Round Table Discussion...

UNIVERSITY of the WESTERN CAPE

WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION

The Funding of Scientific and Technical Research:
The Problem of Exploiting the Results of Research Financed by Public Funds

(Moderator)

Doug Sanyahumbi (PhD, MBA)
Director: Technology Transfer Office

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

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Presentation overview...

- South Africa's IPR-PFRD Act
- SA IPR Act mandate for OTTs
- Overview of SA funding landscape
- Overview of the Challenges
- Challenges in commercialising publicly funded R&D
- Recommendations

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...

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.

Overview of SA Funding Landscape...

Govt. Venture Capital Funds

IDC – Industrial Development Corporation

technology innovation AGENCY

Govt. Grants

Support Programme for Industrial Innovation

an initiative of the dti

Private Sector Venture Capital Funds

invenfin VENTURE CAPITAL

Business PARTNERS – Investing in Entrepreneurs

4Di

Hasso Plattner VENTURES | Africa

Angel Investors

ANGEL HUB

(Source: IDC Presentation – EDP Workshop WC

Corporate South Africa

AngloAmerican

vodacom

PRIMEDIA

sasol – reaching new frontiers

Overview of the Challenges in commercialising publicly financed R&D...

❑ Poor Industry-Institutional relationship

- **Misaligned expectations:** make for a strained relationship exacerbated by poor communication
- **Information of research at institutions not industry-friendly:** articulation of perceived value allows industry to give input on market needs
- **Complex & differing processes for contracting with institutions:** efforts required to minimize friction
- **Commercialisation not a priority:** must be included in metrics and incentives, in balance with core activities of institutions
- **Lack of pull or determining research-base of institutions by industry:** act locally but think globally-limited local markets
- **Lack of resources or skills capacity in SMEs:** to leverage innovations from institutions that may enhance competitiveness
- **Need for change in attitudes:** in academia, industry, investment community and public sector – to stimulate & facilitate more effective commercalisation of publicly financed R&D

Source: Advice Paper, 2012, Bridging the valley of death; Royal Society of Edinburgh response to the House of Commons Science and Technology Select Committee inquiry into the commercialisation of research

Challenges in commercialising publicly financed R&D... 1

- **Poor institutional structure & resources**
  - **Model of the Office for Technology Transfer (OTT):** some systems are better than others – context is important
  - **Internal financial resources:** ability to make early stage un-secured, at-risk investments to de-risk technology development (PoP to PoC)

- **Lack of commitment & support from Institutional management**
  - **Necessary strategic buy-in at senior level:** commercialisation difficult/impossible without it
  - **Appropriate risk tolerance: timely, non-bureaucratic decision making process, industry is impatient**

- **Poor culture of innovation and entrepreneurship**
  - **Paradigm shift required:** 'Publish or Perish' paradigm prevalent but inappropriate
  - **Entrepreneur:** "…one who organizes, manages, and assumes the risks of starting a business or enterprise around an identified opportunity"

Challenges in commercialising publicly financed R&D... 2

❑ Lack of adequate human skills & expertise for commercialisation

- **Business focused/experienced people:** understand the university context and business imperatives with commercialisation skills
- **Inadequate human resources to undertake all requirements of the OTT:** experienced staff hard to locate and retain, can be expensive
- **Service & client oriented personnel:** equipped to deal with researchers and industry

❑ Lack of a conducive & supportive environment

- **Appropriate incentives and metrics:** no incentive for researchers' entrepreneurial activity = additional load to 'core' activities
- **No time to support/drive entrepreneurial activities** - sabbatical
- **IPR Act perceived as a deterrent:** IP ownership, Full cost, restricted movement of IP, government walk-in rights
- **High cost** to HEIs of IP maintenance & litigation
- Technology Transfer & Commercialisation – not a strategic priority/imperative to research institutions

Challenges in commercialising publicly financed R&D... 3

- **Misaligned expectations**
  - **Industry vs HEIs timelines**
    - Market demand vs degree timelines
    - Bureaucracy & red tape – timeline to decisions
  - **Limited public-private sector interactions**
    - Research institutions – industry interactions (open innovation)
    - Poor institutional/industry frameworks for engagement
  - **IP position**
    - Poor understanding of IPR-Act - negotiation can be long and tedious

- Competitive advantage
- Barriers to entry
- Freedom to operate
- Commercial value
- Business necessity

- New knowledge
- Capacity/capability
- Freedom disseminate
- Reputational value
- Statutory requirement

Source: Tracy Bromfield (SASOL), Presentation: Strategies for public-private partnerships in innovation, 2012

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Challenges in commercialising publicly financed R&D... 4

❑ Unrealistic 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 Presentations

❑ Low industry adoptive capacity:

- **Usually results from R&D not informed by industry/market**
- **Lack of commercialisable technologies from universities** – large market potential

❑ Lack of accessible funding for commercialisation

- ❑ **Innovation chasm**
- ❑ **Lots of ideas chasing limited and in some cases inaccessible funds**

Challenges in commercialising publicly financed R&D... 5

- **Inappropriate business incubation models:**
  - **No one size fits all** – sustainability models need more thought
- **Low early-stage risk appetite of local investors:**
  - **means technologies sold to international investors:** government support to de-risk early-stage investments for subsequent local funders would help
- **Institutional drive for "open access":**
  - **Open access to publicly funded R&D data:** limits competitive advantage and commercial activity
- **Technology push vs imdustry/market pull:**
  - **Technology push harder to commercialise:** need more focus on industry/market pull R&D

Recommendations...

...overcoming challenges in commercialising publicly financed R&D

- **Greater focus on skills development for commercialisation:**
  - Appropriately skilled OTT staff
- **Raise awareness of the IPR Act:**
  - Amongst stakeholders and players within the National System of Innovation
- **Promote a culture of entrepreneurship and innovation:**
  - Incentivise and reward entrepreneurial researchers and students
  - Move from “Publish or Perish” paradigm to “Innovate & Flourish”
- **Effectively address the early stage funding challenges:**
  - Structure and align public grants for R&D with the more risk-tolerant early stage seed funds
- **Increase opportunities for Industry-Institution engagements:**
  - Increase dialogue and allow industry to influence research agendas
  - Promote internships in industry
- **Promote opportunities for SMEs-Institution engagement:**
  - Networking sessions to expose SMEs and industry at large to available IP and technologies

Thank You...

QUESTIONS

Doug Sanyahumbi (PhD, MBA)

Director: Technology Transfer Office
University of the Western Cape