Promote the Effective Transfer of Appropriate Technology:
Importance of the Role of the Structure in Charge of Technology Transfer and Innovation
Introduction

Role of Higher Education Institutions

Role of Offices for Technology Transfer

South Africa’s national Intellectual Property Rights Act
  - National IP Management Office

Obligations on Higher Education Institutions
  - Institutional Offices for Technology Transfer
  - Obligations of recipients of public funds

Conducive Environment
Two Key Activities...

1. Knowledge generation
   - Study
   - Research

2. Knowledge dissemination
   - Teaching
   - Publications – journals, books, presentations
   - Technology Transfer
Role of Offices for Technology Transfer...

...to support the University in realising its vision and achieving its mission...
South Africa’s IPR-PFRD Act...

Intellectual Property Rights for Publicly Financed Research & Development (IPR-PFRD) Act

“IPR Act”

Act 51 of 2008

Published – 2008, In effect – Aug 2010

Objective:

Intellectual Property (IP) emanating from publicly funded research & development (R&D) must be identified, protected, utilised and commercialised for the benefit of the Republic of South Africa.
SA IPR Act Mandate for OTTs...

by an Act of Parliament (IPR-PFRD Act - 51, 2008)

... Thou Shall...

... support, facilitate and promote the identification, protection and commercialisation of intellectual property which has the potential to create social and/or economic value for South Africa.

Source: Chris Bull, 2007: LES - Introductory Workshop on the Licensing of Technology
To remain relevant & engaged, HEIs...

... must strive for EXCELLENCE in:
Knowledge Generation...
- Research...

... matched with EXCELLENCE in:
Knowledge Dissemination...
- Teaching… high caliber graduates (industry-relevant competencies)
- Publications/presentations… (high impact, peer-reviewed)
- Technology transfer… (products / services / processes)
Knowledge Dissemination...

**RESEARCH OUTPUTS**
- Publications
- Processes
- Materials
- Technology
- Know-how
- Skills

**KEY CHANNELS**
- Teaching
- Consultancy
- Professional Development
- Collaborative R&D
- Contract Research
- Licensing
- Company Creation
- Networking & Other Events

**USERS**
- Start-up
- Spin-out
- Society
- Government
- Policy-makers
- Entrepreneurs
- SMEs
- Big Firms

**IMPACT**
- Jobs
- New Products
- New Services
- Turnover
- Profit
- R&D Expenditure
- Improved Quality of Life
- Economic growth

Source: Cullen, K. (UNSW) Presentation to OTTs, South Africa, 2014

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Structural Obligations on all HEIs...

IPR Act obligations on all Higher Education Institutions (HEIs)...

- establish & maintain an Office for Technology Transfer (OTT), or
- designate OTT responsibilities to existing persons/structure, or
- establish joint OTT function amongst HEIs e.g. regional OTT
Models for OTTs…

Structure of the Office for Technology Transfer (OTT)

a) Separate company – wholly owned
b) Separate company – partially owner
c) Part of the Organization's functional admin units
d) Long-term strategic partnership with commercialisation businesses

Irrespective of structure – a TTO is wholly reliant on:
- Support from Institution’s Management & Researchers
- Willingness of Researchers to engage in the TT process
- Good people in the OTT
- The right model for that institution
Why undertake Tech Transfer...1

No, no…we study and write about the world. YOU go and save it…

Justify public spend & contribute to regional/national economic growth

“Ivory Tower”

“Engaged” University remain relevant in a changing world
Why undertake Tech Transfer...2

Recognise & Reward innovative/entrepreneurial staff/students

Disseminate/transfer knowledge to wider community – society/industry

Potential for additional income to support University “core business”
So why do Tech Transfer...

- **Optimization of research value** - who benefits from publications alone?
- **Contribution to social and economic development** - accountability for funds spent and return on investment (remain relevant)
- **Potential financial benefits to inventors and the University**
- **Increase the local and international profile** of the research, researcher, and institution
- **Potential for access to new technologies and capabilities**, additional research grants etc.
- Identify people interested in UWC research & **build research relationships**

**Exciting challenge!**

Source: SARIMA Presentation, 2014
Manage Expectations of OTT Structures...

Reality Check...

- Tech transfer generally not a major money spinner for the university
- Tech Transfer’s major impact is not in the institution
  e.g. where a university signs a license with a 5% royalty or a 5% equity stake in a new company it’s doing a good job – and 95% of the economic value/impact is outside the university

Realistic Expectations:
- Patenting – generally a very long and expensive process (2-10 years)
- Commercialisation can take anything from 6 months to 3+ years
- Raising funding/investment can take up to 5 years
- University will need to make at-risk/un-secured investment
- Negotiating one agreement can take more than a year
- Time to revenue may be even longer (5-10yrs for start-up company)
  Or few years after license deal if “easy to market”

Source: SARIMA Presentation, 2014
Activities of the OTTs include:

1. Manage IP disclosures & protection:
   - Protectability, Technology strength, Socio-economic attractiveness

2. Review UWC IP position in contracts
   - Compliance – IPR Act & UWC Policy

3. Manage & monitor UWC IP Portfolio
   - Maintenance, benefit sharing, infringements

4. Support & facilitate UWC IP Commercialisation
   - Licensing, sale, spin-out company
5. Report to National IP Management Office (NIPMO)
   • Disclosures, patents, commercialisation

6. Raise IP awareness – value, ownership, regulatory
   • National legislation, UWC policy, benefit-sharing

7. Promote culture of innovation & entrepreneurship
   • Short courses, workshops, other National/UWC events

8. Stakeholder management – internal & external
   • IP inventors/creators, UWC management, funders, NIPMO
Effective & efficient processes...

TTO Reports to NIPMO

Disclosure to TTO on Invention Disclosure Form

Assessment by TTO

More work required

PROTECT

 NOT PROTECT (no sufficiently compelling socio-economic benefit)

Commercialize

PUBLISH

90d

60d

30d

90d

60d

30d

Return to UWC

Return to IP Creator

‘Prior to Disclosure’ Zone

Key to appropriate technology transfer...

Adapted from UCT RCIPS’s IPR Act Information Session, Oct 2010 Presentation

1: http://www.georgefenning.co.uk/data/media/thumbnails/lightbulb%20brain%20idea.jpg
2: http://s1.hubimg.com/u/1157796_f260.jpg
1. Appropriate structure & resources
   - “Good people can make any system work & bad people can make any good system fail. Nevertheless, some systems are better than others”\(^1\)

2. Commitment & support from UWC Mgmt & Researchers
   - Pre-requisite for success
   - Strategic intent
   - Quick non-bureaucratic decision making with appropriate risk tolerance

3. Culture of innovation
   - Paradigm shift required from ‘Publish or Perish’
   - Excellent research required for strong pipeline
4. Conducive & supportive environment
   - policies aligned with regulatory environment (int/ext)
   - Appropriate incentives and metrics

5. Right people with the right attitude
   - Understand the university context
   - Service & client oriented

6. Clear & aligned expectations
   - Stakeholder expectations – Management, Researchers, Government, Business, Society etc…
Thank You... Thank You... Thank You... Thank You...

QUESTIONS

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