



United Nations  
Economic Commission for Africa

# Effective STI Policy Design?

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## A reminder of what and never one view on STI policy

“...set of actions that governments can take to deal with a range of problems in the intersecting and complementary domains of science, technology and innovation to achieve a clearly defined (national) objective when private incentives provided by free markets systematically perform poorly”  
(Weimer and Vining, 1989)



# The case of three countries: Clarity of the vision!

Nation	A (2004)	B (2004)	C (2004)
Vision	Provide every citizen and resident access to high quality and affordable ICT services to transform COUNTRY into a knowledge-based and technology driven economy	Make ICT the fifth pillar of the economy	Enhance the existing investments in information, communication and multimedia services (ICMS) infrastructure that will support future growth of ICMS services



# The case of three countries: Clarity of targets

Nation	A	B	C
Targets	<ol style="list-style-type: none"> <li>1. Universal access for all communities to internet, telephone and multimedia by 2010</li> <li>2. <i>Telecom service penetration to reach 25% in urban and 10% in rural by 2010</i></li> <li>3. Connect all schools, clinics and public offices to advanced telecom services</li> <li>4. Fully open, private, competitive markets for all telecom services</li> <li>5. Streamlined, efficient and effective regulations of the industry that are technology neutral, fully transparent and competitive</li> <li>6. Affordable prices for telecom services, especially for the poor</li> <li>7. Profitable investment opportunities for business in all segment</li> <li>8. Country as a first-class hub for investment, jobs and development, leader in transformation of Africa.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase fixed telephone density from 28% to 35% by 2005</li> <li>2. Increase mobile cellular telephone density from 37% to 50% by 2005</li> <li>3. Extend broadband connectivity to all business hubs within the country by 2006</li> <li>4. Provide at least 30% of household with broadband connectivity by 2008</li> <li>5. Provide at least 50% of household with Internet connectivity by 2008.</li> </ol>	<p>By 2008:</p> <ol style="list-style-type: none"> <li>1. High Speed Broadband : 2.8 million subscribers;</li> <li>2. 3G and Beyond: 1.5 million subscribers</li> <li>3. Mobile TV: <i>75% mobile TV adoption</i></li> <li>4. Digital Multimedia Broadcasting: 60% household coverage for DTTB.</li> <li>5. Digital Home: 500,000 homes Interwork with external networks</li> <li>6. Short Range Communications: Extensive usage in the supply chain management, Local manufacturing of RFID chipset</li> <li>7. VoIP/Internet Telephony: Residential &amp; business service revenue constitute XX 1 billion</li> <li>8. Universal Service Provision: Increased broadband Internet individual access</li> </ol>

# The case of three countries: Clarity of targets

Nation	A	B	C
Technology	Technology neutral	<ol style="list-style-type: none"> <li>1. Global mobile personal communications by satellite,</li> <li>2. Internet telephony,</li> <li>3. Mobile cellular,</li> <li>4. Fixed wireless,</li> <li>5. Mobile wireless</li> <li>6. Multimedia</li> <li>7. Cable</li> </ol>	<ol style="list-style-type: none"> <li>1. High Speed Broadband</li> <li>2. 3G &amp; Beyond</li> <li>3. Mobile TV</li> <li>4. Digital Multimedia Broadcasting</li> <li>5. Digital Home</li> <li>6. Short Range Communications (e.g. RFID-based)</li> <li>7. VoIP/Internet Telephony</li> <li>8. Universal Service Provision</li> </ol>

# The lesson in policy design

- Is the policy vague on purpose or not informed?
- Which stakeholders were forgotten and why?
- Who or what was the driving policy design of each of the countries?
- Design effect:
  - Creating awareness and promotion
  - Creating markets
  - Attracting investment and talent
  - Building human capital
  - Research and development
- Which country better represents **your** national STI Policy?

# STI Policy are not better designed either

Nation	A
Vision	A Nation in which Science, Technology and Innovation are the driving force for competitiveness, wealth creation and sustainable national development by 2030.
Targets	<ol style="list-style-type: none"><li>1. To strengthen the policy, legal, institutional and operational framework of the science, technology and innovation system</li><li>2. To improve investment and funding to STI</li><li>3. To strengthen the commercialisation, transfer and diffusion of technologies</li><li>4. Promotion and Popularisation of science, technology and innovation</li><li>5. To strengthen and build the human resource capacity in Science, Technology and Innovation</li><li>6. Ensure quality assurance in science, technology and innovation</li><li>7. To exploit Indigenous Knowledge System (IKS) for national development</li></ol>

# Case of Thailand's thrust 2 (has 5 thrusts)

## Strategic Thrust 2: Enhancing economic competitiveness and resilience

### ***Strategy 2.1: STI for increasing efficiency and productivity by sector***

Measure 2.1.1: Development of STI for agricultural and industrial cluster development and supply chain management

Measure 2.1.2: Utilization of STI for increasing capacity, efficiency, and productivity of the agricultural and manufacturing sectors

### ***Strategy 2.2: STI for increasing value added, value creation, and innovation by sector***

Measure 2.2.1: Development of STI for increasing quality, standards, and safety of products and services

Measure 2.2.2: Development of STI for green economy with an emphasis on market-driven product differentiation and innovation

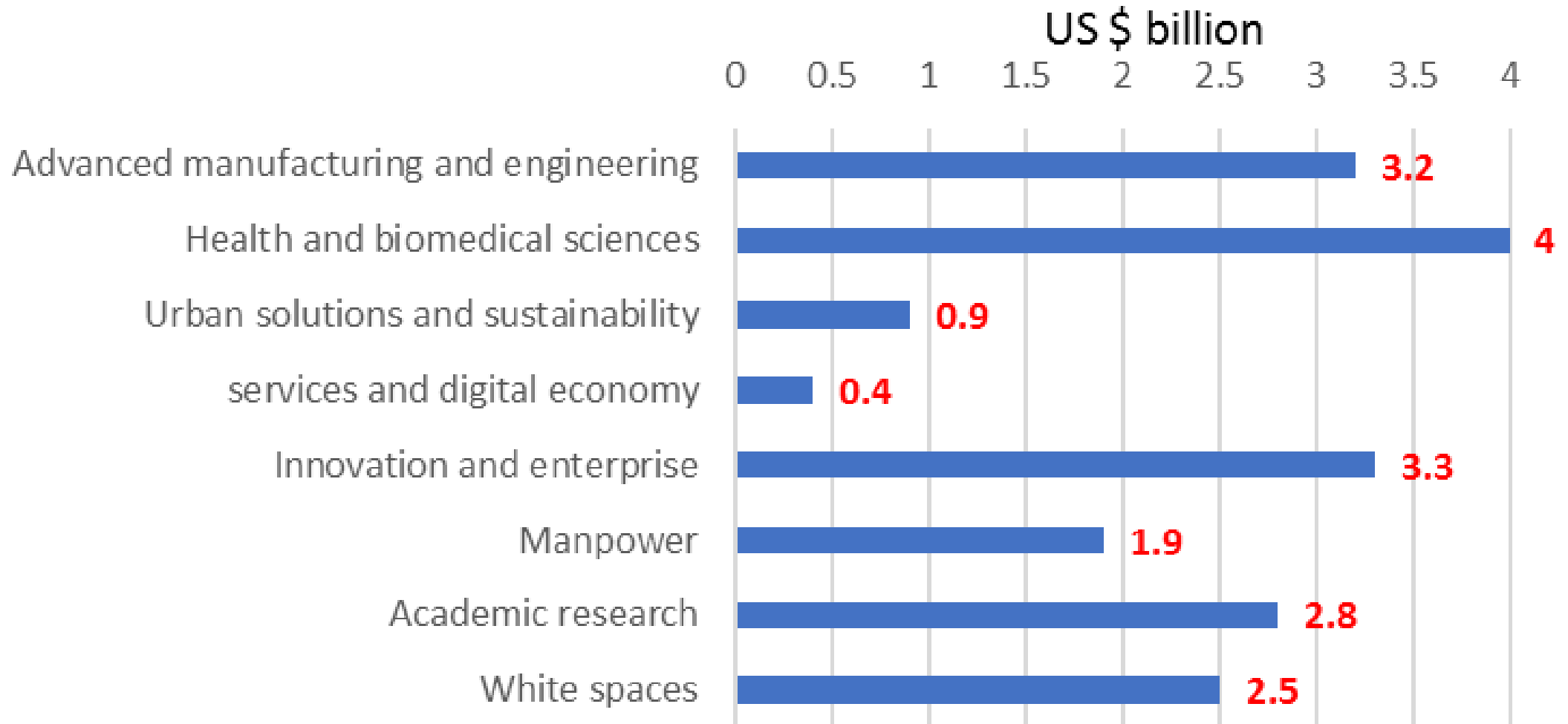
### ***Strategy 2.3: Encouraging planning and adaptation to changes and trade barriers***

Measure 2.3.1: Promotion of STI for production planning and decision making with regard to climate change concerns

Measure 2.3.2: Development of STI for proactive standardization to keep pace with changing requirements due to free trade agreements



# Live space for unknowns: Case for Singapore



## Policy is not an exact science but helps to be less vague

Other players may be as influential as policies!

**Mark Bennett:** *"By 1993, we had decided that we wanted 'the real thing'.. full Internet access ... There were plenty of people who said that Africa had other priorities - after all, wasn't Fidonet (e-mail) working - or that Africa needed its own systems of communication...but with the relevant bits of string and sticky tape...[Africa] has gone from Zambia being one of the only countries with a connection to no country being without" [5]*



*Thank you.*

Ideas  
to  
Action