

HARNESSING THE 4IR IN SADC:

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Technological disruptions driven by *increased automation of labour* and *increased digital connectivity*.

Technology	Description
Big data/cloud computing	large amounts of data can be stored, processed and distributed instantly (ie, data that humans generate by browsing the Internet);
IoT	sensors that connect everyday products to the Internet (ie, the remote control of home appliances);
3D Printing	computational design is used to complete processes of manufacturing, materials engineering and synthetic biology by 'printing' parts (this eliminates the need for mass production and is both faster and cheaper);
Artificial Intelligence	software algorithms able to complete processes traditionally completed by humans – ie, robots, autonomous (self-driving) vehicles and drones
Blockchain	decentralised, public ledger storing digital information that allows for payment transactions to be public to anyone with access to the network.

Internet Access Statistics (2018)

Africa: 24%

SADC: 26% (2017)

Europe: 80%

Global: 53%

Common Challenges faced by Emerging Markets in Harnessing the “4IR”

Core legislation and policies

Backbone ICT infrastructure

Last mile ICT infrastructure

Competitive data pricing

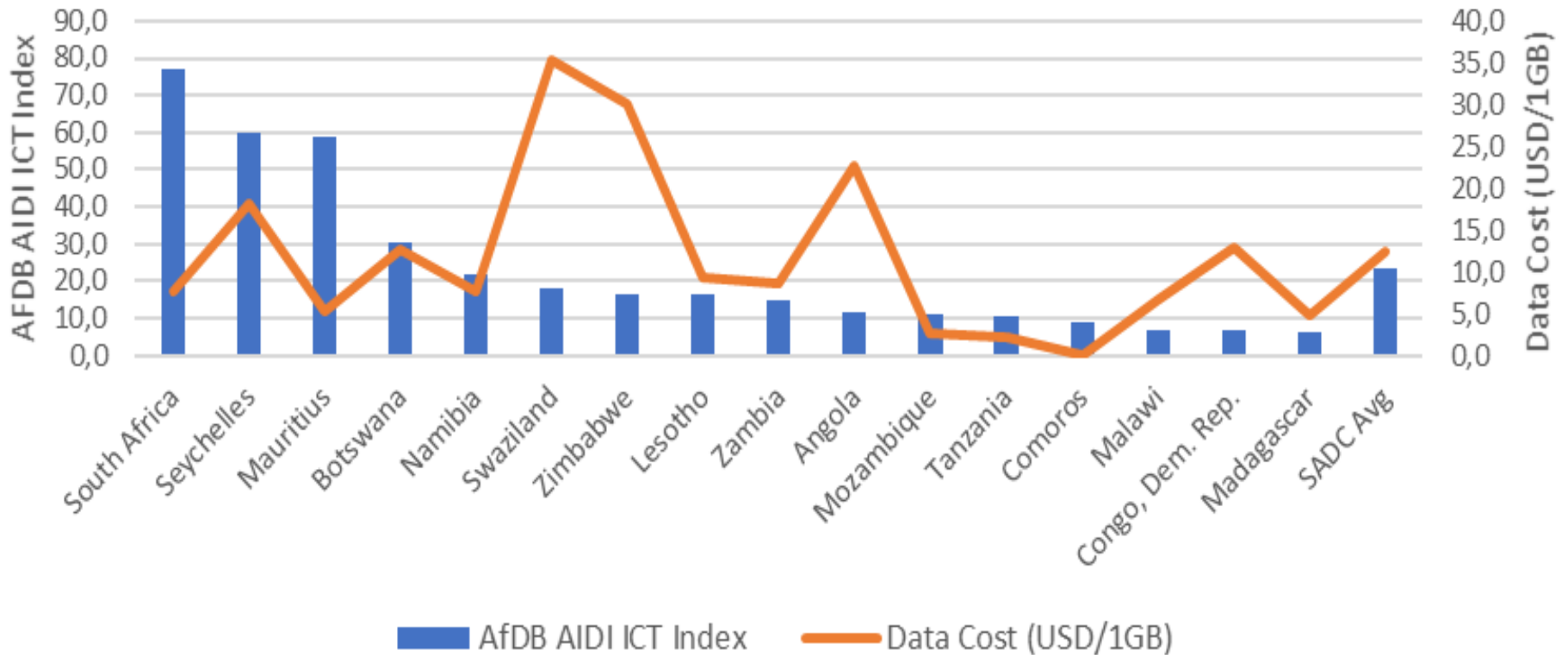
Availability and licensing of radio frequency spectrum

Energy infrastructure

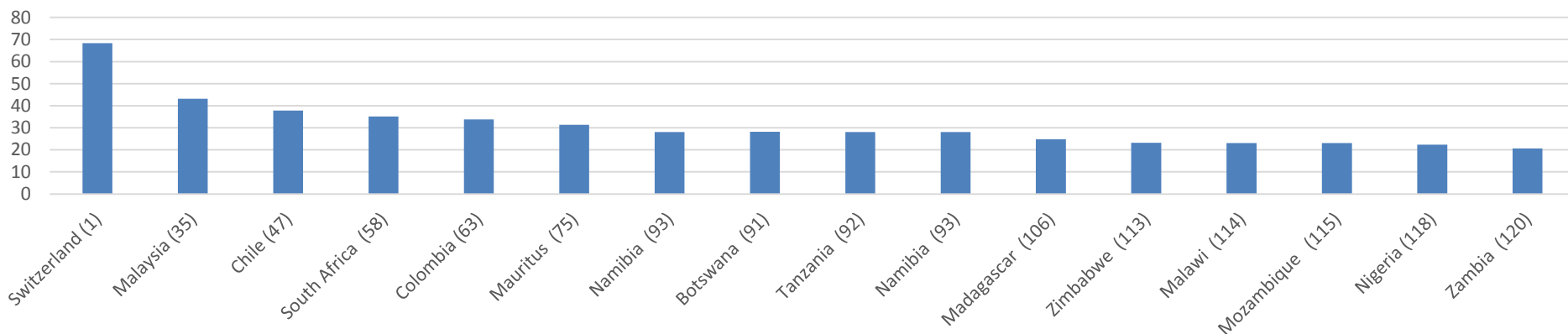
ICT, STEM and Innovation education and skills development policies

Capacity development

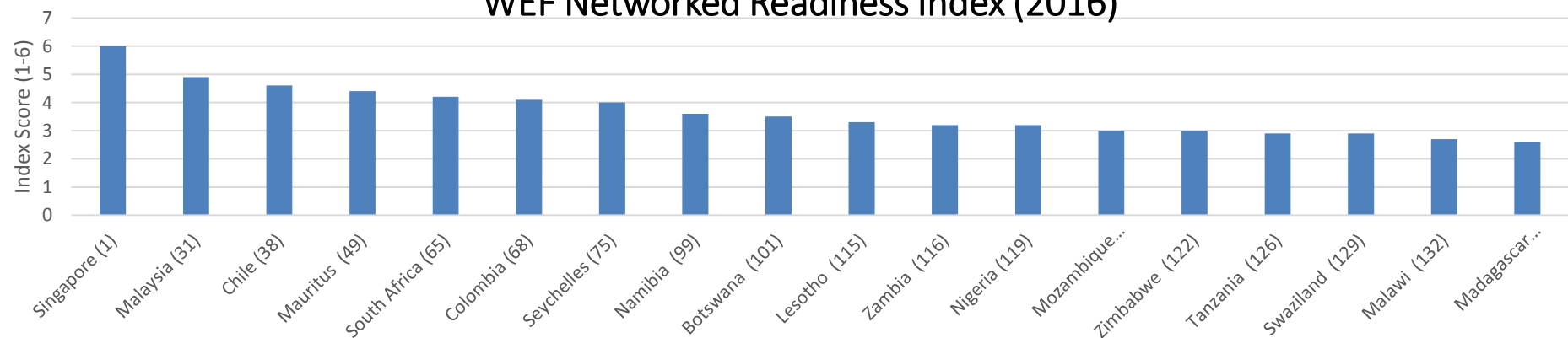
SADC ICT Infrastructure Development and Data Costs



Global Innovation Index (2018)



WEF Networked Readiness Index (2016)



Initiative	Description
SADC Declaration on the 4th Industrial Revolution	Focuses on six pillars: infrastructure and connectivity, affordability, skills and awareness, entrepreneurial development and local content.
<u>Digital SADC 2027 (2012)</u>	ICT pillar of the 2012 SADC Regional Infrastructure Development Master Plan. Objectives include universal, harmonised broadband frequencies, fibre backbone infrastructure, spectrum allocation, harmonised ICT regulatory framework, centres of excellence
<u>Analogue to Digital Migration (2009–)</u>	Technical support to member states in meeting analogue-to-digital migration
<u>HIPSSA Model Laws (2008–2013)</u>	HIPSSA assisted in developing SADC model laws, including data protection, e-transactions, cybercrime, universal service/access
<u>Roam Like at Home (2007–)</u>	Driven by the <u>Communications Regulatory Authority of Southern Africa (CRASA)</u> to reduce roaming costs in the region
<u>Declaration on Information and Communication Technologies (2001)</u>	SADC ICT policy, highlighting infrastructure and regulation

CASE STUDY FINDINGS

Lesotho	Malawi	South Africa
<ul style="list-style-type: none"> • Supply side ICT policies well developed • ICT is integrated into Vision 2020 and National Strategic Development Plan • Mobile coverage is high aside from rural mountainous areas • Data costs are reasonable compared to rest of SADC. • ICT and STEM skills and supportive policies not well developed, act as most binding constraint to internet usage • Released the first commercial use of 5G spectrum on the Continent in 2018. However, 5G trials have not employed two of the major 5G use cases (low latency and massive machine type communications). Speeds are still well below the 1 gigabit per second benchmark. 	<ul style="list-style-type: none"> • Mobile 3G and 4G coverage well below 50% of the population, low compared to SADC • Substantial ICT legislative regime, but much has been driven by development partners, low implementation • Less national focus on digitalisation and the 4IR, limited national ICT demand and use data • At the forefront globally of TV White Space (TVWS) trials in 2013; were largely considered a success. However, ongoing delays in finalising regulations has delayed implementation • One of the first countries on the Continent to engage in humanitarian drone testing. Though government has supported the tests, there has not been effort to solidify drone usage beyond trial period. 	<ul style="list-style-type: none"> • National Development Plan highlights the importance of ICT and digital skills. • Mobile coverage and infrastructure is comprehensive but data costs are still high due to lack of competition among operators • Absence of underlying ICT policy continuity has impeded implementation and contributed to high data costs and unequal internet service provision, and delayed the release of more spectrum. • SA innovation/R&D ecosystem are strong within the region. Many public, private and academia-sponsored innovation hubs. However, digital skills development is low, especially in rural areas. • 4IR Commission established in 2018 to bring together diverse stakeholders to tackle the challenges of the 4IR

Equitable Internet Access

- Need to *reduce costs* and *increase coverage* of internet access
 - Spectrum Sharing
 - Infrastructure Sharing



Public Sector Capacity

- Continued need for regional capacity building workshops facilitating domestication of legislative templates
 - *Broader* and *earlier* stakeholder participation
 - Improved country baseline data



Skills & Education

- Cross-sector and industry collaboration on curricula
 - ICT skills development and usage
 - STEM education
 - R&D/Innovation



Establishing a Common Vision

- Public and private sector urgency around creating an enabling environment for the 4th IR
- Requires strong leadership, an overarching strategy which coordinates multiple sectors of society, and international partnerships



Pillar 3 of SADC 4IR Strategy: Skills and Awareness

- Support national baseline ICT and innovation **data collection** in SADC countries
- Centres of Excellence (proposed in SADC Digital 2027), with a focus on regional capacitation and lesson sharing in:
 - **Equitable ICT access** policies and programmes
 - Continue workshops on **regulator capacitation** and **domestication of legislation** facilitated by CRASA
 - development of public **research capacity** and **skills programmes** in the region
- SADC 4IR Strategic **review task force** covering past regional 4IR-relevant policies



THANK YOU