

# Theme 4...



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

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A place of quality,  
a place to grow, from hope  
to action through knowledge



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# Presentation overview...

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- 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



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# Role of Higher Education Institutions...

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## Two Key Activities...

### 1. Knowledge generation

- Study
- Research

### 2. Knowledge dissemination

- Teaching
- Publications – journals, books, presentations
- Technology Transfer



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# Role of Offices for Technology Transfer...

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**...to support the University in realising  
its vision and achieving its mission...**



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# South Africa's IPR-PFRD Act...

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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.



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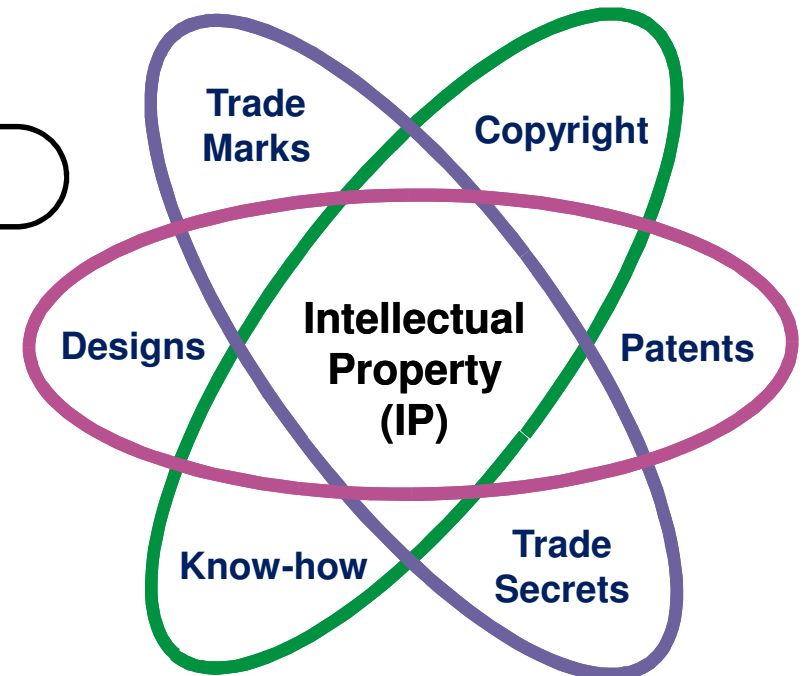
# SA IPR Act Mandate for OTTs...



Source: <http://madrobot.co.za/wp-content/uploads/2013/04/shucks-poster.jpg>

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



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# Translating the role of HEIs...

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To remain **relevant & engaged, HEIs...**

... must strive for **EXCELLENCE** in:

**Knowledge Generation...**

**Research...**

... matched with **EXCELLENCE** in:

**Knowledge Dissemination...**

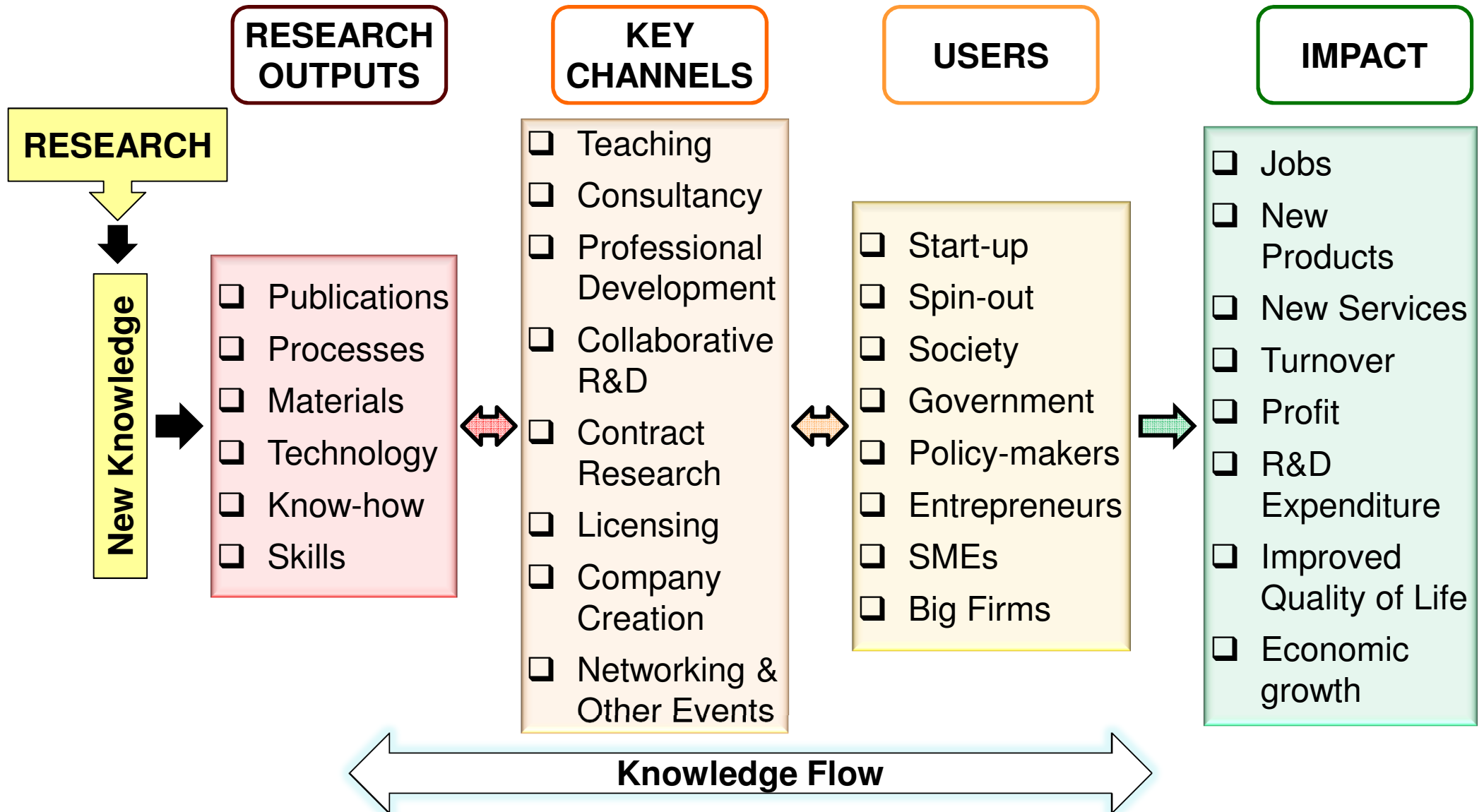
**Teaching...** high caliber graduates (industry-relevant competencies)

**Publications/presentations...** (high impact, peer-reviewed)

**Technology transfer...** (products / services / processes)



# Knowledge Dissemination...







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# Structural Obligations on all HEIs...

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## 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



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# Models for OTTs...

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## 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

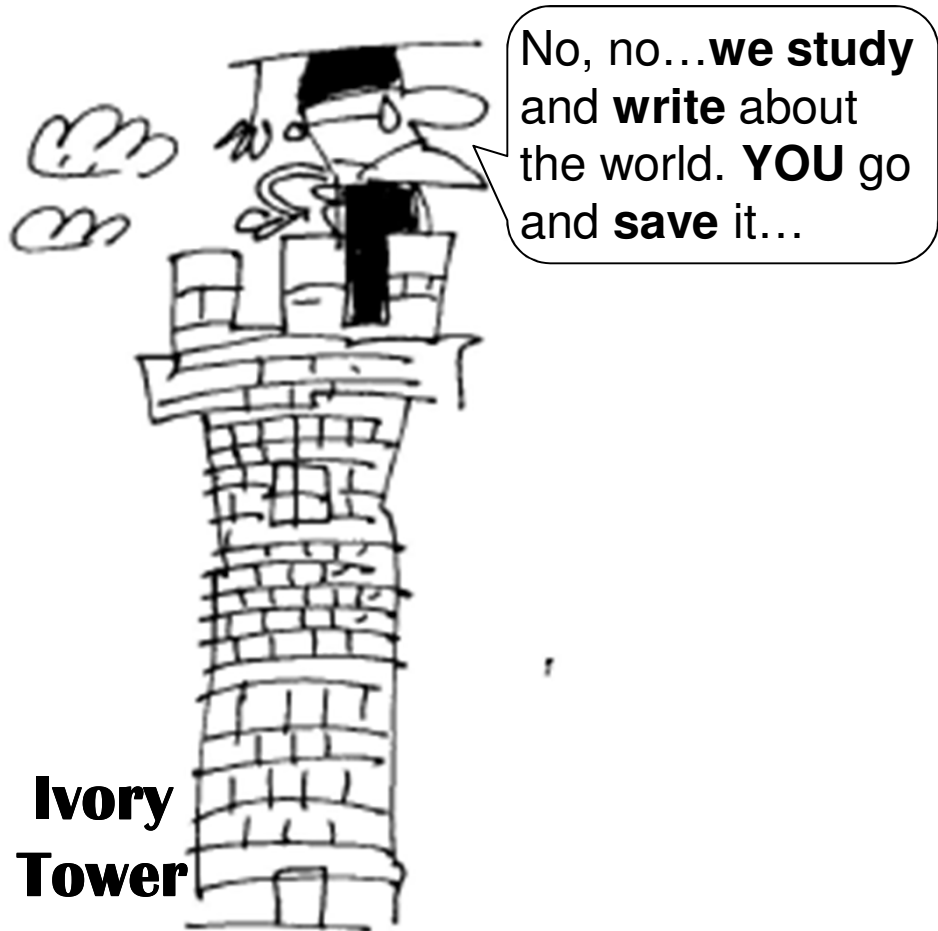
## Irrespective of structure – a TTO is wholly reliant on:

- 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



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# Why undertake Tech Transfer...1



**Ivory  
Tower**

<http://www.ntfl.com/issues/v11n3/images/tower.gif>

**“Engaged” University  
remain relevant in a changing world**

**Justify public spend & contribute  
to regional/national economic growth**



[http://www.sacommercialpropnews.co.za/thumbnail.php?file=articles/SA\\_economic\\_growth\\_657418823.jpg&size=article\\_medium](http://www.sacommercialpropnews.co.za/thumbnail.php?file=articles/SA_economic_growth_657418823.jpg&size=article_medium)  
<http://cms.leadershiponline.co.za/image/5e19d6285613b2cfe5ca517152b8cce500x300.jpeg>



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# Why undertake Tech Transfer...2



<http://saharconsulting.files.wordpress.com/2010/09/sm-rewards.jpg>

**Recognise & Reward  
innovative/entrepreneurial staff/students**



[http://freelanceswitch.com/wp-content/uploads/2010/08/shutterstock\\_57836770.jpg](http://freelanceswitch.com/wp-content/uploads/2010/08/shutterstock_57836770.jpg)

**Potential for additional income  
to support University “core business”**



[http://www.city.ac.uk/\\_data/assets/image/0010/128818/Knowledge-Transfer-Partnerships.jpg](http://www.city.ac.uk/_data/assets/image/0010/128818/Knowledge-Transfer-Partnerships.jpg)

**Disseminate/transfer knowledge  
to wider community – society/industry**



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# So why do Tech Transfer...

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- ❑ **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



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# 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



## 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



## Activities of the OTTs include...2



### **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

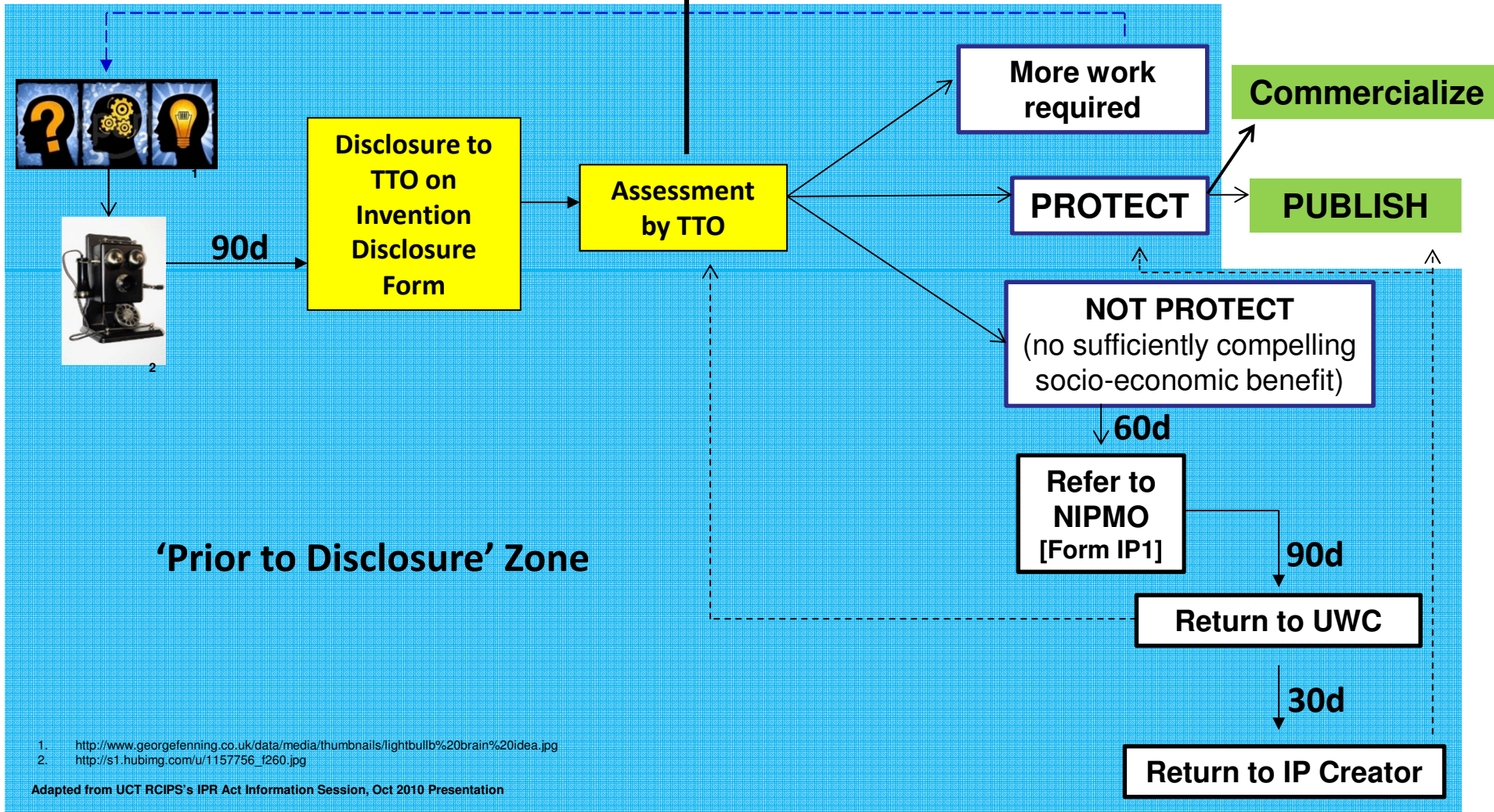




# Effective & efficient processes...



TTO Reports to NIPMO



## Key to appropriate technology transfer...



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# OTTs Challenges & Key Success Factors...1

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## 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”<sup>1</sup>

## 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



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# OTTs Challenges & Key Success Factors...2

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## 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...



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# Thank You...

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## QUESTIONS



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