# The role of Technology Commercialisation in the operationalisation of Innovation and Industrial Policies



## the dti

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#### Problem Statement

The White Paper on Science and Technology (1996), advocates for an establishment of an efficient and well-coordinated technological and socially innovative system

The National Industrial Policy Framework (2007), concurs "As a middle income developing country South Africa needs to increasingly invest in its innovation and technology capabilities...,"



#### Problem Statement...

Despite the *investment* by the state in this area and the countries internationally recognition of *strong research-intensive universities and science councils*;

- > relatively few of the research outputs reach the market
- businesses undertaking innovative activities in 2008, only four out of ten succeeded in reaching a commercial phase and bringing their innovative products to the market (CeSTII)
- > Lack of co-relation between the two policies



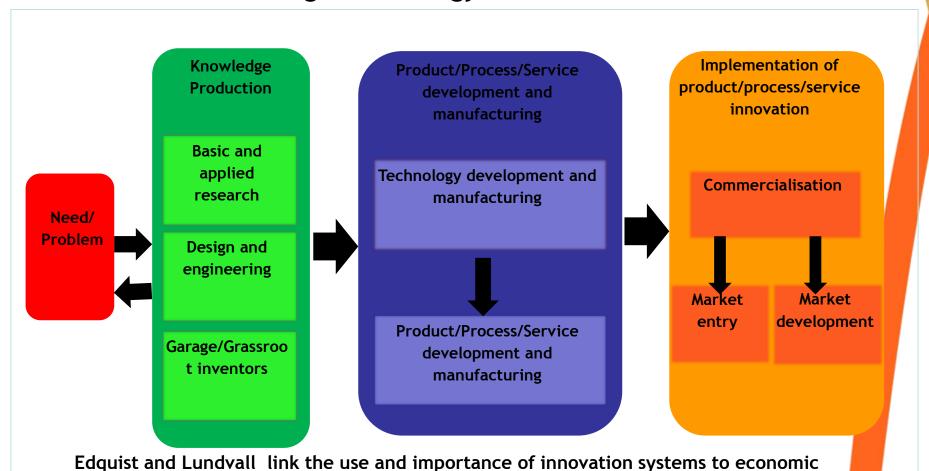
#### Research Question

What types of models for cooperation and/or implementation tools can be introduced to ensure achievement of the objectives of the innovation and industrial policies?



#### **Innovation Process**

Practical integrated approach for innovation and industrial policies through technology commercialisation.



development especially in developing countries

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#### **Innovation Process**

#### **COMMERCIAL PHASE CONCEPT PHASE DEVELOPMENT AND PRE-COMMERCIAL PHASE Basic and applied** Technology and **Product Small Scale** Market Market research/Design and **Development Manufacturing Development Technology Development** Entrv Market engineering/Garage/ (Market ready) **Validation Grassroot invention** Technology Push **Strategies Industrial Policy Innovation Policy Pre-commercialisation and Outputs Outputs Commercialisation Strategies** Business start-up & **Proof of principle Trading Publications** Business/Industry growth **Proof of concept Demand/Market Pull New Industries IP Protection/Transfer Strategies** Import replacements **Technology Prototype**



### Systemic "NSI"

## How Systemic is the National Systems of Innovation?

#### Key considerations

- > Strategic coherence and coordination for technology commercialisation between government departments.
- The value chain-thematic approach is necessary for programme and project-to-project focus.



### Triple Helix arrangements

## How Operational is the "Triple Helix" Orientation?

#### Key considerations

- > understanding the linkages among the actors involved in innovation is key to improving technology performance.
- > this model responds to the technological and sectoral innovation system.
- state should play a catalytic role in funding and prioritising innovation projects



#### Homogeneity of the "State"

#### How Homogeneous is the state?

#### Key consideration

Adoption of *mission-oriented framework*" (Mazucatto,2017) - which differentiates between public policies that target the development of specific technologies in line with state-defined goals ('missions') and those that aim at the institutional development of a system of innovation"



#### **Conclusion**

#### SUCCESS DEPEND ON:

- > Operational Partnerships
- > Functional Technology Commercialisation strategies





