

BHERT IP MANAGEMENT AND KNOWLEDGE TRANSFER SYMPOSIUM 29TH SEPTEMBER 2004

Setting the Scene:

- What Do Business and Research Institutions Need from Each Other?
- Cooperation/Understanding/Trust

Intellectual Property Challenges
for a
21 Century University
as an
Intellectual Capital Enterprise

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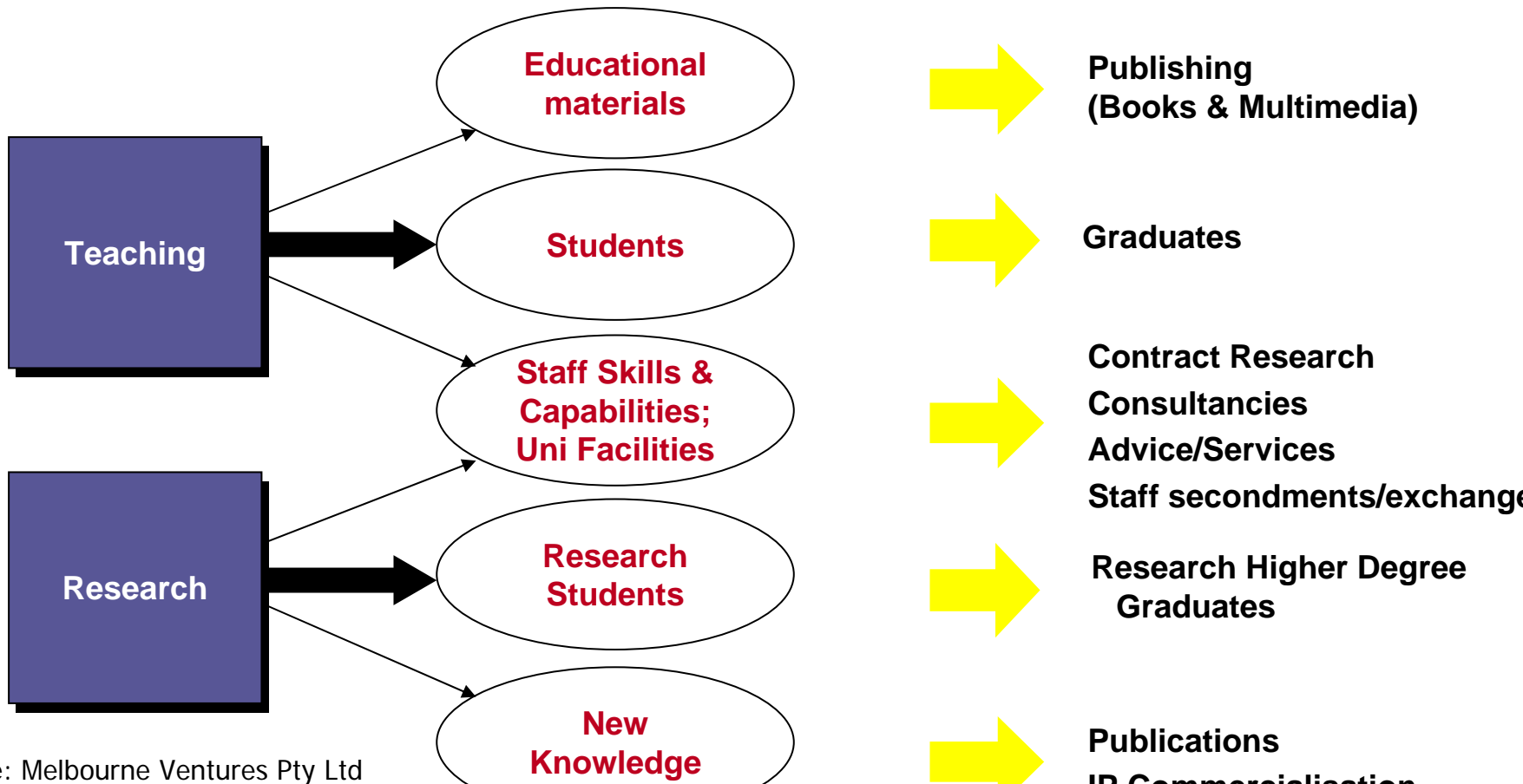
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University Knowledge Transfer Activities

The University's core activities...

...generate valuable knowledge-based outcomes...

...which are then transferred to the wider community

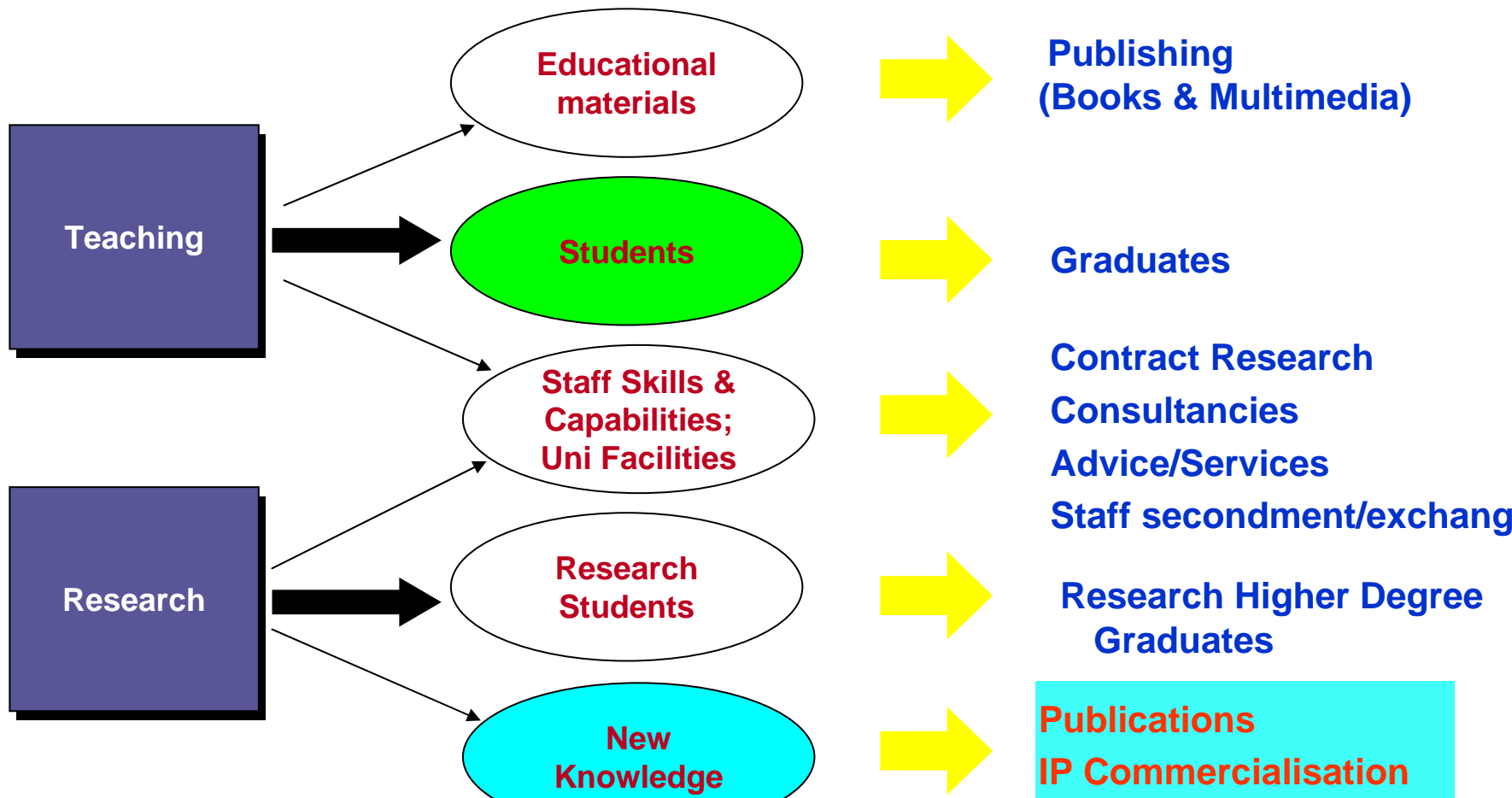


IP Commercialisation is an Increasing Part of Knowledge Transfer Activities

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What is Intellectual Property?

**'The property of your mind or intellect'
(IP Australia 2000)**

- Patents
- Copyright
- Trademarks
- Design
- Circuit layout rights
- Plant breeder's rights
- Trade secrets
- Know-how

Knowledge Transfer (to Business)

- Why should universities change/enhance their traditional ways of transferring knowledge?
- Will universities achieve major new revenue streams through IP commercialisation?

Commercialisation of University Research

A get-rich recipe? – No!

'Transferring technology to business is not a way for universities to develop vast new sources of funding.

Even the most successful US universities tend to get only a small part of their overall income from this activity.

Public funding for university research is intended to support the generation and dissemination of new ideas; **it should not be seen as a way for the universities to become rich.'**

Lambert, R., (2003), *Review of Business-University Collaboration*, Report to the UK Government, December 2003, pg. 13

Commercialisation of University Research

A get-rich recipe?

'Even at world's best practice levels, total commercialisation returns (excluding contract revenue) to institutions are unlikely to represent more than 5 to 10 per cent of total research revenue in the Australian higher education sector.'

Allen Consulting Group *Building effective Systems for the Commercialisation of University Research'*
August 2004

**MIT 3% of research income,
US Universities 2.5% of R.I.
UK Universities 1% of R.I.**

So why should there be such an emphasis in business-university partnerships and knowledge transfer at this time?

Richard Lambert provides a valuable insight

Lambert notes that:

- British business is not research intensive and its record of investment in R & D in recent years has been unimpressive — **(UK BERD 1.2% GDP, AUS BERD 0.8% GDP)**
- Business is moving away from a system in which most of their R & D was done in their own laboratories, preferably in secret, to one in which they are actively seeking to collaborate with others in a new form of open innovation.
- Business is being forced to conduct research into a wider portfolio of technologies than they can possibly manage themselves as the complexity of products increases.
- Business R & D is going global. Home country is no longer the automatic first choice for R & D investment.

Consequently Lambert advocates:

- Universities will have to get better at identifying their areas of competitive strength in research.
- Governments will have to do more to support business-university collaboration.
- Business will have to learn how to exploit the innovative ideas that are being developed in the university sector.
- Improved communications and a more trusting approach between the sectors will result in benefits for all.

In the Australian context:

Universities need to:

- Become more effective at IP protection and management.
- Create an environment, including training programs where entrepreneurship, innovation and facilitation of commercialisation of research are rewarded along with high quality teaching and research.
- Strengthen incentives for academics to establish partnerships with business for effective knowledge transfer.
- Establish policies and mechanisms to deal with conflict of interest issues that may arise from commercialisation of research initiatives.

In the Australian context:

Business needs to:

- Understand the broad agenda of universities with their core responsibilities of teaching and learning, research and research training, sometimes competing with the business commercialisation agenda.
- Invest more in early stage experimental development for 'proof of concept' validation as well as in the latter stages of the innovation cycle.

In the Australian context:

Governments need to:

- Establish a source of funding, 'third stream funding', beyond teaching and research funding, to enable universities to engage more effectively in IP experimental development, including incubation facilities leading to protected knowledge transfer for national economic and social gain.
- Be more accepting, along with the community, that commercialisation of research includes risks of failure not traditionally associated with sound university management.
- Review the legislative constraints that make it difficult for a publicly funded institution to conduct entrepreneurial activities.

Benefits to Universities of a commercially-oriented knowledge-transfer agenda

- A culture of innovation and entrepreneurship helps to attract and retain quality academic staff
- A strong commercialisation capability will extend and strengthen links with the business community leading to increased contract research opportunities
- The breadth of skills obtained by research students are enhanced
- The creation of economic and public good outcomes from publicly –funded research are part of the role of a university
- Some financial benefits can be obtained from royalty streams and equity stakes in commercialised technology

How does business gain competitive advantage from university partnerships?

Lambert Review identifies 6 ways:

- Access to new ideas of all kinds
- The ability to achieve excellence across a wider range of disciplines and through a much larger gene pool than an individual business could hope to achieve
- The ability to leverage the research dollar
- A chance to spot and recruit the brightest young talent
- The ability to expand pre-competitive research
- Access to specialised consultancy

Myths associated with commercialisation of university research

- Commercialisation of university research will make a substantial financial contribution to university recurrent revenues
- *Fact:* A revenue equivalent to 5% of research income from licensing and sales of IP would represent a very good achievement.
- Based on 2003 research income of 200 million, Melbourne should aim to achieve \$10 million p.a. royalty income (Currently \$4 million).

Myths associated with commercialisation of university research (*contd.*)

- Universities are funded to engage in commercialisation of research outcomes
- *Fact:* There are few resources, including expert staff, in Universities to protect and commercialise IP due to a lack of a dedicated funding source

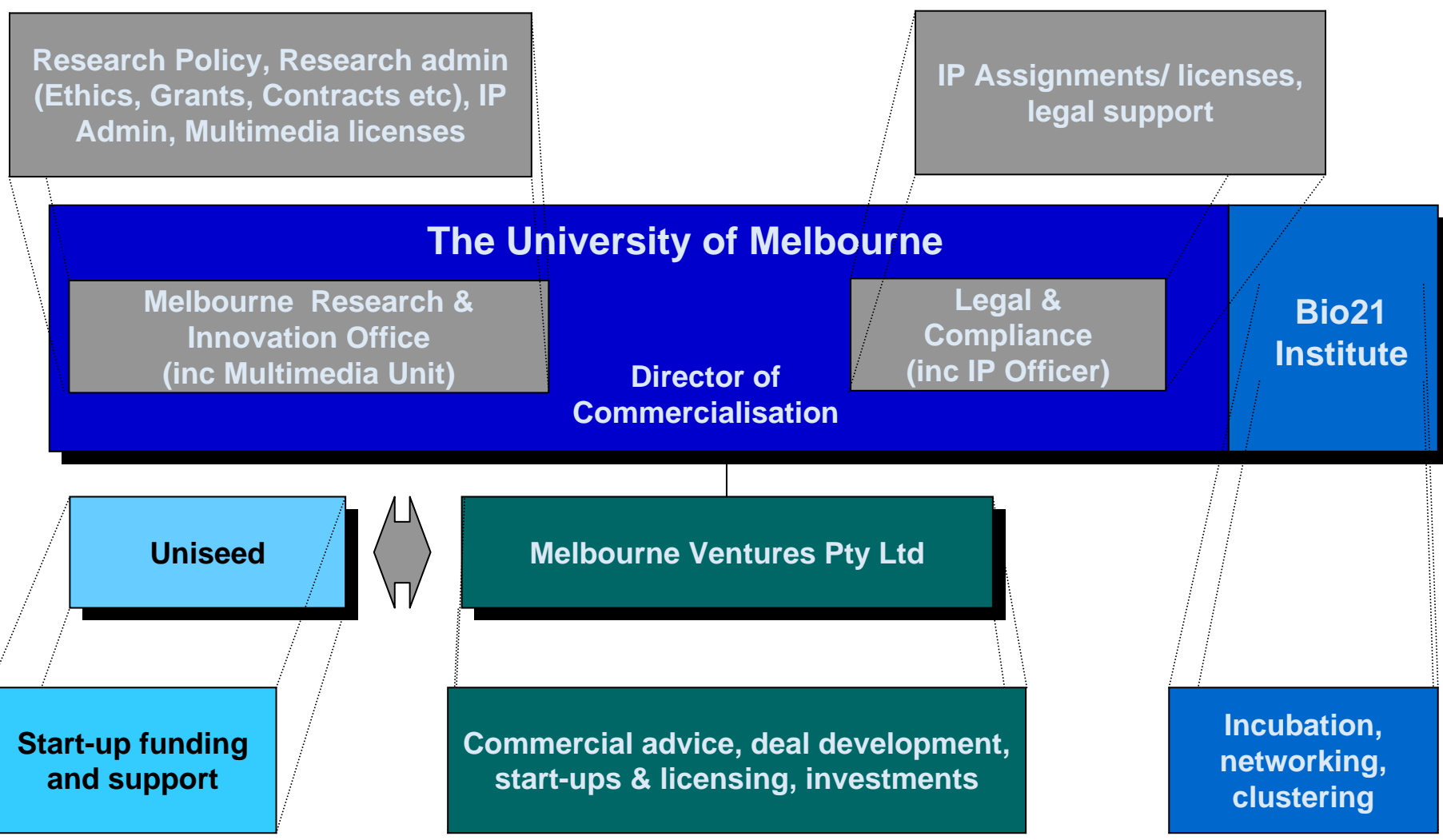
Myths associated with commercialisation of university research (*contd.*)

- Spin-off companies are the principal mechanism by which universities can commercialise research outcomes
- *Fact:* For many inventions licensing of IP will be the preferred route of knowledge transfer of university generated IP. (At least 5-10 licences created for each spin-off is a reasonable target)

Myths associated with commercialisation of university research (*contd.*)

- Universities are resistant to forging partnerships with business to achieve effective knowledge transfer and commercialisation of research
- *Fact:* Universities for the most part are very positive about strengthening partnerships with business. The time and resource constraints imposed by the need to deliver quality teaching and research programs must be recognised

Commercialisation-Related Support Units at Melbourne



Recent Commercialisation Outcomes at Melbourne

More than 20 'active' IP-based start-ups

- **A Participant in 22 CRCs,**
 - **~7 associated commercialisation companies**
- **A significant IP portfolio & royalty stream**
 - **73 patent applications filed (2002)**
 - **Royalty income of \$4.1m in 2002**
- **Portfolio of multimedia titles growing rapidly**
 - **15 new licenses in 2001, 35 in 2002, 43 in 2003**
- **Several 'service' companies (e.g. Rheological Consulting Services, Immunoid)**
- **Many individual consultancy agreements**

Commercialisation of Intellectual Property

Performance of Go8 Universities 2002

Patents filed (Australia)	178
Patents filed (USA)	45
Start-up companies formed	27
Licence Income (127 units)	\$36.4m
Net patent/copyright costs	\$2.3m

**Intellectual Property
is the
Fundamental Building Block
for
Knowledge Transfer,
Innovation
and
Commercialisation of Research**

■ BUT.....

- Technology transfer travels on two legs

■ (Geoff Garrett CSIRO)