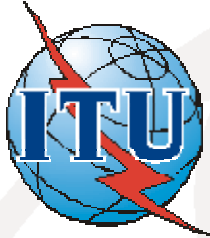# Regional Development Forum 2008

"Bridging the Standardization Gap in Developing Countries"
Accra, Ghana, 26-28 May 2008

"Potential of ICT standards in an emerging innovative ICT environment: Case of SATA"

Eng. John S. Kimbe
Manager Technology and Policy

Accra, Ghana, 26-28 May 2008

Southern Africa Telecommunications Association

Overview of SATA

- ❖ Association of Telecom Operators & ICTs Players in the SADC (Southern African Development Community, which is an economic grouping of 14 Member States)
- ❖ Established 28 years ago under SADC Treaty and Protocol on TCM
- ❖ Consultative Member of SADC on telecom and ICTs matters
- ❖ Sits on Telecom Sub-Sectoral Committee (SCOM) of SADC; and
- ❖ Has Constitution, clear Objectives, Mission and Vision and a permanent office (Maputo) led by its Executive Secretary (CEO)

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SATA Members

SADC Region

SADC Region

Estimation:

The African Population (2007 estimate)   =   933 448 292
(2007 estimate)

SADC Population (2005 SADC Press Release when Madagascar joined SADC)

=   260 000 000

Percentage of SADC Population vs Africa   =   27.85%

ICT Infrastructure Investment (SADC in 2005)   =   US$ 2.228 billion
(estimate from Africa US$8 billion)

This figure of US$2.228 billion represents an estimated SADC ICT Infrastructure Investment in 2005 and this provided a Broadband Penetration of less than 1% and Internet Access of 4 in 100 inhabitants.

To achieve more than 50% Broadband Penetration and close to 80% Internet Access, SADC region requires about US$222.8 billion.

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Emerging Innovative ICT Environment

Emerging Economies

❖Defined by Antoine W. Van Agtmael (1981) of the IFC of the **World Bank**, an emerging, or developing, market economy (EME) as an economy with low-to-middle per capita income: countries constituting about 80% of the global population, but representing only 20% of the world's economies.

❖Countries with economies falling into this category, varying from very big to very small, are considered emerging because of their developments and reforms – opening up their markets to "emerge" onto the global scene.

❖Emerging markets tend to be more volatile than established markets due to uncertainty within the political scene and domestic currency.
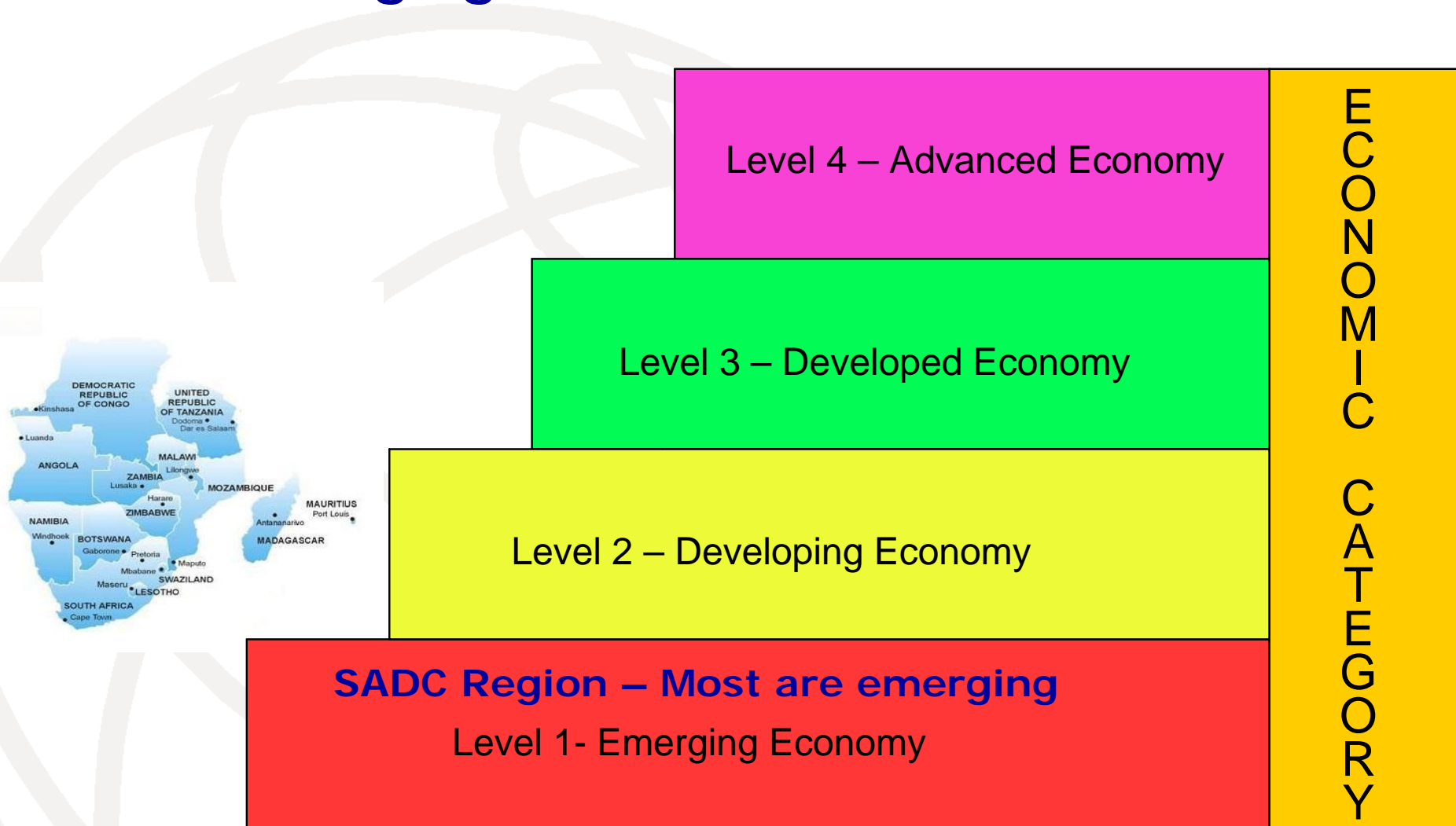
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Emerging Innovative ICT Environment

THE DIGITAL REVOLUTION

❖Just like the Industrial Revolution which was powered by the steam engine, invented in 1712, and electricity, first harnessed in 1831, the Digital Revolution is being powered by the rapid development of ICT and Telecommunications;

❖Countries Worldwide including SADC countries are taking advantage of the Digital Revolution to leapfrog into the future and become big players on the global scene.

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Emerging Innovative ICT Environment

Level 4 – Advanced Economy

Level 3 – Developed Economy

Level 2 – Developing Economy

SADC Region – Most are emerging

Level 1- Emerging Economy

ECONOMIC CATEGORY

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ICT Standards

❖ICT Standards are used in a vast range of activities;

❖For the purposes of this presentation the author defines ICT standard as "a set of technical specifications that may be adhered to by a producer or user, either tacitly or as a result of a formal agreement";

❖Within this definition fall a number of variables by which standards may differ:

   ✓**reference Standards,**
   ✓**minimum quality standards,**
   ✓**and interface or compatibility standards.**

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Why do we need ICT Standards

❖You don't wake up in the morning and say, "Thank Goodness I've got some Standards!" In the absence of standards, life would be more difficult. Like many of the structures in our lives: we only notice them when they're not there.

❖Standards are there to help industry, and society at large.

❖So even if you're not involved in developing or manufacturing products, you're bound to come into contact with Standards every day.

❖Standardisation
  ➢Support innovation
  ➢sharing best practice, so designers can focus on developing better products
  ➢setting benchmarks for performance, quality and safety
  ➢ensuring similar products work together reducing risks
  ➢reducing costs

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Challenges of ICT Standardisation

❖Standards tend to lag behind technological innovation because of amount of time it takes to negotiate on standards and the subsequent adoption process by standards-users.

❖This lag can create a gap between the dated technologies defined in standards and the technology currently available.

❖To redress this technological gap two complementary types of standards need to be super-imposed (according to David and Rothwell, 1996):
  ➢ Meta Standards - e.g eXtensible Markup Language (XML)
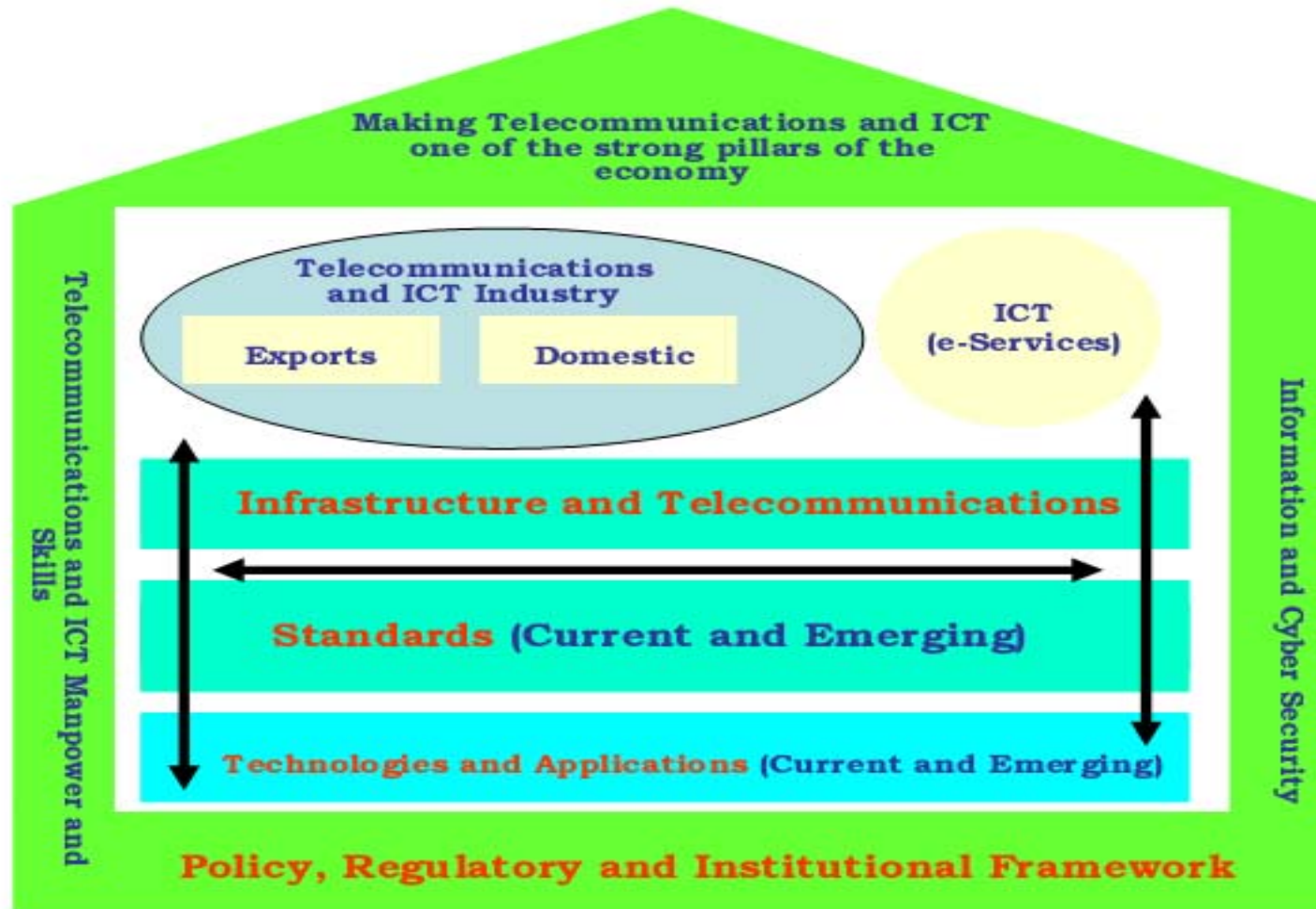 ➢Forward or Anticipatory – Some Wireless Technologies

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Economic Perspective of ICT Standards

❖The dominant economic view of **standards** is based on information economics which typifies **standards** as non-rival commodities lacking super-additivity. In other words, having the same piece of
information or standard twice does not increase its value, in fact the value may actually decline in the **case** of **standards**.

❖This is unlike the idea of redundancy (having the same information more than once) which information theorists such as Shannon (Shannon, 1948) have shown to be of value in communications.

❖An alternative outcome to market failure is where there are a small number of potentially successful **standards** but network externalities result in a bandwagon forming around a single standard. The result is that the remaining communities of users, who adopted the other **standards**, become 'orphaned' from the mainstream (which is the case with ISDN, ADSL etc).

Generic ICT Vision

Generic ICT Vision:

Policy, Regulatory and Institutional Framework

- ❖ Communications Regulatory Association of Southern Africa – CRASA
  - ➢ Regional Policy Guidelines
- ❖ National Regulatory Authorities
  - ➢ Implementation of the Regional and National Policies
- ❖ Support and Commitment from – ITU, AU, World Bank, AfDB, EU and other regional and international organisations

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Generic ICT Vision:

ICT Adoption by SADC

Member States Commitment

❖ SADC Heads of State and Government signed ICT Declaration at the Summit in Blantyre, Malawi in August 2001 giving priority to Bridging the Digital Divide in all the SADC Member States;

❖ Following the Declaration, an ICT Task Force charged with researching e-readiness of Member States was established.

❖ The Task Force produced a very good Report.

Accra, Ghana, 26-28 May 2008

Generic ICT Vision:

ICT Adoption by SADC (cont)

Member States Commitment

❖ SADC Member States adopted at Presidential Level, the Policy Guidelines on "*Making ICT a Priority in Turning SADC into an Information-Based Economy*"

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Generic ICT Vision:

ICT Implementation

PEOPLE-CENTRED APPROACH

Takes into account:
- ❖ Social
- ❖ Cultural
- ❖ Economic, and
- ❖ Governance

This approach ensures that the knowledge and experience of citizens is integrated into this process as the driving force behind the new information society.
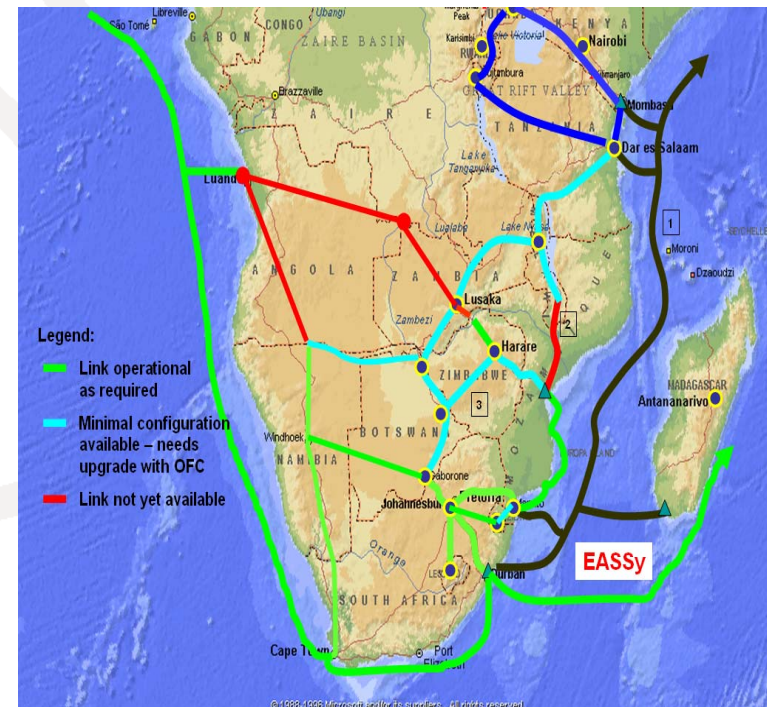
Generic ICT Vision:

Telecommunications and ICT Infrastructure

Region Information Infrastructure (SRII)

Terrestrial and Submarine Optic Fibre Connectivity

❖ A number of projects – infrastructure, Services, capacity building

❖ Regional Projects – SATA

❖ National Projects – SATA Members and Non-Members (please join SATA)

❖ Projects supported by the SADC Secretariat, CRASA, ITU, AU, AFDB, DBSA, World Bank, Cooperating Partners

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Generic ICT Vision:

Network, Security, Trust and Confidence

- ❖ SADC perspectives of security of networks and applications - e-security
  - ➢ lack of security planning and legislation on cyber-security
- ❖ The Status of African Infrastructure
- ❖ Authentication and Certification
  - ➢ standards and policies for certification authorities to ensure a high level of trust
- ❖ Opportunities and challenges of e-Services in the SADC sub-region
  - ➢ Policy reforms and the introduction of common e-Services have helped the region achieve automatic transactions
  - ➢ Greater security, and better e-collaboration between banks at the national and regional levels

Generic ICT Vision:

Network, Security, Trust and Confidence

Case Study

❖ **Rural Cell-phone Banking in South Africa – WIZZIT (adopted by some SADC Countries e.g. Tanzania)**

- ➢ To provide the mass market with a fully functional interoperable bank account regulated by the South African Banks Act
- ➢ to enable cell phones effect person to person transfers, person to business transactions, pre-paid purchases and any other internet enabled banking process.
- ➢ Act as a point of sale device in the informal sector
- ➢ Already given opportunities to 1,500 people and provides affordable transaction fees, including no monthly fees, easy account opening, no minimum balance, real-time transfers from WIZZIT to WIZZIT and 24 hour balance enquiries, air time purchases and transfers.

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Generic ICT Vision:

Benefits of Standards

- ❖ International standards are best source for Stakeholders (governments, operators, regulators etc) for
  - ➢ legislation/regulation
  - ➢ issuing tenders
- ❖ Recognized source for WTO compliance
  - ➢ contributing towards fulfilment of the World Trade Organization's Agreement on Technical Barriers to Trades
- ❖ Standards provide detailed technical interpretation of the law

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Generic ICT Vision:

Benefits of Standards (cont)

- ❖ Acceptance of products on world markets
- ❖ Meet future environmental demands
- ❖ Access to the latest technology
- ❖ Influence the developments and content of standards
- ❖ Early warning of developing markets, establish customer contacts
- ❖ Improve product safety and quality
- ❖ Rationalization and cost reduction in design and manufacturing
- ❖ **Adds up to:**
  - ➢ Reduced transaction costs
  - ➢ Increased trade

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How to get details

➤ **SATA Website : http://www.sata-sec.net Any information about SATA**

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Thank you for your attention.

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