

**TECHNOLOGY TRANSFER
AND
INTELLECTUAL PROPERTY COMMERCIALIZATION**

**AT THE UNIVERSITY OF NAIROBI
25/02/2016**

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Presentation outline

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- introduction
- TT and commercialization defined
- rationale for IP commercialization
- barriers to effective IP commercialization
- modes of IP commercialization
- managing potential conflicts of interest
- examples

About myself...

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- innovative enterprise development specialist
- academic and professional training in life sciences - biochemistry and chemistry - and intellectual property law/management
- commercial and technical work experience over 20 years in risk capital investment, technology transfer and animal health/pharmaceutical industry (Africa and Europe)

TT and commercialization defined

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- there is no universally accepted definition of technology transfer; generally speaking, it is the application and sharing of scientific knowledge between researchers and third parties (government, private industry, general public)
- commercialization occurs when research outputs are further developed into new products, processes, materials or services that enhance the nation's (world's?) health, reduce suffering, improve quality of life, or contribute to economic prosperity

Commercially viable IP

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IP is commercially viable when:

- its application would have market value through creating a new product or process, or enhancing an existing product or process, that is attractive to an identifiable customer group

AND

- manufacture of the product or application of the process is physically and financially feasible

Why IP commercialization?

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- **generation and application of knowledge coupled with its transfer to users in the public and private sector is central to the missions of most universities and research institutions**
- presents opportunities to sustainably deliver social and economic value to tax payers and wider society in return for public investment in research
- attracts investment of resources towards further development and enhancement of research outputs

Barriers to IP commercialization

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- nature of the research
- insufficient financial resources
- inadequate expertise
- lack of critical mass of IP portfolios
- IP rights
- attitudes of IP originators
- inherent differences between research institutions and commercial sector

Scope of IP commercialization

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Level 1: complete disengagement

- abandonment of commercialization and retention of rights to perform core objectives of research and education

Level 2: engagement on terms

- protection and marketing of IP without involvement in commercial product development and supply (e.g. technology licensing in return for royalty flow or other financial return)

Level 3: full engagement

- full-blown corporate activity by research institution with for-profit goal (e.g. new venture creation/management, science parks and incubators, pre-seed/seed/start-up/venture capital funds)

Technology licence

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- agreement permitting one party (licensee) permitted to use proprietary material or know-how of other party (licensor)

- defined agreement terms include:
 - exclusivity or non-exclusivity
 - length of time of licence validity
 - markets (territory) in which licensee can use or sell licensed product
 - sub-licensing provisions
 - nature/amount of financial return (e.g. upfront fees, royalties) to be paid to licensor by licensee
 - rights to improvements developed by licensee
 - dispute resolution provisions

New ventures

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- new technology-based companies sometimes referred to as start-ups or spin-outs
- critical success factors include:
 - technology
 - market concentration and development
 - product - system or component?
 - availability of capable management
 - availability of investment
 - complexity of delivery
 - business incubation support

Managing potential conflicts

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- pressures to increase emphasis on applied research at the expense of basic research
- protection of, and restriction of access to, IP in order to generate financial returns when open access may be more in the public interest
- balance between research institution's independence and benefits of strategic partnerships with business designed to exploit IP
- situations in which research institution staff may benefit individually from institution decisions that they are in a position to influence

...hence clear policies and strategies need to be developed and articulated

EXAMPLES



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