: London, pp.26-30, [www.lambertreview.org.uk](http://www.lambertreview.org.uk)

<sup>3</sup> Refer Attachment One, Case Study #1

<sup>4</sup> Department of Education, Science and Training, (2004), *National survey of research commercialisation – Years 2001 and 2002*, Commonwealth of Australia.

Australian Vice-Chancellors' Committee (AVCC)<sup>5</sup> paper on engagement points out that research income from non-Government sources has increased from \$330 million in 2000 to \$452 million in 2003, an increase of 37 per cent – further evidence of demand-side growth.

### **Growth in Demand for University Engagement**

Most Australian universities have community engagement, outreach and regional development objectives in their Acts and strategic plans, conducting these activities, in a limited capacity, out of general operating funds. This will increase, as there are no equivalent repositories of multi faceted knowledge and skills for the community to look to. The 2005 study *Beyond Rhetoric: University-Community Engagement in Victoria*<sup>6</sup> details the long history of university-community engagement and points to the renewed national interest in universities contributing to regional and community well being in economic, social and cultural terms. One indicator of the attention given by universities to engagement can be seen in the formation of the Australian Universities Community Engagement Alliance (AUCEA), established in September 2003 growing quickly to 28 university members. The recent establishment of community engagement, outreach and regional development portfolios in many Australian universities, added to existing fundraising and alumni services, further reflects the renewed interest in engagement.

This interest is also evident from the 'demand' side. Universities are increasingly expected to be 'good citizens' in a corporate sense as private income as a proportion of total revenue grows. Recognising this trend, the University of Cambridge produced its Community Engagement Report 2003-04<sup>7</sup> to identify engagement activities that are not the result of any government scheme or push from funding councils (both teaching and research). The Report details the results of a survey of community activities of the departments, colleges and student societies of the University. In 2003-04 alone, staff and students surveyed (63 per cent of departments responded) devoted 202,412 hours of paid and voluntary time. Some 2,387 staff and 5,354 students were involved and nearly 500,000 individuals and 4,000 organisations benefited from these activities. As impressive as these figures are, they do not

include interactions with business, government or other higher education institutions. The University points out that some larger projects were part funded by the Higher Education Active Community Fund or other external sources (e.g. corporate support). However, much of the costs were "swallowed into a unit's general running costs".

Needless to say the value of unfunded activity such as this across the Australian university sector would be incalculable. The Cambridge experience provides evidence of the scale of such activity while the emergence of engagement portfolios and formation of AUCEA demonstrates the increasing sophistication of engagement activities, which are beginning to place an enormous financial burden on universities.

### **Existing Support for Engagement Activity**

The AVCC paper has identified a number of policy settings and funding programs that provide support for engagement with a focus on business interaction. These include commercialisation programs funded under Backing Australia's Ability, research block funding, ARC linkage, the CRC program, and the Collaboration and Structural Reform program. The AVCC paper states that there is "no general support for universities' role in responding to the needs of business and community". In addition, many existing programs do not allow for full cost recovery further undermining the ability of universities to respond to other demands.

The IRU Australia acknowledges that some specific engagement activities are supported through existing funding programmes. However demands for new services are constantly emerging which requires universities to provide on a small scale as external funding is unlikely to be sourced. There are instances where university products and services are unsustainable beyond an initial funding period as many user communities (and SMEs) are unable to pay the full cost of services even though economic and public benefits are obvious. Continuation of services by universities often becomes financially unviable leading to the termination of many excellent projects; reinforcing the culture within academia that engagement is not 'core business'. This is compounded in regional locations where the cost of delivery of higher education is far greater.

The IRU Australia therefore argues that engagement or knowledge transfer funding should provide support and incentive for universities to develop their capacity to utilise the knowledge and skills of staff and students through the formation of sustainable partnerships – both of a commercial and non-commercial nature leading to a range of economic, social, cultural and environmental benefits.

---

<sup>5</sup> Australian Vice-Chancellors' Committee, ( December, 2005), *Engagement with Business and Community: Enhancing Universities' interaction*, Canberra.

<sup>6</sup> Winter, A., Wiseman, J., Muirhead, B.,(July, 2005) *Beyond Rhetoric: University Community Engagement in Victoria*, Eidos.

<sup>7</sup> University of Cambridge (2005), Community Engagement Report 2003-04.

## **Public Funding of Engagement**

The community expectation is that public funds for knowledge transfer activity should not be used to fund commercial projects. The IRU Australia supports this view to some extent. However, there might be support for the provision of public funds to form partnerships in areas where the long term community benefit is worth the investment". This includes user communities who lack the capacity to pay for university knowledge services – such as local communities and SMEs.

Consumers of university knowledge services have different abilities to pay and it could be that a particular university service or product might be sold in one instance and provided free-of-charge in another. An example of this is provided in Case Study #2 in which the MULTILIT (Making Up Lost Time In Literacy) program, usually conducted on a commercial basis out of Macquarie University Special Education Centre, was provided free-of-charge to the Coen Community in Cape York following the formation of a partnership between Professor Kevin Wheldall and Noel Pearson of the Cape York Institute for Policy and Leadership. The Coen Project eventually received relatively prompt funding from the Department of Education, Science and Training however the program could have been implemented almost nine months earlier had either party had the capacity to fast track this worthy project. The Coen Project is representative of a large number of engagement activities that could operate on this dual basis – commercial, or free-of-charge depending on the user group involved. Currently users who lack the ability to pay for such services are potentially disadvantaged by time delays, against those who have such ability to pay thereby gaining immediate access.

Case Study #3 introduces Media Doctor, an unfunded service provided by a group of doctors and public health professionals from the University of Newcastle. Winner of the 2005 Eureka Prize for Critical Thinking, Media Doctor is a web-based initiative aimed at monitoring, rating, providing feedback on and ultimately improving the quality of reporting of new medical treatments in the Australian media. It aims to test claims made in the press by major companies and to explode the myths associated with unlikely and untested treatments. This case study is representative of a large number of engagement projects, which are of enormous public benefit but where no 'business case' exists for converting them into profitable activities, and no economic benefit is provable.

The IRU Australia also maintains that tremendous opportunities exist for universities to systematically grow services of benefit to their identified communities by making engagement part of core university business. Provided that this internal

culture change is nurtured over time alongside corresponding growth in university-industry interaction then this could sow the seeds for more substantial three-way university-industry-community interaction. Some evidence of this exists already, such as the Community Chairs established in Nursing and Education by Murdoch University at its new Mandurah and Peel campuses. These were established following extensive engagement between the University, the communities, and local industry to identify the areas of greatest benefit to the community and to fund development accordingly.

## **Definition of Engagement**

In its earlier discussion paper, the Group cited the definition of engagement activity provided by the Science and Technology Policy Research Unit (SPRU)<sup>8</sup> at the University of Sussex:

*"the generation, use, application and exploitation of knowledge and other university capabilities outside academic environments."*

The SPRU definition is simple and all encompassing however it could be said that it infers a one-way flow of knowledge, as does the term 'knowledge transfer'. The IRU Australia recommends the inclusion of words such as 'engagement' and 'partnership' in future definitions.

An improved definition is provided by the AVCC (page 4):

*"Engagement focuses on universities' application of research, teaching and scholarship in partnership with the needs of business and communities."*

One option might be to combine the two and describe engagement as:

*"the generation, application and exploitation of knowledge and other university capabilities in partnership with the needs of business and communities."*

An important qualification to be made in relation to any definition is that engagement activity will be diverse within the sector. Each university needs the freedom to approach engagement in the way that best responds to the needs of its communities. For this reason the IRU Australia recommends the use of simple and broad definitions over more detailed options that might be considered.

---

<sup>8</sup> Molas-Gallart, J., Salter, A., Patel, P., Scott, A., Duran, X., (April 2002), *Measuring Third Stream Activities: Final Report to the Russell Group of Universities*, Science and Technology Policy Research unit, University of Sussex.

## Scope and Policy Objectives

An excellent knowledge transfer model developed by the Association of Universities and Colleges of Canada (AUCC)<sup>9</sup> is provided in Attachment Two. The AUCC model highlights the two-way flow of knowledge between universities working in partnership with individuals, communities, regions, the nation, and world, as well as businesses, governments, not-for-profits, and global partners. The model also outlines the scope of knowledge transfer to include:

- Supply of graduates;
- Socio-economic development;
- Publications and presentations;
- Inter-sectoral partnerships;
- Public policy engagement;
- Community service and outreach;
- Expert advice and consulting; and
- Commercialisation of research.

The IRU Australia regards the AUCC knowledge transfer model as an excellent representation of the scope of engagement. Other outstanding models, such as those produced by SPRU<sup>10</sup> and Howard Partners<sup>11</sup>, include similar features in tabular format and provide a range of metrics that might be considered by DEST as potential indicators of institutional engagement activity.

A recent report published by the Higher Education Policy Institute<sup>12</sup> in the UK provides three types of rationale for public funding of third stream activities. These are:

- To achieve cultural change within universities;
- To overcome market failure where users lack the capacity to pay; and
- To provide fast and effective pump priming for new initiatives.

The central policy objective of engagement funding would be to enable the formation of sustainable knowledge transfer partnerships between universities, business and the community to achieve economic, social, cultural and environmental benefits. The evolving nature of university engagement activity necessitates the identification of short and long-term funding options. The short-term objective (0-10 years)

<sup>9</sup> Association of Universities and Colleges of Canada (AUCC), *Momentum: The 2005 report on university research and knowledge transfer*, Ottawa, 2005.

<sup>10</sup> Molas-Gallart et.al, op.cit, pp.49-51

<sup>11</sup> Howard, John, (March 2005), *The Emerging Business of Knowledge Transfer: Creating Values from Intellectual Goods and Services*, Department of Education, Science and Training, Canberra.

<sup>12</sup> Hatakenaka, S., (November 2005), *Development of third stream activity – lessons from international experience*, Higher Education Policy Institute (UK).

would be to stimulate demand for university knowledge by subsidising collaboration. The long-term objectives (10+ years) would be to build upon the culture change and climate of trust generated between universities, industry and the community to develop more complex, large-scale and enduring partnerships involving multiple stakeholders.

## Conclusion

The IRU Australia appreciates the opportunity to provide input on Knowledge Transfer and the appropriateness of an accompanying funding stream. The Group believes that its view is consistent with others who assert that knowledge transfer for commercial-ready activity is adequately funded through Backing Australia's Ability and other research-related funding schemes that provide incentive and support for commercialisation of university knowledge.

The IRU Australia maintains that major funding gaps exist in two areas:

- Support for SMEs to engage with universities; and
- Support for public good engagement projects, which have clear economic or social benefit, but for which there is no ready funding source.

The UK has a range of programs such as Knowledge Transfer Partnerships, which mainly support SMEs, and the Higher Education Innovation Fund (HEIF), which rewards existing engagement activity and funds the growth of such activity. Whether such funding in Australia should be project-based or in the form of a grant according to measures of institutional performance is dependent on the final policy objectives, the stage of the program, and the precise purpose to which the funds are applied. We note that HEIF funding began in the late 1990s as a project-based program (HEROBC) and has recently converted to formula driven block funding. KTP funding, even after 30 years of existence, continues to be project based which appears to be more appropriate given its objectives.

The IRU Australia is of the view that Australia would be well served through the introduction of engagement funding which will lead to closer connectivity between universities, business and the community. We emphasise that engagement funding should be aimed at achieving better processes for engagement by universities and a better appreciation by industry and community of the knowledge services available through universities.

## Case Study #1 – Knowledge Transfer Partnerships (<http://www.ktponline.org.uk>)

Knowledge Transfer Partnerships (KTP) in the UK is among the world's leading initiatives for promoting the transfer of knowledge and skills from researchers to business. KTP is a Government-wide initiative administered by the Department of Trade and Industry and involves a number of other government departments and agencies including:

- Department for Environment, Food and Rural Affairs;
- Department of Health;
- European Social Fund (European Union);
- Scottish Executive;
- Welsh Assembly;
- Invest Northern Ireland; and
- Six of the UK research councils

The aim of KTP is to strengthen the competitiveness and wealth creation of the UK by the stimulation of innovation in business through collaborative partnerships with UK universities and research organisations. At the heart of each KTP is one or more KTP 'associates' which are high-calibre graduates recruited to work in a particular business on a project that is central to its strategic development. A project may last from 12 to 36 months. The university partner provides its expertise and jointly supervises the project together with a representative from the company. The costs are part funded by Government with the balance being borne by the participating business. KTP provide around £100,000 funding for a typical two-year, single-associate programme, £21 000 of which is awarded for academic support of the project.

Since the scheme started in 1975, over 4,500 projects have received Government support. The total investment by the Government in KTP in 2003 was £25 million however the Lambert Review (2003) recommended that the KTP scheme be significantly strengthened. Accordingly, in the year 2004/05, £32 million was committed to KTP augmented by over £53 million from participating companies. As at 31<sup>st</sup> March 2005, the 858 active partnerships (958 associates) were distributed as follows according to company size:

Micro-businesses (<10 employees)	14%
Small enterprises (10-49 employees)	45%
Medium-sized enterprises (50-249 employees)	28%
Large enterprises (250 or more employees)	13%

The KTP hopes to expand to 1,100 active projects in 2006. The latest annual report on KTP shows that, on average, participating businesses experience an increase of £220,000 in annual profits before tax and the creation of three genuine new jobs from a single KTP project.

**Table – Standard Budget per Associate, 1 year at an SME Company (<250 employees)**

Standard Costs	A	B	C
	Maximum Budget £	Business Contribution £ (40%)	Grant Contribution £ (60%)
Contribution to Associate Salary	24,000	9,600	14,400
Academic and Clerical Support	10,500	4,200	6,300
Associate Development	1,750	700	1,050
Travel and Subsistence	2,250	900	1,350
Equipment	1,500	600	900
<b>Totals</b>	<b>40,000</b>	<b>16,000</b>	<b>24,000</b>
Overhead Contribution	-	-	9,522
Maximum Grant Support	-	-	<u>33,522</u>

## Case Study #2 - MULTILIT (Making Up Lost Time In Literacy) – The Coen Project



Area:	<i>Literacy</i>
Service:	<i>Provision of remedial literacy program to Coen Community</i>
Benefit:	<i>Life-changing benefit to selected subjects</i>
Commercial Status:	<i>Service provided on full cost recovery basis to general public Service provided free of charge on project basis where funding is provided usually by governments (e.g. Coen Project and Schoolwise Program)</i>
Contact:	Professor Kevin Wheldall Macquarie University Special Education Centre Email: kevin.wheldall@mq.edu.au

Established in 1996, MULTILIT (Making Up Lost Time In Literacy) comprises multiple initiatives to teach low progress readers effectively. Professor Kevin Wheldall and his team from Macquarie University Special Education Centre designed MULTILIT. MULTILIT operates within Access Macquarie Limited (AccessMQ), the commercialisation company of Macquarie University.

MULTILIT assessments and educational programs are offered at the MULTILIT Centre located at Macquarie University on a full commercial basis and through outreach programs where funding is provided. MULTILIT outreach projects include:

- The acclaimed Schoolwise Program accommodates two intakes of 36 disadvantaged students per year who are at-risk of school failure. The Schoolwise Program is based at the Exodus Foundation in Ashfield, Sydney This program has been operating successfully for ten years following an approach to the MULTILIT team by the Rev Bill Crews, head of the Exodus Foundation.
- In collaboration with Aboriginal Leader, Noel Pearson, the establishment in July 2005 of a MULTILIT Tutorial Centre at Coen Primary School in Cape York.

The following story about the Coen Project appeared in *The Macquarie Researcher* in November 2004. A follow-up article on the early success of the project appeared in the Sydney Morning Herald<sup>13</sup> in November 2005.

### **Breaking the cycle of disadvantage - Aboriginal literacy**

Following their visit to the Cape York township of Coen last October, Professor Kevin Wheldall and Robyn Beaman of the Macquarie University Special Education Centre (MUSEC) are hoping to establish a tutorial centre to improve the literacy of Aboriginal students. Wheldall visited Coen upon the invitation of Noel Pearson, Director of the Cape York Institute for Policy and Leadership. Pearson has high aspirations for his people and is dissatisfied with the state of Aboriginal education. "Noel feels that the emphasis on culturally appropriate education for Aboriginal people has taken attention away from the main game, which is education," explains Wheldall.

---

<sup>13</sup> The SMH article can be accessed at: <http://smh.com.au/news/opinion/cape-crusader-shows-how-to-empower/2005/11/16/1132016860334.html>

### **Education in Coen today**

The township of Coen is about 500 kilometres from Cairns via dirt road. This remote community of 400 people boasts a pub, boarding house, post office, petrol station, general store and a school. "Coen is incredibly remote but it is also part of the global village," Wheldall says. "They have kids like kids everywhere, they are watching *The Simpsons* and are very much connected. There is no reason why they shouldn't be doing as well as other kids." The primary school, which teaches students from Kindergarten to Year 7, is operating like any regular school according to Wheldall. Unfortunately the thought remains that the Basic Skills Test is something that Aboriginal students won't do well at, as it is culturally inappropriate.

"I think the problem is that we have been focusing on Aboriginal education rather than education for Aboriginal people," says Wheldall. "We are all human beings. We all learn the same way through the same basic processes."

While Wheldall felt that reading levels were okay, he asserts that they could be doing much better. The plan is to establish a tutorial centre that would run as a supplement to the school. This centre would focus on reading as well as the Computer Culture project, which is looking at preserving Aboriginal culture and history.

### **About MULTILIT**

For the past ten years Wheldall and Beaman have been running a tutorial centre based on MULTILIT (Making Up for Lost Time In Literacy) for the Exodus Foundation in Ashfield. "The idea is to help kids early as school is not a very happy place for disadvantaged kids with poor literacy skills," says Wheldall. "In Coen we hope to establish a similar program where kids have intensive instruction and can put on twelve months' growth in less than six months."

### **Plans for the future**

Pearson assembled state and federal bureaucrats in late November to ask for funding for the Coen project. The team was encouraged by the group to put forward a bid to the Department of Education, Science and Training (DEST) for the centre. Robyn Beaman from MUSEC is currently in the process of preparing this bid. Working together, Pearson and Wheldall hope to use education to break the cycle of disadvantage. "To break this cycle requires high level literacy skills so that by the time these kids reach high school they can get the most out of their education," says Wheldall.



### Case Study #3 – Media Doctor (<http://www.mediadoctor.org.au/>)



<i>Area:</i>	<i>Public Health</i>
<i>Service:</i>	<i>Analysis of health reporting in Australian media</i>
<i>Benefit:</i>	<i>Enormous potential for public benefit through improved understanding of health issues.</i>
<i>Commercial Status:</i>	<i>Service provided free of charge with little capacity to recover costs</i>
<i>Funding:</i>	<i>Unfunded service with no readily identifiable future funding source</i>
 <i>Contact:</i>	 Professor David Henry Newcastle Institute of Public Health The University of Newcastle Email: <a href="mailto:David.Henry@newcastle.edu.au">David.Henry@newcastle.edu.au</a>

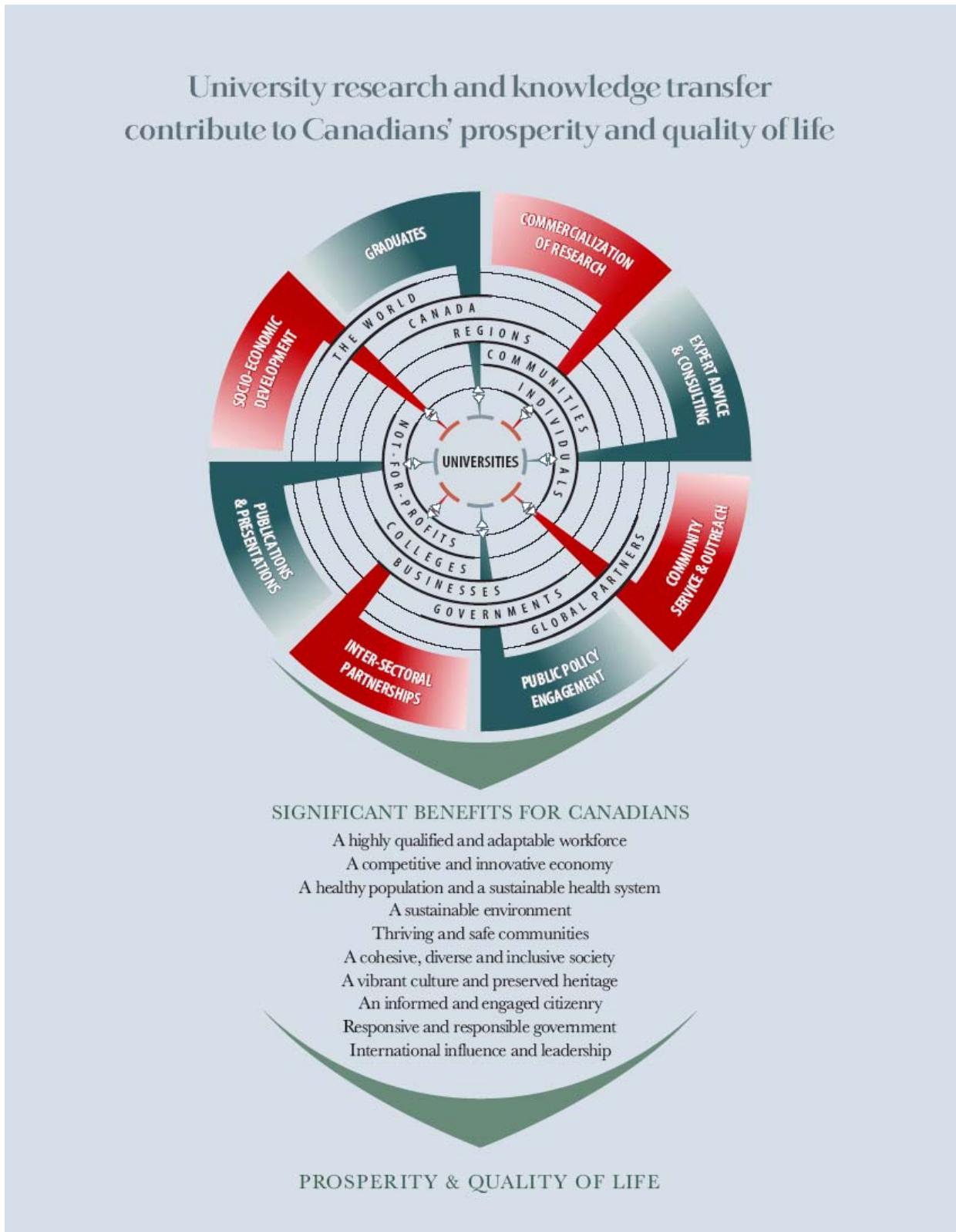
Winner of the 2005 Eureka Prize for Critical Thinking, Media Doctor is a web-based initiative of the Newcastle Institute of Public Health aimed at monitoring, rating, providing feedback on and ultimately improving the quality of reporting of new medical treatments in the Australian media. It aims to test claims made in the press by major companies and to explode the myths associated with unlikely and untested treatments.

The primary objective of Media Doctor is to encourage journalists to report all-important information about any intervention for which therapeutic claims are made. The criteria include novelty, availability, evidence of benefit, harms, costs, adverse effects and where possible the opinions of experts who have no obvious conflicts of interest. In addition, Media Doctor tries to determine the extent to which the story relies on a media release from a company or organisation that has a vested interest in the publication of the story. Media Doctor reviewers include ex-journalists, medical writers and clinicians and researchers with an interest in population health.

The success of Media Doctor has led to the recent launch of Media Doctor Canada (<http://www.mediadoctor.ca/>) and the forthcoming launch of Media Doctor USA.

Association of Universities and Colleges of Canada

Knowledge Transfer Model



Source: Association of Universities and Colleges of Canada (AUCC), (2005), *Momentum: The 2005 report on university research and knowledge transfer*, Ottawa.

### Small and Medium-sized Enterprises

The UK's Lambert review of business university collaboration cited a community innovation survey which asked firms which universities they collaborated with. Results were analysed by type of the firm's main market and location of their collaborating universities. The survey found that firms with local markets overwhelmingly collaborated with local universities, but even 37% of firms with national markets and 26% of firms with international markets collaborated with local universities.

**Table: Location of UK firms' collaborating universities, by type of firm's largest market:**

Type of firm's largest market	Location of collaborating university		
	Local	National	Overseas
Local	88%	12%	0%
Regional	47%	53%	0%
National	37%	47%	16%
International	26%	48%	26%
<b>All</b>	<b>36%</b>	<b>46%</b>	<b>18%</b>

Lambert found that close proximity to a ready supply of skills and knowledge transfer, often provided through a local university, is a particularly important consideration for small and medium-sized enterprises yet this most commonly occurs through the supply of graduates rather than knowledge services. Lambert argued that considerable scope exists in the UK for the provision of funding to facilitate the formation of relationships between universities and SMEs which have not previously collaborated but which have the potential to gain significantly.

***Given the make-up of Australian industry and the importance of regional development, one could argue that such conclusions have even greater validity for Australia.***