CSTD 2011 – 2012
Inter-Sessional Panel

South Africa’s ICT R&D and Innovation Strategy

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Isaac Maredi
Isaac.maredi@dst.gov.za
Outline

SA R&D Statistics
ICT RDI Investment
SA ICT RDI Strategy
The ICT RDI Roadmap
The Road Ahead
# South African R&D Investment

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2007/08</th>
<th>2008/09</th>
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<tbody>
<tr>
<td>Gross domestic expenditure on R&amp;D (GERD) – R’ Millions</td>
<td>18 624</td>
<td>21 041</td>
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<tr>
<td>GERD as a percentage of GDP</td>
<td>0.93</td>
<td>0.92</td>
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<td>ICT expenditure on R&amp;D as a percentage of GERD</td>
<td>14.0</td>
<td>13.1</td>
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<tr>
<td>ICT GERD as percentage of GDP</td>
<td>0.12</td>
<td>0.13</td>
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*Source: DST/HSRC – National Survey of Research and Experimental Development (2008/2009 Fiscal Year)*

Ideal Target: GERD = 1.5% of GDP by 2014 and 2% of GDP by 2018
ict RDI Strategic Imperatives

• Strategic Objectives
  o Focused world-class research
  o Strong innovation chain leading to increased ICT patenting, reduced digital divide and vibrant high-tech ICT industry
  o Advanced human resource capacity

• Pillars/CSFs for the ICT RDI strategy
  o Effective research infrastructure
  o Effective government, research community, industry and international cooperation
  o ICT policy and institutional support
  o Adequate funding
### ICT RDI Outcomes & Tech Domains

<table>
<thead>
<tr>
<th>RDI Strategic Outcomes</th>
<th>Technology and Application Themes</th>
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<tbody>
<tr>
<td>Increased ICT Access</td>
<td>Information Security</td>
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<td>Developed ICT industry</td>
<td>Mobile and Wireless</td>
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<tr>
<td>Modernised government</td>
<td>E-Government</td>
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<td>Modernised economy</td>
<td>Software Development</td>
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<td>Enhanced e-Science</td>
<td>HLT</td>
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<td>E-participation and policy</td>
<td>E-Health</td>
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<td>E-education</td>
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<td>Geomatics</td>
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<td>SANReN &amp; CHPC</td>
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**Technology and Application Themes:**
- **Information Security**
- **Mobile and Wireless**
- **E-Government**
- **Software Development**
- **HLT**
- **E-Health**
- **E-education**
- **SANReN & CHPC**
- **Geomatics**
The South African ICT R&D and innovation implementation roadmap
The SA ICT RDI Roadmap: Methodology

Purpose

1. Enable increased public and private investment in ICT RDI (by a factor of 3 to 4) by providing a mechanism to forecast technology developments in targeted areas; identifying critical areas that must be developed to meet SA's socio-economic objectives; and by surfacing and demonstrating the ICT research community and sector's understanding and agreement on the trends, market potential, priorities and investment requirements.

2. Provide a framework to plan and coordinate technology developments both nationally and regionally – to enable sophisticated decision making.
Our vision is for a South Africa that has **overcome** the Digital Divide; by leveraging advances in ICT to address socio-economic challenges, it has created **Digital Advantage**.

Through **sound investment** and **effective coordination of ICT R&D and innovation activities**, we have established these conditions:

- Advanced **human capital and strong and institutional capacity**, enabling critical mass for research in focus domains
- An **industry** characterised by **tight engagement with research communities**, as well as fast **uptake and promotion of research results** and **indigenous innovation**
- A healthy **innovation ecosystem**, in which research results flow unencumbered to government and industry to achieve impact in society
- Advanced **ICT infrastructure** connecting South Africa internally and with the world
- **Local content and applications** that address local needs and also create export opportunities
Investment Portfolio of 6 Thematic Clusters

- **Market Drivers**
  - Broadband Infrastructure and Services
    - Future Wireless Technologies
    - Broadband Service Infrastructure
  - Development
    - E-Inclusion
    - Agriculture
  - Sustainability and the Environment
    - Green and ICT
    - Smart Infrastructure
    - Global Change
    - Geo-spatial Applications
  - Grand Science
    - Astronomy
    - Bio-Medical Sciences
  - Industry Applications
    - Smart Infrastructure
    - Mining
    - Manufacturing
    - Future Internet Applications
    - Upload and Delivery
    - Import Replacement
    - Supply Chain Optimisation
    - Asset Management
  - The Service Economy
    - M-Health
    - E-Services
    - Education
    - Business Model Innovation
    - Payment Solutions
    - Outsourced SA Capability
    - Systems Integration
    - Content and Services Localisation
    - Mobile Enablement
    - Trust and Security
1) Improved quality of basic education
2) A long and healthy life for all South Africans
3) All people in South Africa are and feel safe
4) Decent employment through inclusive economic growth
5) A skilled and capable workforce to support an inclusive growth
6) An efficient, competitive and responsive economic infrastructure network
7) Vibrant, equitable and sustainable rural communities with food security for all
8) Sustainable human settlements
9) A responsive, accountable, effective and efficient local government system
10) Environmental assets and natural resources that are well protected
11) Create a better South Africa and contribute to a better and safer Africa and World
12) An efficient, effective and development oriented public service
The Road Ahead

• ICT RDI Interventions & Programmes by cluster
  – Investment options
  – activities & measurable targets
  – Outcomes
  – Impact (socio-economic)

• Strategy to monitor and manage with transparency, accountability and for success
Thank You

Isaac Maredi
Acting Chief Director: Sector Innovation & Global Change
Tel: +27 12 843 6524
Email: isaac.maredi@dst.gov.za