20-Year Country Reporting Template

Country Name: South Africa

Contact Information: Department of Communications and Digital Technologies

Ministry/Agency Responsible for WSIS Follow-Up:

- **Name: Cynthia Lesufi**
- **Contact Information: clesufi@dcdt.gov.za**

I. Executive Summary

Provide a brief overview of the country's achievements, challenges, and future priorities related to the implementation of the World Summit on the Information Society (WSIS) outcomes over the last 20 years.

In 2024, South Africa proudly marked 30 years since the dawn of its democracy, a period defined by socio-economic transformation and the establishment of a progressive Constitution. While the nation has undeniably moved beyond its pre-1994 historic past through numerous interventions, persistent and structural challenges endure.

Within the dynamic digital economy, South Africa stands as one of progressive countries across Africa, amongst others. This prominence stems from its advanced digital infrastructure, a vibrant startup ecosystem, and the government's commitment to fostering digital growth, as showcased throughout this report's examination of the WSIS Action Lines.

Despite navigating various hurdles and shortfalls, South Africa's diverse multi-stakeholder landscape—encompassing government, academia, industry, and civil society—has consistently made efforts towards digital transformation.

South Africa has over the years championed the reduction of the digital divide, made strategic investments in essential digital infrastructure, accelerated mobile connectivity, and continuously built digital skills across all levels.

The nation has actively promoted digital technology adoption and leveraged digital innovations for societal good, particularly in the realms of internet banking and mobile payments. South Africa has also embraced digital transformation through various legislation and ambitious roadmaps, consistently contributing to international and regional forums.

This dedication demonstrates that in ICT development, meaningful progress is forged through active participation and unwavering contribution and effort, even when faced with resource constraints or when socio-economic challenges seem to overshadow digital imperatives.

This report offers a compelling, diverse account of South Africa’s 20-year WSIS journey. It commences by detailing a series of significant achievements across various Action Lines, which illustrate the tangible progress the country has forged.

Despite pressing legislative challenges and the enduring digital divide, South Africa, empowered by its rich diversity, continues to drive forward with bold interventions, championing universal connectivity, inclusive ICT development, and global digital participation and leadership.

Summary of Achievements

South Africa has demonstrated a comprehensive and multi-stakeholder approach to advancing the WSIS Action Lines over the past two decades (2005-2025), positioning itself as a leading digital nation on the African continent.

Driven by the National Development Plan (NDP) 2030 and robust policy frameworks, the country has significantly expanded its Information and Communication Infrastructure (C2), leading to a remarkable progress in digital inclusion, with internet penetration soaring from approximately 5%-10% in 2005[1] to 78.9% by early 2025[2]. This exponential expansion has been driven by substantial growth in mobile broadband, extensive fibre network rollouts, and significant data centre investments, collectively working to actively narrow the persistent digital divide

Showing continuous progress, South Africa's digital infrastructure (C2) has significantly advanced. By 2024, national 4G/LTE population coverage had reached an impressive 99.07%, according to the Independent Communications Authority of South Africa (ICASA). Furthermore, 5G connectivity rapidly expanded, surpassing over 46% population coverage by December 2024.

This extensive reach in mobile broadband has critically driven access to ICT infrastructure and information, contributing to over 118 million mobile connections across the country in 2024[3].

Parallel efforts in Access to Information and Knowledge (C3) have been significantly bolstered by foundational legislation such as the Promotion of Access to Information Act (PAIA) and the Protection of Personal Information Act (POPIA).

Beyond these legal frameworks, South Africa has actively pursued initiatives to foster cultural and linguistic diversity in digital content and to expand public access points. For instance, community libraries across the country have been increasingly equipped with free internet access and digital literacy training programmes, transforming them into vital hubs for knowledge sharing and digital inclusion, enabling citizens to access government services, e-learning resources, and participate in online discourse.

Crucially, South Africa has prioritised Capacity Building (C4) through widespread digital skilling programs, digital hubs, artificial intelligence (AI) institutes, and robust training for information and communication technology (ICT) professionals, preparing its workforce and citizens for the Fourth Industrial Revolution (4IR) driven by the National Digital Skills Strategy.

A prime example of this commitment is the establishment of various Tech Hubs and innovation spaces across the country, often in collaboration with industry partners. These hubs are dedicated to developing advanced skills in areas like AI, robotics, and data science, and offer specialized training, host hackathons, and provide incubation support for startups. This approach directly translates the national digital strategy into practical, skills-building opportunities for a diverse range of South Africans

Moreover, strong legal and policy frameworks have been established to build confidence and security in ICT use. This includes the Cybercrimes Act (C5), which provides a comprehensive legal framework for combating cyber-related offences, thereby enhancing online safety for individuals and businesses alike.

Complementing this, South Africa has taken a proactive stance on ethical dimensions of the information society. A key example here is the Department of Communications and Digital Technologies (DCDT)'s development of an AI Framework. This framework aims to guide the ethical and responsible development and deployment of artificial intelligence across various sectors, ensuring that innovation is pursued for the benefit of all citizens while mitigating potential risks.

These combined efforts from legislation to dedicated frameworks underscore South Africa's commitment to fostering a secure and ethically sound digital environment.

The nation's commitment extends to the provision of e-government services (C7) and fostering a vibrant e-business landscape. For e-government, a significant example is the existing e-Services platform

[1] https://optimus01.co.za/sa-internet-user-statistics/
[2] https://datareportal.com/reports/digital-2025-south-africa
[3] https://datareportal.com/reports/digital-2025-south-africa

provided by the Department of Home Affairs, allowing citizens to book appointments online for IDs and passports, and facilitating the application process for various civic documents.

Additionally, South African Revenue Service (SARS) offers its e-filing portal for tax submissions, and municipal portals allow for rates and utility bill payments, all streamlining citizen interactions for various public services.

In the e-business landscape, the proliferation of fintech startups offering mobile payment solutions and digital banking services serves as a prime example, enabling greater financial inclusion and facilitating online transactions for both established businesses and small, medium, and micro-enterprises (SMMEs) across the country.

South Africa stands as a strong proponent of fostering a diverse media environment (C9), playing an instrumental role in promoting online digital platforms, online TV and radio, and a multitude of streaming services.

This commitment is further demonstrated by active social media participation, with over 26 million social media identities recorded in South Africa by 2024, complementing the millions of traditional TV viewers and radio listeners who increasingly access content through digital means.

This robust engagement across various media forms underscores the nation's dedication to a rich and accessible digital communication landscape.

The country is actively engaging in international and regional cooperation (C11) to promote inclusive digital development globally. This commitment is notably highlighted by our current G20 Presidency, where South Africa has placed a strong emphasis on the Digital Economy, with this portfolio led by the Department of Communications and Digital Technologies.

South Africa's recently approved Roadmap for the Digital Transformation of Government (C1 & C6), launched in May 2025, represents a pivotal national strategy to unify and modernize public service delivery.

This collaborative initiative, central to Operation Vulindlela Phase II, aims to overcome historical fragmentation by establishing a whole-of-government approach. Its core focus is the development of crucial Digital Public Infrastructure (DPI), including a functional digital identity system, real-time data exchange, and a single, zero-rated digital services platform, all designed to enhance convenience, accessibility, and equity in citizen-state interactions.

Summary of Challenges

South Africa, despite its commendable progress and positive international rankings in ICT development, faces persistent challenges across all WSIS Action Lines that hinder the full realization of its digital agenda and national development plans.

A fundamental obstacle is the enduring digital divide, with approximately 13.6 million South Africans remaining offline[4], particularly in rural and underserved areas, impacting universal access to infrastructure (C2) and hindering basic digital literacy (C4).

This is compounded by the slow implementation of digital initiatives, especially in rural areas and significant budgetary and investment constraints, affecting the rollout of crucial projects and the overall pace of digital transformation.

Challenges such as limited funding and technical capacity also impede the digitisation and preservation of cultural heritage (C8), while the media landscape grapples with the financial sustainability of traditional broadcasters, the proliferation of harmful online content, and delays in digital migration (C9) needs to be looked at.

Across all efforts, securing adequate and sustained funding for large-scale ICT infrastructure and digital inclusion remains a persistent challenge, alongside shortages of advanced digital skills necessary to fully leverage the potential of digital transformation (C4).

[4] https://datareportal.com/reports/digital-2025-south-africa

Finally, the increasing interconnectedness brings heightened risks from cyber threats (C5), and efforts in international cooperation (C11) are often hampered by inconsistent policy implementation, regulatory inconsistencies, and the need for harmonized data governance frameworks across regional blocs.

Addressing these multifaceted challenges is crucial for South Africa to achieve its vision of an inclusive, knowledge-based information society.

Summary of Future Priorities

Whilst South Africa has recorded a significant progress in delivering WSIS related activities in the past 20 years, there is still a need to review and align legislative frameworks that govern the ICT sector in South Africa to all emerging trends and technologies.

In this spirit, there are several proposed changes in the current legislative framework that are still undergoing consultation with the South African public, for example, consideration of the Equity Equivalent Program (EEP).

The objectives of the EEP in South Africa's ICT sector are specifically tailored to address the unique challenges and opportunities within this industry, particularly concerning licensing and attracting foreign direct investment.

A recent key development is the gazetting of a draft policy direction by the Minister of Communications and Digital Technologies in May 2025, which explicitly focuses on the role of EEPs in the ICT sector[5].

This policy aims to provide regulatory certainty and unlock investment, especially for companies seeking individual licenses for broadcasting, internet services, or mobile networks.

Another progressive effort is the recent South Africa's digital transformation roadmap (2025), integrated with its NDP2030 and 4IR ambitions. This roadmap prioritizes a holistic approach for a digitally inclusive, innovative, and secure nation that addresses socio-economic inequalities and leads African digital transformation.

As the 2025 G20 President, South Africa champions Global South digital priorities, focusing on bridging the digital divide and building inclusive Digital Public Infrastructure (DPI), while striving for an African Digital Single Market through deepened regional integration within Southern African Development Community (SADC) and the African Union (AU).

Key priorities across all WSIS Action Lines include ensuring universal and meaningful connectivity (C2) and fostering broad digital inclusion and skills development (C4) to address the "usage gap," as emphasized in the recent digital transformation roadmap which aims for comprehensive modernization of government services and enhanced citizen engagement through digital public infrastructure encompassing digital identity, payment systems, and data exchange.

The nation is committed to creating an ethical and secure online environment (C5, C10) by enhancing cybersecurity cooperation, establishing robust and ethical AI environment and regulations to combat deepfakes and misinformation, and leveraging advanced technologies like blockchain for privacy and security.

Furthermore, priorities encompass championing local content development and media pluralism (C8, C9) by accelerating broadcasting digital migration (BDM), implementing cybersecurity for media platforms, and launching media literacy campaigns.

Achieving these objectives fundamentally relies on proactive multi-stakeholder collaboration across government, industry, civil society, and international partners, coupled with attracting crucial investment. This integrated approach aims to ensure a truly sustainable and beneficial digital future for all citizens and strengthen South Africa's regional and global leadership in digital governance (C11).

[5] https://www.dcdt.gov.za/media-statements-releases/591-minister-malatsi-clarifies-draft-eeip-policy-directions-at-portfolio-committee.html

II. List of Abbreviations

Abbreviation/Acronym	Definition
4IR	Fourth Industrial Revolution
ACEIE	African Centre of Excellence for Information Ethics
ACT	Association of Comms and Technology
AfICTA	Africa ICT Alliance
AFJOC	Interpol's Africa Joint Operation against Cybercrime
AfNOG	African Network Operators Group
AFP	Advertiser Funded Programming
AI	Artificial Intelligence
AIS	African Internet Summit
ALP	Adult Literacy Project
AQMS	Air Quality Management System
ATU	African Telecommunications Union
AU	African Union
AWS	Amazon Web Services
AZs	Availability Zones
BACAR	Balloon Carrying Amateur Radio
B-BBEE	Broad-Based Black Economic Empowerment
BBI	Broadband Infraco
BCCSA	Broadcast Complaints Commission of South Africa
BCX	Business Connexion
BDM	Broadcasting Digital Migration
BITDN	BRICS Intelligent Telescope and Data Network
BRICS	Brazil, Russia, India, China, South Africa and others
CBDC	central bank digital currencies
C-CIO	Council of Chief Information Officers
ccTLD	Country Code Top-Level Domain
CCTV	Closed-Circuit Television
CHPC	Centre for High-Performance Computing
CIP	Critical Infrastructure Programme
CIPA	Critical Infrastructure Protection Act
CLSG	Community Library Services Grant
CoEs	Centres of Excellence
COGTA	Cooperative Governance and Traditional Affairs
CPA	Consumer Protection Act
CPAL	Council on the Promotion of African Languages
CSD	Central Supplier Database
CSIRT	Computer Security Incident Response Team
CSO	Civil Society Organizations
CSOS	Community Schemes Ombud Service
CVET	Community Video Education Trust
DBE	Department of Basic Education
DCDT	Department of Communications and Digital Technologies
DEI	Digital Education Institute
DIOs	Deputy Information Officers
DIRISA	Data Intensive Research Initiative of South Africa
DNS	Domain Name System
DOD&MV	Department of Defence and Military Veterans
DPI	Digital Public Infrastructure
DPSA	Department of Public Service and Administration
DRIF	Digital Rights and Inclusion Forum
DSI	Department of Science and Innovation

DSM	Digital Single Market
DSTI	Department of Science, Technology and Innovation
DSU	Digital Service Unit
DTIC	Department of Trade, Industry and Competition
DTSA	Digital Transformation Strategy for Africa
DTT	Digital Terrestrial Television
EASSy	Eastern Africa Submarine Cable System
ECA	Electronic Communications Act
ECNS	Electronic Communications Network Service
ECTA	Electronic Communications and Transactions Act
EEPs	Equity Equivalent Programmes
EHRS	Electronic Health Records
e-LTSM	Electronic Learning and Teaching Support Material
eNATIS	Electronic National Administration Traffic Information System
ERP	Enterprise Resource Planning
e-Strategy	National e-Strategy
EU	European Union
FIC	Financial Intelligence Centre
FIRST	Forum for Incident Response and Security Teams
FPB	Films Publicatins Board
FSCA	Financial Sector Conduct Authority
G20	Group of Twenty
GAC	Governmental Advisory Committee
GCIS	The Government Communication and Information System
GDC	Global Digital Compact
GDI	Global Digitalization Index (by Huawei)
GDPR	General Data Protection Regulation
GITOC	Government Information Technology Officer's Council
GovTech	Government Technology Conference (organized by SITA)
GPN	Gauteng Provincial Network
HLT	Human Language Technology
IAJ	Advancement of Journalism
IBX	International Business Exchange
ICANN	Internet Corporation for Assigned Names and Numbers
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communication Technology
IDI	ICT Development Index
IEC	Independent Electoral Commission
I-ECNS	Individual Electronic Communications Network Service
IFWG	Intergovernmental FinTech Working Group
IGF	Internet Governance Forum
IIOC	Integrated Intelligence Operations Centre
IITPSA	Institute of Information Technology Professionals South Africa
IKS	the Indigenous Knowledge Systems
IoT	Internet of Things
IP	Intellectual Property
IR	Information Regulator
ISOC	Internet Society
ISP	Internet Service Providers
ISPA	Internet Service Providers' Association
ITU	International Telecommunication Union
KPI	Key Performance Indicators
LEO	Low Earth Orbit

LM-ANPs	Last-Mile Access Network Providers
LTE	Long-Term Evolution
M&E	Monitoring and Evaluation
MAP	Market Access Platform
MCN	Mamaila Community Network
MDDA	Media Development and Diversity Agency
MICT SETA	Media, Information and Communication Technologies Sector Education and Training Authority
MIOS	Minimum Interoperability Standards
MISS	Minimum Information Security Standards
MMA	Media Monitoring Africa
MOU	Memorandum of Understanding
MTC	Metro Trading Company
MVNO	Mobile Virtual Network Operator
NAB	National Association of Broadcasters
NARSSA	National Archives and Records Service of South Africa
NCB	National Central Bureau
NCC	National Consumer Commission
NCOP	National Council of Provinces
NCPF	National Cybersecurity Policy Framework
NDB	New Development Bank
NDP 2030	National Development Plan 2030
NEMISA	National Electronic Media Institute of South Africa
NEPTTP	National e-Science Postgraduate Teaching and Training Platform
NHI	National Health Insurance
NICIS	National Integrated Cyberinfrastructure System
NPA	National Prosecution Authority
NPC	Non-Profit Company
NREN	National Research and Education Network
NRF	National Research Foundation
NSG	National School of Government
OADC	Open Access Data Centres
OECD	Organisation for Economic Co-operation and Development
OEMs	Original Equipment Manufacturers
OTT	Over-the-Top
PAIA	Promotion of Access to Information
PAICTA	Pan-African Information Communication Technology Association
PAMA	Public Administration Management Act
PartNIR	Partnership on New Industrial Revolution
PC4IR	Presidential Commission on the Fourth Industrial Revolution
PCSA	Press Council of South Africa
PDSC	Portfolio Committee on Defence and Security Cluster
PIDA	Programme for Infrastructure Development in Africa
POPIA	Protection of Personal Information Act
PPA	Public Protector Act
PPP	Public-Private Partnership
R&D	Research and Development
SABRIC	South African Banking Risk Information Centre
SABS	South African Bureau of Standards
SACC	South African Competition Commission
SACDA	South African Career Development Association
SACSAA	South African Cyber Security Academic Alliance
SADC	Southern African Development Community

SADiLaR	The South African Centre for Digital Language Resource
SAEON	South African Environmental Observation Network
SAFLII	Southern African Legal Information Institute
SAHA	South African History Archive
SAHRC	South African Human Rights Commission
SALGA	South African Local Government Association
SAMIP	South Africa Media Innovation Program
SAMRAS	South African Mineral Resources Administration System
SANCB	South African National Council for the Blind
SANDF	South Africa National Defence Force
SANEF	South African Editors Forum
SANReN	South African National Research and Education Network
SANSA	South African National Space Agency
SAPO	South African Post Office
SAPS	South African Police Service
SAQA	South African Qualifications Authority
SARB	South African Reserve Bank
SARL	South African Radio League
SARS	South African Revenue Service
SASSA	South African Social Security Agency
SDGs	Sustainable Development Goals
SDIC	State Digital Infrastructure Company
SEDA	Small Enterprise Development Agency
SETAs	Sector Education and Training Authorities
SITA	State Information Technology Agency
SIU	Special Investigating Unit
SKA	Square Kilometre Array
SMEs	Small and Medium-Sized Enterprises
SMMEs	Small, Medium, and Micro Enterprises
SOCs	State Owned Companies
SOEs	State Owned Enterprises
STI	Science, Technology and Innovation
TENET	Tertiary Education and Research Network of South Africa
TTS	Text-to-Speech
TVWS	Television White Spaces
UIF	Unemployment Insurance Fund
UK	`United Kingdom
UN	United Nations
UN HRC	UN Human Rights Council
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNOSSC	UN Office for South-South Cooperation
USAASA	Universal Service and Access Agency of South Africa
USAF	Universal Service and Access Fund
USAOs	Universal Service and Access Obligations
UWC	University of the Western Cape
VANS	Value-Added Network Services
VSAT	Very Small Aperture Terminal
WACS	Western African Cable System
WAN	Wide Area Network
WIPO	World Intellectual Property Organization
WOAN	Wholesale Open-Access Network
WSIS	World Summit on the Information Society
WTDC	World Telecommunication Development Conference

WTSA	World Telecommunication Standardization Assembly
ZADNA	.za Domain Name Authority
ZAIGF	South African Internet Governance Forum

III. Progress on WSIS Action Lines

Please provide a summary of progress on the WSIS Action Lines over the last 20 years, detailing national initiatives and the integration of digital policies. For each of the following action lines, kindly indicate the key achievements, challenges, and future priorities. Please elaborate with success stories for each Action Line.

This report offers a comprehensive, multi-stakeholder perspective on South Africa's journey in Information and Communication Technology (ICT) development and digital transformation, aligning with the World Summit on the Information Society (WSIS) Action Lines.

The WSIS Action Lines, stemming from the two-phase WSIS held in Geneva in 2003 and Tunis in 2005, were established with the intention of building a people-centred, inclusive and development-oriented Information Society.

Their primary objectives included bridging the digital divide, fostering digital literacy, promoting universal access to information and knowledge, and leveraging ICTs for sustainable development across various sectors.

This review of South Africa's progress has been informed by a robust multi-stakeholder consultation approach, actively engaging representatives from government, the private sector and civil society, and complemented by extensive desktop research. For the virtual workshop hosted by the CSIR and DCDT, over 150 stakeholders were invited, with 102 participants across the different sectors joining the work-session on 23 May 2025.

The report endeavours to document all significant achievements and ongoing challenges encountered across the various WSIS Action Lines in South Africa. Furthermore, it proposes key future priorities for each of these action areas to guide continued digital transformation that bridges digital divide and promote universal access to information and knowledge.

Note: While this report strives for thoroughness, it may not encompass every aspect of South Africa's extensive ICT development journey. However, the insights and findings from previous reports and ongoing work in the field have been carefully considered and integrated into this review.

Secondly, the South African government's portfolio responsible for communications and digital technologies has undergone several structural and name changes over the years, reflecting the evolving landscape of the sector.

It has previously been known as the Department of Communications (DoC) and the Department of Telecommunications and Postal Services (DTPS). Currently, it operates as the Department of Communications and Digital Technologies (DCDT). Similarly, other departments referenced in this report, such as the Department of Science and Technology (DST), have also experienced name or mandate changes. While these former names may appear in historical documents or discussions, for the purposes of this report, we will generally refer to all departments by their current designations.

Disclaimer: This report was prepared with the assistance of a generative AI, which helped refine language, edit for clarity, and ensure consistent structuring. All major sources consulted are appropriately cited within the report's footnotes.

1. Action Line C1: The Role of Governments and all Stakeholders in the promotion of ICTs for Development

Preface

The objective of WSIS Action Line C1 is to define and promote the role of governments and all stakeholders in the promotion of Information and Communication Technologies (ICTs) for development.

It emphasizes the shared responsibility of various actors – including governments, the private sector, civil society, and international organizations – in:

- **Developing and implementing national e-strategies:** This involves creating comprehensive, forward-looking, and sustainable national plans for ICT development.
- **Fostering multi-stakeholder dialogue and partnerships:** Encouraging collaboration and engagement among all relevant parties in devising e-strategies and exchanging best practices.
- **Considering local, regional, and national needs:** Ensuring that ICT initiatives are tailored to specific contexts and promote sustainability.
- **Leveraging ICTs for broader development goals:** Recognizing that ICTs are powerful tools to achieve internationally agreed development objectives, such as those related to education, health, and economic growth.

C1 Achievements

South Africa, from 2005 to 2025, has championed the principles of WSIS Action Line C1, mainstreaming Information and Communication Technologies (ICTs), into the very fabric of society and governance, making them fundamental tools for socio-economic development rather than standalone sectors. This period showcases the nation's evolving commitment to creating an enabling environment for ICTs, not just through top-down policy, but through a dynamic and inclusive multi-stakeholder approach.

South Africa’s achievements in this area underscore its dedication to a rights-based, open, and secure information society. The approach has been multi-faceted, encompassing robust legal and policy frameworks, strategic infrastructure development, and initiatives promoting digital literacy and service delivery across various sectors.

Role of government and stakeholders in South Africa’s ICT development

Over the past 20 years, South Africa's journey in promoting ICTs for development has been a complex, yet remarkably multi-stakeholder endeavour. Each sector – government, private sector, and civil society – has played distinct yet interconnected roles, often collaborating effectively and, at other times, experiencing friction. This interplay of diverse interests and approaches reflects the robust nature of South Africa's democratic process.

In this regard, the South African government has been working in close collaboration with stakeholders from the private sector and civil society. This partnership, with its limitations, has proven essential in driving progress toward the country's ICT developmental objectives. This is exemplified by the following achievements

Building legal and policy foundation through extensive multi-stakeholder consultation

Over the past two decades, the South African government has promoted ICT development through a collaborative process, not a solitary government exercise. This deeply consultative approach, with its delays and complexities, has been essential for developing national e-strategies and strategic frameworks that articulate a shared vision for the country's digital future (see Figure 1).

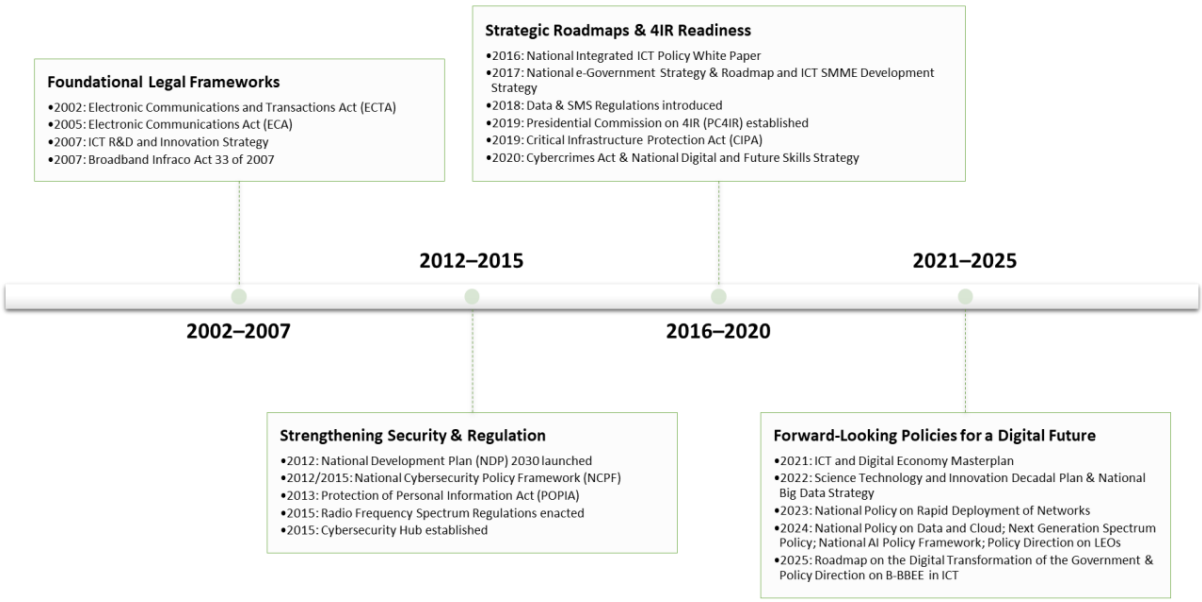


Figure 1: South Africa's ICT Policy and Regulatory Milestone (2022-2025)

Electronic Communications and Transactions Act (2002)

The landmark Electronic Communications and Transactions Act (ECTA)[6] of 2002, built through a wide consultative process, legitimized electronic documents and transactions, fostering trust in the online environment in the public interest. It also includes crucial provisions for consumer protection in e-commerce, encourages the use of e-government services, and outlines measures to prevent abuse of information systems, serving as an early framework for addressing cybercrimes.

Furthermore, ECTA aimed to promote universal access to electronic communications and transactions, particularly encouraging the use of electronic transactions by Small, Medium and Micro-Enterprises (SMMEs) and supporting human resource development in the electronic transactions' environment.

Its establishment of the .za Domain Name Authority (ZADNA) has been vital for managing South Africa's internet domain space. While implementation challenges, such as the initial appointment of cyber inspectors, have been noted in past reports, ECTA remains a pivotal piece of legislation underpinning the country's shift towards a digitally interactive society.

The Electronic Communications Act (ECA) of 2005

The ECA of 2005 stands as a pivotal piece of legislation that fundamentally transformed South Africa's telecommunications sector. By introducing a new, technology-neutral licensing regime for electronic communications networks and services, the ECA successfully dismantled the previous monopolistic market structure.

While promulgated by government, the ECA was the result of extensive discussions and submissions from the nascent private sector, civil society groups advocating for universal access, and the academic community over many months.

This crucial regulatory shift fostered a competitive environment that enabled the entry of new players and spurred significant private sector investment. It provided the regulatory certainty needed for

[6] https://www.gov.za/documents/electronic-communications-and-transactions-act

companies to roll out extensive network infrastructure, moving beyond legacy systems to embrace modern technologies like fibre and mobile broadband.

The tangible achievements driven by the ECA's framework are evident in South Africa's digital landscape today. The ACT's pro-competition stance led to the rise of new Mobile Network Operators (MNOs) and fibre network providers, such as Rain and Vumatel, which have spearheaded the rollout of high-speed fibre-to-the-home (FTTH) networks in urban and suburban areas.

Furthermore, the regulatory environment it created supported South Africa's strategic role as a landing point for multiple undersea fibre optic cables, which evidently increased international bandwidth and drove down connectivity costs.

ICASA continues to review and issue regulations under the ECA 2005 in consultation with multi-stakeholders.

Some notable and selected examples include:

- **Radio Frequency Spectrum Regulation in 2015**: this was enacted to regulate radio frequency spectrum management under the authority granted to it by the ECA (2005). Amongst other things, this regulation is concerted efforts to spectrum management, including the auction of spectrum, aim to expand coverage, reduce communication costs, improve service quality, and promote competition.
- **Call Termination Regulations (2018-2021)[7]:** ICASA periodically reviews and amends these regulations to lower the fees that networks charge each other to terminate calls (call termination rates). This has been a key tool in driving down the cost of voice calls for consumers.
- **Data and SMS Services Regulations (2018):** These regulations were instrumental in addressing consumer concerns regarding data expiry, unsolicited messages, and out-of-bundle data charges. They introduced the "data expiry" rule, preventing data from expiring after a short period.
- **National Policy on Rapid Deployment of Electronic Communications Networks and Facilities (2023):** While a policy, its objectives are implemented through regulations. It aims to streamline the process for licensees to deploy network infrastructure by addressing disputes with property owners and municipalities, thereby accelerating the rollout of fibre and mobile networks[8].
- **Policy Directive on Equity Equivalent Investment Programme[9][10] (2025):** On 23 May 2025, the Minister of Communications and Digital Technologies issued a proposed policy direction to ICASA under the authority of the ECA of 2005. This directive mandates ICASA to reconsider its regulations on ownership of licences to reflect the provisions of the ICT Sector Code to attract investment through regulatory reform and promote real transformation.

ICT R&D and Innovation Strategy (2007)

In 2007, the Department of Science and Technology (DST) published the ICT R&D and Innovation Strategy[11], a critical framework designed to advance research and innovation within the broader National R&D Strategy.

[7] https://www.itweb.co.za/article/icasa-gazettes-new-call-termination-rates/DZQ58vV8aBnMzXy2
[8] https://www.ellipsis.co.za/rapid-deployment-of-electronic-communications-facilities/
[9] https://www.gov.za/sites/default/files/gcis_document/202505/52712gen3218.pdf
[10] https://www.parliament.gov.za/press-releases/media-statement-communications-committee-invites-minister-malatsi-briefing-starlink-policy-directive
[11] https://www.gov.za/sites/default/files/gcis_document/201409/ictrdistrat2007.pdf

This strategy was developed and implemented in close collaboration with a wide range of key role players, including universities, research institutions, and industry partners. This collaboration has been instrumental in aligning research priorities with national development goals, fostering a collaborative ecosystem that has increased research projects, publications, and the commercialization of local research outputs.

The strategy has also successfully encouraged the commercialization of local research outputs, supported the growth of technology startups and contributed to the development of a knowledge-based economy, thereby enhancing South Africa's global competitiveness in niche ICT areas.

More recently, the Whitepaper on Science, Technology and Innovation (2019)[12] set out the government's long-term approach for the ICT sector, which is being implemented through the Science Technology and Innovation Decadal Plan (2022-2032)[13].

This plan broadens the scope of collaboration, recognizing the digital economy and ICT as key enablers for various domains, ensuring that role players in sectors like agriculture, health, and smart municipal services are also involved in efforts to grow ICT infrastructure, internet access, and big data analytics.

National Cybersecurity Policy Framework (2012)

The National Cybersecurity Policy Framework (NCPF) was approved by Cabinet in March 2012 and subsequently gazetted in December 2015, underpinning national security and setting the strategic direction for a secure cyber environment in South Africa. The establishment of the Cybersecurity Hub in 2015 by the Department of Communications and Digital Technologies (DCDT) marked a crucial achievement, serving as a National Computer Security Incident Response Team (CSIRT).

This Hub has since played a role in incident coordination, cybersecurity assessments, information dissemination, and awareness building, significantly improving national and international cooperation on major cybersecurity incidents[14].

Protection of Personal Information Act (POPIA) (2013)

Further bolstering the legal framework for digital trust and privacy, the Protection of Personal Information Act (POPIA) 4 of 2013 was assented to on November 19, 2013, with most sections coming into full effect on July 1, 2021. POPIA is widely recognized for its substantial alignment with international data privacy standards, particularly the European Union's General Data Protection Regulation (GDPR).

POPIA aims to promote the protection of personal information processed by public and private bodies by establishing minimum requirements for its lawful processing, introducing conditions for data handling, and providing for the establishment of an Information Regulator.

This Act empowers data subjects with rights regarding their personal information, including the right to be notified of data breaches and to object to unsolicited electronic communications. Its implementation has significantly impacted businesses and public bodies by mandating stricter data protection measures, thereby fostering greater trust in digital interactions and enhancing South Africa's alignment with international data privacy standards, a crucial aspect for a robust information society.

Cybercrimes Act (2020)

A significant legislative development that highlights the government's leading role in establishing a robust policy framework is the Cybercrimes Act 19 of 2020, which was officially promulgated into law in 2021.

[12] https://www.dst.gov.za/images/2019/white_paper_on_science_technology_and_innovation.pdf
[13] https://www.nrf.ac.za/wp-content/uploads/2023/06/STI-Decadal-Plan-2022-23-14Dec22.pdf
[14] https://www.cybersecurityhub.gov.za/about-us

By consolidating and criminalizing various cyber-related offenses, this Act creates a more secure and trusted digital environment, which is a prerequisite for fostering ICTs for development. Furthermore, by providing powers to investigate cybercrimes and imposing reporting obligations on service providers, the Act demonstrates the government's collaboration with stakeholders and its proactive role in enabling a safer digital economy for all citizens.

The development and passing of the Cybercrimes Act of 2020 involved a robust and multi-year consultative process with a wide range of stakeholders, reflecting the principles of multi-stakeholder governance.

The Act's focus on deterring cyber threats, ensuring accountability, and facilitating both domestic and international cooperation for investigation and prosecution directly contributes to WSIS Action Line C5's objective of building confidence and security in the use of ICTs, thereby creating a more trusted digital environment for development.

The process was primarily driven by the Department of Justice and Constitutional Development, with oversight from Parliament's Portfolio Committee on Justice and Constitutional Development and the National Council of Provinces (NCOP)

National ICT policy review process and updates

South Africa's commitment to WSIS Action Line C1 is clearly demonstrated through its ongoing efforts to refine its national ICT strategy and regulatory frameworks. Below we share some of the efforts under the review period.

The National Development Plan (NDP 2030), launched in 2012 with a vision to eliminate poverty and reduce inequality by 2030, has impacted ICT policy by recognizing the need to manage the ICT environment to prevent the furthering of the digital divide, with a key milestone being the improvement of high-speed broadband internet at competitive prices.

Between 2012-2015, the ICT Policy Review was conducted by the DCDT[15], which culminated in the 2015 ICT Policy Review report[16]. This comprehensive review was a critical governmental undertaking, designed to assess and update South Africa's existing ICT policies, many of which predated the rapid advancements in digital technologies and the evolving digital economy.

The 2016 National Integrated ICT Policy White Paper, approved by Cabinet in October 2016[17], aimed to unlock the potential of ICTs to eliminate poverty and reduce inequality in the country by 2030. It outlines principles, rules and guidelines put in place to achieve the long-term goals and objectives set out in the NDP and the South African Constitution.

This pivotal document emerged from a multi-year ICT Policy Review Process. This process involved numerous Green Paper (2014) and White Paper (20156) consultations, public workshops, and regional roadshows across the country. Key industry associations (e.g., ISPA, ACT, BITF), telecom operators, civil society organizations (e.g., APC, Right2Know Campaign), and research institutions (like Research ICT Africa) actively participated, submitting thousands of pages of comments and engaging in often robust debates. This collaborative effort ensured that the policy reflected diverse interests and the complexities of a converging digital landscape.

[15] https://www.dcdt.gov.za/minister-s-speeches/78-jm-sample-data/189-ict-policy-review.html
[16] https://www.ellipsis.co.za/wp-content/uploads/2015/01/National-Integrated-ICT-Policy-Review-Report-March-2015.pdf
[17] https://www.gov.za/documents/electronic-communications-act-national-integrated-ict-policy-white-paper-3-oct-2016-0000

National ICT Development Strategies, Policies and Roadmaps

Between 2017 and 2025, several significant strategies and roadmaps were also introduced by the South African government to demonstrate the continuous effort in addressing pressing ICT development challenges.

- To foster ICT, cooperate governance within government, the Department of Public Service and Administration (DPSA) established the Public Service Corporate Governance of ICT Policy Framework in 2012. Amongst other things, this ICT policy framework provides a set of Cooperate governance principles and practices in which all departments should comply with. Recent directives include the Determination and Directive on the Usage of Cloud Computing Services in the Public Service, the Directive on Public Service Information Security (established in 2022), the Determination and Directive on ICT Service Continuity, and the Determination and Directive on the Implementation of Knowledge and Data Management in the Public Service, all providing crucial guidance for the public sector. Continuous compliance and maturity assessments are conducted for government departments.
- National e-Government Strategy and Roadmap[18] was introduced in 2017. This was a comprehensive plan to guide the digital transformation of public services and build an inclusive digital society
- ICT SMME Development Strategy (2017), aimed at unlocking public-private partnerships to support tech start-ups and strengthen existing enterprises.
- The Presidential Commission on the Fourth Industrial Revolution (PC4IR) in South Africa, established in 2019, was created to guide the country's strategic response to the opportunities and challenges presented by the Fourth Industrial Revolution (4IR). The PC4IR's mandate, as articulated in its reports and recommendations, directly reflects the principles of WSIS C1. The Commission, established by President Cyril Ramaphosa, comprised experts from government, academia, business, and civil society, demonstrating a commitment to a multi-stakeholder approach. Its core function was to develop a national strategy and implementation plan to leverage 4IR technologies for economic growth, job creation, and address South Africa's pressing socio-economic challenges of poverty, inequality, and unemployment. Its key outputs include a comprehensive Report of the Presidential Commission on the 4th Industrial Revolution[19], presented to the President in August 2020, which serves as a blueprint for the country's 4IR strategy.
- The DCDT's ICT and Digital Economic Masterplan[20] (2021) is aimed to establish a digital economy education and skills ecosystem, supported by the National Digital and Future Skills Strategy of 2020[21], which addresses the need for fostering digital skills across all educational levels in collaboration with stakeholders, recognizing their necessity for economic growth.
- A National Big Data Strategy was approved in 2022 by DSTI to provide information to planners and decision-makers in the research and public sectors when deliberating commitments and initiatives that leverage opportunities and meet the challenges presented by research Big Data.
- The 2023 National Policy on Rapid Deployment of Electronic Communications Networks and Facilities which aims to provide a process to be followed by licensees to access property to deploy electronic communications networks and facilities including the rights of property owners and any other person whose rights or legitimate expectations may be materially and adversely affected in this regard. Additionally, it aims to create a dispute resolution mechanism to resolve disputes that may arise between property owners, other affected persons, and licensees about the manner the licensee intends to exercise its rights, and about the reasonability of compensation.

[18] https://static.pmg.org.za/170822I_E_Strategy_and_ICT_SMME.pdf#page=3.57
[19] https://www.gov.za/documents/notices/report-presidential-commission-4th-industrial-revolution-23-oct-2020
[20] https://www.ellipsis.co.za/wp-content/uploads/2021/08/Digital-Economy-Masterplan-22-Feb-2021v1_updated.pdf
[21] https://www.gov.za/documents/notices/national-digital-and-future-skills-strategy-south-africa-23-sep-2020

- The 2024 South African Next Generation Radio Frequency Spectrum Policy for Economic Development coordinated by ICASA aims to maximize the use of spectrum resources to drive broader and more inclusive economic participation and development for all.
- The National Policy on Data and Cloud 2024 is a framework designed to efficiently manage and utilize data through cloud computing technologies. Its primary objectives are to improve government service delivery and drive socio-economic development by enabling data-driven decision-making and creating data-based tradable goods and services, thus supporting the growth of a digital economy.
- The South Africa National Artificial Intelligence Policy Framework of 2024 (a first step towards developing the National AI Policy), was released by the Department of Communications and Digital Technologies[22]. It aims to promote the integration of Artificial Intelligence technologies to drive economic growth, enhance societal well-being, and position South Africa as a leader in AI innovation.
- A significant recent development in May 2025 is the launch of the Roadmap on the Digital Transformation of the South African Government[23]. This roadmap is a critical pillar of Operation Vulindlela Phase II and aims to unify fragmented digital initiatives to modernize public service delivery. Approved by Cabinet in March 2025, it focuses on building digital public infrastructure usable by all South Africans, with the vision of a 'One Person, One Government, One Touch' system. Key initiatives include a digital identity system, a data exchange framework, a digital payments system, and zero-rated digital services. Phase 1 (2025-2027) will prioritize social protection, digitizing services for faster access and linking social grants to opportunities, while Phase 2 (2028-2030) will expand to other key sectors like healthcare and education. This roadmap is set to significantly improve service delivery and foster economic growth by enabling seamless and efficient citizen access to government services.

Alignment with local, regional and national needs

At the national level, ICT policies are deeply integrated with the country's overarching strategic frameworks. The National Integrated ICT Policy White Paper (2016), for example, was explicitly designed to align the ICT sector's goals with the socio-economic targets of the National Development Plan (NDP) 2030. This ensures that efforts to expand connectivity and digital services are not standalone projects but are directly linked to national priorities like job creation, poverty reduction, and improved public service delivery.

This alignment extends to addressing specific regional and local contexts. The Universal Service and Access Agency of South Africa (USAASA), through its fund, has been a key mechanism for targeting rural and underserved communities with infrastructure and access projects.

More recently, the policy directive on Low Earth Orbit (LEO) satellite services is a forward-looking example of tailoring technology to address the specific challenge of last-mile connectivity in remote areas where terrestrial fibre is not feasible. This approach ensures that ICT development is not confined to urban centres.

To ensure sustainability, the government has focused on building local capacity and fostering a self-sustaining ecosystem. Initiatives like the ICT SMME Development Strategy and the Equity Equivalent Programme (EEP) actively involve the private sector and multinationals in supporting local businesses and skills development.

[22] https://www.dcdt.gov.za/sa-national-ai-policy-framework/file/338-sa-national-ai-policy-framework.html
[23] https://www.gov.za/documents/other/south-africas-roadmap-digital-transformation-government-12-may-2025

Public private partnerships in ICT development

Over the past two decades, South Africa's ICT development has been significantly shaped by major partnerships between the government and the private sector, moving beyond a purely regulatory relationship to active collaboration.

A prime example is the SA Connect broadband initiative, launched as a national project to mobilize both public and private sector capabilities. While the government, through entities like Broadband Infraco (BBI) and the State Information Technology Agency (SITA), has led the rollout of broadband to government facilities and some community Wi-Fi hotspots, the larger vision and subsequent phases of SA Connect explicitly rely on leveraging private sector infrastructure and investment to achieve universal access targets, particularly in underserved rural areas. This has involved contracting private Last-Mile Access Network Providers (ANPs) and Internet Service Providers (ISPs) to extend connectivity to households.

Beyond direct project implementation, the government's regulatory approach, particularly under the ECA of 2005, has fostered an environment conducive to large-scale private sector investment.

The technology-neutral licensing regime introduced by the ECA spurred the entry and/or expansion of major mobile network operators (MNOs) like Vodacom and MTN, and fibre network providers such as Vumatel and Openserve (Telkom's wholesale division). These private companies have invested billions in rolling out extensive fibre-to-the-home (FTTH) networks in urban and suburban areas and expanding mobile broadband coverage.

More recently, the Policy Direction on Low Earth Orbit (LEO) satellite services further exemplifies this partnership, by directing ICASA to streamline licensing for private LEO providers, thereby attracting significant international investment to bridge last-mile connectivity gaps.

Multi-stakeholder contributions: private sector and civil society

Beyond government initiatives, the private sector and civil society have been instrumental in driving South Africa's ICT development and digital transformation over the past two decades, often through critical public-private partnerships and grassroots efforts. Telecommunications providers, such as MTN, Vodacom, Telkom, Rain, Liquid Telecom, Vumatel, and others have made substantial investments in expanding network infrastructure, including fibre and 5G, to both urban and underserved rural areas, directly contributing to bridging the digital divide and improving connectivity across the country.

Companies like HP, Microsoft, Vodacom, MTN and others have spearheaded initiatives focused on providing ICT infrastructure, skills training, and digital literacy in communities.

The banking sector has also significantly increased spending on digital platforms and online security, driving innovation in internet banking and mobile money solutions. Furthermore, a strong entrepreneurial drive within the local IT sector has fostered a demand for cloud-based services and solutions.

Civil society organizations (CSOs) have played also played crucial multi-dimensional role, ranging from advocating for data justice, privacy, and protection laws to empowering communities through digital and data literacy initiatives.

Complementing these efforts, the South African Internet Governance Forum (ZAIGF), established in September 2011, serves as a key multi-stakeholder platform for discussing internet public policy issues, facilitating transparent dialogues, and strengthening the multi-stakeholder dialogue model for continental and international internet governance engagements.

Through ZAIGF, private sector entities, civil society organizations, academia, and the technical community participate on an equal footing to shape the future of the internet ecosystem in South Africa, contributing to capacity building and promoting policy awareness.

These diverse efforts from both the private sector and civil society complement government strategies by enhancing access, skills, innovation, and overall digital inclusion, thereby significantly contributing to the national e-strategy's objectives of fostering a people-centred, inclusive, and development-oriented Information Society.

The stakeholder groups listed in Figure 2 have played a critical role and assumed distinct responsibilities in South Africa's ICT development journey. This group of stakeholders inclusive of government, private sector, academia, civil society and others are critical in the development of ICTs in South Africa as per WSIS Action Line C1.

Their collective input was essential in shaping this review, gathered through a multi-stakeholder consultation process in May 2025. This process included a virtual workshop, expert reviews, peer-reviews, and desktop research, all guided by the Department of Communications and Digital Technologies (DCDT).

Figure 2: RSA ICT Development Stakeholders

C1 Challenges

Despite considerable strides in its digital transformation, South Africa still faces notable challenges in fully achieving the objectives of WSIS Action Line C1. South Africa is actively working to address these multifaceted challenges through a range of regulatory and operational instruments, including new policy frameworks and strategic collaborations. The continuous efforts underscore the country's commitment to leveraging ICTs for development and ensuring all stakeholders contribute to building a more inclusive and advanced information society.

Policy lag and advancement

The nation's regulatory environment and data privacy and protection laws struggle to keep pace with rapid technological advancements, creating a need for continuous updates.

This is compounded by the slow pace of policy and regulatory development and adoption, as well as a prevalent lack of coordination in ICT governance within organs of state.

The existing legislative framework, particularly the ECTA, also may require a review and/or overhaul to keep pace with rapid technological advancements in the international communications sector.

Lack of digital integration

A significant challenge is the lack of integration of digitization within government departments, often stemming from a low practical appetite for digital transformation within government, reflected in slow adoption of digital tools and reliance on siloed budgets for ICT initiatives.

Accessibility and availability challenges

Accessibility remains a key hurdle, with limited internet accessibility due to high costs of devices and connectivity, and poor access to communication services attributed to issues like network unavailability, accessibility, and quality of service.

Regulatory efforts also face challenges from different stakeholders, including litigation from licensees when regulations impact their revenue (e.g., mobile broadband regulations that reduce data prices).

C1 Future Priorities

Based on South Africa's achievements and challenges on WSIS Action Line “C1”, the recommendations for future ICT development priorities are highlighted below, and these are drawn from the multi-stakeholder consultations with various government departments, academia, industry, and civil society.

South Africa shall continue to foster a robust multi-stakeholder ecosystem where government, the private sector, and civil society actively collaborate. This partnership model, proven essential over the past two decades, is critical for sustainable and inclusive digital transformation.

Enhancing governance, policy & regulatory frameworks

A comprehensive review of ICT institutional arrangements and mandates is essential, coupled with improved monitoring and evaluation of ICT programs. The government must conduct these reviews to ensure agility and effectiveness, implement robust M&E frameworks with strong Key Performance Indicators (KPIs), and enforce existing laws. It is also responsible for establishing balanced regulatory frameworks for data protection, cybersecurity, and freedom of expression to curb misinformation, and for improving inter-departmental coordination. Industry should offer technical expertise for policy development, while legal and civil society organizations ensure a balance of rights and regulations. Academia can conduct independent evaluations and research policy effectiveness.

Strengthening ICT infrastructure & universal Access

To bridge South Africa's digital divide, a nationwide improvement of ICT infrastructure and an increase in affordable, reliable broadband access are paramount. The government needs to lead this through strategic planning, prioritized spending on network expansion, and the creation of regulatory frameworks that foster competition and protect consumer rights. The private sector, particularly telecom companies and ISPs, needs to invest significantly in rolling out fibre and 5G, especially in underserved areas, while civil society acts as an advocate for equitable access and monitors service quality and affordability.

Fostering innovation, digitalization, and public service modernization

Advancing ICT innovation and supporting startups are crucial, alongside modernizing public services. The government may need to spearhead the development and implementation of an innovation policy for the public service and champion the creation of user-friendly "super apps" to streamline citizen services. It must also actively support tech startups through policy and procurement. The private sector is expected to contribute cutting-edge solutions and partner to public service innovation, with academia driving supporting research and development. Civil society will provide insights into citizen needs and usability.

2. Action Line C2: Information and Communication Infrastructure

Preface

The objective of WSIS Action Line C2 is to lay the essential physical and digital groundwork for the Information Society. It recognizes that a robust, affordable, and accessible infrastructure is fundamental for all other aspects of digital development to thrive. This action line emphasizes:

- **Building and expanding network infrastructure:** This includes fixed-line broadband (fibre optic networks), mobile cellular networks (2G, 3G, 4G, 5G), satellite communication systems, and other technologies that provide connectivity.
- **Promoting affordable access:** Ensuring that the cost of connection and services is within reach for all citizens, especially in developing regions and underserved areas. This often involves policies to encourage competition, reduce regulatory barriers, and explore innovative pricing models.
- **Enhancing reliability and quality of service:** Ensuring that networks are stable, fast, and resilient, capable of supporting various applications and services, including e-government, e-health, e-learning, and e-business.
- **Developing national backbone networks and international connectivity:** Strengthening the core networks within a country and ensuring sufficient international bandwidth to support global communication and data exchange.
- **Facilitating infrastructure sharing:** Encouraging the sharing of passive infrastructure (like towers and ducts) among operators to reduce costs, minimize environmental impact, and accelerate rollout, particularly in difficult-to-reach areas.
- **Addressing the digital divide:** Specifically targeting efforts to connect rural, remote, and marginalized communities that often lack adequate infrastructure.
- **Leveraging technology for development:** Recognizing that accessible and reliable infrastructure is a prerequisite for achieving broader socio-economic development goals and the Sustainable Development Goals (SDGs).

C2 Achievements

Information and communication infrastructure plays a crucial enabling role in the provision of broadband internet access to all. An ecosystem approach is required to realise universal access to broadband internet, and such an approach should bring stakeholders to address the infrastructure availability, affordability to access broadband internet, digital skills development and local content generation and consumption. As presented in this section, South Africa has made significant progress in improving the information and communication infrastructure over the past twenty years.

Expanded ICT infrastructure

South Africa has made significant progress in expanding ICT infrastructure and improving digital inclusion. As of 2023, more than 78% of the population has some form of internet access[24]; the majority of which can be considered to have meaningful connectivity[25] (connectivity that is reliable, consistent, of a sufficient speed, affordable and accessible).

[24] General Household Survey, Stats SA, 2023
[25] https://www.itu.int/itu-d/sites/projectumc/home/aboutumc/

The last 20 years have seen more than a 70% percentage point increase in the percentage of the population with internet access (sitting around 7% in 2005 according to the World Bank/ITU). This growing accessibility has also supported greater digital participation in underserved areas; between 2018 and 2022 alone, the number of rural microbusinesses using the internet increased from 8% to 33%.

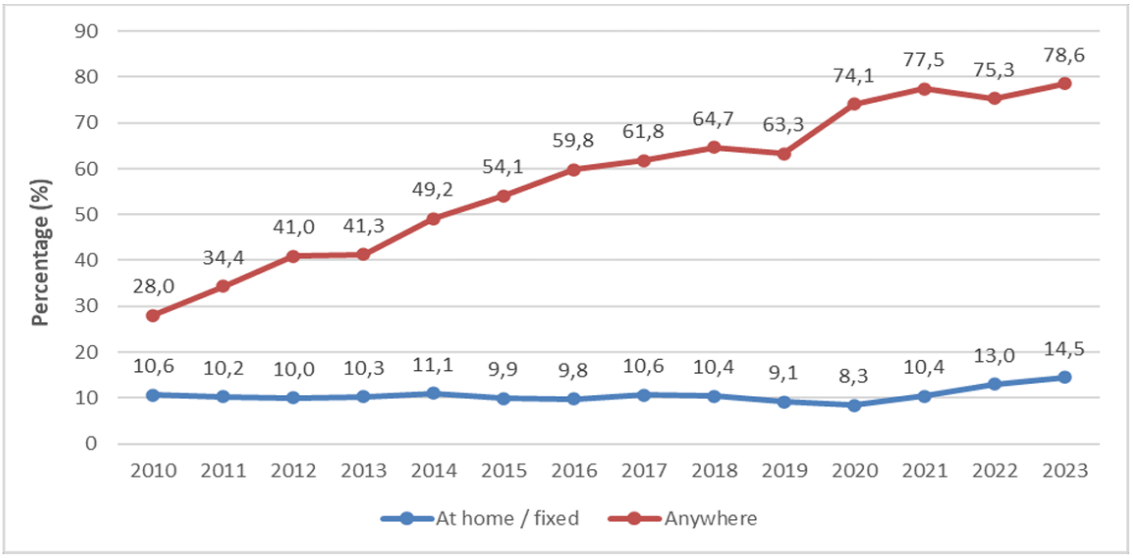
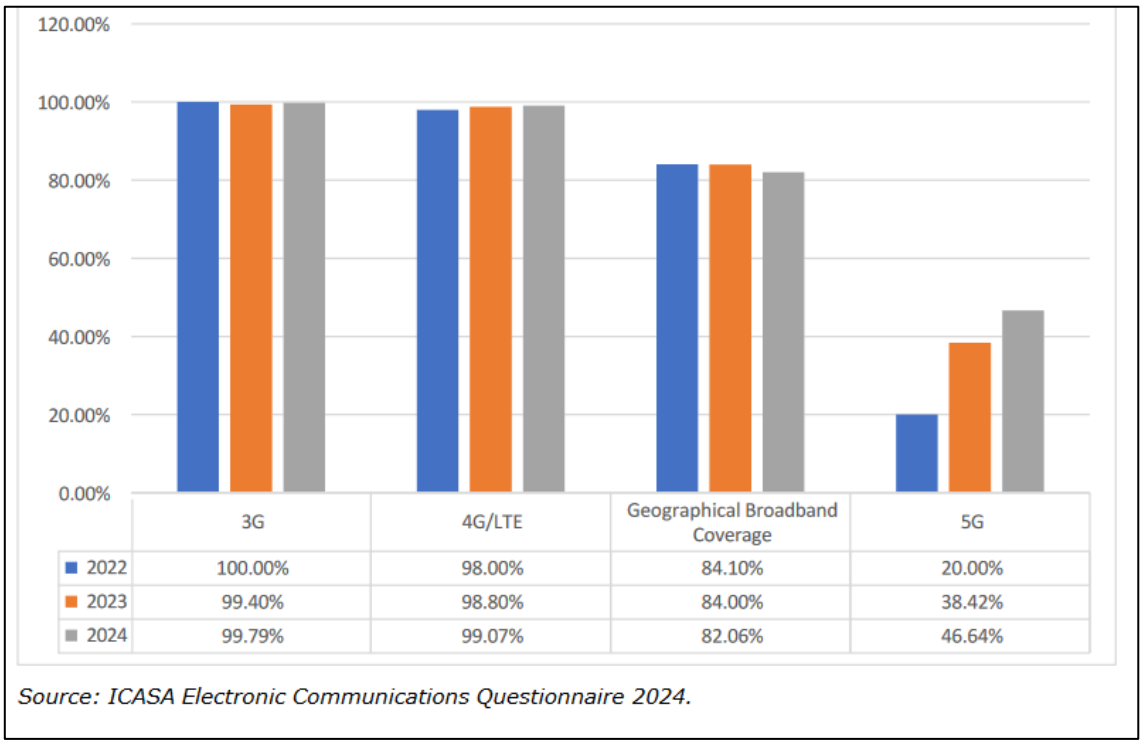


Figure 3: Percentage of households with access to the internet at home, or for which at least one member has access to or used the internet in South Africa (2010 - 2023).

Mobile network coverage specifically has seen substantial growth over the years with 99.8% of the population covered by 3G, 99.1% covered by 4G/LTE and just under 50% by 5G[30]. (See Figure 4)



	3G	4G/LTE	Geographical Broadband Coverage	5G
2022	100.00%	98.00%	84.10%	20.00%
2023	99.40%	98.80%	84.00%	38.42%
2024	99.79%	99.07%	82.06%	46.64%

Source: ICASA Electronic Communications Questionnaire 2024.

Figure 4: National population coverage[30].

More than 78% of the population access the internet via mobile networks and 14.5% have fixed internet access at home. Fixed broadband access continues to grow with 2.7 million subscriptions recorded at the end of 2024; this growth includes 2.4 million fibre connections by the of 2024. This increase is made possible due to the growing fibre optic network which grew from just over 500 000 km in 2013 to over 1.2 million km in 2023[26].

This growth and development in infrastructure have significantly improved broadband speeds, placing South Africa 65th globally for fixed broadband speeds with a median download speed of 105.85 Mbps (as of May 2025)[27] and 61st globally for mobile speeds with a median download speed of 49.81 Mbps (as of March 2025)[28]

In addition to expanding general internet access, South Africa's ICT infrastructure advancements have played a critical role in accelerating digitalisation across various sectors. This is reflected in the rapid growth of FinTech companies and uptake of over-the-top (OTT) platforms such as YouTube, Netflix Showmax with 10.9, 6.3 and 3.6 million South African subscribers respectively as of 2023[29]. According to the Financial Sector Conduct Authority (FSCA) in 2020, there were 220 active and operational FinTech's in South Africa, and this number has been growing since then.

Increased connectivity and improved access outcomes are made possible through various factors including the formulation and implementation of enabling policy and regulatory frameworks; investments in infrastructure deployments and upgrades; and technological advancements in mobile, fixed and satellite telecommunication networks.

Policy and regulatory frameworks

In 2000, the Electronic Communications Act (Act No. 36 of 2005) replaced the previous Telecommunications Act, and introduced technology neutrality. This paved the way for rapid expansion and modernisation of telecom infrastructure over the last twenty years including the transition from voice-only services to high-speed broadband and proliferation of newer technologies like 4G and fibre.

This widespread fibre and broadband roll-out was also supported by two landmark court cases:

- *Altech Autopage vs Chairperson of ICASA (2008):* The High Court ruled in favour of Value-Added Network Services (VANS) licensees, confirming their right to self-provide and build their own electronic communications infrastructure. This ruling compelled the Independent Communications Authority of South Africa (ICASA) to grant Individual Electronic Communications Network Service (I-ECNS) licences to all qualifying VANS providers, liberalising the infrastructure market.
- *City of Tshwane vs Link Africa (2015):* The Constitutional Court upheld the right of Electronic Communications Network Service (ECNS) licensees to install fibre using municipal infrastructure (e.g. stormwater drains and sewers) without requiring individual municipal agreements, if minimal disruption was ensured. This significantly streamlined fibre deployment across urban areas.

Through the Universal Service and Access Fund (USAF), established through the Electronic Communications Act (Act No. 36 of 2005), 612 public sites in underserved and rural areas have been successfully connected to broadband infrastructure. This forms part of a broader initiative targeting a total of 944 sites for deployment by the end of 2025.

[26] Africa Bandwidth Maps
[27] https://www.speedtest.net/global-index
[28] https://www.icasa.org.za/uploads/files/The-State-of-the-ICT-Sector-Report-of-South-Africa-2025.pdf
[29] MAPS data overview, Market Research Foundation

The national telecommunications industry regulator, ICASA imposes license conditions on fixed and mobile network operators. These obligations are enforced through provisions within the Electronic Communications Act.

Through the imposed universal service and access obligations (USAOs), ICASA reported that as of 2023, 5 323 schools have been connected through these ICASA imposed obligations on licensees[30].

Through the successful auction of high-demand spectrum in 2022, ICASA mandated Mobile Virtual Network Operator (MVNO) enablement as a licensing condition requiring the successful bidders to host at least three MVNOs within three years.

South Africa first committed to its Digital Terrestrial Television (DTT) migration in 2006 via the ITU Regional Agreement in Geneva (GE06). The first step of this migration plan, which was to switch off all analogue TV services above 694 MHz was completed in 2023 and below 694 MHz is scheduled for completion in 2025.

The government also set up a Set-Top Box subsidy programme to provide subsidised access to broadcast television services for low-income households (earning R3 500/month or less) including free installation and equipment should the eligibility criteria be met.

In 2023, the Next Generation Radio Frequency Spectrum policy was approved which introduced spectrum allocation provisions for fixed mobile, broadcasting, research and development and community access. The enforcement of this policy will transform the ICT sector including providing regulatory support for SMMEs.

Universal access initiatives

The Broadband Infraco Act 33 of 2007 is a critical piece of legislation for South Africa's digital transformation. The Act established Broadband Infraco (Proprietary) Limited as a state-owned company to build and manage a national long-distance telecommunications network.

By operating as a wholesale provider, Infraco sells high-capacity bandwidth to other licensed operators, Internet service providers, and network providers, rather than competing in the retail market.

This model is designed to stimulate competition, ultimately leading to more affordable and accessible internet services for end-users.

A central objective of the Act is to address the digital divide by prioritizing the expansion of affordable connectivity to underserviced and underdeveloped areas.

Infraco's network serves as the backbone for national projects like SA Connect, the government's initiative to provide universal broadband access. By building out this critical infrastructure, the Act ensures that the benefits of the digital economy can reach rural and remote communities.

Furthermore, the legislation mandates that Infraco meets the bandwidth requirements for projects of national importance, such as those in the education and healthcare sectors. This ensures that essential public services have the necessary connectivity to operate effectively.

To date the Broadband Infraco, as appointed by the Universal Service and Access Agency of South Africa (USAASA), has provided broadband connectivity to 612 sites out of the planned 944 sites.

In 2009, the Broadband4All (BB4All) initiative was launched, driven by the Council for Scientific and Industrial Research (CSIR) and funded by the European Union. The focus was on deploying low-cost,

[30] The State of the ICT Sector Report of South Africa, ICASA, 2025

community-owned wireless mesh networks. This project saw 19 ICT entrepreneurs launch and run their own internet businesses in rural communities[31].

80% of public schools have some form of internet access. This number rose from a baseline of 48% in 2014[32]. In 2023, ICASA reported a total of 4 921 schools connected to the internet through universal service obligations. SA Connect Phase 1 saw the connectivity of 594 public schools with 10 Mbps speeds. Further efforts between the DCDT and mobile network operators saw 317 special schools receiving connectivity and other ICT infrastructure to enhance learning.

In 2012, the Tertiary Education and Research Network of South Africa (TENET) first introduced to South Africa *eduroam,* a global Wi-Fi roaming access service, originally developed for the research/education community. To date, there are 373 eduroam locations throughout South Africa including all major universities and research institutions, with ongoing expansion into other public spaces such as airports done in 2023-2024 with plans for expanding into national libraries in 2025.

Between 2020 and 2022, the CSIR also established a rural TV White Space (TVWS) network operator support program, through funding received by the United Nations Development Programme (UNDP). Through the establishment of these rural networks, Phase 1 of the project saw over 1000 sites connected to the internet amongst four SMMEs including public facilities, local businesses, public Wi-Fi hotspots and households.

South Africa has approximately 25 767 cell phone towers, making it the second highest in Africa. These towers support over 97 million SIM cards and accounting for 12.9% of the continent's total tower infrastructure. Major MNOs like Vodacom, MTN, Telkom, Cell C, and Rain share this infrastructure through rental agreements.

South Africa is leading the way within the continent in terms of 5G network roll-out, being the first country in Africa to launch 5G (first launched by Vodacom in 2020).

Improved access for mobile broadband and 5G deployment is also expected because of the successful auction of high-demand spectrum in 2022 amongst six major bidders.

Through the 2022 spectrum auction, ICASA mandated Mobile Virtual Network Operator (MVNO) enablement as a licensing condition. As a result, a R14.5 billion in MVNO revenue was estimated in 2023. The projected growth in the MVNO sector reflects effective infrastructure utilisation through sharing of the physical infrastructure owned by traditional MNOs.

The completion of Phase 1 of SA Connect (a part of the National Broadband Policy) supported broadband connection for 970 government facilities (schools, health centres, police stations etc.) across 8 rural district municipalities. The second phase which is still ongoing has already achieved the deployment of 10 585 Wi-Fi hotspots including a reach of 1 841 790 households.

In addition to nationwide infrastructure development, municipal and provincial initiatives have also resulted in an increase in free Wi-Fi hotspots (Smart City Project in Johannesburg, Tshwane Wi-Fi, Ekurhuleni Metropolitan municipality (over 200 locations), Dr Kenneth Kaunda District Municipality) and free fibre broadband networks (Ekurhuleni Metropolitan municipality, eThekwini municipality (Metro Connect)).

Very Small Aperture Terminal (VSAT) technology has been integrated into the National ICT strategy as means of providing satellite broadband to remote areas and achieving the broader goal of universal access. In 2024, the National Satellite Program was launched to support SA Connect Phase 2, focusing on the use of both geostationary and low Earth orbit (LEO) satellites for broadband coverage.

[31] ICT RDI Roadmap, DST and CSIR, 2012?
[32] https://www.education.gov.za/ArchivedDocuments/ArchivedArticles/Delivery-of-ICT-infrastructure-and-Internet-access-within-South-African-schools

The DCDT is committed to improving accessibility to mobile devices as a means of ensuring universal access. As of 1 April 2025, the 9% luxury tax (ad valorem duty) has been removed for smartphones costing under R2500.

To support increased access and achieving the 2G/3G migration goal of 2027, MTN also launched an ultra-affordable 4G smartphone rollout (from as little as R99). Phase 1 began in May 2025 with 5000 selected users in the Gauteng province.

In addition to reducing the cost of devices, South Africa has made meaningful progress in reducing the cost of data. 1 GB of data would have costed R102.82 in 2019 which dropped by 67% in 2023 (costing R34.28).

Community networks

For South Africa, addressing the substantial digital divide, particularly in its rural and underserved communities, has presented a significant challenge. In response, community networks (CNs) have emerged as crucial initiatives to tackle this issue.

South Africa has a long history of CNs with efforts dating back to 2003. These networks have developed both intentionally and organically, leading to a broad and diverse landscape.

In 2005, the First Mile First Inch project, funded by Canada, enabled the Council for Scientific and Industrial Research (CSIR) to deploy the first rural community-run mesh network in Peebles Valley, Mpumalanga. This network provided free access to Wikipedia via a local server by utilizing spare capacity from a VSAT link to connect a school and rural homes[33].

Rhodes University's Siyakhula living labs in Dwesa (2006) are another example. This initiative provided internet access to schools and computer training facilities and involved the community in co-designing e-commerce platforms.

Today, the landscape of South African CNs is remarkably diverse, reflecting a range of innovative approaches to address varied connectivity needs.

One of the most prominent and impactful examples of a community network in South Africa is Zenzeleni Networks[34], located in the rural Eastern Cape, established in 2012. Originating in the impoverished Mankosi village, Zenzeleni, meaning "do it yourself" in isiXhosa, established a community-owned internet service provider (ISP). This model operates as a cooperative where community members collectively own and manage the network.

They provide internet services at significantly reduced costs, often reported to be up to 20 times cheaper than commercial alternatives, with profits reinvested back into the network and the broader community. Zenzeleni frequently employs solar panels to power routers and offers cell phone charging services, addressing the prevalent lack of reliable electricity.

Zenzeleni's impact has been profound, connecting thousands of individuals and institutions, and empowering marginalized populations by stimulating local economic activity. It also creates local employment through the training of hotspot hosts and resellers, fostering the development of technical and entrepreneurial skills.

This initiative has delivered critical access to online education and job opportunities, proving particularly invaluable during the COVID-19 pandemic. Zenzeleni's success has garnered both national and international recognition, including an award for Best Innovation with Social Impact.

[33] Dotwana, L. (2018). *Advancing rural connectivity in South Africa: A case for community-owned networks* (Policy Brief). Department of Science and Technology
[34] https://journals.uj.ac.za/index.php/AJIC/article/view/100/101

While Zenzeleni is primarily based in the Eastern Cape, the University of the Western Cape (UWC) has played a pivotal role in its development and continues its involvement in research and support for similar initiatives within the region.

Initiatives such as the V-NET in the Western Cape and TooMuchWiFi's township-focused strategies, CNs adapt to their unique environments. This spectrum includes everything from informal setups where neighbours collectively share digital infrastructure in informal settlements to more formalized organizations serving tens of thousands of users monthly. This adaptability in scale and operational models showcases how CNs effectively cater to the distinct socio-economic conditions across South Africa, continually striving to bridge the digital divide.

The concept of community networks as a "bottom-up, citizenship-driven technological, social and economic project" has gained considerable traction, spurring efforts to establish local and affordable internet access.

Various endeavours, some receiving government backing through programs like the former Meraka Institute's Wireless Africa initiative, have explored sustainable community-owned wireless infrastructure, frequently utilizing technologies such as Wi-Fi mesh networks. These projects aimed to bridge the gap in areas where commercial viability is low for traditional providers.

In provinces such as Limpopo and Mpumalanga, which have substantial rural populations, a combination of commercial and community-led efforts has been deployed to expand connectivity. Major mobile network operators such as MTN and Vodacom have invested heavily in extending their 3G, 4G, and even 5G networks into deep rural areas of these provinces.

Their objective is to achieve high network availability (e.g., MTN aiming for 95% broadband coverage by 2025 in Limpopo[35]) and they often collaborate with the government or offer initiatives like free Android smartphones to accelerate digital adoption. Simultaneously, community and government initiatives are making a difference.

Projects like the Mamaila Community Network (MCN)[36] in Limpopo, supported by the Internet Society, strive to provide affordable internet access via Wi-Fi hotspots and enhance digital skills through local tech hubs. Furthermore, the Mpumalanga Treasury has implemented satellite connectivity projects in rural communities, providing free internet access at designated centres to benefit learners and students.

This underscores the government's commitment to bridge the gap in computer and internet usage in areas where commercial viability might be low for larger operators. These diverse efforts demonstrate a concerted approach to ensure wider digital inclusion across the country.

Public sector modernisation

The State Information Technology Agency's (SITA) Next Generation Network was established in 2007 to support e-government and digitisation of public services through an advanced ICT network to replace older legacy networks. Between 2023 and 2025 alone, up to 6 247 government sites have been connected to their Next Generation Network.

The City of Johannesburg has also launched its own broadband and technology company, Metro Trading Company (MTC), to manage the city's broadband network and ICT services.

The City of Johannesburg launched its Integrated Intelligence Operations Centre (IIOC) in 2019. The purpose of this IIOC is to integrate municipal data for more effective decision making in emergency and law enforcement operations. This hub is powered by an extensive broadband network enabling real-time data analysis across various city departments.

[35] https://www.engineeringnews.co.za/article/mtn-achieves-record-98-network-availability-in-limpopo-2024-05-17
[36] https://www.internetsociety.org/issues/community-networks/success-stories/mamaila/

The City of Cape Town launched its Transport Management Centre in 2010 in preparation for the 2010 FIFA World Cup, centrally integrating public transport, traffic, safety and security management within the city. It includes integration of the Freeway Management System which uses 197 CCTV cameras and 48 variable message signs to monitor and manage traffic flow.

The South African government introduced GovERP, a cloud-based Enterprise Resource Planning (ERP) solution, currently adopted by 19 government departments as part of modernising their ERP.

Broadband Infraco was contracted to upgrade 30 Traditional Council Authorities facilities of which 23 have been completed as of April 2025. The upgrades included Wi-Fi connectivity, CCTV cameras, backup power and lighting.

The South African Social Security Agency's (SASSA) social grant payment system has undergone significant modernisation. To date, over 19 million beneficiaries received their social grants directly to their bank accounts on monthly basis.

As part of Operation Vulindlela Phase II launched in May 2025, a digital transformation roadmap was launched by the Presidency. This roadmap details a comprehensive plan to modernise government services through increased investments in digital public infrastructure. Additionally, a Digital Service Unit (DSU) was established in coordinating digitalising efforts across government departments.

Dedicated research infrastructure

South African National Research and Education Network (SANReN) was founded in 2005 (with a phased roll-out starting in 2007) to serve universities and research institutions with high-speed connectivity (minimum 1 Gbps) (see Figure 5). To date, this network consists of a high-capacity core backbone (100 Gbps), regional 10 Gbps links, backhaul from submarine landing stations with access to five undersea cables and several metropolitan area networks.

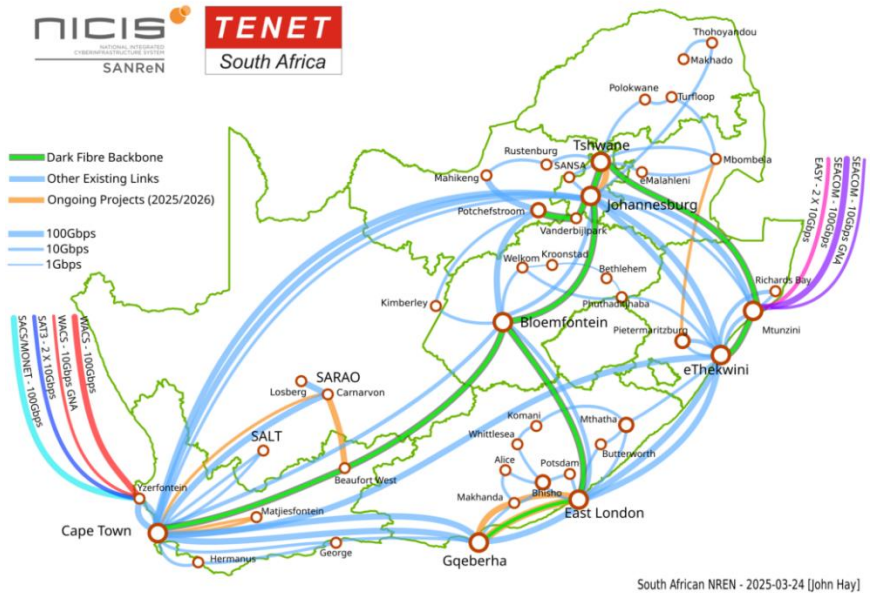


Figure 5: South African National Research and Education Network backbone map showing terrestrial and undersea capacity.

Centre for High-Performance Computing (CHPC) was established in 2007 and unveiled "Lengau" in 2016, Africa's fastest supercomputer at the time, supporting complex research in various scientific fields. In 2024, the CHPC also introduced physical quantum computing resources for interested users.

Currently, the CHPC supports four main domains: Astrophysics, Bioinformatics, Chemistry and Computer Science.

The Data Intensive Research Initiative of South Africa (DIRISA), a key component of the National Integrated Cyberinfrastructure System (NICIS) as hosted and managed by the CSIR is central to building and maintaining a critical national research data infrastructure. Achievements in this regard include the provision of a national research data repository with substantial storage capacity (e.g., 20 PB for long-term storage), data discovery and analytical services, and the development of tools like the SA-DMP (Data Management Planning) tool. These initiatives directly contribute to C2 by providing the high-speed and reliable data infrastructure necessary for cutting-edge data-intensive research across all academic disciplines in South Africa.

The DIRISA initiative embodies a strategic national priority to foster a data-intensive research ecosystem, aligning directly with the government's vision for a knowledge-based economy. The DSTI established the National Integrated Cyberinfrastructure System (NICIS), of which DIRISA is a pillar, to support scientific and industrial development and ensure that DIRISA's efforts contribute to broader national goals, such as promoting open science, improving research data management practices, and developing high-end skills in data science.

Data centres in South Africa

Cloud computing infrastructure is a key component to increasing digitisation whilst reducing the capital investments required especially for smaller companies.

The development of the Data infrastructure is supported by government policy. The National Data and Cloud Policy (2024) and the National AI Policy Framework (2024) both emphasize the need for robust digital infrastructure to drive digital innovation and ensure data sovereignty.

They encourage private sector investment in this area while providing a framework for security, data protection, and ethical use.

Additionally, this infrastructure has enabled shorter launch times for new products. To keep up with rate of cloud computing adoption within the country, several international companies are investing in physical cloud infrastructure and data centres.

South Africa's data centre landscape continues its rapid expansion in 2025, solidifying its position as a digital hub on the continent. The Data Centre Map[37] currently reports a total of 49 existing data centres across the country by 10 June 2025, with an additional 10 upcoming facilities, significantly surpassing the 32 reported earlier in 2023.

These are primarily concentrated in major economic centres like Johannesburg and Cape Town (see Figure 6), but with increasing development in other areas including Centurion, Durban, and Port Elizabeth. This robust growth in data infrastructure is a key indicator of South Africa's progress in developing a strong information and communication infrastructure, crucial for the broader digital economy.

[37] https://www.datacentermap.com/south-africa/

Figure 6: Data Centre Map in South Africa (10 June 2025)

Major international and local players have made substantial investments:

- IBM launched its data centre back in 2016 in partnership with Vodacom and others, establishing an early foundation for enterprise cloud services[38].
- Huawei Cloud[39] officially unveiled its first data centre region in South Africa in November 2018, becoming the first international cloud service provider to operate a local data centre in Africa. Services officially began in 2019. Since then, Huawei has expanded its cloud infrastructure considerably, launching a third Availability Zone (AZ) in Johannesburg in July 2022. This expansion was noted to significantly reduce cloud latency in South Africa, contributing to a more efficient and responsive digital environment.
- Microsoft Azure commenced its cloud infrastructure investments in South Africa as early as 2019, with facilities in Johannesburg and Cape Town. In March 2025[40], Microsoft announced further plans to invest an additional ZAR 5.4 billion by the end of 2027 to expand its cloud and AI infrastructure in the country, building on a ZAR 20.4 billion investment over the preceding three years.
- Amazon Web Services (AWS) holds a significant and established presence in South Africa's data centre market, distinguishing itself as a leading global cloud provider. AWS officially launched its first African cloud infrastructure region, the AWS Africa (Cape Town) Region (af-south-1), on April 22, 2020. This region comprises three AZs, which are distinct, physically

[38] https://www.itweb.co.za/content/Pmqg2MW6Kz97vXn1
[39] https://www.huawei.com/en/news/2018/11/HUAWEI-CLOUD-South-Africa-Connected-Intelligent
[40] https://news.microsoft.com/en-za/2025/03/20/microsoft-to-invest-zar-5-4-billion-in-south-africas-cloud-and-ai-infrastructure/

separate data centres designed for high availability and fault tolerance, connected by low-latency networks.

- This launch marked a major milestone, enabling South African and African customers to run their applications and store their data locally with reduced latency. AWS's investment in South Africa is substantial; for example, they announced plans in April 2023 to invest ZAR 46 billion in the AWS Africa (Cape Town) Region between 2018 and 2029, encompassing capital and operational expenditures.
- Africa Data Centres currently operates three data centres in South Africa, having launched its first as early as 2021. The company continues to expand its existing facilities and has plans for further development, responding to soaring demand for data centre capacity.
- In 2022, Equinix announced a $160 million investment to build its first South African data centre in Johannesburg. The first International Business Exchange (IBX) data centre, JN1, officially launched in mid-2024, further enhancing interconnection capabilities in the region.
- Open Access Data Centres (OADC) announced a $500 million multi-year investment in 2021 to establish over 20 accredited data centres across Africa, including multiple cores and over 30 edge data centres already deployed across South Africa. OADC also notably launched its first major renewable energy project in Durban in May 2025, underpinning sustainable digital transformation.
- BCX and Alibaba Cloud jointly launched the Africa Local Public Cloud service in South Africa in October 2023, providing localized cloud services with data residency within the country, addressing data sovereignty and security concerns for local businesses.
- Google officially launched its first African cloud region in South Africa in January 2024, with a celebratory event in March 2025. This significant investment of approximately ZAR 2.5 billion provides state-of-the-art cloud services to businesses across the continent, marking a major step in bolstering Africa's digital economy.

In addition, South Africa is emerging as the leader in Africa for building the specialized infrastructure required for AI (see Figure 7). While there may not be many fully operational, dedicated A.I data centres like those in the US, significant progress is being made to build and upgrade facilities to handle demanding AI workloads.

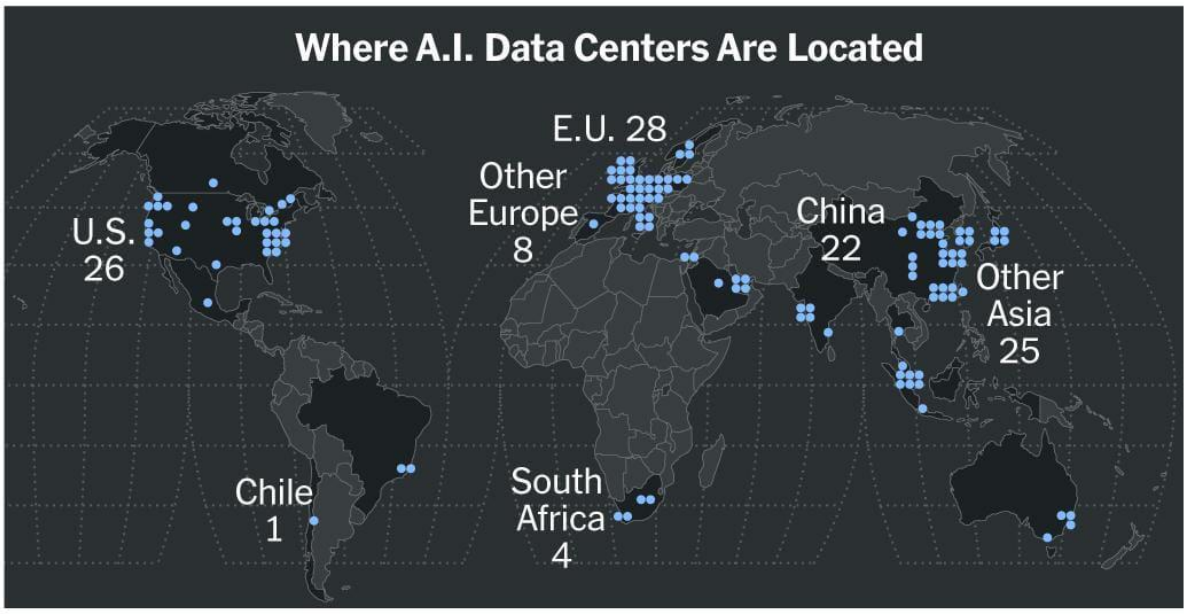


Figure 7: Where A.I. Data Centres are Located[41]

This extensive development in data centre infrastructure reflects a strong commitment from both local and international investors to enhance South Africa's digital capabilities, providing the foundational "information and communication infrastructure" vital for economic growth, digital transformation, and ultimately, bridging the digital divide across the nation and the broader African continent.

Community Wi-Fi hotspots

Through the Broadband Access Fund, the private sector and state-owned company (Broadband Infraco) achieved a total of 3 140 Wi-Fi hotspots and the connection of 53 379 households by 2025, exceeding their original targets of 3000 Wi-Fi hotspots and 50 000 households.

Project Isizwe[42] is a significant initiative aimed at expanding and enhancing South Africa's information and communication infrastructure by providing 1002 free Wi-Fi sites across eight provinces nationwide.

This project directly contributes to the WSIS objective of building a robust and accessible information and communication infrastructure as a foundation for the information society. By offering widespread free Wi-Fi access, Project Isizwe plays a crucial role in increasing connectivity and bridging the digital divide, particularly for underserved communities.

The City of Tshwane's Free Wi-Fi initiative, often known as TshWi-Fi, was a pioneering and ambitious project launched in 2013 in partnership with Project Isizwe. At its peak, it established over 1050 public Wi-Fi hotspots across the city, making it one of Africa's largest free public Wi-Fi networks. These hotspots were strategically placed in open public spaces, educational institutions (like universities and schools), clinics, and libraries, aiming to bridge the digital divide for citizens, particularly those who couldn't afford costly mobile data.

The Gauteng Department of e-Government has been a significant player in providing free Wi-Fi access across the province through its Gauteng Provincial Network (GPN) Wi-Fi project that launched in 2014. Gauteng e-Gov had established over 1200 free Wi-Fi sites in schools, public areas, and clinics by 2024. This substantial number directly translates into widespread public access to the internet.

[41] https://www.nytimes.com/interactive/2025/06/23/technology/ai-computing-global-divide.html
[42] https://www.itweb.co.za/article/project-isizwe-counts-over-1-000-free-wifi-sites-across-sa/Olx4z7kaV1oq56km

The Western Cape Government, in a significant push for digital inclusion, partnered with Liquid Intelligent Technologies to expand public Wi-Fi hotspots across the province[43].

Their ambitious target is to establish 1600 Wi-Fi sites province-wide, strategically located to maximise societal benefit. This includes providing vital internet access to over 1200 schools to bolster e-learning and support both students and educators. Additionally, nearly 300 health facilities are being connected to enable e-health services and improve information sharing for patients and staff.

Furthermore, over 200 libraries are receiving enhanced Wi-Fi, building upon existing services like SmartCape. These provincial efforts go beyond mere connectivity, aiming to deliver not only access but also increased data allocations and faster speeds, ensuring a more meaningful and impactful online experience for all users.

All these initiatives facilitate greater access to information, educational resources, and e-services for a large segment of the population who might otherwise face barriers to internet access. These initiatives align with the WSIS goal of ensuring that everyone, everywhere, has access to ICTs and the benefits they offer, ultimately promoting inclusive access to an open and non-discriminatory information society.

Submarine cable systems.

Submarine cable systems link South Africa to the global internet infrastructure, enhancing speed and affordability. In 2005, South Africa was connected to the rest of the world through two main submarine cable systems (South Africa Far East (SAFE) and South Atlantic 3 / West Africa Submarine Cable (SAT-3/WASC)) accumulating close to 14 000 km in cable length[44].

As of 2025, this has grown to at least different ten systems with over 150 000 km cable length. Some of the partnerships which contribute towards this global connectivity include:

- SEACOM's 17 000 km submarine cable system was launched in 2009, connecting SA to Europe and Asia. It is a privately invested cable system including $159 million from private South African investors (see Figure 8)
- The Eastern Africa Submarine Cable System (EASSy), launched in 2010, is owned and operated by a collection of 26 telecommunication operators in East and Southern Africa. EASSy consists of a 10 000 km submarine cable system along the east coast of Africa.
- The West African Cable System (WACS) was launched in 2012 via Broadband Infraco (BBI) and consists of 14 530 km of fibre optic cable linking SA to the UK.

[43] https://d7.westerncape.gov.za/general-publication/bridging-digital-divide-one-e-centre-time
[44] https://www.submarinecablemap.com/country/south-africa

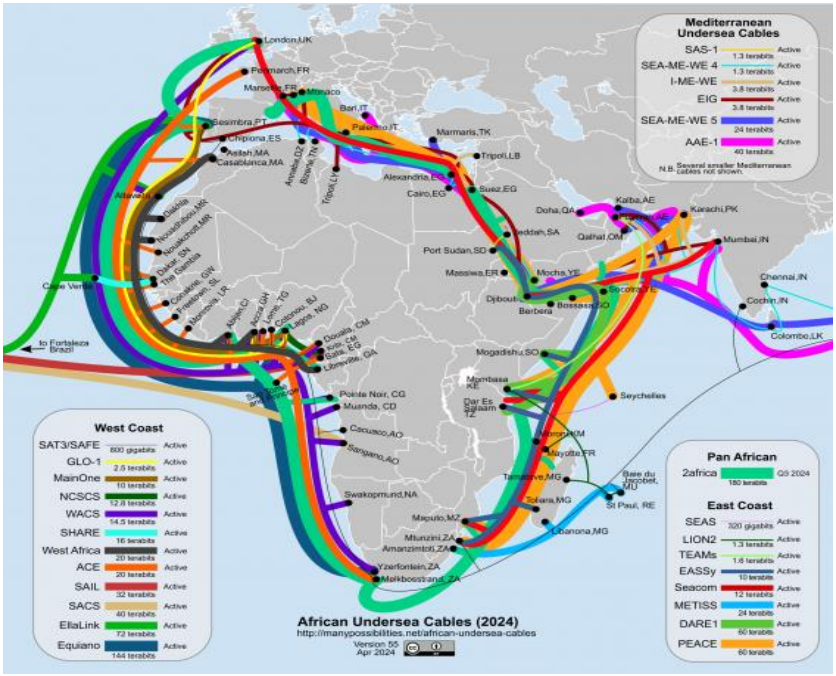


Figure 8: Africa's Undersea Cables (2024)

Despite challenges in ICT, the South African government remains committed to investments in ICT infrastructure. Within the last three years alone, the ICT spend in national departments estimates by National Treasury show an average growth of 11.9%[45].

South Africa's progress in ICT infrastructure contributes significantly to its international rankings, such as its 72nd global ranking (3rd in Africa) in the 2024 Network Readiness Index (which heavily weighs infrastructure)[46].

C2 Challenges

Despite the progress made in improving ICT infrastructure and increasing internet access in South Africa, several barriers are hindering realising the universal access goal by 2030.

Cost constraints

Financial limitations are a major impediment to scaling and deploying digital infrastructure. Budget shortfalls significantly restricted initiatives like SA Connect Phase 1, which failed to meet its initial targets within the stipulated timeframe. This directly hampers universal access efforts.

The weak financial standing of state-owned enterprises, particularly BBI, poses a substantial hurdle to establishing the proposed State Digital Infrastructure Company. This new entity, intended to merge BBI and Sentech, would streamline government-owned infrastructure, but its formation is delayed by existing financial instability.

High costs associated with wayleave permits also inflate communication expenses. Approval fees, sometimes as high as R50,000, indicate municipal rent-seeking behaviours that burden network

[45] The IT Industry in South Africa, WOW, November 2024
[46] https://download.networkreadinessindex.org/reports/countries/2023/south-africa.pdf

operators. Furthermore, increased costs due to theft and vandalism of infrastructure add a significant financial strain on operators.

Digital divide

South Africa faces two key types of digital divide: the access divide and the usage divide. While considerable efforts are underway to address the lack of broadband infrastructure (access divide), more work is needed to overcome the usage divide. This latter challenge encompasses a lack of digital skills, widespread digital illiteracy, language barriers, and the unaffordability of broadband services and devices.

Rural and underserved areas remain significantly less connected than urban centres, even via mobile devices. This disparity is a direct result of limited public and private investment in these regions. Despite a notable increase in rural microbusinesses using the internet (from 8% to 33% between 2018 and 2022), this share remains 29% lower than that observed in urban businesses[47].

Delayed implementations

The SA Connect broadband rollout has notably lagged its initial targets, with Phase 1 connecting only 970 out of a planned 6,135 government sites. Such delays directly impact universal access initiatives. The freeing up of crucial spectrum for increased 5G network rollouts and other applications has also been affected by the slow implementation of Digital Terrestrial Television (DTT) migration and ongoing plans for 2G/3G network migration.

A root cause for policy discontinuity and project delays is frequent leadership changes within the communications sector, evidenced by 15 communications ministers in 28 years. This instability undermines long-term strategic planning and consistent execution.

Costly and unreliable power supply

Load shedding, South Africa's persistent power supply issue, has substantially increased operational costs for telecommunication companies. The Association of Comms and Technology (ACT) estimated that operators spent R1.1 billion on diesel for generators in 2023 alone to maintain operations during power outages.

Further illustrating this burden, ICASA's 2023 ICT industry report indicated that the sector collectively spent R2.6 billion on batteries and R873 million on generators within a mere 12 months. This unreliable power supply diverts significant capital from network expansion and improvement.

Regulatory bottlenecks and uncertainty

The regulatory environment has struggled to keep pace with rapid technological innovation, severely hindering ICT infrastructure improvements. New entrants, particularly Small, Medium, and Micro Enterprises (SMMEs), face significant barriers, especially concerning access to spectrum.

The abandonment of the government-backed Wholesale Open-Access Network (WOAN) in 2022 further stalled inclusivity efforts by preventing SMMEs and new entrants from leasing spectrum.

The rapid deployment of fibre optic infrastructure is further impacted by pervasive delays in granting wayleave permits. While the Minister of Cooperative Governance and Traditional Affairs (COGTA) introduced draft bylaws to streamline these approvals, many municipalities have yet to implement them, leading to inconsistent processes and ongoing delays.

Ambiguity within the ECTA persists, and the draft standard national bylaws for municipalities to manage wayleave requests are voluntary, resulting in poor adoption. In rural areas, conflicting authority between

[47] The Telecommunication Industry and Retail of Electronic Devices in South Africa", WOW, March 2024

tribal leadership and municipal governance creates significant legal and administrative uncertainties that directly impede infrastructure rollout.

Poor coordination

Fragmented Universal Service Obligations (USOs) are a significant issue, as these obligations are not optimally located; some are even assigned to operators who lack network coverage in the specified areas, leading to inefficient resource allocation.

Despite large investments by State-Owned Enterprises (SOEs) like Eskom, Transnet, and SANRAL in fibre infrastructure, there is poor coordination and optimization of these valuable national assets.

The process for identifying unconnected institutions, such as schools, lacks central coordination. Streamlining the identification of specific locations and institutions that require connectivity would lead to a better understanding of demand and significantly improved coordination of deployment efforts.

Increased losses due to theft and vandalism

The telecommunications sector suffered over R280 million in losses due to infrastructure theft and vandalism in 2024. This pervasive issue is often linked to organized criminal syndicates, including those referred to as the "construction mafia," which systematically target critical infrastructure for material gain, thereby increasing operational costs and delaying network expansion.

Heavy reliance on foreign OEMs

A significant challenge is the lack of local ICT equipment manufacturers in South Africa. This heavy reliance on foreign Original Equipment Manufacturers (OEMs) makes the country vulnerable to negative impacts from changes in the geopolitical landscape, supply chain disruptions, and currency fluctuations, while also limiting local industrial development and job creation in high-tech manufacturing.

C2 Future Priorities

Based on extensive multi-stakeholder consultations and comprehensive desktop research, the following future priorities for South Africa concerning WSIS Action Line C2 (Information and Communication Infrastructure) are recommended:

Universal connectivity for all

South Africa is committed to achieving universal connectivity, with SA Connect Phase 2 (2023-2026) serving as a core initiative. This ambitious programme aims to connect an additional 5.5 million households, 5,165 government sites, and establish 25,000 Wi-Fi hotspots, complemented by the deployment of 1,180 km of terrestrial fibre. The broader objective is to connect at least 80% of South African households to the internet by 2026[48].

Beyond SA Connect, the government intends to provide connectivity to over 20,000 public service institutions, including schools and clinics, by 2028 through USAOs. To enhance last-mile delivery, there is a strong focus on involving SMMEs and ISPs through robust public-private partnerships.

Inclusivity and affordability

Achieving universal device access by 2029 is a key goal, partly through the proposed removal of ad valorem taxes on smartphones. The 9% luxury excise duty on smartphones under ZAR 2,500 was removed effective from 1 April 2025, aiming to make entry-level devices more affordable for the general

[48] https://www.gov.za/blog/south-africa-connect

population[49]. In parallel, MTN's ultra-low cost 4G smartphone rollout is targeting over 1.2 million users nationally by the end of 2026, offering devices for as little as ZAR 99 to boost 4G adoption ahead of the planned 2G/3G network switch-off[50].

Efforts are also underway to promote the local manufacturing of smartphones to further drive down costs. The affordability of both internet connections and devices is being tailored to meet the specific market needs of South Africans, ensuring that digital access is truly within reach. The Department of Communications and Digital Technologies (DCDT) is implementing the zero-rating of public interest websites (such as education, health, and government content) to reduce cost barriers for lower-income users[51].

Adopting a multi-technology model, including fibre, 5G, satellite, and TV White Spaces, is seen as crucial for cost-effective connectivity in rural and underserved areas[52]. Additionally, there is a drive to consolidate and optimise existing State-Owned Enterprise fibre infrastructure to maximise efficiency and reach, with progress towards establishing a State Digital Infrastructure Company continuing in 2025[53].

Supporting community-based digital hubs is another vital strategy for driving digital literacy and access, exemplified by programmes aiming to establish digital hubs and connect individuals, households, and businesses.

Spectrum reform and efficient use

To facilitate faster network rollouts and improved services, South Africa is pursuing significant spectrum reform. The implementation of the Next-Generation Spectrum Policy will introduce hybrid spectrum allocation, combining traditional auctions with administration through a state-owned digital infrastructure company[54].

Key initiatives to release additional spectrum include the Digital Terrestrial Television migration, targeted for completion in 2025, and the 2G/3G network switch-off, planned for 31 December 2027. Operators are expected to commence the shutdown of legacy infrastructure from 1 June 2025[55]. [10] These actions are crucial for freeing up valuable frequency bands for advanced mobile broadband services like 5G.

Non-terrestrial network connectivity for remote/underserved areas

Recognising the challenges of terrestrial infrastructure in remote regions, South Africa is focusing on non-terrestrial network solutions. This includes the development of a new satellite licensing framework aimed at improving market entry for satellite service providers, with public hearings held by ICASA in early 2025[56].

A long-term vision involves the launch of a national geostationary satellite within the next 5-7 years. This strategic move aims to extend coverage to rural and remote areas while significantly reducing reliance on foreign operators, which currently incurs substantial costs (estimated at R100 billion a year, as opposed to an estimated R6 billion once-off investment for 20-year coverage)[57].

[49] https://research.hktdc.com/en/article/MTk3Nzc0ODcwNA
[50] https://africa.businessinsider.com/local/markets/mtn-south-africa-to-roll-out-budget-smartphones-to-boost-4g-adoption/89nby79
[51] https://www.stateofthenation.gov.za/assets/downloads/South_Africa_Roadmap_for_the_Digital_Transformation.pdf
[52] https://www.bmit.africa/south-african-broadband-report-2024/
[53] https://www.parliament.gov.za/press-releases/media-alert-communications-committee-be-updated-process-establish-state-digital-infrastructure-company
[54] https://www.ellipsis.co.za/wp-content/uploads/2024/06/Ellipsis-Overview-of-the-Next-Generation-Radio-Frequency-Spectrum-Policy-2024.pdf
[55] https://www.gov.za/sites/default/files/gcis_document/202506/52011gon5793.pdf
[56] https://www.gov.za/sites/default/files/gcis_document/202506/52011gon5793.pdf
[57] https://www.citizen.co.za/lifestyle/technology/sa-launch-geostationary-satellite-five-seven-years/

Enabling regulatory environment

There is a need for streamlining regulatory frameworks and introducing incentives to fast-track infrastructure deployment. The goal is to create a more agile and responsive regulatory landscape that encourages investment and innovation in the ICT sector, ensuring that policy supports, rather than hinders, the rollout of essential digital infrastructure.

Conducting a comprehensive review of existing ICT regulations to ensure that they are enabling and adaptable to new technologies.

Establishing a formal national coordination mechanism for ICT policy, as recommended by the 4IR Presidential Commission.

Increased market access

Expanding market access for virtual network providers, independent ISPs and SMMEs through regulatory reform (MVNO enablement) and encouraging shared infrastructure models.

Sovereign and secure AI-ready digital infrastructure

South Africa's primary objective is to establish a sovereign and secure AI-ready digital infrastructure, driven by local innovation and sustainable practices. This overarching priority seamlessly integrates the vital need for advanced AI capabilities with the fundamental requirement for robust and secure data centres and cloud platforms.
This commitment will significantly boost national economic competitiveness, enabling cutting-edge AI and cloud services. It will also foster data residency and enhance national security through localised technological control.

Furthermore, this strategic direction will stimulate local innovation and talent development by commercialising academic intellectual property and establishing dedicated Centres of Excellence.

This approach aims to reduce reliance on foreign technologies and mitigate associated geopolitical risks. Crucially, by addressing the energy demands of data centres through sustainable policies and power sources, this priority ensures the long-term environmental viability of South Africa's digital transformation. Ultimately, this solidifies the nation's position as a resilient and forward-thinking digital leader on the continent.

3. Action Line C3: Access to Information and Knowledge

Preface

The main objective of WSIS Action Line C3 is to ensure that everyone can find, use, and share information and knowledge, thereby transforming data into meaningful resources that empower individuals and communities.

Key aspects and objectives of Action Line C3 include:

- **Promoting Universal, Non-Discriminatory Access:** Ensuring that information and knowledge are accessible to all, regardless of location, socio-economic status, language, disability, or gender. This involves addressing barriers related to cost, literacy, and cultural relevance.
- **Encouraging Open Access and Public Domain Information:** Advocating for policies and initiatives that make scientific, educational, and public-interest information freely available (e.g., Open Educational Resources - OER, Open Access to research).
- **Preserving Digital Heritage and Content:** Implementing strategies to safeguard valuable digital information for future generations, including digital archives, libraries, and cultural content. This also involves promoting open, interoperable, and non-discriminatory standards for digital content management.
- **Developing Multilingualism and Local Content:** Supporting the creation and dissemination of diverse, locally relevant content in various languages, recognizing the importance of cultural and linguistic diversity in the digital space. This helps ensure that the internet is relevant and useful to a broader range of people.
- **Strengthening the Role of Public Service Institutions:** Recognizing the vital role of libraries, archives, museums, and community multimedia centres in providing public access points to information, fostering digital literacy, and preserving cultural heritage.
- **Addressing Information Literacy and Digital Skills for Access:** Beyond basic connectivity, equipping people with the skills to effectively search for, evaluate, use, and create information in the digital environment. This includes critical thinking skills to navigate the vast amount of online content.
- **Ensuring Freedom of Expression and Privacy:** Operating within a framework that respects human rights, including freedom of expression and the right to privacy in the context of accessing and sharing information.
- **Harnessing ICTs for Broader Societal Benefits:** Utilizing ICTs to facilitate access to information in critical sectors like education, health, agriculture, and environmental protection, thereby contributing to sustainable development goals.

C3 Achievements

South Africa has undertaken various initiatives that directly contribute to the objectives of WSIS Action Line C3, focusing on making information and knowledge accessible and usable for its citizens over the past two decades.

Access to public official information enshrined in law.

South Africa has a Bill of Rights, contained in Section 2 of the Constitution, which itself is contained in s. 1 (1) of the Citation of Constitutional Laws, Act 5 of 2005[58]. Section 32(2) of the Bill of Rights contains provisions for citizens to get access to information[59].

South Africa's commitment to access to information is enshrined in its Promotion of Access to Information Act (PAIA) of 2000[60]. This legislation empowers individuals to request information held by both public and private bodies, fostering transparency and accountability. The Act aligns directly with the WSIS principle of enabling citizens to exercise their rights through information access. PAIA contains provisions for monitoring by the South African Human Rights Commission (SAHRC)[61]. The public can approach SAHRC for recourse if information cannot be obtained.

In addition, Government websites, such as gov.za, serve as central repositories for official documents, policies, and public service information, enhancing direct access, and these are accessible to all citizens.

Protection of information privacy

PAIA does not apply to all types of information. The main mechanism for restricting information access to avoid unduly violating the privacy of individuals is Protection of Personal Information Act 4 of 2013 (POPIA)[62]. This Act defines the nature of personal information and restricts the extent to which such information may be gathered, processed, retained and disclosed.

The provisions of POPIA are enforced by the Information Regulator (IR)[63]. Furthermore, POPIA enhances trust in the digital environment by regulating data privacy, thereby encouraging greater participation in the information society. In addition, the IR has launched an online eservices portal[64] for the submission of annual PAIA reports. Many institutions now allow for electronic submission of PAIA requests, increasing accessibility and convenience (e.g. Department of Justice, South Africa Police Service and SANRAL).

A further protective mechanism is the Public Protector. This institution is enabled by Public Protector Act 23 of 1994 (PPA)[65]. Another institution to facilitate access to legal information is Southern African Legal Information Institute (SAFLII)[66].

Rights to access, create, and disseminate information and knowledge.

The 2017 Copyright Amendment Bill in South Africa represents a significant legislative effort to modernise the country's copyright laws, which largely date back to the 1978 Copyright Act – a pre-digital era statute. Its core aim is to strike a crucial balance between protecting the rights of creators and ensuring broader public access to copyrighted works. This initiative directly relates to WSIS Action Line C3, which champions the right of everyone to access, create, and disseminate information and knowledge.

The 2017 Copyright Amendment Bill's proposed changes are a direct response to this call, specifically by introducing a "fair use" provision and expanding exceptions to copyright. Unlike the more restrictive "fair dealing" approach (which lists specific permitted uses), "fair use" is a flexible doctrine that considers whether a particular use of copyrighted material is "fair" based on various factors. This flexibility is intended to accommodate new technologies and evolving societal needs, thereby facilitating access to information in the digital age.

[58] https://www.justice.gov.za/constitution/SAConstitution-web-eng.pdf
[59] https://www.concourt.org.za/index.php/access-to-information
[60] https://www.gov.za/documents/promotion-access-information-act
[61] https://www.sahrc.org.za/
[62] https://popia.co.za/
[63] https://inforegulator.org.za/
[64] https://eservices.inforegulator.org.za/
[65] https://www.gov.za/documents/public-protector-act
[66] https://www.saflii.org/

The Bill's intention to broaden exceptions for purposes like education, research, libraries, and for people with disabilities directly aligns with C3's goals of universal access and inclusivity in the information society.

ICTs for all & multi-purpose community public access points

SA Connect Phase 2 implementation is a key public sector initiative aiming to connect millions of households and thousands of government facilities with broadband and Wi-Fi hotspots by 2026[67]. Private sector mobile network operators have driven significant mobile broadband penetration and offer low-cost fourth generation (4G) smartphones to boost accessibility, especially ahead of the 2G/3G switch-off. Civil society organisations, such as Zenzeleni Networks, have pioneered community-owned internet service providers in rural areas, offering affordable internet access and fostering local digital skills. Digital hubs and community centres, often supported by provincial governments or NGOs, provide shared internet access and digital literacy training.

Access to scientific knowledge

The Data Intensive Research Initiative of South Africa (DIRISA)[68] provides critical infrastructure for storing, managing, and accessing large scientific datasets. This enables high-end research and facilitates the sharing of scientific knowledge. DIRISA is part of the National Integrated Cyberinfrastructure System (NICIS) under the Department of Science, Technology, and Innovation (DSTI) and is hosted by CSIR. The National Research Foundation (NRF) also supports open access initiatives for publicly funded research outputs.

National policy data observatory (NPDO)

The National Policy Data Observatory (NPDO)[69], spearheaded by the Department of Science, Technology and Innovation (DSTI) and hosted by the Council for Scientific and Industrial Research (CSIR) since its inception in 2020, has contributed to universal access to information and knowledge.

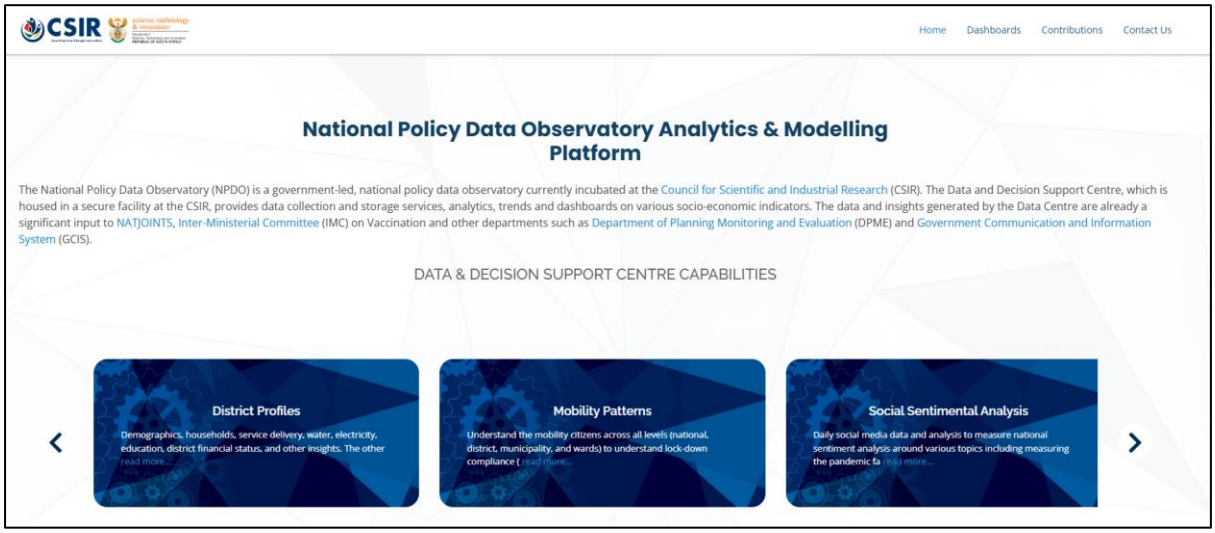


Figure 9: NPDO Website

A key achievement is its establishment and operationalization as a centralized, government-led data observatory leveraging CSIR's high-speed networking and high-performance computing infrastructure, including the use of analytics, trends, and dashboards on various socio-economic indicators. This has

[67] https://www.gov.za/blog/south-africa-connect
[68] https://www.dirisa.ac.za/
[69] https://dataobservatory.csir.co.za/

enabled the systematic collection and analysis of critical data that underpins effective policymaking for digital access.

The NPDO's data-driven insights have been instrumental in informing decision-making on various socio-economic interventions, which indirectly but powerfully contribute to C3. For instance, the NPDO's role in supplying data to key government entities, such as NATJOINTS, the Inter-Ministerial Committee (IMC) on Vaccination, and departments like Planning, Monitoring and Evaluation (DPME) and Government Communication and Information System (GCIS) during the COVID-19 pandemic response, signifies its achievement in fostering a more evidence-based and transparent governance approach.

By providing robust data, the NPDO empowers these entities to make informed decisions that can lead to policies supporting open data initiatives, accessible digital public services, and the creation of relevant digital content.

National strategic hub

The National Strategic Hub, spearheaded by the South African Department of Cooperative Governance and Traditional Affairs (COGTA)[70], is a pioneering initiative designed to transform government operations through data-driven decision-making, particularly at the local level.

Its core mission is to establish a "single source of truth" by integrating, transforming, analysing, and visualizing country-level data. This allows for the generation of evidence-based insights that inform planning, resource allocation, implementation, and monitoring, ultimately aiming to enhance governance, operational efficiency, and service delivery across all spheres of government.

The journey of the National Strategic Hub began at the BRICS Urbanisation Forum on July 27, 2023, where the concept of eThekwini's Strategic Hub was presented. Following this, the Minister of COGTA requested the development of a proof of concept for a national hub to support the implementation of the District Development Model.

This proof of concept was then presented to various high-level platforms, including the President's Coordinating Committee and Cabinet Committees, receiving overwhelming support. The National Strategic Hub was approved by Cabinet on October 23, 2023, as a program of government, and officially launched on October 22, 2024[71].

This initiative strongly aligns with the WSIS Action Line C3, which focuses on "Access to Information and Knowledge." By establishing a reliable data source, providing comprehensive district insights, and developing decision support tools, the Hub directly facilitates greater access to information for both government officials and citizens.

It aims to empower community members with knowledge to actively participate in decision-making processes, thereby fostering a more transparent and responsive government. The Hub's emphasis on breaking silos and fostering a "public value data ecosystem" further supports the WSIS goal of promoting collaboration and widespread access to information for sustainable development

Information outreach campaigns

The SAHRC has played a vital role in conducting a variety of activities in line with its mandate over the years to promote access to information and knowledge:

- Ran community law clinics in partnership with universities (2013–16), increasing grassroots awareness and legal support.

[70] https://nationalstrathub.cogta.gov.za/about/
[71] https://www.cogta.gov.za/index.php/2024/10/15/minister-hlabisa-to-launch-national-strategic-hub-for-data-driven-government-excellence/

- Developed and distributed the PAIA Section 10 Guide[72], toolkits, and awareness materials.
- Played a role in the drafting of Model Law on Access to Information for Africa[73] under the African Commission and Influenced access-to-information practices in 26 African countries.
- During 2014/15, conducted extensive training of Deputy Information Officers (DIOs), reaching approximately 600 public officials.

Access to information and knowledge via libraries

In 2008, a collaboration between the Department of Arts and Culture (now the Department of Sports, Arts and Culture or DSAC) and the National Council for Library and Information Services (NCLIS) formed the Library Information Services (LIS) Transformation Charter[74]. The Charter serves as a blueprint for the transformation of the country's library and information services sector in the post-apartheid era. One of its key roles is to promote universal access to library services, particularly in rural, previously disadvantaged, and under-resourced communities.

In 2010, South Africa had 7 384 publicly funded libraries[75]. By June 2013, the community library conditional grants had funded 414 new public libraries and the upgrading of 244 libraries. By 2015, the DSAC reported the construction of 81 new libraries and the upgrading of 343 existing ones in various provinces. Through the Conditional Grant for Community Libraries Programme, the DSAC reported the following for the 2022/'23 financial year[76] (see Figure 10):

Figure 10: Library Development and Support Services

- 31 new library services were financially supported and nine (9) were completed.

[72] https://accesstoinformation.co.za/PAIA/section-10-guide-on-how-to-use-act/
[73] https://www.chr.up.ac.za
[74] https://www.sacr.fs.gov.za/wp-content/uploads/2012/03/Library-Information-Transformation-Services-Charter-6th-draft1.pdf
[75] The Library and Information Services (LIS) Transformation Charter 7th Draft
[76] Department of Sports, Arts and Culture Annual Report 2022/23

- 42 existing upgrade and maintenance projects were financially supported and 79 were completed.
- 229 025 additional library items were purchased.
- 969 libraries provide free public Internet access to the public.
- Nine new services for the visually impaired were established.
- 47 library assistants in the Free State and Northwest province received bursaries.

Between 2007 and 2023, the Community Library Services Grant (CLSG) facilitated the creation of 259 mini-libraries for the visually impaired[77]. In the 2023'/24 financial year, the DSAC allocated funds to support the construction of 32 new libraries (including five dual-purpose school-community libraries), the upgrading of 11 existing libraries, the procurement of 310 000 library items, and the maintenance of 2500 contract staff across provinces.

The Government Communication and Information System (GCIS) is the official communications agency of the South African government. One of its initiatives is the Thusong Service Centre Programme, providing citizens especially in rural areas with access to government services and information. In 2014, the 178 Thusong Services Centres[78] constituted one-stop centres where local, provincial and national government and other service providers offer services and information about government programmes to local communities.

Vodacom's e-School platform offers zero-rated access to curriculum-aligned educational content, benefiting over 1,2 million learners across South Africa. Additionally, Vodacom has upgraded infrastructure in 12 schools of excellence and provided ICT training to over 300 000 teachers through 92 Teacher Centres[79].

Open source, proprietary and free software

South Africa's public sector, guided by the Department of Public Service and Administration (DPSA) has a policy framework that encourages the use of open-source software within government to reduce costs and promote localisation[80].

Many government departments and educational institutions utilise open-source platforms for specific applications and data management. The private sector offers a diverse range of proprietary software solutions, meeting varied business and consumer needs, while free software is readily available for individual users.

The use of open-source software also aims to provide wider access, especially during training sessions. Open source has become a critical consideration for the future access to information and knowledge. In some scenarios, proprietary software has created dependencies. The Pan-African Information Communication Technology Association (PAICTA) is an example of an entity that is identified and looking towards the use of open source for their training initiatives.

As of 2025, 5 323 public schools have been connected to the Internet (see Figure 11). Unfortunately, this project is mostly restricted to cities because of a lack of connectivity in rural areas, and this limits universal access to information and knowledge.

[77] https://pmg.org.za/committee-meeting/37893/
[78] https://www.gov.za/about-government/contact-directory/thusong/
[79] https://www.vodafone.com/news/digital-society/vodacom-drives-positive-outcomes-education
[80] https://www.dpsa.gov.za/newsroom/media-releases/south-africa-to-prioritise-open-source-software/

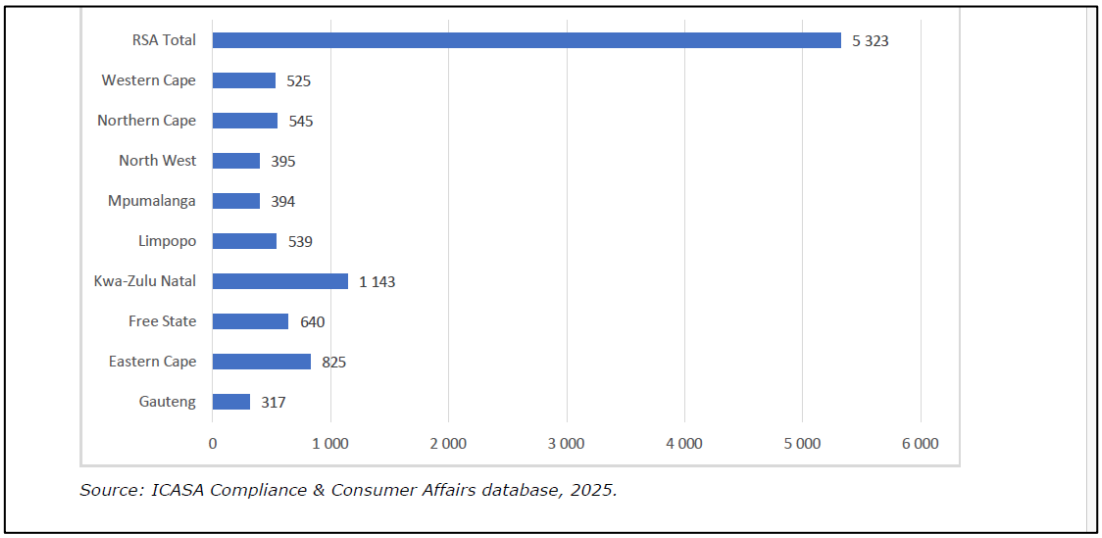


Figure 11: Number of South African public schools connected to the Internet as of 2025

Public access to information & public domain information

The Department of Communications and Digital Technologies (DCDT) has championed the zero-rating of public interest websites, including educational, health, and government content, to lower cost barriers for vulnerable users, and the impact of this was more prominent during the COVID-19 pandemic. This ensures essential information can be accessed without depleting mobile data bundles. Academic institutions and public bodies also contribute to the public domain by digitising and sharing research, cultural works, and official data.

C3 Challenges

South Africa has made a strong commitment to fostering an inclusive information society, central to WSIS Action Line C3 on Access to Information and Knowledge. However, the nation continues to grapple with significant hurdles in fully realising this vision. These challenges, often interconnected, stem from various systemic issues and have broad impacts on citizens' ability to access, utilise, and contribute to information and knowledge.

Promotion of access to information act

Low compliance by public bodies, particularly municipalities (only 17% reporting in 2020/21), is a major issue. This stems from insufficient capacity at local levels and a lack of consistent penalty mechanisms for non-compliance. The impact is delayed or complicated access to critical local government information for citizens.

The SAHRC's PAIA Unit was disbanded in 2016 due to funding shortages, which further limited training and outreach efforts. This has resulted in lower public awareness and limited uptake of PAIA requests, even among large private corporations.

Library and information services system weaknesses

LIS faces systemic challenges including policy and governance issues, human resources shortages, and inadequate training. This leads to uneven access to essential library services and ICTs across the country.

A fundamental root cause is a lack of appreciation for the value of LIS in educational and developmental imperatives. The impact is a weakened role for libraries as key access points for information and knowledge.

Educational sector deficits

The Department of Basic Education's 2013 commitment to ensure all public schools have libraries by 2023 remains unmet. As of mid-2024, approximately 74% of public schools still lacked libraries, with only 14% being fully stocked[81]. The root cause is likely insufficient funding and implementation capacity, impacting students' access to vital learning resources.

Funding and infrastructure disparities

Across the board, funding limitations and significant infrastructure disparities hinder the full digitisation of extensive archival collections and the universal upgrading of public libraries. This is particularly acute in underserved regions. The impact is a critical gap in comprehensive digital access to cultural and historical resources.

Access to scientific knowledge

While high-end research infrastructure has seen strides, consistent and affordable access to scientific journals and databases remains a challenge for many researchers and the public. This issue is primarily rooted in restrictive subscription models. The impact is a barrier to widespread knowledge dissemination and utilisation.

The digital usage divide

A persistent "usage divide" means many South Africans lack the necessary digital skills, language proficiency, or device affordability to fully leverage connectivity. Rural and disabled communities are disproportionately affected by limited investment and a lack of universally accessible platforms and assistive technologies. Load shedding and cable theft further disrupt service delivery and exacerbate these inequalities.

Open-source software adoption

Despite clear policy directives, the widespread adoption of open-source software in government and large enterprises faces challenges. Root causes include the inertia of legacy systems and insufficient training for personnel. The impact is a continued reliance on foreign-developed software and limited local open-source development.

Public domain information limitations

The volume of easily digestible and diverse linguistic formats of public domain information available online remains limited. Challenges include fragmented data sets and a lack of comprehensive national digital repositories. The impact is hindered effective search and use of available public knowledge by citizens.

Delays in copyright reform

The 2017 Copyright Amendment Bill, crucial for modernising copyright laws to balance creator rights with public access, has faced significant delays in enactment. Despite parliamentary approval, presidential reservations and a referral to the Constitutional Court mean its intended impact has not yet been fully realised. The root cause is ongoing legal and political complexities, impacting clarity on fair use and exceptions for various groups.

[81] https://allafrica.com/stories/202309210035.html

C3 Future Priorities

South Africa's future priorities for the WSIS Action Lines are shaped by a comprehensive understanding of current challenges and a commitment to building a truly inclusive, sustainable, and innovation-driven digital society. These priorities reflect a multi-stakeholder approach, drawing on extensive consultations and detailed research to identify strategic areas for intervention over the coming years.

The recommended future priorities from South Africa on WSIS Action Line C3, based on multi-stakeholder consultations as well as desktop research studies:

Strengthening legal and regulatory frameworks

Proposals include reviewing both the Promotion of Access to Information Act (PAIA) and the Protection of Personal Information Act (POPIA) to enhance their enforcement powers. This aims to address the historically low compliance rates by public and private bodies.

The intended impact is a significant increase in transparency and accountability across all sectors, ensuring citizens can more effectively exercise their right to access information. Stricter penalties would also deter non-compliance, fostering a more robust regulatory environment.

Continuous training programmes for library staff

To address human resource and skill gaps in LIS, continuous training programmes, including bursaries, are being prioritised. These programmes aim to equip library staff with the necessary skills to adapt to evolving digital demands and information management practices.

The impact will be a more professional and digitally capable library workforce, ensuring LIS can offer relevant and effective services in the digital age, thereby improving the overall quality of access to information.

Scaling of Thusong service centres

A major initiative is the establishment of Thusong Service Centres at each of South Africa's 283 municipalities. These centres are envisioned as integrated hubs for public service delivery, with well-equipped LIS components prioritised within them.

This aims to decentralise access to government services and information, particularly benefiting rural and underserved areas by providing integrated LIS support. The impact is enhanced digital inclusion and improved access to essential public services at a local level.

To further enlarge the footprint and reach of the existing Thusong Service Centres, there are plans to establish satellite and mobile units. These flexible centres can serve remote communities and specific populations that may not have easy access to fixed centres.

This initiative seeks to overcome geographical barriers to information and service access, ensuring that even the most distant populations can benefit from government services and digital resources, significantly expanding the reach of WSIS Action Line C3.

ICASA's connectivity targets

The Independent Communications Authority of South Africa (ICASA) has set ambitious targets to connect key public institutions to the Internet. Their aim is to provide Internet access to an additional 16,139 schools, 3,342 government clinics, 890 government hospitals, 570 libraries, and 937 traditional offices.

This direct investment in connectivity for public service points will significantly enhance access to educational resources, improve healthcare information delivery, and facilitate greater civic engagement. The impact will be a more digitally empowered populace, leveraging institutions for broad access to information and knowledge.

4. Action Line C4: Capacity Building

Preface

The fundamental objective of WSIS Action Line C4 is to empower individuals and communities with the necessary knowledge and skills to fully participate in and benefit from the Information Society. This action line recognizes that simply providing infrastructure (C2) and access to information (C3) is not enough; people need the capabilities to effectively use ICTs.

Key aspects and objectives of Action Line C4 include:

- **Digital Literacy and Skills Development:** Equipping all segments of society, including children, youth, adults, the elderly, and people with disabilities, with basic to advanced digital skills. This ranges from fundamental computer literacy to specialized technical skills needed for digital content creation, programming, and emerging technologies (like AI, IoT, blockchain).
- **Education and Training:** Integrating ICT skills into formal and informal education systems, from primary schools to universities and vocational training centres. This also includes continuous professional development for ICT professionals.
- **Human Resource Development for the ICT Sector:** Building a skilled workforce for the ICT industry itself, including network engineers, software developers, cybersecurity experts, and IT managers.
- **Capacity Building for Policymakers:** Providing training and resources for government officials, regulators, and legal professionals to understand ICT trends, policy implications, and effective governance models.
- **Promoting Awareness and Understanding:** Educating the public about the opportunities and risks associated with ICTs, encouraging their safe, ethical, and productive use.
- **Sharing Best Practices and Knowledge:** Facilitating the exchange of successful capacity building initiatives, curricula, and methodologies among countries and stakeholders.
- **Addressing the Skills Gap:** Identifying and addressing critical skills shortages in the digital economy to ensure that a country's workforce is competitive and adaptable to technological change.
- **Fostering Local Expertise:** Encouraging the development of local capacity to innovate, develop, and manage ICT solutions, reducing reliance on external expertise.

C4 Achievements

In the past 20 years, the South African government has recognised that e-skilling the nation is an essential component of contributing to the ICT society and building the knowledge economy. E-skills relates to the use of modern ICT devices for work, education, community development and personal development. The development of e-skills critically affects the capacity of the country and without e-skills development, inequalities may grow.

The NDP2030 also underscores the importance of digital skills and access in remote areas, providing a guiding policy framework for interventions, and to date South Africa has implemented various programmes and initiatives to foster digital literacy, education, and skill development across diverse populations.

Basic literacy & combating illiteracy.

The Department of Basic Education's Kha Ri Gude Mass Literacy Campaign[82], launched in 2008, aimed to eradicate illiteracy among adults. This public sector initiative reached millions, offering foundational literacy and numeracy skills, directly combating adult illiteracy. Civil society organisations like the Adult Literacy Project (ALP) have also consistently supported literacy efforts in communities.

Fostering e-skills and e-readiness

In October 2012, the Department of Communications adopted the establishment of the Ikamva National eSkills Institute (iNeSI flagship) project to address the e-skill challenges and grow the e-readiness of the government with the collaboration of government, business, education and civil society. The IKAMVA National E-Skills Institute Bill was gazetted on 20 April 2018 and aimed to provide for the promotion of the use of information and communication technologies, establish the iKamva National e-skills Institute (iNeSI), and provide for the establishment of the ICT knowledge production and coordination of Colabs[83].

The Bill seeks to integrate e-skills development institutes into one institution, called the Ikamva National e-Skills Institute (iNeSI), which will provide guidance and support at a national level. The Bill seeks to provide a framework to address the e-skills challenges in the country. It also seems to provide for more coordinated responses for the challenges faced by the rapid expansion of ICT capacity.

Digital and future skills

The National Digital and Future Skills Strategy was released by the Department of Communications and Digital Technologies in 2020 as approved by Cabinet and identifies the “Creating Society 4.0 and Addressing the Digital Skills Divide” as one of the critical strategic levers to bring about a digitally transformed society.

The strategy focuses on building a society of digitally skilled South Africans. It covers several strategic elements including[84]:

- Building digital foundation of basic and intermediate digital skills
- Building advanced digital skills in the domains of tertiary institutions, lectures staff development, research related to digital skills revolutions, mobile online courses, measures to strengthen CoLabs, tech hubs and related institutions.
- Skills for Industry 4.0
- Digital skills awareness
- Monitoring of digital skills

The strategy aims to ensure that South Africa prioritises digital skills to ensure that the country can engage, compete and benefit from the digital revolution.

The Department of Communications and Digital Technologies often in partnership with entities like the State Information Technology Agency (SITA) and the National Electronic Media Institute of South Africa (NEMISA), has actively worked to establish digital hubs and co-labs for building digital skills over the last two decades. These initiatives form a key part of the National Digital and Future Skills Strategy.

One significant initiative is the Cyber Lab Programme, coordinated by SITA, which has established cutting-edge computer facilities in schools across various provinces, including Mpumalanga, North-West, Northern Cape, Eastern Cape, Limpopo, Gauteng, and Western Cape. These labs provide learners and educators with access to high-end technology, internet connectivity, and training in

[82] https://uil.unesco.org/case-study/literacy/kha-ri-gude-mass-literacy-campaign-south-africa
[83] https://www.nemisa2.co.za/wp-content/uploads/2020/07/B10-2018_iKamva_National_e-Skills_Institute.pdf
[84] https://www.gov.za/sites/default/files/gcis_document/202009/43730gen513.pdf

robotics, coding, digital literacy, and Artificial Intelligence, aiming to bridge the digital divide in underserved communities.

Furthermore, the DCDT supports E-skills CoLabs, such as the one at the Vaal University of Technology (VUT). These co-labs collaborate with local municipalities, other government departments, and the private sector to offer specialised training programmes in high-demand digital skills like cell phone repair, cybersecurity, Internet of Things (IoT), and basic programming. This collaborative approach aims to equip young people with practical, industry-aligned skills for the evolving job market.

The DCDT also partners with organisations like Cisco to support the creation of Digital Learning Hubs in public libraries and establish a Government Digital Academy. These efforts focus on digital upskilling and training for both citizens and public sector employees, leveraging established infrastructure to promote widespread digital literacy and prepare the workforce for the digital future.

AI hubs for digital skilling

The establishment of Artificial Intelligence (AI) Hubs by the Department of Communications and Digital Technologies through the Artificial Intelligence Institute of South Africa (AIISA)[85], directly aligns with WSIS Action Line C4: Capacity Building. These hubs serve as critical infrastructure for developing human resources and fostering advanced digital skills necessary for the information society.

Strategically located at institutions like the University of Johannesburg (UJ)[86](2022), Tshwane University of Technology (TUT)[87] (2023), Central University of Technology (CUT)[88](2024), and the Military Academy[89](2024), these AI Hubs are pivotal in training ICT professionals and developing specialised expertise.

They offer cutting-edge programmes in AI, machine learning, and data science, directly addressing the demand for high-end digital skills.

Furthermore, these hubs contribute significantly to Research and Development (R&D) in AI, fostering innovation and creating new knowledge relevant to South Africa's economic sectors (e.g., manufacturing, mining, agriculture, defence).

By engaging youth and encouraging life-long learning in emerging technologies, the AI Hubs enhance e-literacy beyond basic digital skills, preparing the workforce for the demands of the Fourth Industrial Revolution. Their presence also creates opportunities for self-learning and collaboration, strengthening South Africa's overall capacity in advanced digital domains.

Education/training and e-literacy

Government initiatives like SA Connect and the Digital Literacy Programme have aimed to provide basic e-literacy skills to communities, particularly in underserved areas, often through community centres and public libraries[90]. Private sector companies offer various digital skills training, while civil society groups often focus on grassroots digital literacy (there are a number of these examples)

Digital skills training via internships

The Human Sciences Research Council (HSRC), in partnership with the Department of Science, Technology and Innovation (DSTI), runs a significant graduate internship programme aimed at developing critical digital and research skills among young, unemployed graduates.

[85] https://aii-sa.co.za/aiisa-south-africas-new-powerhouse-for-artificial-intelligence-innovation/
[86] https://news.uj.ac.za/news/uj-and-tut-collaborate-to-launch-tut-hub-of-the-ai-institute-of-south-africa-2/
[87] https://www.tut.ac.za/latest-news/541-ai-for-a-new-world-using-ai-to-solve-societal-problems
[88] https://www.cut.ac.za/events/launch-cuts-aiisa-hub
[89] https://www.dcdt.gov.za/media-statements-releases.html?start=50
[90] https://unctad.org/system/files/non-official-document/wsis20_c23_undp_en.pdf

This programme has a long history, having previously been managed by the National Research Foundation (NRF) for over 15 years, during which it enabled internship opportunities for over 6,000 young people.

This initiative's primary objective is to bridge the gap between academic qualifications and workplace demands by providing hands-on experience in data management and analysis.

Since its inception under the HSRC, the programme has trained over 1,000 unemployed graduates, with new cohorts of approximately 200 interns onboarded annually.

Interns gain practical skills using digital tools and statistical software while working alongside experienced researchers, directly contributing to the national talent pool equipped with the data literacy needed to conduct evidence-based research and inform public policy.

Distance learning and self-learning.

Public universities, such as the University of South Africa (UNISA), have expanded their distance learning offerings, leveraging online platforms to provide flexible higher education. The COVID-19 pandemic significantly accelerated the adoption of remote learning technologies across basic and higher education sectors, showcasing adaptability.

Teacher training

Government programmes, spearheaded by the Department of Basic Education (DBE), have consistently focused on integrating Information and Communication Technologies (ICTs) into the national curriculum. This necessitates ongoing teacher training in digital tools and methodologies to enhance teaching and learning.

For example, the DBE has developed implementation plans for delivering digitised Learning and Teaching Support Material (e-LTSM) and has trained teachers on change management and ICT integration.

Initiatives like the ISPA SuperTeacher of the Year Awards[91] (2018), supported by the Internet Service Providers' Association (ISPA) and the Digital Education Institute (DEI), have recognised and celebrated teachers who effectively use ICTs, providing a platform to showcase best practices and encourage broader adoption.

Over 5,000 teachers have received ICT skills training through ISPA's "Train the Teacher" project alone. Projects like Nelson Mandela University's "Tangible Africa" (2025) have also trained 25,000 teachers in coding applications that can be used offline, bridging the digital divide in remote areas[92].

Training ICT professionals

Sector Education and Training Authorities (SETAs), along with numerous public universities and private colleges, have been instrumental in equipping individuals with the skills required by the evolving ICT industry. SETAs, such as the Media, Information and Communication Technologies Sector Education and Training Authority (MICT SETA), play a crucial role in developing sector skills plans, establishing learning programmes, and allocating grants for training. They forge partnerships with TVET Colleges, CET Colleges, and universities to ensure relevant and quality skills development interventions.

The MICT SETA coverage extends across the advertising, film and electronic media, electronics, information technology, and telecommunications industries.

MICT SETA's achievements in capacity building, directly supporting WSIS Action Line C4, are reflected in its consistent output of skilled individuals through various programmes. In the 2012/2013 financial

[91] https://www.bizcommunity.com/Article/196/706/180782.html
[92] https://www.goodthingsguy.com/lifestyle/tangible-coding-training-impacts-schools-across-south-africa/

year, for example, MICT SETA funded the training of 5,651 learners in learning programmes, including 2,830 learnerships and 1,035 internships, with a significant proportion placed into employment upon completion.

More recently, in a single year, MICT SETA reported funding the training of 7,811 learners across various programmes, demonstrating its ongoing commitment. This included 2,877 in learnerships, 1,182 in skills programmes, and 1,673 in graduate internships, with strong employment placement rates reported for completions.

The SETA specifically focuses on addressing scarce and critical skills within the MICT sector, such as Software Developers, Computer Network and Systems Engineers, ICT Systems Analysts, and Cybersecurity Specialists. It has also championed skills related to the Fourth Industrial Revolution (4IR), ensuring that its programmes are aligned with emerging technologies like AI, IoT, and data analytics.

MICT SETA's work extends to both employed and unemployed learners, prioritising unemployed youth, individuals with disabilities, and those in rural areas through partnerships with training providers, employers, and educational institutions like TVET colleges and universities. Its annual reports consistently detail contributions to the national skills development agenda, with efforts to improve programme delivery, quality, and placement rates through robust governance and a focus on industry-aligned qualifications.

Broadband and digital skills for municipalities

DCDT is also spearheading South Africa's public sector digital transformation by prioritizing the enhancement of digital skills among civil servants.

A vital component of this initiative is its strategic collaboration with the South African Local Government Association (SALGA)[93] and the British High Commission. This partnership is essential because municipal officials and councillors are on the front lines of service delivery and community engagement, making their digital proficiency critical for effective local governance and citizen interaction. A significant step in this collaboration was the launch of the "Broadband and Digital Skills for Municipalities Programme" on September 3, 2024, in Polokwane, Limpopo.

This programme was piloted in support of the National Digital and Future Skills Strategy, Smart Cities Development Framework, District Development Model (DDM), and the implementation of the Declaration of Intent signed in 2021 between the South African Government and the United Kingdom under the UK Prosperity Fund ODA resources.

This program aims to equip councillors and municipal managers with crucial digital competencies, including cybersecurity, data analytics, and robotics.

Following its Limpopo debut, the Broadband and Digital Skills for Municipal Project was successfully implemented to December 2024 in North-West and the Eastern Cape. It is anticipated that the programme will continue to be implemented in the 2025/2026 financial year.[94].

These joint efforts by the DCDT and SALGA are crucial for accelerating the adoption of digital tools at the local level, fostering greater efficiency, transparency, and accessibility in public services, and ultimately modernizing local governance for the benefit of all South Africans.

Tradition digital skills development

Public universities like the University of Pretoria, University of Johannesburg, Tshwane University of Technology, University of Cape Town, and Nelson Mandela University offer comprehensive computer science and ICT degrees, constantly updating curricula to address emerging technologies like AI, IoT,

[93] https://www.gov.za/news/speeches/minister-solly-malatsi-launch-broadband-and-digital-skills-municipalities-03-sep-2024
[94] https://it-online.co.za/2024/09/04/municipal-workers-get-access-to-digital-upskilling/

and cybersecurity. They focus on providing both theoretical foundations and practical skills through project-based learning and industry engagement.

Private colleges, including Varsity College, Belgium Campus (ITVarsity), and Damelin (to name a few), also offer a wide range of ICT diplomas and certificates, often with a strong focus on industry-aligned curricula and practical skills development to prepare graduates for direct entry into the IT sector. These institutions aim to address the persistent skills shortage in the South African ICT industry by producing job-ready graduates in fields such as network administration, web development, data analysis, and software programming.

Gender and youth

Programmes like the National Youth Policy (NYP) advocate for youth development, including digital skills. Initiatives such as the GirlCode[95] (civil society) actively promote female participation in coding and technology, aiming to address the gender gap in ICT professions.

BRICS digital skills involvement

One of the most prominent achievements is South Africa's success in the BRICS Future Skills Challenge, an international competition designed to benchmark and develop high-tech skills among young people from BRICS nations.

In the 2022 competition, where China was the host, a team of 240 South African professionals and students (aged 16-35) competed across various categories. The team's performance was remarkable, winning a total of 15 medals across 12 challenge areas.

Out of these, 10 were top three placements, including bronze and silver medals in critical fields such as cybersecurity, mobile app development, data science, and artificial intelligence.

Notably, the South African team, with a population of around 60 million, secured a similar number of medals as India, a country with a population of 1.4 billion, demonstrating the high calibre of local talent.

This success continued in subsequent competitions. At the 2023 BRICS Future Skills Challenge, hosted in Johannesburg, a team from the University of Johannesburg (UJ) won a gold medal in the Building Information Modelling (BIM) category, along with one silver, one bronze, and two Medals of Excellence.

In 2024, two student teams from the Vaal University of Technology (VUT) earned top honours at the competition, with one team winning an Excellence Award in the Artificial Intelligence track and another securing third place in the Future Technology track. These consistent achievements highlight South Africa's growing expertise in digital technologies and its ability to compete on a global stage.

Beyond competitions, South Africa has engaged in broader skills development initiatives within the BRICS framework. These include participation in forums and training programs under the BRICS PartNIR (Partnership on New Industrial Revolution) Innovation Centre.

This collaboration facilitates knowledge exchange and access to specialized training in fields like Industrial Internet, AI, and Big Data. The focus on skills for the future is also integrated into national policy.

For example, the Department of Basic Education is accelerating the "Three Stream Model" to provide vocational and occupational training, with lessons from BRICS partners influencing the reskilling of teachers and the development of curricula in high-demand fields.

[95] https://girlcode.co.za/impact-report/

Private sector digital skills development

Major international technology companies are making significant contributions to skills development in South Africa, directly supporting the "enabling environment" for ICT SMMEs.

Microsoft, for example, has committed to skilling one million South Africans by 2026. This includes a recent investment of ZAR 5.4 billion by the end of 2027 to expand its cloud and AI infrastructure in the country[96].

A key initiative within this commitment is a program to pay for the certification exams for 50,000 young people over the next 12 months in high-demand digital skills like AI, data science, and cybersecurity[97].

In 2024 alone, Microsoft's "Skills for Jobs" program saw over 150,000 people trained, with 95,000 certified and 1,800 securing employments. Furthermore, Microsoft has a R1.32 billion investment over ten years specifically for the development of black-owned SMMEs in both tech and non-tech sectors[98].

This includes a R663 million enterprise development initiative to support technology startups and a R347 million skills development initiative to provide intensive training to young Black South Africans, with a goal of accrediting around 1,000 beneficiaries with certifications. Similarly, global players like Google and IBM, through platforms like IBM SkillsBuild[99], offer free courses and resources to help learners and organizations acquire valuable tech skills, contributing to the overall digital literacy and skills base of the nation.

Other digital skills initiatives

Since its inception in 2020, the Pan African Information Communication Technology Association (PAICTA) has served as a catalyst for digital empowerment across Africa, with a strategic focus on rural, peri-rural, and grassroots communities.

PAICTA is a continent-wide, purpose-driven non-profit company headquartered in Gqeberha, South Africa. PAICTA is committed to eradicating digital poverty and driving inclusive digital transformation by equipping youth, women, girls, and differently abled individuals with skills, tools, and opportunities to thrive in the global digital economy.

PAICTA has established physical and virtual incubation hubs across rural and peri-rural areas to empower local talent and support youth-led innovation.

These Smart Digital Innovation Centres serve as grassroots engines for:

- Digital skills development
- Entrepreneurial incubation
- Mentorship and coaching
- OEM technology integration and simulations

[96] https://news.microsoft.com/source/emea/features/microsoft-invests-zar-5-4bn-in-south-africa/
[97] https://www.gov.za/news/speeches/president-cyril-ramaphosa-microsoft-investment-and-ai-skilling-initiative
[98] https://www.engineerit.co.za/article/microsoft-invests-r13-billion-in-south-africa-to-spur-job-creation
[99] https://skillsbuild.org/

Table 1: PAICTA Impact (2020–2025)

Impact Area	Achievements
Youth Reached	7,800+ trained across Sub-Saharan Africa
Countries Active	9+ African nations
Core Training Areas	Cybersecurity, Data Science, Python, Soft Skills, AI
Delivery Methods	Instructor-led (on-site & virtual), self-paced online
Cybersecurity Certification	1,500+ enrolled in Fortinet Pan-African programme; 800+ pending
Internships	4 cohorts through MICT SETA funding, with industry secondments via CSIR (virtual deployment)
OEM & Academic Partners	Fortinet, Splunk, Cisco, Palo Alto, Check Point, CompTIA, HPE, WatchGuard
Institutional Accreditation	MICT SETA and QCTO accredited
Incubation Focus	MSME digital development, second-chance youth, and tech startups

PAICTA's strategic direction is steered by a multidisciplinary Advisory Board representing:

- The list of educational institutions includes Walter Sisulu University, the University of Fort Hare, the University of the Witwatersrand (commonly known as Wits), the University of Johannesburg, the University of Namibia (UNAM), Addis Ababa University, the Women's University in Africa, the Cape Peninsula University of Technology (CPUT), the University of the Western Cape (UWC), Rhodes University, Nelson Mandela University (NMU), the University of Pretoria - Gordon Institute of Business Science (UP-GIBS), Tallinn University (located in Estonia), and the University of Mpumalanga.
- Science & Research: CSIR
- Industry Experts: From South Africa, Europe, and the USA.

To ensure employment-readiness, PAICTA has:

- Delivered four internship cohorts through MICT SETA funding.
- Facilitated virtual industry experience placements via their collaboration with the CSIR, integrating real-world exposure into digital training frameworks.
- Provided mentorship from industry and academic experts, creating pathways for lifelong learning and employment.

From training cybersecurity defenders to incubating digital startups, PAICTA builds bridges between education, innovation, and employment—delivering on Africa's digital development mandate with global alignment.

NEMISA

NEMISA is an entity of DCDT and was established to carry out training in two broad areas: creative media and digital skills. The digital skills program covers topics like Internet, cloud storage, social media and digital awareness and information ethics [100].

NEMISA has also trained about 700 000 people in cell phone repairs over the years. Many of the students have established SMMES – indicator of the benefits of the skills and knowledge transfer. There are also a digital ambassador's program whereby young unemployed members are given training, especially ICT graduates from communities and rural areas. Partnerships with entities like the Department of Land Reform and Rural Development help to despatch these ambassadors to rural areas to work closely with traditional authorities.

NEMISA also offers training for teaching assistants and has trained over 150 000 people to assist teachers and learners. Such initiatives emphasise the priority area of education.

Other partnerships with the National School of Government (NSG) and DPSA has helped to roll out the support of the digital transformation agenda to train government employees and civil servants. Previously, training initiatives for government was not coordinated. NEMISA is now adopting a more coordinated and standardised approach to assist with government employee training.

2025 Mzansi Digital Learning

The 2025 Mzansi Digital Learning (Gauteng) initiative[101] represents a forward-thinking approach to addressing digital skills gaps and fostering an inclusive information society within South Africa, directly aligning with WSIS Action Line C4. This significant program is designed to empower individuals with essential digital competencies, recognising that access to information and technology is meaningless without the skills to utilise them effectively.

At its core, the initiative provides free and data-free online courses[102], thereby eliminating crucial barriers to participation, particularly for low-income individuals and communities where data costs and internet access remain significant challenges. These courses span critical and in-demand areas of the digital economy, including foundational cybersecurity knowledge, advanced generative artificial intelligence (AI) concepts, and practical data analytics skills. By focusing on these high-demand areas, the program aims to build a workforce and citizenry capable of engaging with and contributing to modern digital platforms and emerging technologies.

The program strategically targets a dual audience: citizens at large, ensuring broader digital inclusion across various demographics, and civil servants, thereby enhancing the public sector's capacity for digital governance and service delivery.

This comprehensive approach is strengthened through collaborative partnerships with major technology players such as Afrika Tikkun, Microsoft South Africa, Vodacom, and Maponya Mall, leveraging their expertise, resources, and platforms to deliver high-quality and relevant content. An innovative AI Skills Navigator tool is also integrated to assess users' current skills and guide them to suitable courses. Ultimately, the 2025 Mzansi Digital Learning initiative is a concrete step towards equipping South Africans with the necessary skills to effectively participate in and benefit from the evolving digital economy, fostering a truly knowledgeable and empowered society.

[100] https://nemisa2.co.za/training/
[101] https://www.gauteng.gov.za/News/NewsDetails/%7B6908076e-e636-4395-bec5-67efb04a264e%7D
[102] https://www.mzansidigitallearning.co.za/

The Association for Progressive Communications

The Association for Progressive Communications (APC) actively contributes to the objectives of several WSIS Action Lines, often from a digital rights and social justice perspective, beyond just infrastructure.

APC's work extends beyond basic digital literacy to focus on "meaningful access" and critical digital citizenship. They advocate for training that empowers individuals to not only use technology but also to understand its implications, protect their digital rights, and leverage ICTs for social change.

This includes building the capacity of civil society organizations to advocate for policy reform, participate in internet governance processes, and develop community-led digital solutions. Their training programs often emphasize practical skills alongside critical thinking about technology's societal impact.

Other programmes are listed in Table 2.

Table 2: Other Capacity Building Programmes

No	Initiatives	Description
1	Teacher Laptop Initiative (TLI) managed by the Education Labour Relations Council in 2010	The initiative aimed at making resources available to learners and teachers in the public education sector through a monthly allowance to fund the purchase of a basic laptop and Internet connection. [103]
2	INTEL "Teach to the Future" in 2010	The initiative provides teacher training in ICT integration into teaching and learning.
3	SABC Education Virtual Academy (SEVA)	Self-help eLearning management system developed to support the quality of education in South Africa, by repurposing the educational TV programs by the SABC for online learning, and for usage by public. It provides for e-school (high school support), e-farmers and 4IR portal. [104]
4	Food and Beverages Manufacturing Sector Education and Training Authority (SETA) 2022	Working to improve digital literacy in disadvantaged communities. [105]
5	Thutong Portal	Is a portal that aims to deliver information, curriculum, and support materials to the South African schooling community.
6	SchoolNet SA	It is a public benefit, not-for-profit company established in 1997. It acts as a leading advocate and implementer of effective digital learning to drive positive educational change across South Africa. SchoolNet SA has a portal that provides online, content development, tutor training and educator development for ICT integration qualifications in South Africa for teachers and educational managers. It has partners like Intel, Microsoft, Adobe, Oracle, Google education, Vodacom, CSIR. Telkom, Sun

[103] https://www.gov.za/news/media-advisories/teacher-laptop-initiative-rollout-launch-14-jul-2010
[104] http://www.seva.co.za/
[105] https://foodbev.co.za/wp-content/uploads/2023/04/Bridging-the-Digital-Literacy-Divide.pdf

		International and Anglo Platinum.[106]
7	e-Matric	A system that provides online registration to write Senior Certificate examinations, check results and other supporting material.
8	Khetha Career Development Services	A helpline providing free career information, guidance, development services and advice.
9	Lwazi Project	Through the development of speech technologies, this project aimed at making it possible for South Africans to access government information and services in any of the country's 11 official languages. It was led by the Meraka Institute at the CSIR.
10	Khanya Project in the Western Cape 2020	A project delivering PCs and providing network infrastructure and training to schools.
11	SmartXchange Skills Corridor established in 2004 and still running	The Skills Corridor incubator is an initiative that promotes skills development for Media, Information Communication Technology, Electronics and Arts (MICTEA) entrepreneurs in South Africa.
12	Girlhype	Online platform for skills development covering topics in cybersecurity, data science and networking. Provides a community for mentorship and networking for females in the technology space. Have carried out various community training programs in various provinces in South Africa. Aim to bridge digital divide by supporting skills development in township communities, females, underserved areas, and the marginalized youth. Some initiatives include Internet in box (USB with courses) and multi-lingual courses.
13	Nelson Mandela Metropolitan University (NMMU)	Centre for Community Technologies and Centre for Research and Centre for Research Information and Cyber Security Cyber Smart Squad- early childhood intervention with the use of cartoon characters based on the Bid 5 to team young learners how to interact with the Internet in a responsible manner. Post-graduate level has various digital skills training programs that integrate cybersecurity. Collaborate with NPOS. Annual event Cyber Security Moot Court Competition- in collaboration with the Faculty of Law bring together the elements of Law and the Internet whereby students need to present a cyberbullying case.

C4 Challenges

South Africa faces persistent challenges in C4: Capacity Building, are fundamentally rooted in the digital divide. These issues stem from various factors, impacting the nation's ability to fully develop its digital human capital.

Digital divide & infrastructure access

Many schools still lack reliable internet and essential digital services, severely hindering capacity building and equitable access to online learning resources. This critical infrastructure gap is

[106] https://www.schoolnet.org.za/about-us/today/

exacerbated by some private sector partners' reluctance to invest in broadband provision for rural areas, limiting widespread digital inclusion.

Integration & sustainability of learning hubs

A key hurdle is the inability to effectively integrate ICT-based e-skills and e-learning hubs into a cohesive national digital understanding framework, often leading to fragmented learning experiences. Furthermore, sustainability is a significant concern, with skills development efforts frequently becoming once-off activities that lack the necessary momentum for continuous progress.

Educator capacity & content relevance

Teacher resistance and low digital skill levels among educators' further compound issues, as current training curricula may not adequately incorporate necessary digital literacy and fluency. Moreover, the relevance of digital literacy content is often lacking, requiring regular updates and expert consultation to keep pace with rapidly changing technologies.

Cybersecurity risks

Finally, the growth of digital interaction brings with it the inherent risk of increased cyber incidents. Many students and citizens may lack basic cybersecurity awareness, leaving them vulnerable and posing a significant challenge to safe and effective digital participation.

C4 Future Priorities

South Africa's future priorities on Capacity Building are firmly focused on actionable strategies to overcome existing challenges and foster a digitally empowered society. These priorities encompass strategic alignment, increased investment, robust infrastructure, and continuous skill development across all levels.

Strategic coordination & monitoring

A key priority is to enhance coordination and awareness of strategic digital skills elements across all levels, from basic foundations at training institutions to advanced Industry 4.0 skills within universities and industry. This requires improved coordination across government and all stakeholder groups for digital skills development. Furthermore, robust research and monitoring of digital skills initiatives are essential to assess labour market needs and inform action plans.

The National Digital and Future Skills Strategy released in 2020, is also under revision. This will help identify key priorities and skills areas that require critical attention.

DCDT is also in the process of developing a national competency framework, in partnership with NEMISA. This will also assist with the intervention of digital skills development in the country.

The DCDT working to develop a national digital skills development platform inclusive of all South African languages and catering to people with disabilities and is collaborating with industry and academia to build digital leadership skills[107]. These efforts collectively aim to cultivate a South Africa where individuals, the economy, and society benefit from advanced digital skills, ensuring readiness for a digital and future-oriented workforce.

Funding & partnership mobilisation

Securing adequate funding for digital skills initiatives is paramount. This involves actively pursuing and strengthening private-public partnerships, along with leveraging resources from NGOs and governmental bodies, to build a cohesive skills development ecosystem. Crucially, tech company

[107] https://pmg.org.za/committee-question/26487/

partnerships should be fostered to promote digital literacy through campaigns, device donations, equipment provision, and sharing expertise.

Enhancing infrastructure & access

Implementing long-term infrastructure projects at schools is vital to provide reliable internet access and necessary devices for digital skills teaching. This necessitates dedicated funding partnerships and other infrastructure financing initiatives. Additionally, zero-rating platforms for skills development will remove data cost barriers, especially for underprivileged areas, and help extend digital learning opportunities to remote and rural communities across multiple platforms.

Curriculum development & educator empowerment

Priorities include ensuring teachers receive ongoing professional development and training opportunities to boost their digital skills and confidence, alleviating any resistance to technology integration. Schools must prioritise teaching cybersecurity awareness, online safety, and cyber risks. There is a strong need to promote coding and STEM education more broadly across all educational institutions, ensuring new generations of problem-solvers and innovators are cultivated. For advanced digital skills, adapting new curricula and teaching approaches in TVET, undergraduate, and postgraduate programmes is essential, along with ensuring SETAs incorporate digital skills prominently into their sector skills plans.

Awareness & innovation ecosystems

Building digital skills awareness will be driven through committed training programmes and incentivised models. This includes robust public campaigns and awareness initiatives like learnerships', hackathons, code weeks, and digital expos to elevate the profile of digital skills development. Finally, collaboration laboratories (Co-labs), digital tech hubs, and incubators must be actively supported by government, academia, research institutions, and industry partners to foster digital inclusion, knowledge-sharing, and industry creation, contributing to a vibrant digital literacy economy.

5. Action Line C5: Building Confidence and Security in the use of ICTs

Preface

WSIS Action Line C5 focuses on establishing a secure and trustworthy environment for the use of Information and Communication Technologies. It acknowledges that the full potential of the Information Society cannot be realized without ensuring the security of networks and information, protecting data, and fostering user confidence.

This action line encompasses a broad range of issues, including combating cybercrime, protecting critical information infrastructure, ensuring privacy and data protection, promoting cybersecurity awareness, and developing secure coding practices. It highlights the need for international cooperation, legal frameworks, and technical measures to create a reliable and resilient digital space.

The core objectives of WSIS Action Line C5 are to:

- **Combat Cybercrime:** Develop and implement effective legal and technical measures to prevent, detect, and prosecute cybercrime.
- **Protect Critical Information Infrastructure:** Safeguard essential digital systems and networks whose disruption would have a severe impact on national security, economy, or public safety.
- **Ensure Privacy and Data Protection:** Establish robust frameworks for the protection of personal data and privacy in the digital realm.
- **Foster Cybersecurity Awareness:** Educate users, businesses, and governments on cyber risks and best practices for online safety.
- **Promote International Cooperation:** Enhance cross-border collaboration, information sharing, and coordination among governments, the private sector, and civil society to address global cyber threats.
- **Build Trust and Confidence:** Create an environment where users feel secure in using ICTs for social, economic, and civic activities, thereby encouraging broader adoption and participation in the Information Society.

C5 Achievements

South Africa has demonstrated a clear commitment to fostering a secure and trustworthy digital environment, recognising that confidence and security in the use of ICTs (WSIS Action Line C5) are fundamental for digital transformation and socio-economic development.

Over the past two decades, the country has taken significant steps to establish a foundational policy and legal framework, enhance institutional capabilities, and raise public awareness to combat cyber threats (see Figure 12). This includes the adoption of key national strategies and legislation designed to protect critical information infrastructure, combat cybercrime, and safeguard citizens' data in an increasingly interconnected world.

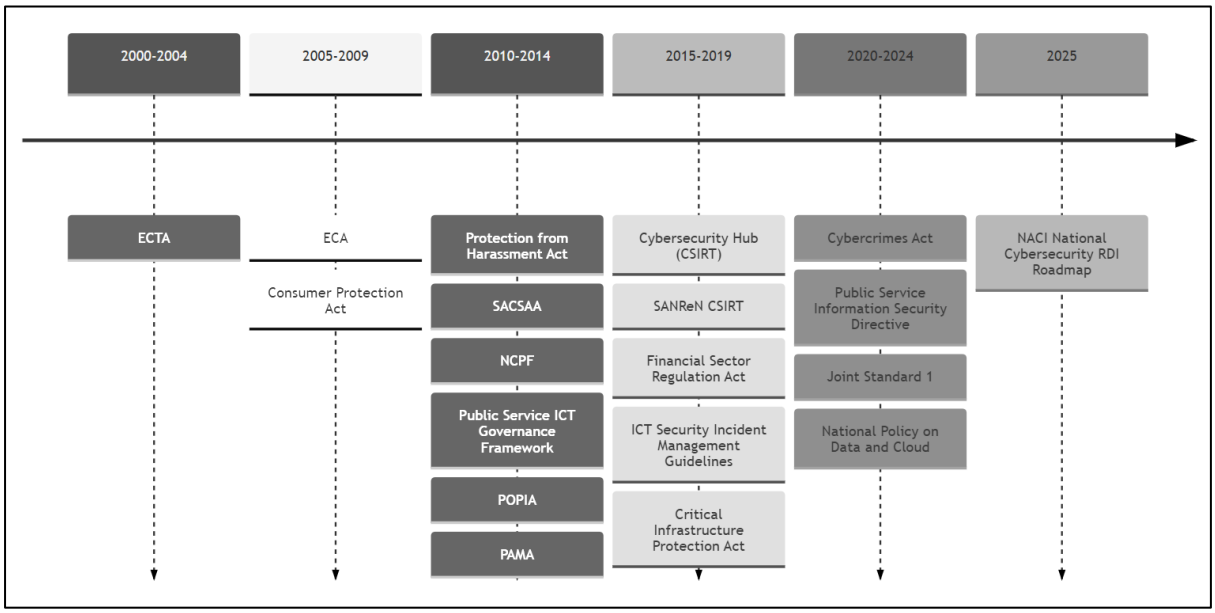


Figure 12: RSA Cybersecurity Landscape over 20 years.

Progressive legislation frameworks

South Africa's legal and policy framework for digital security began to take shape early in the millennium as already covered under C1.

In South Africa, privacy is protected by our common law and Section 14 of the Constitution. The constitutional right to privacy is not an absolute right but may be limited in terms of law of general application and must be balanced with other rights entrenched in the Constitution.

The Chapter 8 of the Electronic Communications and Transactions Act (ECTA) of 2002 established foundational data protection principles for electronic transactions, providing early safeguards for digital privacy. The act sets out the universally accepted data protection principles describing how personal data, as defined in the ECT Act, may be collected and used. This Chapter of the ECT Act only applies to information that has been obtained through electronic transactions.

This was followed by the Electronic Communications Act (ECA) of 2005[108], which, while primarily promoting convergence, laid a robust legal framework for the regulation of electronic communications, network, and broadcasting services, thus underpinning the security infrastructure of the nascent digital landscape.

Indirectly, the Consumer Protection Act (CPA) of 2008 contributed to confidence in ICT use by promoting a fair, accessible, and sustainable marketplace for consumer products and services, including digital ones, and establishing the National Consumer Commission (NCC) to protect consumer interests.

Also in 2011, the Protection from Harassment Act provided a crucial legal remedy for victims of harassment, including that occurring through digital means, safeguarding individuals from online abuse and violence.

[108] SA Gov - ECA 2005

By 2012, the government launched the Public Service Corporate Governance of ICT Policy Framework to standardise ICT governance within state departments, ensuring a uniform and coordinated approach to managing digital assets and security.

The 2013 National Broadband Policy and the associated strategy and plan, gives expression to South Africa's vision in the National Development (NDP) of "a seamless information infrastructure by 2030 that will underpin a dynamic and connected vibrant information society and a knowledge economy that is more inclusive, equitable and prosperous". SA Connect is the implementation of this policy.

The landmark Protection of Personal Information Act (POPIA) of 2013 provided a comprehensive framework for the lawful processing of personal information, setting conditions for how personal data may be collected, stored, and used, significantly enhancing data privacy rights.

The Public Administration Management Act (PAMA) of 2014 sought to regulate and promote ICT use in public administration, ensuring efficiency and compliance. PAMA intends: to promote the basic values and principles governing public administration. Promotes and regulates the use of ICT within the South African public administration. The act aims to improve access to public services through ICT, promoting efficiency and effectiveness in service delivery. It also establishes mechanisms for monitoring and overseeing the use of ICT to ensure compliance with relevant regulations and ethical guidelines.

The Public Administration Management Act 11 of 2014 intends: to promote the basic values and principles governing public administration. Promotes and regulates the use of ICT within the South African public administration. The act aims to improve access to public services through ICT, promoting efficiency and effectiveness in service delivery.

The Financial Sector Regulation Act of 2017 strengthened oversight by establishing authorities to regulate financial institutions' IT systems and promote incident management. The act aims to establish a system of financial regulation by establishing the Prudential Authority and the Financial Sector Conduct Authority and conferring powers on these entities to regulate and supervise financial institutions, including their IT systems. Information Security Incidents are inevitable. Thus, establishing, periodically assessing, and continually improving incident management processes and capabilities is crucial.

The year 2018 saw the release of ICT Security Incident Management Guidelines, providing comprehensive guidance for institutions on responding to security threats.

The Critical Infrastructure Protection Act of 2019 was enacted to identify, declare, and protect essential national infrastructure, including digital assets. The act ensures that information on security measures remains confidential, promotes public safety, and supports the continuous provision of basic public services.

Most recently, the National Policy on Data and Cloud of 2024 provided a framework for efficiently managing and utilising data via cloud computing technologies, with aims to improve government service delivery and drive socio-economic development through secure, data-driven decision-making.

In 2020, the Cybercrimes Act criminalised various cybercrimes and imposed data security responsibilities on institutions. The Cybercrimes Act of 2020 were established to address the issue of increasing cyber threats, alongside initiatives to raise awareness and promote secure online practices. The NCPF provides a broad policy framework for cybersecurity, while the Cybercrimes Act criminalizes various cybercrimes.

National cybersecurity policy framework

SA has the challenge of countering the misuse of ICTs, including cybercrime. Given the seriousness of cyber threats, SA decided to develop high level security measures that would be embedded in a broad and sophisticated cyber security culture. Critically, the National Cybersecurity Policy Framework

(NCPF) of 2012 was adopted, setting out a broad policy for cybersecurity, fostering cooperation, and aiming to develop skills and capacities.

Cybersecurity national structures

In 2015, the Cybersecurity Hub (CSIRT) was established as a key component of the NCPF, acting as the country's central Computer Security Incident Response Team. This hub is crucial for coordinating incident response activities, fostering cooperation among stakeholders, and enhancing the nation's ability to detect, prevent, and respond to cyber threats. and critically, it became a member of the Forum of Incident Response and Security Teams (FIRST) on March 29, 2022. This FIRST membership signifies international recognition of its capabilities and enhances global cooperation in combating cyber threats, a key aspect of building confidence.

Complementing the establishment of the Cybersecurity Hub, the Department of Defence and Military Veterans (DOD&MV) introduced a Cyber Defence Strategy in 2018. This strategy was approved by the Portfolio Committee on Defence (PDSC)[109] on July 17, 2018, stemming from the mandate of the NCPF to protect national interests and critical information infrastructure.

This was complemented in 2016 by the SANReN CSIRT, set up by the South African National Research Network to provide dedicated security incident support for its research and education network affecting the beneficiaries and customers of the South African National Research and Education Network (NREN). In 2020, SANReN CSIRT became a member of the Forum for Incident Response and Security Teams (FIRST).

National directive promoting ICT development.

In 2020, the ICT COVID-19 National Disaster Regulations set minimum standards for licensees to ensure continued and secure communications services during the state of disaster. Moving into the 2020s, South Africa continued to bolster its governance and policy in the digital realm.

By 2023, the Joint Standard 1 on IT Governance and Risk Management for Financial Institutions was introduced, setting out minimum requirements for IT governance and risk management within the financial sector.

Cybersecurity awareness

Over the past two decades, South Africa has seen a concerted, multi-stakeholder effort to raise cybersecurity awareness in support of building confidence and security in the use of ICTs. These initiatives have spanned the public, private, and civil society sectors, each contributing uniquely to a more cyber-aware populace.

Public sector initiatives

The South African government, primarily through the Department of Communications and Digital Technologies and its predecessors, has progressively intensified its awareness efforts.

The promulgation of the POPIA in 2013 sparked initial government-led public education campaigns to inform citizens and organisations about their privacy rights and obligations. Following the adoption of the NCPF in 2012, which highlighted the need for a national cybersecurity culture, the Cybersecurity Hub has actively engaged in initiatives such as developing the Cybersecurity Awareness Portal[110], conducting widespread community radio programmes in various provinces, and creating the "Qaphela Online" newsletter.

[109] https://pmg.org.za/files/200311CYBER.pdf
[110] https://www.cybersecurityhub.gov.za/

Integrated online safety programme

In a significant stride towards creating a safer digital environment for learners, the Department of Basic Education (DBE), in close partnership with the United Nations Children's Fund (UNICEF), the Department of Social Development, the Department of Communications and Digital Technologies (DCDT), the Film and Publication Board (FPB), and Google, has developed and begun rolling out a crucial Integrated Online Safety Programme for Schools. Launched in 2024, this comprehensive initiative is designed to equip students with the knowledge and skills necessary to navigate the online world responsibly and safely, addressing the growing need to protect children from digital risks and cyber threats.

The programme's rollout is already making a tangible difference, having successfully launched in five provinces of South Africa: Mpumalanga, North-West, Gauteng, Northern Cape, and Free State.

This phased implementation reflects a strategic approach to ensure thorough integration and effectiveness. Plans are actively in progress to extend this vital programme to the remaining four provinces, demonstrating a strong commitment from all partnering entities to foster a secure and positive online experience for every South African learner, empowering them to harness the benefits of digital technologies safely and confidently.

The South African Police Service (SAPS)[111] has consistently issued public advisories and prevention tips on its website regarding cybercrime trends.

The Information Regulator, once established, has also been instrumental in driving awareness campaigns specific to data privacy rights and POPIA compliance.

Private sector contributions

The banking and telecommunications sectors, being at the forefront of digital transactions, have been highly proactive. From around 2010 onwards, as online banking and mobile internet use surged, major South African banks (e.g., FNB, Standard Bank, Absa, Nedbank), often coordinated through the South African Banking Risk Information Centre (SABRIC), have run extensive national campaigns (such as the "Skelm" campaign) against banking fraud, phishing, and online scams.

These efforts utilise multi-media platforms, direct customer communications, and educational content. Similarly, telecommunication companies (e.g., Vodacom, MTN, Cell C, Telkom) regularly issue customer alerts on prevalent scams (e.g., SIM swap fraud) and provide online safety tips. Beyond direct customer interaction, various cybersecurity firms and industry bodies contribute to broader awareness through thought leadership, public webinars, and free educational resources for businesses and individuals.

Civil society, academic, and research institution engagement

Civil society organisations and academic institutions have provided crucial grassroots and specialised awareness initiatives. The South African Cyber Security Academic Alliance (SACSAA), established in 2011, has been a consistent driver of cybersecurity awareness, particularly within educational settings and through community engagement projects. Organisations focusing on digital rights and online safety for children and youth work to educate parents, teachers, and students on safe online behaviour and digital literacy.

The Council for Scientific and Industrial Research (CSIR), through its Information and Cybersecurity Research Centre, has played a significant role in both research-backed awareness and direct engagement. From as early as 2011, CSIR researchers have been involved in developing cybersecurity

[111] https://www.saps.gov.za/alert/cybercrime_prev_tips.php

awareness toolkits and assessing awareness levels, particularly in less technologically resourced communities[112].

They have also contributed to cybersecurity educational and training packages. More recently, the CSIR has regularly published cybersecurity awareness and preparedness reports[113] (e.g., in late 2024), providing insights into the state of cybersecurity among public institutions and highlighting areas for improvement in employee awareness training. They also engage in media briefings, as seen in 2021 when CSIR cybersecurity researchers urged parents to protect youth from cyberbullying, demonstrating their commitment to public education derived from their research expertise.

C5 Challenges

In relation to WSIS Action Line C5, South Africa faces several significant challenges in building confidence and security in the use of ICTs, which often stem from systemic issues and have broad societal impacts.

Escalating cybercrime threat

Cybercrime poses a severe and growing risk, with an increasing number of sophisticated attacks targeting both public and private sectors in South Africa. This surge in incidents, particularly impacting government operations, leads to significant economic consequences. Such pervasive threats directly erode public and organisational confidence in digital platforms and services, undermining the secure environment vital for national digital transformation.

Critical skills deficit

South Africa faces a substantial shortage of skilled cybersecurity professionals, with a significant percentage of companies struggling to hire and retain qualified talent[114]. This gap is exacerbated by pay disparities between government and private sectors, hindering talent retention in public service. The lack of adequately skilled personnel severely compromises the nation's ability to effectively prevent, detect, and respond to cyber-attacks, directly impacting the overall security posture and trustworthiness of ICT infrastructure.

Outdated regulatory & policy frameworks.

Key legislation and standards, such as the Minimum Information Security Standards (MISS) and certain aspects of the Electronic Communications Act (ECA), are notably outdated. These frameworks are ill-equipped to address the complexities of a dynamic digital environment, with rigid and impractical classifications hindering efficient ICT infrastructure rollout and service scalability. Such legislative obsolescence weakens the foundational security principles necessary for building modern digital confidence and protecting against contemporary threats.

Lack of coordination in incident response

In terms of cybersecurity, there's a lack of coordination among Computer Security Incident Response Teams (CSIRTs), often leading to delays in incident resolution and coordination. National CSIRTs are also not sufficiently capacitated to deal with the evolving AI-motivated cyber threat landscape, and there's a shortage of ICT capacity building within law enforcement.

Fragmented implementation & coordination gaps

The country contends with fragmented and inconsistent ICT policy implementations, often exacerbated by legacy equipment and a lack of unity even within departments. This leads to duplication of services and an imbalance in resource allocation, with urban areas often prioritised over rural or remote

[112] https://researchspace.csir.co.za/items/355bbfc0-1de1-4218-b19f-fd9d56ff9790
[113] https://www.csir.co.za/csir-issues-national-survey-results-on-state-cybersecurity-south-africa
[114] https://www.csir.co.za/csir-issues-national-survey-results-on-state-cybersecurity-south-africa

communities. Delays in enacting crucial legislation, like those related to spectrum allocation, further slow technological advancement and service delivery, impacting the ability to extend secure digital access widely and efficiently.

Low public awareness & evolving scam techniques

Despite robust existing cybersecurity legislation, a critical need remains for greater public awareness and literacy regarding prevalent threats such as scams and phishing. This challenge is compounded by the rapid rise of unsolicited communications (spam calls/SMS) and sophisticated identity fraud techniques like SIM swap fraud. The lack of adequate public understanding and training for frontline personnel means citizens remain vulnerable, eroding confidence in digital communications and transactions, and limiting the effective reach of national cybersecurity efforts to the local level.

C5 Future Priorities

South Africa's future in building confidence and security in its digital landscape hinges on several key priorities that address both physical infrastructure vulnerabilities and evolving cyber threats.

Strengthening ICT infrastructure security

A critical focus lies in enhancing the physical security of South Africa's ICT infrastructure. Criminal activities like theft and vandalism significantly impact telecommunications networks, causing substantial financial losses and service disruptions. Future efforts must prioritize enhanced security measures for fibre-optic infrastructure and 5G networks, which only covered 46.64% of the population in 2023, to safeguard their reliability and ensure sustainable growth. This physical protection is foundational to maintaining confidence in consistent and secure digital services.

Investing in robust cybersecurity capabilities

Simultaneously, investing in a robust cybersecurity framework is paramount. This includes establishing a centralised cybersecurity command centre to effectively coordinate incident responses across all government departments, fostering a unified national defence against cyber threats. It also necessitates prioritizing skills training and awareness to equip individuals and communities to navigate the digital economy safely. This will build essential human capacity, a critical component of national digital security.

Adapting legal and regulatory frameworks

Furthermore, reviewing and adapting the legal and regulatory landscape is essential. The Cybercrimes Act needs to be consistently reviewed and enforced to address new and emerging threats such as the misuse of Artificial Intelligence (AI), sophisticated ransomware attacks, and vulnerabilities within the burgeoning Internet of Things (IoT) devices.

To combat pervasive fraud and impersonation, future priorities also include implementing mandatory identity verification for all SMS and WhatsApp communications, enhancing trust in widely used messaging platforms. These proactive legal and technological measures are crucial for protecting users and businesses in an increasingly complex digital environment.

6. Action Line C6: Enabling Environment.

Preface

WSIS Action Line C6 focuses on creating the optimal conditions for the growth and development of the Information Society by establishing sound legal, regulatory, and policy frameworks. It recognizes that a robust ICT infrastructure (C2) and access to information (C3) are insufficient without an environment that encourages investment, fosters competition, protects user rights, and promotes the ethical and efficient use of ICTs.

This action line covers areas such as telecommunications regulation, intellectual property rights, consumer protection, competition law, and policies that encourage innovation and open markets.

The core objectives of WSIS Action Line C6 are to:

- **Foster Fair Competition:** Promote policies that ensure a level playing field for all market players in the ICT sector, encouraging innovation and reducing costs for consumers.
- **Establish Clear Regulatory Frameworks:** Develop transparent, stable, and predictable legal and regulatory systems for ICTs, supporting investment and consumer confidence.
- **Protect User Rights:** Safeguard consumer rights in the digital environment, including privacy, data protection, and protection against deceptive practices.
- **Promote Intellectual Property Rights:** Create a balanced framework that encourages creativity and innovation while facilitating access to knowledge.
- **Encourage Investment:** Develop policies that attract both domestic and foreign investment into ICT infrastructure and services.
- **Address Cross-Cutting Issues:** Ensure that policy and regulatory approaches are coherent across different sectors and address the converged nature of modern ICTs.

C6 Achievements

Creating an enabling environment for ICT is necessary for the government's digital transformation efforts. This environment aims to enhance people's quality of life by connecting them to the global community and a broader range of services. South Africa has actively worked to foster an empowering information society through legislative reforms, policy frameworks, capacity-building, research, and international collaborations.

Key areas of focus include consumer protection, dispute settlement, domain name management, e-commerce, e-government strategy, entrepreneurship, ICT forums, intellectual property, internet governance, the legal, regulatory and policy environment, privacy, radio frequency spectrum, regional root servers, secure storage and archival, SMEs, and standardization.

As the government progresses in its digital transformation efforts, enhancing access to ICT stands as an essential priority. This advancement elevates people's quality of life by linking them to the global community and a broader array of services otherwise beyond their reach. South Africa has actively worked to create an empowering information society through legislative reforms, policy frameworks, capacity-building, research, and international collaborations.

Consumer protection

In the realm of consumer protection, South Africa has continued to strengthen mechanisms to safeguard consumers in the digital space. While the Consumer Protection Act (CPA) of 2008 provides a broad framework, its principles have increasingly been applied to online transactions and services. Efforts

have focused on raising awareness about digital consumer rights, ensuring transparency in e-commerce, and providing accessible channels for complaints related to online purchases and digital service delivery.

Furthermore, ICASA's Consumer Advisory Panel helps resolve complaints and leads consumer awareness campaigns. An End-User and Subscriber Service Charter also regulates data bundle transferability, rollover, and quality of service, aiming to reduce digital illiteracy.

Dispute settlement

Dispute settlement mechanisms have evolved to address the complexities of the digital economy. The National Consumer Commission (NCC), established under the CPA, plays a key role in mediating consumer disputes, including those arising from online transactions. Furthermore, regulatory bodies within specific sectors, such as the telecommunications and financial industries, have enhanced their own dispute resolution processes to handle digital-specific complaints, aiming for efficient and fair outcomes.

Domain name management

South Africa's domain name management, overseen by the ZADNA, has contributed to a stable and secure online identity for the nation. Over the past decade, efforts have focused on maintaining the integrity and accessibility of the .za country-code top-level domain (ccTLD), ensuring reliable registration services, and participating in global internet governance discussions related to domain name systems, which are crucial for the local digital ecosystem.

E-commerce

E-commerce has seen substantial growth, supported by a continuously evolving enabling environment. Policy discussions and industry initiatives have focused on fostering a secure and trustworthy online marketplace. This includes addressing digital payment security, consumer trust in online transactions, and creating a supportive ecosystem for businesses operating online, aligning with the broader digital economy agenda.

South Africa's e-commerce sector has experienced remarkable growth, significantly accelerated by the COVID-19 pandemic. This surge is primarily due to a substantial increase in consumers transitioning to online purchasing platforms. Leading local players, including Takealot, Superbalist, and OneDayOnly, have consequently seen considerable gains in their user base and sales.

Reflecting this robust expansion, e-commerce sales reached a record $4.065 billion (R71 billion) in 2023, marking a 29% increase from the $3.15 billion (R55 billion) recorded in 2022[115].

E-government strategy

South Africa has actively pursued an e-government strategy to enhance public service delivery through digital means. The National e-Government Strategy was published in 2017, this e-strategy ("Digital Society SA"), aimed to guide South Africa's digital transformation through 2030. It promotes widespread ICT adoption for economic growth and social inclusion and has been further enhanced or complemented by the recent 2025 Digital Transformation Roadmap.

More recently, initiatives like the Gauteng e-Government's Mzansi Digital Learning (2025), and broader government digital transformation roadmaps, aim to improve access to services, promote digital literacy among citizens and civil servants, and enhance the efficiency of government operations through secure digital platforms.

[115] https://www.trade.gov/country-commercial-guides/south-africa-digital-economy

Further, a review of the national framework for the postal sector policy was published in March 2025[116]. This focuses on modernising services, enhancing financial inclusion, and promoting digital accessibility. It proposes legislative changes and private sector involvement.

Nationally, progress includes plans for a National ICT RDI Planning and Investment Council with a 10-year (2022-2032) ICT RDI Roadmap. This roadmap, developed by former DSI[117] and CSIR Meraka Institute, aims for socio-economic development and a Digital Development Fund.

The Science, Technology, and Innovation (STI) Decadal Plan 2022-2032 outlines strategic direction, focusing on digital infrastructure, innovation, and skills.

Entrepreneurship

Fostering entrepreneurship in the digital space has been a consistent priority. Policies and programs have sought to equip small and medium-sized enterprises (SMEs) with digital skills, facilitate their adoption of e-commerce platforms, and provide support for innovation.

Initiatives that promote digital literacy and offer data-free access to learning, such as the Mzansi Digital Learning program, directly contribute to building the capacity for digital entrepreneurship.

The establishment of the Department of Small Business Development (DSBD) and the Small Enterprise Development Agency (SEDA) promotes innovation.

This is particularly in the digital space, alongside initiatives like the SA SME Fund. The ICT SMME Development Strategy, launched by the DTPS in November 2017, accelerates SME development and ICT uptake. It aligns with the Broad-Based Black Economic Empowerment (B-BBEE) ICT Sector Council.

Empowering South African innovation for global digital transformation

The DigiTech[118] Program, a flagship initiative from the Department of Communications and Digital Technologies, is at the forefront of South Africa's efforts to cultivate a dynamic and innovative ICT sector.

Launched in alignment with the nation's digital and economic strategies, its core mission is to support the growth, visibility, and commercialization of local SMMEs.

The program serves as a crucial platform to showcase homegrown digital innovations ranging from FinTech and HealthTech to AI-based solutions both within South Africa and on the global stage.

Beyond simply providing a platform, DigiTech plays a vital role in ensuring these SMMEs can fully leverage the country's digital infrastructure, including extending connectivity to underserved areas to ensure a reliable foundation for their participation in the digital economy.

The program's comprehensive approach goes beyond infrastructure to focus heavily on capacity building and skills development. It provides essential training and mentorship to equip entrepreneurs and their teams with the digital know-how needed to adopt new technologies, from cybersecurity to cloud computing and digital marketing.

Since its inception, DigiTech has achieved significant success, supporting over 150 ICT SMMEs and enabling more than 30 to exhibit their innovations at major international events like London Tech Week, the Global Digital Forum, and WSIS 2024 (see Figure 13).

[116] https://www.gov.za/sites/default/files/gcis_document/202503/52254gon5973.pdf
[117] https://www.dsti.gov.za/images/ict_rdi_roadmap.pdf
[118] https://www.dcdt.gov.za/?option=com_content&view=article&id=428&Itemid=505

Figure 13: DigiTech WSIS Award

This global exposure has helped these businesses secure valuable partnerships and investment, while also facilitating the adoption of their technologies by various government departments and private sector entities within South Africa.

DigiTech's achievements have earned international acclaim, including three prestigious awards: a WSIS award for Best MedTech Innovation in 2023 at the G20 Bengaluru (see Figure 14), and two WSIS awards in 2024 and 2025.

Figure 14: DigiTech wins at G20 India

With its focus on continued investment, collaboration, and global engagement, the DigiTech Program is not just a national initiative but is positioning itself as a catalytic tool for South Africa's digital entrepreneurs and a gateway for African innovation to achieve global digital leadership.

These accolades are a testament to South Africa's growing capabilities in digital innovation and underscore the government's commitment to building a digitally inclusive society.

Local software development support

The State Information Technology Agency (SITA) plays a crucial role as a central procurement and service provider for the government, which also allows it to support local SMEs. The SITA Annual

Performance Plan for 2025-2026 highlights a strategic focus on innovation and partnership and procurement and industry transformation, with an intent to repurpose SITA into a state-owned digital company to drive the government digital transformation agenda and build capabilities in open-source software development to grow the ecosystem of partners for government services.

The innovation hub support

The Innovation Hub, a key enabler of South African innovation, has a strong track record of success. It has over the years incubated companies, successfully exported their innovations to various countries in 2023/24, with a total export value exceeding R294 million.

A recent report also highlighted that The Innovation Hub's incubated companies created 389 jobs in the 2023/24 period and that 9 companies graduated from its incubation program.

The Hub's eKasiLabs program, which extends innovation hubs into townships, has empowered over 100 township-based enterprises and cooperatives through boot camps and access to resources, addressing issues of access and promoting local economic development.

FinTech environment

The FinTech landscape in South Africa is experiencing significant growth. One of the most significant achievements in creating an enabling environment for FinTech in South Africa is the establishment of the Intergovernmental FinTech Working Group (IFWG) in 2016[119]. The IFWG is a collaborative effort involving key financial sector regulators, including the National Treasury, the South African Reserve Bank (SARB), the Financial Sector Conduct Authority (FSCA), and others.

A cornerstone of the IFWG's efforts is the Innovation Hub, launched in 2020. SARB and the IFWG are actively fostering innovation through initiatives like the Innovation Hub and Regulatory Sandbox, which encourage new FinTechs to test and develop their products, further contributing to the ecosystem's growth.

A National Treasury report from May 2019 identified a total of 217 active operational FinTech companies in South Africa. This number has been consistently growing since then. In 2020, this number was recorded by FSCA as having surpassed 220.

Furthermore, the SARB's own Fintech Unit, established in 2017, plays a crucial role in monitoring FinTech developments, conducting research, and assisting in aligning policies and regulations with emerging innovations, including areas like crypto assets, central bank digital currencies (CBDCs), and open finance.

The declaration of crypto assets as a financial product by the FSCA and the subsequent licensing requirements for crypto asset service providers, for example, demonstrate the regulatory responsiveness to emerging FinTech segments, moving towards a more certain and secure environment for both consumers and businesses.

ICT forums

Multi-stakeholder engagement through various ICT forums has been crucial in shaping the enabling environment. These platforms bring together government, private sector, civil society, and academia to discuss policy, share best practices, and collaborate on challenges. Such forums facilitate consensus-building and ensure that policy development is responsive to the dynamic nature of the digital landscape.

[119] https://www.resbank.co.za/en/home/what-we-do/fintech

GovTech, the annual flagship conference hosted by the State Information Technology Agency (SITA) since its inception in 2006, serves as South Africa's leading platform for fostering collaboration and thought leadership in public sector ICT. It convenes a diverse array of stakeholders, including government ministers, CIOs, and other officials, alongside private sector ICT experts and small, medium, and micro-enterprises (SMMEs). The conference's primary objective is to facilitate discussions, knowledge-sharing, and strategic partnerships aimed at leveraging Information and Communication Technologies for enhanced government modernization and improved public service delivery.

The core impact of GovTech lies in its commitment to driving digital transformation and accelerating service delivery across the nation. Furthermore, GovTech champions inclusivity, actively promoting job creation and business opportunities for women and youth within the ICT sector and ensuring that SMMEs have increased exposure to and participation in government ICT initiatives.

Beyond its role as a forum for showcasing advancements and addressing challenges, GovTech significantly influences national ICT policy and strategy. The discussions and insights generated at the conference directly inform and shape governmental decisions regarding spectrum allocation, digital skills development, and broadband access. While the platform consistently highlights the immense potential and ongoing progress in South Africa's digital landscape, governmental reflections at events like GovTech 2023 also emphasize the continuous need to translate these strategic conversations into tangible, measurable improvements in citizen experience, particularly concerning internet affordability, accessibility, and the broader socio-economic impact on all communities[120]

DCDT launched a South Africa's Digital Skills Forum[121] in March 2024, which serves as a pivotal multi-stakeholder platform dedicated to enhancing the nation's digital capabilities. The Digital Skills Forum works to build the essential human capital foundation required for a thriving and inclusive digital society.

By bringing together government entities (like DCDT and DSTI), private sector companies, academic institutions, civil society organizations, and labour bodies, the Forum ensures a collaborative and comprehensive approach to digital skills development.

This multi-stakeholder engagement is a cornerstone of an effective enabling environment, facilitating consensus-building and ensuring that the National Digital and Future Skills Strategy is not only robust in its design but also practical and widely supported in its implementation.

The Forum's role in identifying critical skills gaps, mobilizing resources, and coordinating diverse initiatives directly strengthens the ecosystem by ensuring that the workforce and citizenry possess the competencies needed to innovate, participate in the digital economy, and effectively utilize digital tools. This integrated approach is fundamental to creating a fertile ground where digital transformation can flourish, thereby fulfilling the objectives of an empowering and enabling digital environment in South Africa.

Moreover, the South African Internet Governance Forum (ZAIGF) facilitate essential multi-stakeholder discussions, bringing together government, private sector, academia, and civil society to deliberate on critical internet governance and policy issues. Simultaneously, the Internet Service Providers' Association (ISPA) actively influences telecommunications policy, making submissions on legislation and operating vital Internet Exchange Points (JINX, CINX, DINX) to enhance local internet traffic efficiency and reduce costs. These combined efforts ensure that policy development is informed by diverse perspectives and that the foundational infrastructure for digital services is robust and competitive.

[120] https://www.itweb.co.za/article/minister-outlines-deliverables-as-govtech-marks-15-years/lwrKxq3YeYD7mg1o
[121] https://www.dcdt.gov.za/minister-s-speeches/491-minister-mondli-gungubele-officially-launches-the-digital-skills-forum.html

Furthermore, organisations such as the Digital Council Africa (formerly FTTx Council Africa) champion the deployment of digital infrastructure and advocate for digital inclusion, engaging closely with government on policy and regulatory matters to promote investment and growth.

The Information Technology Association of South Africa (ITA) complements these efforts by fostering multi-stakeholder dialogue on technology adoption and development. Through their various initiatives, these forums provide critical platforms for knowledge sharing, collaboration, and the development of industry best practices, ultimately contributing to a more mature, secure, and accessible digital ecosystem in South Africa.

Adding to this, professional bodies like the Institute of Information Technology Professionals South Africa (IITPSA)[122] play a crucial role in promoting professional standards, ethics, and skills development within the ICT sector. IITPSA aims to represent the interests of all ICT professionals, engaging with government, the South African Qualifications Authority (SAQA), and other industry bodies to shape policy and ensure a skilled workforce. Their annual ICT Skills Survey is a key resource, highlighting demand and supply dynamics, and they actively work on initiatives like the Women in IT Forum to promote diversity and growth in the profession.

Furthermore, groups like the Council of Chief Information Officers (C-CIO)[123] provide a dedicated platform for IT leaders to address strategic challenges, discuss best practices, and collectively influence the direction of digital transformation within their organisations and the broader economy. C-CIO forums focus on critical leadership aspects of IT, including governance, cybersecurity strategies, and the ethical implications of emerging technologies like AI, ensuring that top-level decision-makers are well-equipped to navigate the complexities of the digital age.

In terms of standardization, the Minimum Interoperability Standards (MIOS) for Government Information Systems ensure interoperability and coherence. These are overseen by the Department of Public Service and Administration and developed with the Government Information Technology Officer's Council (GITOC). GITOC also plays a key role in internet governance by aligning government ICT with national digital transformation goals.

Key forums like AfICTA also advocate for favourable ICT policies, fostering innovation and capacity building for SMEs across Africa.

Intellectual property

The protection of intellectual property (IP) in the digital age remains a key focus. The Copyright Amendment Bill (2017)[124], though its enactment journey has been prolonged and it was referred to the Constitutional Court, aims to modernise the country's copyright laws to better accommodate digital works and online content, balancing creators' rights with public access. This ongoing legislative effort reflects the commitment to providing a clear framework for IP protection in the digital environment.

Internet governance

South Africa continues to be an active participant in global Internet governance (IG) discussions, advocating for a multi-stakeholder approach. Nationally, efforts have focused on fostering inclusive dialogues on Internet policy, cybersecurity, and digital rights, ensuring that local perspectives contribute to and are aligned with international best practices for an open, secure, and accessible Internet.

[122] https://www.iitpsa.org.za/
[123] https://cio-sa.co.za/
[124] https://pmg.org.za/bill/705/

Legal, regulatory and policy environment

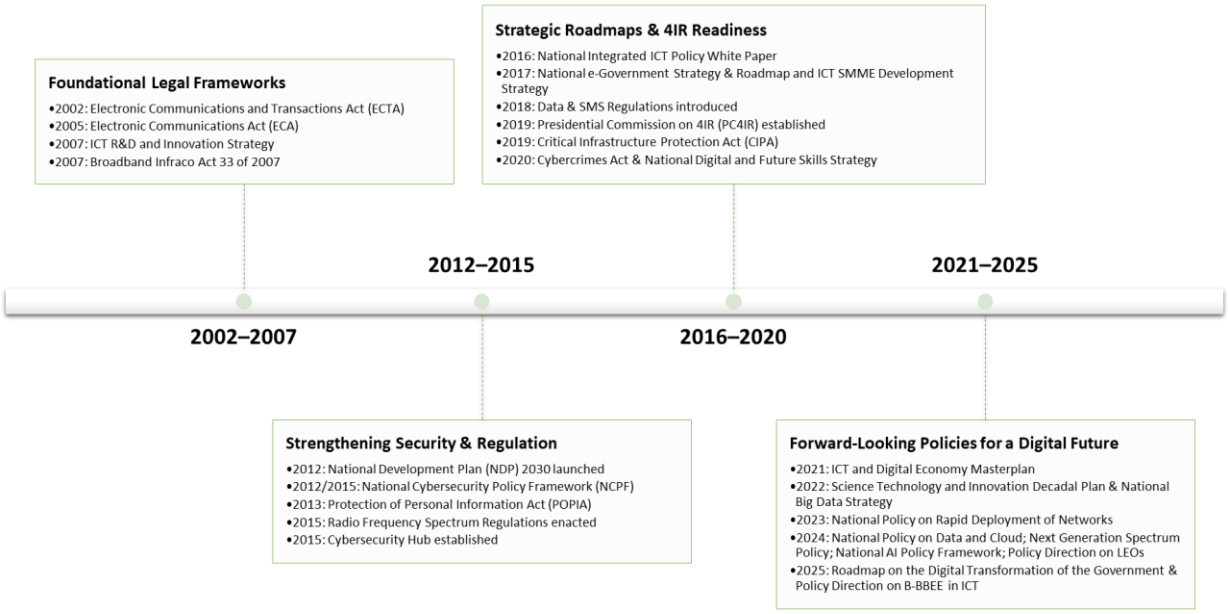


Figure 15: South Africa ICT Legislation Timeline (2002-2025)

Since 2005, South Africa has developed a comprehensive legal and policy framework to regulate its evolving digital landscape**. Note:** some of the details covered in this section have already been highlighted in detail under C1.

Focusing on the enabling the ICT environment, South Africa has demonstrated significant progress by establishing a robust legal and policy framework to foster digital development.

Key legislative successes illustrated in Figure 15 include the foundational Electronic Communications and Transactions Act (ECTA) of 2002 and the Electronic Communications Act (ECA) of 2005, which provided essential legal certainty for the digital economy.

Building on ECA 2005, the Broadband Infraco Act of 2007 established a state-owned wholesale provider to build long-distance fibre infrastructure, a key step in lowering broadband costs and expanding connectivity, particularly in underserved areas.

Further strides were made with strategic roadmaps like the National Integrated ICT Policy White Paper (2016) and the National e-Government Strategy & Roadmap (2017), indicating a concerted effort to embed ICTs into national development goals.

In the realm of security and data privacy, South Africa has enacted several key pieces of legislation and policies such as the National Cybersecurity Policy Framework of 2012, which was later supported by the Cybercrimes Act of 2020.

The Critical Infrastructure Protection Act of 2019 further enhances this security framework by modernizing the protection of essential infrastructure, including telecommunications and data centres, from both physical and cyber threats.

More recently, forward-looking policies such as the National Policy on Data and Cloud (2024) and the National AI Policy Framework (2024) underscore South Africa's commitment to adapting its regulatory landscape to emerging technologies, thereby continuously strengthening the enabling environment for a thriving digital society.

This South Africa’s legislative journey demonstrates a clear trend toward a more comprehensive and adaptive framework.

A recent key development is the gazetting of a draft policy direction by the Minister of Communications and Digital Technologies in May 2025, which explicitly focuses on the role of EEPs in the ICT sector[125].

This policy aims to provide regulatory certainty and unlock investment, especially for companies seeking individual licenses for broadcasting, internet services, or mobile networks.

Privacy

Privacy has gained significant prominence, primarily driven by the full operationalisation and enforcement of the POPIA. This Act sets clear conditions for the processing of personal information, giving individuals greater control over their data. The Information Regulator plays a crucial role in overseeing compliance, investigating breaches, and raising public awareness about privacy rights and responsibilities.

The Information Regulator of South Africa has been actively enforcing the Protection of Personal Information Act (POPIA) since its full commencement in July 2021, demonstrating a growing commitment to safeguarding data privacy. In the 2023/2024 financial year alone, the Regulator received 982 POPIA complaints, successfully resolving 682 of them and completing 10 assessments that are now ready for determination. This robust activity highlights the Regulator's proactive stance in addressing data privacy concerns and ensuring compliance across various sectors.

Beyond complaint resolution, the Regulator has issued several significant enforcement and infringement notices, signalling its intent to hold responsible parties accountable. Notable cases include administrative fines of R5 million each issued to the Department of Justice and Constitutional Development (DoJ&CD) and the Department of Basic Education (DBE) for cybersecurity lapses and non-compliance with data publication guidelines, respectively.

Additionally, entities like the South African Police Service (SAPS), Dis-Chem Pharmacies, and TransUnion have received enforcement notices for various breaches, encompassing issues from data leaks and inadequate security measures to unsolicited direct marketing.

These actions underscore the Regulator's focus on upholding data security, ensuring transparency, and empowering data subjects, thereby reinforcing POPIA's impact on South Africa's digital landscape.

South Africa has actively shaped its digital governance landscape. The country endorsed the African Declaration on Internet Rights and Freedoms in 2014, providing human rights standards for internet policy.

Radio frequency spectrum

Efficient management and allocation of radio frequency spectrum are critical for digital access. The 2024 South African Next Generation Radio Frequency Spectrum Policy for Economic Development[126] aims to maximise spectrum use for broader economic participation and improved connectivity, including the rollout of 5G and future 6G networks. Ongoing challenges related to theft and vandalism of telecommunications infrastructure underscore the importance of securing this vital resource for reliable service delivery.

The ICASA is the primary regulatory body for spectrum allocation and licensing. The South African Radio League (SARL) represents amateur radio operators. It ensures spectrum access and provides emergency communication support.

In emergencies and large events, SARL assists with communication when cell phone towers fail, providing start-up communications for 48 to 72 hours until commercial systems are restored. Celebrating its 100-year anniversary, SARL has launched initiatives like the "Balloon Carrying Amateur Radio" (BACAR) and runs the ZU Call Sign youth program, teaching radio skills to teenagers who must

[125] https://www.dcdt.gov.za/media-statements-releases/591-minister-malatsi-clarifies-draft-eeip-policy-directions-at-portfolio-committee.html
[126] https://www.ellipsis.co.za/wp-content/uploads/2024/06/

pass an exam to get their licenses. The frequencies assigned to them are limited to within South Africa's borders.

The South African National Space Agency (SANSA) manages spectrum for space-related activities, ensuring compliance with global standards.

Regional root servers

South Africa plays a role in regional internet infrastructure by hosting root servers. While not specific to a single achievement over the last 10 years, the continued operation and stability of these regional root servers are fundamental to maintaining internet resilience and speed within South Africa and the wider African continent, contributing to the overall stability and security of the digital environment.

Secure storage and archival

The imperative for secure storage and archival of digital information has been significantly reinforced by POPIA, which mandates appropriate technical and organisational measures to protect personal data. Public sector initiatives, such as the Directive on Public Service Information Security (2022), aim to institutionalise secure data practices within government, ensuring the confidentiality, integrity, and availability of information assets[127]. For secure storage and archival, the National Archives and Records Service of South Africa (NARSSA) oversees policies. This includes managing and preserving public electronic records.

Other government departments, such as the South African Revenue Service, the Department of Home Affairs, and the Department of Justice, are transitioning toward digital systems for recordkeeping. These initiatives aim to provide secure, efficient, and long-term storage of sensitive citizen data. The implementation of electronic records management systems is a central part of this digital transformation.

In academia and research, institutions such as the University of Pretoria and the University of Cape Town have established digital repositories to store and manage research data. These efforts are supported by national projects like DataNet, which is funded by the National Research Foundation and promotes the secure curation and sharing of research outputs.

Additionally, the private sector in South Africa has contributed by offering commercial data storage and digital archiving services. Companies such as Altron, Dimension Data, and Business Connexion (BCX) provide cloud-based and physical data storage infrastructure that adheres to international information security standards such as ISO 27001. These services support both government and enterprise needs for secure data storage and long-term digital preservation.

Standardization

Standardisation efforts contribute to interoperability, security, and quality in the ICT sector. South Africa has increasingly aligned with international best practices and standards, particularly in cybersecurity (e.g., ISO 27001).

Regulatory bodies and industry associations encourage the adoption of common technical and operational standards to ensure secure and reliable ICT infrastructure and services across the country.

Some of the standards that have been approved by South African Bureau of Standards (SABS) to promote the ICT enabling environment over the years are summarized as follows (see: Figure 16).

[127] https://www.ensafrica.com/news/detail/6098/cyber-security-new-directive-on-public-servic

South Africa	Description	International
SANS 27000:2018	Information security management systems - Overview and vocabular	ISO/IEC 27000:2016
SANS 27001:2015	Information security management systems — Requirements	ISO/IEC 27001:2013
SANS 27002:2014	Code of practice for information security controls This national standard is the identical implementation of ISO/IEC 27002:2013	ISO/IEC 27002:2013
SANS 27003:2020	Information security management systems — Guidance	ISO/IEC 27003:2017
SANS 27011:2009	Information security management guidelines for telecommunications organizations based on ISO/IEC 27002	ISO/IEC 27011

Figure 16: South Africa Cybersecurity Standards Landscape

In addition, the SABS has also been involved in developing and adopting standards for software and systems engineering (e.g., SANS 24773 series, SANS 20000 series), including those related to IT Service Management. These standards provide guidelines for the quality, development, and management of software and IT services, which are foundational to the reliability and performance of ICT applications and infrastructure. By promoting best practices in software development and service management, SABS contributes to a more efficient and effective digital economy.

The Department of Public Service and Administration with GITOC developed the Minimum Interoperability Standards (MIOS) often refer to and incorporate SABS-approved or international standards. These standards ensure that different government IT systems can communicate and exchange data seamlessly, which is fundamental for an integrated and efficient e-government environment. This reduces fragmentation and improves public service delivery.

SABS has also approved standards directly impacting consumers, such as the SANS862:2012 for Set-Top Box (STB) decoders, launched in 2012. This standard outlined minimum performance requirements for digital television decoders, ensuring quality and safety for consumers during the digital terrestrial television migration. Such product-specific standards protect consumers and build their confidence in adopting new digital technologies, contributing to a more trusted digital market.

C6 Challenges

South Africa faces several challenges in establishing a fully enabling environment for its information society, despite some progress.

Internet governance and regulatory framework

The broader internet governance, legal, regulatory, and policy environment struggles to keep pace with rapid technological evolution. This results in outdated legal frameworks, significant compliance burdens for businesses (especially SMEs), and regulatory gaps concerning new technologies like AI and IoT.

Consumer protection

Consumer protection remains inconsistent in South Africa. Despite frameworks like the Consumer Protection Act (CPA) and POPIA, enforcement is hampered by the Information Regulator's still-developing capacity and low public awareness of consumer rights.

Additionally, the out of pace ECTA is challenged to address modern digital transactions and emerging technologies, leading to regulatory gaps and poor online dispute resolution.

Digital infrastructure and data management

The country's reliance on international Domain Name System (DNS) infrastructure, with few local root servers, creates potential latency issues and dependence on external entities, impacting national autonomy.

There is also a clear need for greater public understanding of domain name rights to combat cybersquatting, and a lack of comprehensive policies for secure digital storage and archival within government and public institutions poses risks of data loss.

Regarding domain names and content, the country experiences infringements, including misuse of Domain Names due to skills shortages and difficulties in verifying legitimate domain ownership.

There's also a lack of Internationalized Domain Names and a shortage of locally relevant content, which contributes to a lack of multilingualism on the Internet, promoting the dominance of a few languages in digital spaces.

Entrepreneurship and SMEs

Entrepreneurship and the growth of SMEs are stifled by limited access to funding and a significant shortage of digital skills among owners and employees. SMEs, particularly in rural areas, also contend with inadequate infrastructure and the complexities of the regulatory environment, limiting their ability to engage in digital transformation and commercialise innovations, even from initiatives like SITA's hackathons.

ICT forums and stakeholder representation

ICT forums and initiatives are often dominated by large corporations, limiting the participation and influence of SMEs and marginalised groups. There is insufficient representation of diverse stakeholders, including women, youth, and rural communities, in ICT policymaking and discussions. SMEs and entrepreneurs frequently lack access to affordable and relevant ICT training programs, hindering their ability to effectively leverage digital tools.

C6 Future Priorities

Focusing on the enabling environment, South Africa's future priorities are crucial for fostering a robust and inclusive information society. These recommendations align with global best practices and frameworks such as the ITU Digital Regulation Principles, the African Union Digital Transformation Strategy 2020–2030, and UNCTAD’s recommendations on digital economy development.

Consumer protection

To safeguard digital citizens, South Africa must strengthen the enforcement of the Consumer Protection Act (CPA) and POPIA, alongside improving public awareness campaigns on digital rights and cyber hygiene.

It is vital to develop and mandate accessible online dispute resolution platforms and modernise e-commerce legislation, specifically reviewing the Electronic Communications and Transactions Act (ECTA). Furthermore, building the capacity of consumer protection bodies to effectively handle digital economy issues is paramount.

Regional root servers, domain name management, and secure storage & archival

To enhance digital sovereignty and reduce latency, establishing more regional root servers is a key priority. National guidelines for secure digital archival and data preservation must be developed. Public education campaigns on domain name protection and cybersquatting risks are essential, coupled with strengthening local domain registration policies and enforcement mechanisms. Incentivising investment in local DNS and cloud infrastructure will further support these efforts.

Entrepreneurship and SMEs

Supporting entrepreneurship and SMEs involves expanding digital entrepreneurship training and upskilling programmes, particularly in rural areas. Creating public-private digital innovation hubs and incubators is vital, as is streamlining regulatory frameworks to reduce red tape for tech-enabled SMEs. Improving access to affordable internet and digital tools for startups, alongside establishing targeted funding mechanisms for ICT-focused SMEs (especially women and youth-led businesses), will drive growth. Learning from other entities on innovation and IP commercialisation is also a key consideration.

ICT forums, trainings, summits, and initiatives

To foster an inclusive digital dialogue, it is crucial to promote the participation of underrepresented groups in ICT forums and initiatives. Ensuring these forums produce actionable outcomes and follow-ups is necessary. Decentralising training programmes to reach townships and rural communities will expand digital skills development, bolstered by strengthened collaborations with academia, industry, and civil society. Fostering public-private partnerships to support national digital literacy drives is also a core objective.

Internet governance, legal, regulatory & policy environment, privacy, and standardization

A comprehensive Cybersecurity Act needs to be enacted, strengthening national cyber defence capabilities. Policies must be regularly updated to keep pace with emerging technologies like AI and IoT through adaptive regulation. Improving coordination among regulators (e.g., ICASA, DTPS, Information Regulator) is essential, as is enhancing public trust in digital services through transparency and accountability. Finally, investing in developing and harmonising local ICT standards with global protocols, and fostering multi-stakeholder governance models for digital policy formulation, will create a robust and adaptive digital environment.

7. Action Line C7: ICT applications: E-government, e-business, e-learning, e-health, etc.

Preface

WSIS Action Line C7 is dedicated to harnessing the power of Information and Communication Technologies (ICTs) to deliver tangible benefits across various sectors of human life and societal development. It acknowledges that ICTs are not ends in themselves, but powerful tools that can be applied to address real-world challenges and improve quality of life.

This action line broadly covers numerous "e-applications", or "e-services" designed to enhance efficiency, accessibility, and inclusivity in key areas.

The core objectives of WSIS Action Line C7 are to promote and facilitate the use of ICT applications in various critical sectors, including:

- **E-government:** Enhancing transparency, efficiency, and effectiveness of public administration and services, and promoting citizen participation.
- **E-business:** Fostering economic growth, creating new opportunities, and facilitating trade, particularly for micro, small, and medium-sized enterprises (MSMEs).
- **E-learning:** Improving access to education and training, enhancing learning outcomes, and promoting lifelong learning opportunities.
- **E-health:** Strengthening health systems, improving healthcare delivery, and increasing access to health information and services.
- **E-employment:** Facilitating job creation, improving labour market efficiency, and supporting remote work and flexible employment.
- **E-environment:** Leveraging ICTs for environmental protection, natural resource management, disaster prevention, and climate change mitigation.
- **E-agriculture:** Enhancing agricultural productivity, improving market access for farmers, and strengthening food security.
- **E-science:** Facilitating scientific research, collaboration, and the dissemination of scientific knowledge.

C7 Achievements

ICT applications have played a transformative role in various sectors in South Africa, including government, health, education, agriculture, employment and environment.

South Africa has actively pursued the development and implementation of diverse e-applications across public, private, and civil society sectors, consistently contributing to WSIS Action Line C7 from 2004 to 2024.

These initiatives have aimed at achieving universal access, improving service delivery, fostering economic growth, and enhancing societal well-being through the strategic use of Information and Communication Technologies (ICTs).

C7. 1 E-Government

E-government refers to the innovative use of ICT to support the government in improving public services and promoting more efficient governance, to link citizens and the public sector to facilitate collaboration. Thereby strengthening transparency and accountability in government operations.

The overall objective is to ensure stronger public service delivery and increase citizen participation. The National ICT Integrated White Paper policy of 2015 aims to create "a people-centred development-oriented and inclusive digital society".

Various e-Government initiatives have been carried out at the national, provincial and district levels. Such initiatives fall in one of these categories: Government-to-government programmes (G2G); Government-to-citizen programmes (G2C), Government-to-employees programmes (C2G) and Government-to-business programmes (G2B). Some successful implementations are discussed next.

Figure 17 South Africa e-services Home Page

South Africa has made significant strides in e-government, a key component of WSIS Action Line C7: E-applications, focusing on universal access to public services from 2004-2024.

This drive began with the Department of Public Service and Administration (DPSA) drafting its first e-government document in 2001, followed by the National Integrated ICT Policy White Paper in 2016 and the National E-government Strategy and Roadmap in 2017, setting the strategic direction for digital transformation.

Central to these efforts are national platforms designed to streamline essential services. SARS eFiling has become a highly efficient online platform for tax submissions, significantly improving accessibility for taxpayers.

The South African government is actively consolidating various online services (see Figure 17) into a single portal[128]. This portal offers access to services such as:

[128] www.gov.za/services/online-services

- **Drivers' License Bookings/Renewals:** Online booking for learner's license, driving license tests, and card renewals.
- **Matric Exam Results/Certificates:** Checking matric results and applying for re-issue or remark of certificates.
- **Government Job Portals (e.g., Employment Services of South Africa):** For job seekers and employers to register and connect.
- **UIF (Unemployment Insurance Fund) Declarations (Ufiling):** The U-Filing service offers a free online platform for securely submitting Unemployment Insurance Fund (UIF) declarations and payments for employers.
- **Compensation Fund Services:** Online registration, submission of earnings, electronic payments, and claims.
- **Virtual Post Office:** Online services for renewing post boxes, buying stamps, and paying traffic fines.

The Department of Home Affairs has modernized identity management through the national rollout of the SMART ID card system, which partners with banks for enhanced support and improved security features. As of June 2024, DHA had issued nearly 26 million smart ID cards.

Additionally, Home Affairs has introduced, around 2019-2020, eHomeAffairs platform that allows for online booking systems for IDs and passports, and the eVisa system for international travellers, greatly enhancing convenience. The Department of Home Affairs has launched its own dedicated eRecruitment platform[129] for 2024, a significant step in its ongoing digital transformation journey.

The platform serves as the DHA's first-ever online system for managing vacancies, allowing prospective job applicants to view and apply for all departmental positions digitally. This initiative aims to streamline the recruitment process by removing traditional paperwork, making job applications more efficient and accessible for citizens. The eRecruitment platform aligns with the DHA's broader vision to become a digital-first, world-class organisation and to automate its business processes and service offerings.

The South African Social Security Agency (SASSA) has progressively digitized its social grant application and status check processes, utilizing mobile platforms to manage the distribution of welfare grants, thereby improving access for vulnerable populations.

The Department of Transport's Electronic National Administration Traffic Information System (eNATIS)[130] has improved car and license registration by allowing nationwide access, while partnerships with services like PayCity[131] and banks enable online payment of traffic fines.

Beyond direct service delivery, e-government initiatives have enhanced transparency and innovation. E-procurement platforms like the Central Supplier Database (CSD) help ensure transparency in public spending. The Independent Electoral Commission (IEC) collaborates with cellular providers to enable voters to text their ID numbers for eligibility and voting station information, reducing queues and confusion.

The South African Post Office (SAPO) plays a crucial role in enabling and expanding government services. Through its partnership with the government, it has become a key access point for citizens, allowing them to pay social grants and renew motor vehicle and fishing licenses at Post Office branches.

[129] https://eRecruitment.dha.gov.za
[130] https://www.natis.gov.za/
[131] https://www.paycity.co.za/

The South African Postbank has also been instrumental in promoting financial inclusion by extending banking and financial services to underserved and rural communities. These initiatives decentralize government services and ensure they are accessible to a broader population, bridging the digital divide for those without reliable internet access.

At the local government level, various applications have empowered citizens and improved service delivery. The City of Tshwane's Namola app enables citizens to send GPS-based security alerts directly to Metro Police.

The Johannesburg Road Agency's Find and Fix mobile application allows the public to report infrastructure issues like potholes and malfunctioning traffic lights.

GovChat serves as a vital platform for citizens to rate government facilities and services, report issues, and access information.

The City of Johannesburg's e-government department leads initiatives for integrated municipal services, including e-invoices and partnerships for CCTV camera networks, such as the IIOC (Integrated Intelligent Operations Centre).

The Community Schemes Ombud Service (CSOS), under the Human Settlements Department, utilizes an e-Disputes system to resolve issues within residential estates.

The Innovation Bridge Portal serves as a digital platform to connect innovators, entrepreneurs, investors, and support providers within the African ecosystem, fostering collaboration and growth.

These e-government applications have collectively reduced queues, improved administrative efficiency, enhanced transparency, and broadened access to critical public services, particularly in urban areas.

This commitment is reflected in South Africa's climbing rank in the UN e-Government Index (i.e. 40th in 2024 from 65th in 2022), indicating progress informed by global best practices.

C7. E-Business

South Africa has made significant strides in its e-business landscape, a core component of WSIS Action Line C7, driven by concerted efforts across government, the private sector, and civil society. This has fostered a dynamic digital economy over the past decade (2015-2024), improving market access and stimulating economic growth.

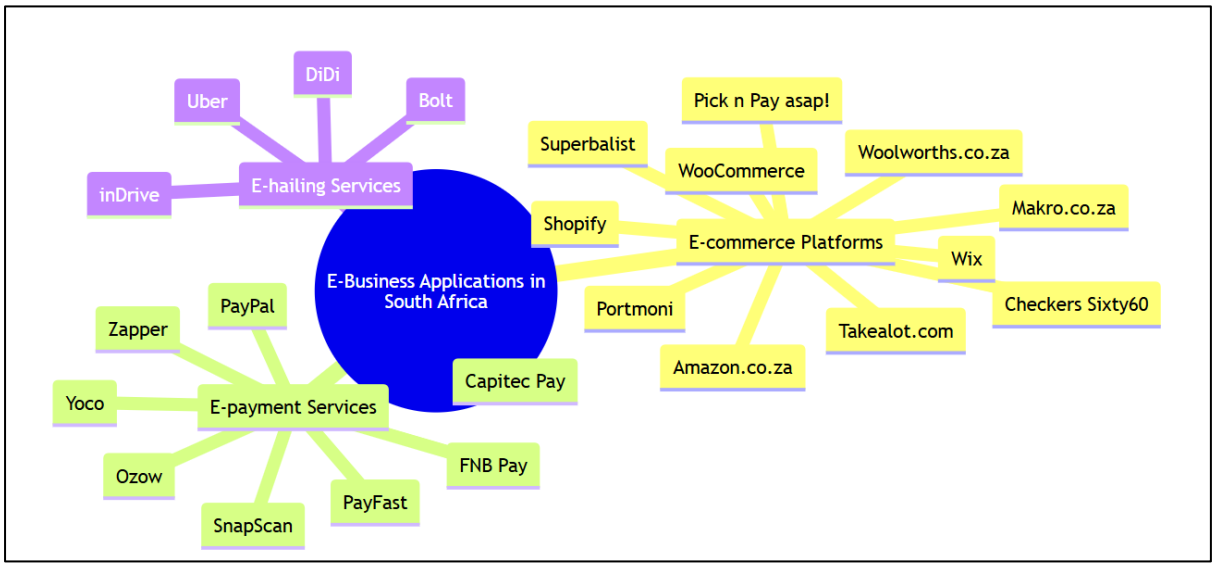


Figure 18: RSA common e-business applications

The private sector has emerged as a primary catalyst for e-business adoption. Major e-commerce platforms such as Takealot, Makro, Checkers, Pick 'n Pay, and Superbalist have diversified their offerings from groceries to electronics, profoundly transforming consumer purchasing habits[132]. This growth has, in turn, significantly increased the demand for delivery services across the country.

The e-commerce sector alone boasts approximately 32.55 million users, projected to reach 37.9 million by 2027, growing at 20-35% annually. This surge is driven by platforms like Takealot, which saw 30.83 million visits in April 2025, primarily from South Africa.

Grocery delivery services have also seen remarkable uptake. Checkers Sixty60 reports 5.2 million app downloads, serving over 80% of the online market[133]. Similarly, Pick n Pay's online retail sales surged 48.7% year-on-year[134], while Superbalist adds to fashion e-commerce with 1.5 million app users.

Parallel to the rise in e-commerce, the e-payment sector has flourished, fuelled by a growing preference for digital transactions over cash[135].

Prominent platforms like PayFast[136], Yoco, and Zapper have become leading e-payment service providers. These are complemented by integrated mobile banking applications from major financial institutions, such as FNB Pay and Capitec Pay, which facilitate secure and convenient online transactions.

Zapper is integrated into the loyalty landscape, with 82% of South Africans using loyalty programs. Major financial institutions are also central; FNB has over 5.3 million active virtual cards[137], and Capitec, with 13 million active app users, reported a 47% surge in e-commerce transactions[138].

Furthermore, e-hailing services like Uber and Bolt have revolutionized urban transportation. Combined, these platforms have over 3 million users in South Africa. Uber alone accounts for over 2.1 million active users and roughly 20,000 drivers[139].

Bolt also boasts over a million users and more than 40,000 driver partners across over 23 cities, having completed over 400 million trips in South Africa. The e-hailing market is projected to reach 14.38 million users by 2028[140].

For businesses, the CIPC Online Services platform is crucial. It enables electronic company registration, name reservations, amendments, and annual return filings[141].

The government has played a crucial supportive and enabling role. Initiatives like the Digitech SMME programme, overseen by the Department of Trade, Industry and Competition and the Small Enterprise Development Agency (SEDA), aim to assist SMEs in adopting digital tools and e-commerce.

The South African Mineral Resources Administration System (SAMRAS) online system allows for the application and viewing of applications, rights, and permits related to mineral and petroleum resources[142].

[132] https://ecdb.com/resources/sample-data/market/za/all
[133] https://dailyinvestor.com/retail/72631/checkers-sixty60s-secret-weapon/
[134] https://techcentral.co.za/pick-n-pays-online-business-profitable/264167/
[135] https://www.mastercard.com
[136] https://payfast.io/wp-content/uploads/2021/09/PayFast-ecommerce-performance-index-2020.pdf
[137] https://novuspressbulletin.co.za/blog/fnb-customers-exceed-r100-billion-in-virtual-card-transactions
[138] https://www.capitecbank.co.za/blog/news/2025/annual-results/
[139] https://iol.co.za/technology/big-tech/2023-10-27-the-ups-and-downs-of-south-africas-e-hailing-sector/
[140] https://techpression.com/bolt-reaches-over-400-million-rides-south-africa/
[141] https://bizportal.gov.za/company_reg_name_options.aspx
[142] https://www.dmre.gov.za/samrad-online-system

The ICT SMME Development Strategy, launched in November 2017 by the then Department of Telecommunications and Postal Services (DTPS), specifically targets accelerating the digital development and uptake among ICT SMMEs.

Transparency initiatives, such as the Central Supplier Database (CSD) for e-procurement, also contribute to a more trustworthy business environment. This is a crucial e-business platform for any individual or entity wishing to do business with the South African government. The platform currently has over 1,605,050 users registered by 10 June 2025 and out of these, 1,326,157 are verified suppliers[143].

Additionally, the Innovation Bridge Portal[144], an initiative of the DSTI and DSBD, connects innovators, entrepreneurs, and investors, offering crucial ecosystem support and investment opportunities to foster a prosperous digital economy.

Government initiated e-commerce platforms

South Africa is significantly boosting its e-commerce ecosystem and supporting local businesses through two new government-initiated platforms: Shop Proudly SA and the Market Access Platform (MAP). These platforms, scheduled for launch on 1 July 2025, are a strategic intervention to foster the growth of the digital economy and address socio-economic challenges[145].

Shop Proudly SA, a business-to-consumer (B2C) e-commerce platform, will serve as a centralized portal for consumers to easily find and purchase locally manufactured goods.

This initiative directly benefits SMMEs by providing them with a streamlined digital storefront and broad market visibility without the high costs of setting up their own e-commerce infrastructure.

By hosting over 1,700 local products, the platform aims to reclaim market share from cheaper imports and encourage local consumption, thereby strengthening the domestic economy and supporting job creation.

Complementing this, MAP is a business-to-business (B2B) portal designed to facilitate corporate procurement from local suppliers. As a vetted database of reliable South African manufacturers and service providers, MAP acts as a crucial tool for businesses aiming to meet their localisation targets.

Corporate procurement officers can use the platform to list tenders and be matched with eligible local suppliers, streamlining the procurement process and ensuring compliance with preferential procurement goals. This strategic B2B platform fosters a resilient local supply chain, further boosting the growth and sustainability of local industries.

Civil society in e-businesses advocacy

Civil society organizations, often in partnership with other stakeholders, have contributed significantly by advocating for inclusive digital policies and providing essential digital literacy and entrepreneurial training. Programs like the Mzansi Digital Learning initiative, for example, indirectly empower individuals and small businesses to engage more effectively in e-business by enhancing their digital skills.

Regional forums like AfICTA actively promote favourable ICT policies and foster capacity building, directly benefiting businesses seeking to operate digitally across the African continent. This comprehensive, multi-sectoral approach has profoundly impacted the South African economy, leading to increased market access for businesses, stimulated innovation, creation of new job opportunities, and enhanced financial inclusion through accessible digital payment solutions.

[143] https://secure.csd.gov.za/
[144] https://innovationbridge.info/ibportal/g20/tech-challenge
[145] https://businesstech.co.za/news/government/829260/government-launching-new-online-stores-for-south-african-products

C7. E-Learning

South Africa has significantly advanced its e-learning initiatives, aligning with WSIS Action Line 7, which promotes e-learning for accessible and inclusive education.

The COVID-19 pandemic acted as a major catalyst, leading to an over 50% increase in e-learning enrolment in South Africa between 2020 and 2022, mirroring global trends[146].

Government-led initiatives include the e-Matric service, offering online registration for Senior Certificate exams and access to supporting materials.

Beyond government, private and non-profit organizations contribute significantly. AVBOB partners with the Department of Basic Education to offer free, zero-rated CAPS-aligned Grade 12 exam preparation guides, increasing access for teachers and learners[147].

Locally, FunDza Literacy Trust[148] uses a mobile-first approach to promote reading and writing, with over 300,000 unique users monthly, primarily reaching students in rural and outlying areas.

Higher education institutions like UNISA, Africa's largest open distance learning university, continue to serve a vast student body, enrolling nearly one-third of all public Higher Education students in South Africa, with over 370,000 students as of recent figures.

The popularity of global platforms like Khan Academy, Coursera, Udemy, and edX among South Africans demonstrates a strong demand for online certifications and training in fields like technology, management, and business. The expansion of eduroam hotspots further supports research and education by providing secure Wi-Fi access.

The growth of online high schools, such as UCT Online High School and Curro Online, indicates a market demand for hybrid learning models. Furthermore, the increasing popularity of online tutoring and teaching platforms has enabled many South African teachers to work from home, catering to international students.

While challenges like the digital divide and the need for digital literacy training for teachers and parents persist, South Africa's commitment to e-learning, supported by ongoing infrastructure development and policy alignment, is transforming the educational landscape for a more inclusive future.

C7. E-Health

South Africa's e-health landscape is undergoing a significant transformation, guided by the National Digital Health Strategy 2019-2024[149]. This strategy builds on lessons from its 2012-2016 predecessor, aiming to strengthen governance, build integrated systems, and work in conjunction with the upcoming National Health Insurance (NHI) implementation.

The core vision is "Better Health for all South Africans enabled by person-centred Digital Health," empowering patients, healthcare workers, and system managers through digital technologies.

A key focus of this strategy is the adoption of Electronic Health Records (EHR) systems, such as CareOn and MediTech, which are beginning to see use across the country. While a substantial portion of the health sector, particularly in the public domain, still relies on paper-based records, the transition to EHRs promises enhanced efficiency, improved patient care, and timely access to clinical information, especially when linked with e-scripting capabilities.

[146] https://msceducation.co.za/blog-post-title-2-2/
[147] https://avbobstep12.co.za/
[148] https://www.fundza.co.za/about-fundza/what-we-do/
[149] https://extranet.who.int/mindbank/item/7358

The strategy emphasizes developing a complete health electronic record for all South Africans and digitizing health systems' business processes.

The COVID-19 pandemic significantly accelerated the adoption of telemedicine. Patients increasingly utilize teleconsultations, including remote diagnostics, to connect with healthcare providers. This is particularly impactful for rural and remote areas, bridging geographical gaps to connect patients with specialists. While detailed national adoption rates are still emerging, studies indicate that South Africa has a notable adoption rate for specialist teleconsultations, chronic disease management, and mental health services, leading in Sub-Saharan Africa.

A 2023 study among paediatric doctors in South Africa revealed that 87.3% used an mHealth app at least once daily, with drug dosing (81.3%) and diagnostic tools (59.3%) being the most common categories[150]. Despite increasing utilization, challenges such as unequal digital infrastructure, high data costs, low digital literacy, and regulatory complexities continue to impact widespread adoption across all segments of the population.

The Department of Health has an initiative on public health focusing on youth health services. The Department of Health has launched B-Wise mobile application platform designed to provide adolescent and youth-friendly health services (AYFHS)[151] and information. The platform aims to empower young people with accessible, reliable, and youth-centred appropriate health resources.

The B-Wise platform brings innovative features, including interactive tools for sexual and reproductive health and rights, promotion of health and wellness, education, and HIV and tuberculosis prevention. The aim is to improve the uptake of health services amongst adolescents and young people in South Africa, especially HIV prevention, mental health, family planning, and contraceptive use, to make informed choices about their sexual and reproductive health.

The National Digital Health Strategy addresses these challenges through several strategic interventions, including developing leadership and multi-stakeholder engagement, establishing sustainable funding mechanisms, creating robust network infrastructure and broadband connectivity, and fostering a skilled digital health workforce.

It also prioritizes health information exchange through digital health standards, a national health population register, and efficient management of health assets, all contributing to the broader goal of Universal Health Coverage.

C7. E-Employment

E-employment in South Africa has seen a significant shift, largely accelerated by the COVID-19 pandemic and ongoing technological advancements[152]. This growing trend enables individuals to work remotely on digital platforms, spanning diverse sectors like IT, marketing, consulting, writing, graphic design, and call centre operations.

This flexibility provides new avenues for income generation and has contributed to the country's employment figures surpassing pre-COVID levels, with 16.7 million employed people by Q3 2023, the eighth consecutive increase since Q4 2021[153].

The gig economy forms[154] a crucial part of this e-employment landscape, with an estimated 3.9 million people already engaged in gig jobs by 2021. This sector is projected to grow by 10% annually[155].

[150] https://pmc.ncbi.nlm.nih.gov/articles/PMC10862608/
[151] https://www.sanews.gov.za/south-africa/health-department-launches-app-dedicated-youth-health-services
[152] https://www.statssa.gov.za/?p=16809
[153] https://nedlac.org.za/wp-content/
[154] https://www.dailymaverick.co.za/
[155] https://www.itweb.co.za/article/south-africas-online-gig-economy-falls-short/rxP3jqBElBRMA2ye

Platforms like Upwork, Fiverr, and Freelancer are instrumental in connecting South African freelancers with global clients, offering services across various domains. The freelance platforms market in South Africa is expected to grow from US$ 95.6 million in 2023 to US$ 306.2 million by 2030, reflecting a substantial compound annual growth rate of 18.1%.

Beyond traditional freelancing, e-employment encompasses several other growing digital work solutions. Transportation services like ride-hailing (Uber, Bolt, inDrive, DiDi) and delivery services (Uber Eats, Bolt Food, Mr D Food) offer flexible earning opportunities for thousands of drivers and couriers. Entrepreneurial ventures also thrive on e-commerce platforms such as Shopify, Etsy, Makro, and Takealot, enabling individuals to sell products online.

Digital content creation, including videos, blogs, and social media posts on platforms like YouTube, TikTok, and Instagram, has emerged as a viable profession. South African influencers, bloggers, and podcasters generate income through content and brand partnerships.

The influencer ad spending in South Africa is anticipated to exceed $30 million in 2025, with over 60% of brands increasing their investments. Even professional gaming has become a lucrative e-employment avenue, with South Africa's gaming market reaching $278 million in 2024, and the broader African gaming market growing significantly faster than the global average[156].

The shift to remote and hybrid work models, while experiencing a slight decline in job postings from 4.3% in 2023 to 3.7% in 2024, remains significantly higher than pre-pandemic levels (0.2% in 2019). The IT sector leads this trend, with 57% of remote job opportunities.

Tools like Zoom, Microsoft Teams, and Google Meet have become essential for virtual collaboration, supporting these flexible work arrangements. Online job portals such as Remote.co, We Work Remotely, and Indeed further facilitate the connection between remote workers and employment opportunities, highlighting e-employment's growing role in South Africa's evolving labour market.

C7. E-Environment

E-environment initiatives in South Africa leverage digital technology to bolster environmental sustainability, addressing critical issues like climate change, biodiversity loss, and resource wastage. These efforts are often integrated into broader urban development plans and specific conservation projects.

Smart City projects[157], particularly in Johannesburg metros and Cape Town, exemplify this integration. These initiatives use Information and Communication Technology (ICT) to monitor and optimize environmental factors, with smart sensors deployed in Cape Town to track temperature, noise, and air quality, facilitating effective pollution control. This integration aims to improve urban environmental management and resource efficiency.

Digital technology is also crucial for environmental monitoring and data collection. Organizations like the South African Environmental Observation Network (SAEON)[158], a long-term research facility under the National Research Foundation (NRF), systematically collect data on climate change, air quality, water, and biodiversity.

Similarly, the Cape Town Air Quality Management System (AQMS) utilizes digital tools for air quality testing and pollution control, providing crucial data for environmental management.

[156] https://www.itweb.co.za/article/africas-gaming-market-reached-18bn-in-2024/GxwQDM1D4GY7lPVo
[157] https://www.bizcommunity.com/article/smart-cities-in-south-africa-the-role-of-technology-in-urban-development-363108a
[158] https://sarva.saeon.ac.za/saeon-observations/

Furthermore, e-environment solutions support practical conservation and waste management. Recycling programs benefit from apps like WastePlan[159] and GoRecycling, which offers guidance on recycling centres and waste management.

Water management initiatives in the Western Cape employ smart water meters and "Water Crisis" apps to help residents track usage and find water-saving tips. Digital conservation platforms, such as Wildlife Act[160], engage citizens in reporting sightings of endangered species or invasive plants, providing vital data for conservationists.

Innovative approaches like virtual safaris raise awareness about conservation while reducing the carbon footprint associated with physical tourism.

The South African Carbon Credit Trading Scheme, managed by the Department of Environmental Affairs, supports carbon offset programs, allowing companies to digitally trade credits to counteract their emissions.

These initiatives, alongside increasing the focus on e-waste management, demonstrate South Africa's growing commitment to using digital tools for a more sustainable future.

C7. E-Agriculture

E-agriculture in South Africa is rapidly transforming farming practices through the integration of Information and Communication Technology (ICT), aiming to boost productivity, enhance decision-making, and address critical challenges related to water, climate, and market access. This digital shift ultimately contributes to food security and economic growth.

The sector benefits significantly from Agri-tech developments, with tools like Farmtrace providing farmers with essential tracking and operational insights. Farm management software from global leaders like John Deere[161] and Cropx offers digital platforms for monitoring soil health, water usage, and crop growth, enabling optimized resource management.

For livestock, apps such as FarmRanger and Grazertrack provide crucial stock management and tracking capabilities.

Drones are increasingly utilized for precision agriculture, assisting with crop monitoring, planting, pest control, and waste minimization. Companies like Aerobotics offer services to capture aerial images and provide detailed crop reports, enabling timely interventions and cost reductions for farmers.

Mobile support for farmers is also extensive, with apps like mAgri, Agri-Analytics, iCow, and Farmers Weekly App delivering vital information on weather forecasts, market prices, farming techniques, and agricultural news directly to farmers' devices.

Smart irrigation management systems[162], such as the automated Rainmaker solution and platforms like Agrivi, leverage cloud-based technology and weather forecasts to monitor soil moisture and adjust irrigation schedules, ensuring efficient water use. Furthermore, e-commerce and online marketplaces like Fresh Earth provide digital platforms connecting farmers directly with stockists for selling produce, streamlining supply chains.

Beyond operational tools, e-agriculture also focuses on farmer education and training, with platforms like AgriSETA striving to provide e-learning programs to build agricultural skills.

[159] https://www.wasteplan.co.za/waste-management-services/
[160] https://www.wildlifeact.com/
[161] https://www.deere.africa/en/technology-products/precision-ag/
[162] https://agri4all.com/product/rainmaker-200-rotrix-africa-south-africa

Collaborative efforts, such as the CSIR's partnership with the Department of Agriculture, to develop a livestock identification and traceability system, enhance sector-wide efficiency[163]. The Department of Agriculture also assists with import services, supported by digital platforms.

Recent advancements in digital tools for agricultural extension services have further revolutionized farmer support. Improved data collection and analysis through tools like Survey123 allow extension officers to gather real-time data and track farmer needs more efficiently.

Enhanced record-keeping and reporting via SmartPen technology have streamlined documentation, reduced paperwork and improved accuracy. Additionally, efficient input distribution is facilitated by e-voucher systems, ensuring transparent and targeted access to agricultural inputs for farmers.

C7. E-Science

E-science in South Africa is fundamentally transforming scientific research and development by integrating digital technologies, leveraging Big Data, advanced computing, and collaborative online systems. This integration significantly impacts diverse fields such as environmental science, health, agriculture, and engineering, driving innovation and providing deeper insights into complex problems.

A primary example is the crucial role of Big Data, as seen with the South African Environmental Observation Network[164]. SAEON continuously monitors environmental changes, collecting vast datasets on climate, biodiversity, and ecosystem health.

This data is vital for understanding long-term trends and informing environmental policy. Similarly, the National Health Laboratory Service (NHLS)[165] utilizes robust data analysis capabilities for critical functions like disease monitoring, early outbreak detection, and guiding timely health interventions, directly impacting public health outcomes.

High-Performance Computing (HPC) forms the backbone of advanced e-science. The Centre for High-Performance Computing under the banner of the CSIR in Cape Town provides powerful computing resources essential for complex tasks, including large-scale data processing, advanced modelling, and simulation. This infrastructure is critical for scientific breakthroughs across various disciplines, including genomics, astronomy, and climate change research at universities like UCT and Stellenbosch University.

South Africa is a global leader in e-science in Astronomy and space science. The Southern African Large Telescope in Sutherland, one of the world's largest optical telescopes, relies heavily on HPC for advanced data analysis. The Square Kilometre Array (SKA), an immense radio telescope project co-hosted by South Africa, is designed to study the origins of the universe, pushing the boundaries of data processing and analysis with its unparalleled scale. These projects enhance South Africa's reputation as a scientific research hub.

Beyond research, e-science also focuses on capacity building. The DSTI-NICIS National e-Science Postgraduate Teaching and Training Platform (NEPTTP), launched in 2017[166], was established to address the critical need for a multi-institutional data science consortium in South Africa. This initiative is vital for developing a skilled workforce in digital science.

C7. E-Others

South Africa has also been active in working on local and regional projects that focus on e-applications. One being the e-Participation and Policy Modelling Platform for South Africa (ePPMOSA) project is implemented jointly by CSIR, HSRC, and UKZN. It is project 5 of the Viability and Validation of

[163] https://static.pmg.org.za/RCW67-2025-03-10.pdf
[164] https://www.saeon.ac.za/
[165] https://www.nhls.ac.za/nhls-to-enhance-public-health-laboratory-services-through-data-analytics/
[166] https://www.itweb.co.za/content/WnpNElrAP1gVA2ye

Innovation for Service Delivery Programme (VVISP), which is a Department of Science, Technology and Innovation (DSTI) initiative and funded by the European Union. VVISDP is designed to help municipalities to pilot technology and innovations that could assist in improving the delivery of basic services and the functioning of municipalities through innovation.

The ePPMOSA project aims to pilot e-participation and policy modelling technologies and methods using available technologies and the project is implemented in selected municipalities in South Africa.

The participating municipalities are: Ethekwini Metro, City of Tshwane, Rustenburg Local Municipality, Emalahleni Local Municipality, City of Cape Town and City of Johannesburg.

The project was initially planned to start in 2022 and end in 2025, but it was recently extended to end in 2026 June. At the core of the e-Participation project is the aspiration for supporting and enhancing existing local government public participation initiatives. With public participation the focus is on enhancing opportunities to strengthen the engagement between local government and members of the public.

The South African Cabinet operationalized the e-Cabinet system in 2018/19[167]. The e-Cabinet system in South Africa is a digital platform designed to streamline government decision-making processes. It enables Cabinet members to access, manage, and collaborate on documents electronically, reducing reliance on paper and improving efficiency. The system facilitates a paperless environment, allowing for secure information sharing and storage among relevant staff.

South Africa's e-Cabinet system serves to modernize government operations by offering a secure, centralized digital platform for high-level decision-making. This system enables Cabinet members, heads of departments, and executive support staff to electronically access, share, and manage crucial documents, foster streamlined collaboration and efficient tracking of decisions.

Designed for improved governance, the e-Cabinet system aims to reduce bureaucracy through minimizing reliance on paper-based processes. Its phased development and deployment are geared towards full operational status upon completion of security certifications, ultimately enhancing transparency and efficiency across government functions

This system is a crucial component of the broader e-Government strategy, aiming to improve the efficiency and effectiveness of high-level government decision-making and its interaction with the legislative body. A budgetary allocation of over R7m was allocated in 2024/25 for the e-Cabinet system training and upgrades.

C7 Challenges

South Africa faces several significant challenges in advancing its e-services and digital transformation efforts, particularly concerning e-learning and broader e-business adoption. These challenges often stem from underlying issues of infrastructure, digital literacy, and coordination, leading to impacts on service delivery, accessibility, and overall national development.

Disparate access to internet infrastructure

A fundamental challenge is the digital divide, characterized by disparate access to internet infrastructure and technology. Urban areas typically enjoy better connectivity, while rural regions suffer from limited internet access, lack of electricity, and inadequate network coverage. This directly hinders the ability of citizens, particularly in underserved areas, to utilize essential e-services, participate in e-learning, or

[167] https://www.gcis.gov.za/sites/default/files/docs/resourcecentre/pocketguide/2012/05-The%20Presidency-2018-19%28print%29%20.pdf

access e-employment opportunities. The root cause lies in historical underinvestment and geographical disbursement, impacting equitable access to digital benefits.

Digital literacy deficit

Another substantial barrier is the significant skills gap within the South African population. Despite soaring demand for digital skills across e-employment sectors like IT, data science, AI, and High-Performance Computing (HPC), many South Africans lack the necessary technological expertise.

This digital literacy deficit not only affects individuals seeking e-employment but also limits the effective adoption and utilization of e-learning platforms by students, teachers, and extension practitioners.

Complexities in E-Health implementation

The progression of e-health initiatives is notably hampered by broader healthcare system complexities. The National Health Insurance (NHI) implementation, which is intrinsically linked to advancements in e-health, faces significant delays due to persistent funding issues and legal obstacles. This uncertainty directly affects the progress of digital health services and the transition from traditional paper-based systems to efficient Electronic Health Records (EHRs). The root cause here is systemic and financial, influencing the pace and scale of e-health transformation.

Cybersecurity and data privacy concerns

Furthermore, data privacy and cybersecurity concerns are on the rise with increased online data collection. The growing frequency of data breaches fuels public fear about data security, impacting trust in digital platforms across all e-service domains, from e-health to e-employment. The root cause is the rapid evolution of cyber threats coupled with potentially insufficient security measures and digital hygiene practices among users and organizations. This risk is amplified by the increased reliance on remote work, which expands the potential attack surface for cyber threats like hacking and phishing.

C7 Future Priorities

Deepening digital inclusion and accessibility through targeted e-applications

South Africa faces the critical task of deepening its digital transformation to ensure the benefits of Information and Communication Technologies (ICTs) are realized by all citizens. To achieve this, a key priority is deepening digital inclusion and accessibility through targeted e-applications.

This means moving beyond simply providing internet access to ensure that digital tools genuinely improve lives, especially in rural and underserved areas.

For instance, developing localized e-agriculture solutions could provide smallholder farmers with crucial data on weather and market prices, boosting food security. Similarly, expanding accessible e-health platforms with user-friendly interfaces and local language support can bridge significant gaps in healthcare access, while inclusive e-learning programs can equip all South Africans with foundational digital and future-ready skills, preventing digital exclusion in an evolving job market.

Fostering local innovation and entrepreneurship in high-impact digital sectors

South Africa should aim to become a significant developer of digital solutions, not just a consumer. This involves cultivating an ecosystem where local talent can create and scale technologies that address the country's unique challenges. Supporting SMMEs in emerging fields like AI, IoT, and Big Data through targeted incubation and funding can drive this.

Simultaneously, investing in a robust digital public infrastructure (DPI) such as secure digital identity and payment systems can provide a foundational layer, reduce development costs and increase efficiency for both government and private sector innovation.

Strengthening cybersecurity and data governance

Finally, to ensure trust and widespread adoption of digital services, strengthening cybersecurity and data governance must be a top priority. As South Africa becomes more digitally reliant, protecting data and ensuring online safety is paramount.

Fostering strategic public-private partnerships

Fostering strategic public-private partnerships is critical for sustainable growth and innovation. This involves strengthening collaboration between government, educational institutions, agribusinesses, and tech firms to ensure sustainable funding, drive innovation, and scale digital platforms.

This integrated approach, guided by frameworks like the Roadmap for the Digital Transformation of the South African Government, will ensure a more coordinated, responsive, and impactful advancement of e-applications and broader e-services. The Digital Transformation Roadmap will transform access to all e-services to streamline and organise all services under one umbrella. The roadmap will work with all departments in the country to consolidate services into a single portal for ease of access.

8. Action Line C8: Cultural Diversity and Identity, linguistic diversity, and Local Content

Preface

WSIS Action Line C8 addresses the critical importance of preserving, promoting, and celebrating cultural diversity, identity, and linguistic diversity in the Information Society. It recognises that the digital environment, while offering unprecedented opportunities for global communication, also presents challenges to the unique cultural expressions and languages of various communities, particularly those that are less dominant.

This action line advocates for the creation, dissemination, and accessibility of diverse local content in various formats and languages. It encourages measures to support cultural heritage, artistic creation, and traditional knowledge in the digital age, ensuring that the internet reflects the richness of human culture.

The core objectives of WSIS Action Line C8 are to:

- **Preserve and Promote Cultural Diversity:** Use ICTs to document, preserve, and promote tangible and intangible cultural heritage, including traditional knowledge and artistic expressions.
- **Support Linguistic Diversity:** Encourage the presence and use of all world languages, including indigenous and less-resourced languages, on the Internet and in digital applications to counter the linguistic digital divide.
- **Foster Local Content Creation:** Stimulate the production, dissemination, and accessibility of culturally relevant and locally appropriate digital content, reflecting diverse identities and values.
- **Enhance Cultural Exchange:** Facilitate cross-cultural understanding and dialogue through digital platforms and content.
- **Protect Cultural Identity:** Safeguard cultural specificities and prevent homogenisation in the digital realm, ensuring that communities can express their unique identities online.
- **Support Creative Industries:** Promote the role of ICTs in fostering vibrant local cultural and creative industries, ensuring fair remuneration for artists and cultural professionals.

***C8 Achievements**:*

Over the past two decades, significant progress has been made in reflecting the nation's 11 official languages and rich cultural tapestry in the digital realm, acknowledging that inclusivity is key to digital transformation.

Digital archiving and cultural heritage

South Africa has made substantial strides in digitizing and preserving its cultural heritage. The Department of Sports, Arts and Culture, along with the National Library of South Africa (NLSA), has supported various projects to digitize archival material and indigenous knowledge systems, making them widely accessible online. Notable initiatives include the Nelson Mandela Memory Programme and the digitization efforts of the South African History Archive (SAHA) and the Community Video Education Trust (CVET). These digital repositories are crucial for fostering national identity and providing invaluable resources for research and education, ensuring historical and cultural materials reach a broader audience.

Linguistic diversity and ICT tools

A core focus has been the promotion of South Africa's 11 official languages, especially under-resourced indigenous languages. The South African Centre for Digital Language Resource (SADiLaR) has been instrumental in developing advanced Human Language Technology (HLT) tools, text corpora, and computational resources, specifically for languages like isiNdebele and Xitsonga, since its establishment.

Bodies like the Council on the Promotion of African Languages and PanSALB (established 1995) collaborate with universities and stakeholders to further the use of these languages in ICT and education. The Revised Language Policy Framework (2020) in higher education also champions multilingualism, enhancing digital inclusion by bridging language barriers.

Furthermore, initiatives extend beyond tool development to direct community engagement. The SADiLaR-Wikipedia-PanSALB (SWiP) project, for instance, trains students and community members across 11 public universities to create and edit Wikipedia content in indigenous languages.

This collaboration significantly enhances the online visibility of South African languages and improves access to information, contributing to a more multilingual and multicultural internet, demonstrating how digital activism is being fostered at a grassroots level to promote and strengthen indigenous languages in cyberspace.

The Department of Sport, Arts and Culture also actively supports the development of digital language resources, including those for the Khoi and San languages, and has initiated publishing hubs to ensure more books are available in indigenous languages, including Braille and audiobooks, further demonstrating a commitment to creating a digitally representative South Africa.

Cultural industries and digital transformation

The digital landscape has profoundly impacted South Africa's cultural industries, facilitating new avenues for content creation and dissemination. Public broadcasters like the SABC and numerous independent production houses have increased the creation and distribution of local television, radio, and music content across digital platforms.

This aligns with strategic documents such as the Cultural and Creative Industries Masterplan (2022), aiming to leverage CCIs for economic and social development. This digital shift empowers artists to monetise their work and participate in wider cultural exchange, ensuring local narratives gain global reach.

Efforts extend to digitally preserving traditional knowledge through the Indigenous Knowledge Systems (IKS) Policy (2019), which legally protects it via the Indigenous Knowledge Act. The emphasis is on ensuring the digital future reflects all communities, including historically marginalised groups and persons with disabilities.

The South African National Council for the Blind (SANCB) plays a pivotal role in advocating for the digital rights and accessibility needs of visually impaired persons in South Africa. A significant aspect of their work involves engaging with international bodies like the World Intellectual Property Organization (WIPO) to address copyright limitations and exceptions that hinder access to copyrighted works for the blind and visually impaired.

This advocacy directly relates to the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled (Marrakesh Treaty). South Africa ratified the Marrakesh Treaty in 2020. The Treaty, administered by WIPO, establishes a framework for copyright exceptions that allow for the production and international exchange of books and other copyrighted works in accessible formats (like Braille, large print, audio, and digital accessible formats) without obtaining permission from the copyright holder.

The SANCB, in collaboration with other disability rights organisations and legal experts, has been instrumental in campaigning for the domestication of this Treaty into South African law. This involves advocating for exemptions and limitations of copyright in national legislation, allowing for the legal translation and adaptation of copyrighted materials into accessible formats for persons with print disabilities. The impact of this work is profound: it breaks down barriers to information and knowledge, significantly enhancing educational opportunities, cultural participation, and socio-economic inclusion for blind and visually impaired individuals in South Africa

The partnership between Girlhype and Glenfiddich whisky exemplifies a critical initiative aimed at bridging the digital divide by offering digital skills training in South Africa's diverse local languages. This collaboration addresses a significant barrier to digital inclusion: language. By providing instruction in languages such as HTML in Xhosa or Setswana, the programme ensures that technical skills are not exclusive to English speakers.

The core impact of this initiative is the empowerment of youth, particularly in communities where English may not be the primary language of instruction or comprehension. It allows participants to learn complex digital concepts in a familiar linguistic context, fostering deeper understanding and engagement. This localised approach accelerates the acquisition of vital digital skills, making careers in technology more accessible to a broader segment of the population. By equipping young individuals with capabilities like HTML coding in their mother tongue, the programme directly contributes to creating a more inclusive and representative digital workforce, while also celebrating and reinforcing linguistic diversity in the tech space.

Organisations like the Cyber Culture Foundation promote digital wellness and online safety, especially for children. Furthermore, the development of Amazon Web Services (AWS) facilities (Cape Town since 2004, Johannesburg 2015/2022, Skills Centre 2023) and the Huawei Innovation Centre (opened 2023 in Johannesburg) are critical for fostering local digital talent and content creation, directly contributing to a robust digital ecosystem that supports cultural and linguistic diversity.

The South African government has increasingly recognised over the last 20 years the importance of cultural and linguistic inclusion and inclusive information Society. South Africa’s rich diversity is reflected in the country’s 11 official languages and vibrant cultural heritage. Therefore, the use of ICTs to protect, promote, and digitize this diversity is viewed as a cornerstone of digital transformation.

Innovation and diversity

In its commitment to linguistic diversity, South Africa has also seen significant innovation from research institutions. The CSIR through its Voice Computing Research Group, developed and commercialised Qfrency, a pioneering text-to-speech (TTS) engine.

Launched to address the critical gap in local language technology, Qfrency is the first commercial TTS product capable of synthesising human-like speech in all 11 official South African languages, including South African Sign Language (as the twelfth). This technology is crucial for overcoming language barriers, enabling a wider audience to access information and participate in the digital world.

Qfrency's impact extends to various applications, from providing voice feedback in navigation software and call centres to enhancing digital literacy and accessibility through solutions like screen readers and augmented e-books, profoundly benefiting visually impaired individuals and those with reading difficulties by providing auditory access to written content.

APC is a strong proponent of ensuring that the Internet reflects the world's diversity rather than imposing a dominant culture or language. They advocate for policies and practices that support the creation of local content in indigenous languages and promote cultural expression online[168].

[168] https://www.internetsociety.org/issues/community-networks/success-stories/mamaila/

This often involves working with grassroots organizations to develop localized applications and platforms, challenging technical and policy barriers that hinder linguistic diversity, and fostering an internet that is truly multilingual and multicultural. They believe that local content is not just about translation, but about empowering communities to tell their own stories in their own ways.

C8 Challenges

South Africa faces several challenges in fully realizing the goals of WSIS Action Line 8, particularly regarding cultural and linguistic diversity in the digital space. These challenges often stem from underlying issues of infrastructure, capacity, and ethical considerations.

Infrastructure gaps

A primary challenge is the persistent digital divide**,** where rural and economically disadvantaged communities suffer from a fundamental lack of reliable internet access, inconsistent electricity, and insufficient digital literacy support.

The root cause of this challenge lies in historical underinvestment in infrastructure and uneven distribution of resources, which directly impedes their ability to create, share, and consume local cultural and linguistic content online, leading to continued exclusion from the digital sphere.

Funding and institutional capacity limitations

Inadequate funding and technical capacity severely constrain cultural institutions and libraries. These entities often operate with limited budgets and lack the necessary technical expertise and resources to effectively digitise, preserve, and provide online access to South Africa's diverse cultural heritage. This directly impacts the long-term sustainability and widespread reach of valuable local archives and museum collections, preventing the full representation of indigenous and traditional knowledge online.

Ethical digitisation and representation of indigenous knowledge

While the Indigenous Knowledge Systems policy exists in South Africa, its practical implementation faces hurdles in the digital domain. There is a notable lack of robust digital platforms and ethical frameworks for respectfully digitising and sharing indigenous and traditional knowledge online. This absence creates a risk of misrepresentation, abuse, or misunderstanding of culturally sensitive information, hindering the authentic and appropriate online presence of these vital cultural assets.

Accessibility for persons with disabilities

Despite constitutional rights, persons with disabilities frequently encounter significant barriers to accessing ICT-enabled opportunities[169]. This is primarily due to the high costs of assistive devices, a scarcity of universally accessible platforms, and persistent social stigmas. The root causes include insufficient targeted interventions, lack of government subsidies for assistive technologies, and the slow adoption of universal design principles in digital development, further contributing to their digital exclusion.

C8 Future Priorities

Strategic policy and inclusive digital development

Future priorities could centre on explicitly embedding cultural and linguistic diversity within South Africa's digital development strategies and public education policies. This involves ensuring that

[169] https://researchictafrica.net/research/

national initiatives for innovation, inclusion, and identity fundamentally integrate multilingualism across all e-learning, e-governance, and digital economy frameworks. Such a strategic approach will guarantee that digital transformation benefits all communities, not just dominant ones, fostering a truly representative online environment.

Investment in advanced language technologies

A key focus will be significant investment in ICT applications and tools that specifically facilitate translation, voice recognition, and speech-to-text functionalities across all South African languages. Developing user interfaces that operate seamlessly in local languages is paramount. This enhanced technological capability will not only bridge communication gaps but also vastly improve access to e-services, enabling broader and more inclusive digital participation for all citizens.

Creative content and community engagement

Prioritizing the use of storytelling and diverse media creatively will be essential to reach wider audiences and amplify cultural impact. Future initiatives should leverage entertaining stories, podcasts, and mini documentaries, particularly within culturally based programmes. By delivering appropriate and engaging content that communities can identify with, these efforts will foster deeper digital engagement, promote local narratives, and strengthen national identity in the digital sphere.

9. Action Line C9: Media

Preface

WSIS Action Line C9 focuses on the crucial role of media in the Information Society, recognising its function in providing diverse information, fostering freedom of expression, and contributing to democratic participation. It acknowledges that media, in its evolving forms (traditional, online, social), is a powerful enabler of knowledge dissemination, cultural exchange, and public discourse.

This action line calls for supporting media pluralism, ensuring journalistic freedom and independence, promoting ethical media practices, and adapting media to the digital environment. It also addresses the importance of universal access to diverse media content, media literacy, and the role of media in development.

The objectives of WSIS Action Line C9 are to:

- **Promote Media Pluralism:** Encourage a diverse media landscape, including public, private, and community media, to ensure a wide range of perspectives and voices are represented.
- **Safeguard Freedom of Expression and Information:** Uphold the fundamental human right to freedom of opinion and expression, encompassing the freedom to seek, receive, and impart information through any media, as enshrined in international human rights instruments.
- **Ensure Media Independence:** Support the operational and editorial independence of media outlets, free from undue political or commercial interference.
- **Foster Media Literacy:** Equip citizens with the skills to critically evaluate media content, recognise misinformation, and engage responsibly with information in the digital age.
- **Leverage Media for Development:** Utilise media platforms and content to promote social, economic, and cultural development goals, including public awareness campaigns and educational programming.
- **Adapt to the Digital Environment:** Support the transformation of media organisations to effectively operate in the digital realm, embracing new technologies and distribution channels while maintaining journalistic standards.
- **Encourage Diverse Content:** Promote the production and dissemination of diverse, local, and culturally relevant media content.

C9 Achievements

Over the past two decades, South Africa has undertaken significant initiatives to achieve WSIS Action Line C9 objectives aided by multiple stakeholders, reflecting its democratic values and commitment to media freedom.

Generating local content

The SABC reported regarding local content, that several new shows were launched in 2023, although some were postponed due to financial constraints.

The pie chart below Figure 19, illustrates the content delivered by each genre in 2023. The entertainment genre produced more content, through Advertiser Funded Programming (AFP) and

licenses that the genre utilized. These licenses helped to fill gaps where shows were deferred due to the current financial challenges.

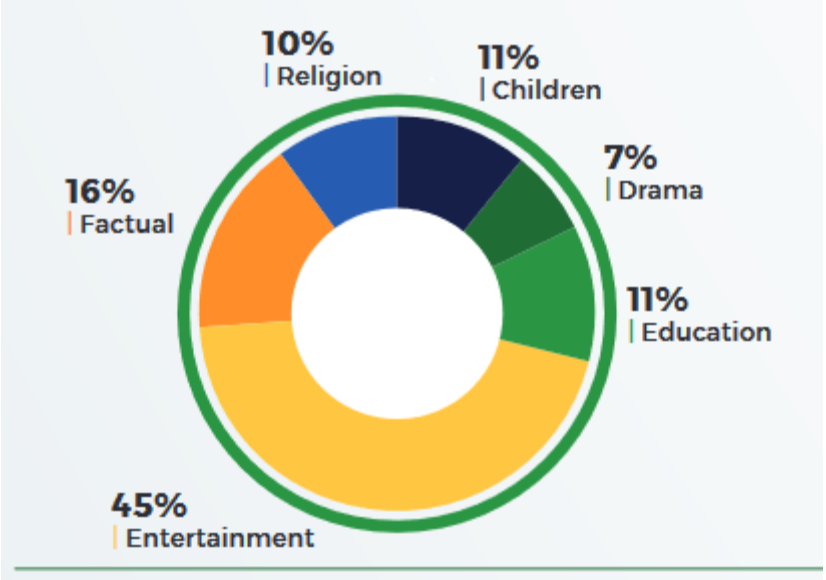


Figure 19 : Local commissioned content.

Combatting illegal and harmful content

South Africa has established a multi-faceted regulatory and enforcement framework to combat illegal and harmful media content. Key bodies include the Press Council of South Africa (est. 2007), upholding ethics for print and online media; the Broadcast Complaints Commission of South Africa (BCCSA, est. 1993), which recently adopted an Online Content Services Code of Conduct; and ICASA (est. 2000), regulating communications, broadcasting, and postal services.

Law enforcement agencies like SAPS (est. 1995), the Financial Intelligence Centre (FIC, est. 2002), and the National Prosecuting Authority (NPA, est. 1998) actively investigate and prosecute online crimes under legislation like the Films and Publications Act (1996). Furthermore, organizations like Media Monitoring Africa (MMA) play a crucial role in identifying and countering misinformation and disinformation, often collaborating with entities like SANEF, CSIR and University of Pretoria.

Other initiatives include, IEC Social Media Partnership, partnered with Meta, Google, and others to counter misinformation and improve electoral integrity.

Protecting South Africans Online

The Department of Communications and Digital Technologies, in a collaboration with the Government Communication and Information System (GCIS), successfully concluded a comprehensive mass media cybersecurity awareness campaign that ran from December 2024 to April 18, 2025.

This vital initiative was meticulously designed to empower South African citizens and organizations with the knowledge and tools to navigate the digital landscape safely. By educating, informing, and influencing online behaviour, the campaign significantly enhanced public awareness, helping individuals better understand the pervasive types of cyber threats they face daily, including insidious phishing attempts, malicious malware, crippling ransomware attacks, and the growing danger of identity theft.

The campaign leveraged the immense reach of South Africa's most popular national radio stations, ensuring its critical messages resonated across diverse communities.

Key broadcasters included Umhlobo Wenene FM, Motsweding FM, Lesedi FM, Ukhozi FM, and Radio 2000, allowing for broad linguistic and geographical penetration.

Social media presence

As of January 2025, there were 26.7 million active social media users in South Africa, representing 41.5% of the total population. This figure had increased by 700,000 users (+2.7%) from early 2024. Among adults aged 18 and above, social media penetration was higher at 59.9%[170].

The Government Communication and Information System (GCIS) actively manages a central "GovernmentZA" platform and encourages citizens to follow these official accounts for accurate information. GCIS has also strategically amplified the campaign's impact through popular social media platforms. The South African government departments, ministries, and even individual leaders also maintain a robust presence across various social media platforms, including Facebook, X (formerly Twitter), YouTube, Instagram, TikTok, LinkedIn, and WhatsApp.

The Figure 20 below shows the summary of selected government social media accounts' reach across different platforms by June 2025.

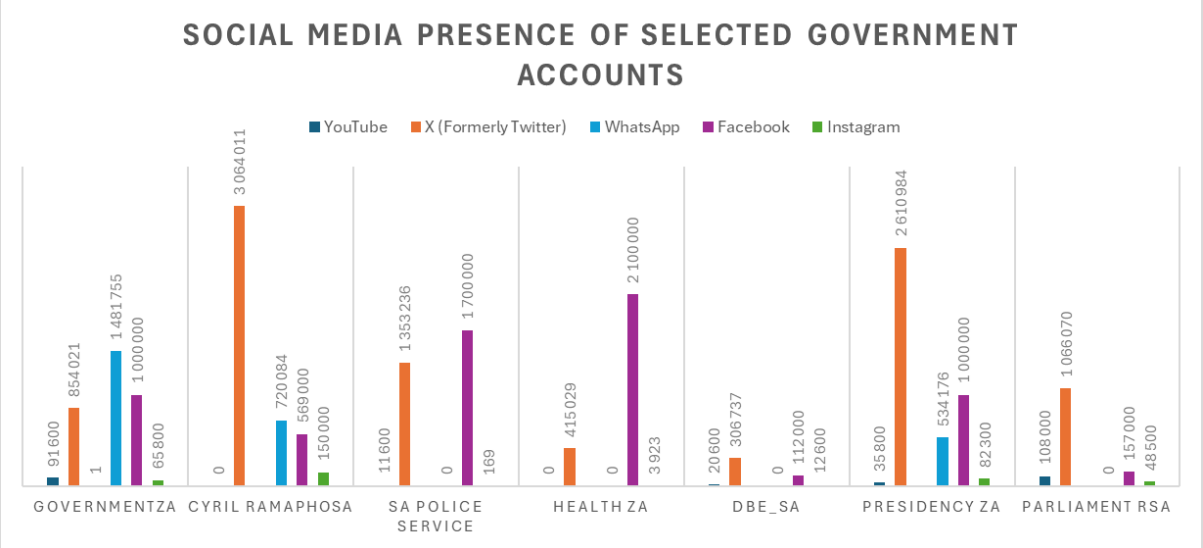


Figure 20: Government presence on social media in South Africa

The data indicates that Facebook and X (formerly Twitter) are dominant platforms for government engagements. Cyril Ramaphosa's X (formerly Twitter page) is leading significantly at over 3 million followers (3,064,011), followed by the Presidency ZA with over 2.6 million followers (2,610,984), and SA Police Service at 1.7 million. GovernmentZA shows a strong engagement on WhatsApp public channels having over 1.4 million followers (1,481,755), Cyril Ramaphosa at 720,084, and SA Police Service at 1,353,236 on X. While Parliament RSA has over 1 million followers on X, its presence on other platforms is comparatively smaller. Other platforms like YouTube and Instagram generally show lower follower counts across the board, with some accounts like Health ZA and DBE SA having no reported presence on certain platforms.

This widespread adoption underscores the government's recognition of social media's power for rapid and broad information dissemination, particularly highlighted during the COVID-19 pandemic where platforms were crucial for sharing public health updates and combating misinformation.

[170] https://datareportal.com/reports/digital-2025-south-africa.

In this regard, the government primarily leverages social media for information broadcasting, acting as an extension of their official websites to deliver news, announcements, and policy updates directly to the public.

This multi-channel approach ensured maximum audience engagement, equipping millions of South Africans with the essential information needed to safeguard their digital lives and contribute to a more secure online environment for all.

Promoting diversity of media ownership and content

Efforts to foster a diverse media landscape include regulatory measures and direct support for local content. The launch of SABC+ as a free online platform significantly expands access to local content and enhances digital innovation within the public broadcaster, boosting news and current affairs offerings. South African media and marketers have achieved notable success in content promotion, garnering international awards for campaigns and leveraging social media platforms. The Media Development and Diversity Agency (MDDA) has been instrumental in supporting community media, ensuring platforms for marginalized groups and contributing to a more inclusive media environment that counteracts international imbalances in representation.

Media independence and pluralism

South Africa has made significant strides in promoting media independence and pluralism, underpinned by a robust legal framework. Freedom of expression is guaranteed in Section 16 of the Constitution of South Africa, first recognised in the Interim Constitution of 1993. This constitutional protection has fostered a vibrant and adversarial media, where investigative journalism thrives, holding power accountable in cases like state capture and the VBS Mutual Bank looting. The MDDA further supports diverse media platforms, ensuring a wide range of voices and perspectives are represented, strengthening the democratic fabric by promoting transparency and accountability.

Reducing international imbalances

Efforts are underway to ensure South African media content is not overshadowed by dominant international players. This involves regulating and supporting local media industries to compete effectively. The South African Competition Commission has been investigating the influence of global digital platforms like Google, TikTok, and Meta on the local news environment to ensure local news organisations can thrive and maintain public accessibility. Initiatives promoting local content on public and community media platforms, such as new shows launched by the SABC in 2023, aim to foster sustainable growth and diversity in the South African media landscape

Role of media in the information society and traditional media transition

The media's role in the Information Society is rapidly evolving, driven by digital consumption via mobile devices and streaming services like Netflix, Showmax, and YouTube. The Film and Publication Board (FPB) has developed regulations and deployed an Online Content Regulation software system to manage online content distribution and protect consumers.

Over 75% of South African households now have internet access, and nearly 66% of internet users engage with news online. The Department of Communications and Digital Technologies plays a pivotal role in advancing the media landscape through initiatives like the 2016 National Integrated ICT Policy White Paper and the Broadcasting Digital Migration (BDM) project, which has achieved significant milestones in transitioning from analogue to digital broadcasting since March 2022, and these include the complete cessation of 100% of M-Net analogue sites and the deactivation of 52% of SABC analogue sites with analogue switch-offs concluded in five provinces and set-top box installations ongoing nationwide.

This shift is crucial for releasing high-demand spectrum, bridging the digital divide, and supporting the South Africa Connect broadband rollout, contributing to a more robust and inclusive media sector.

Training of media professionals

Several organisations are dedicated to supporting the training and development of media professionals in South Africa. The SANEF promotes quality journalism and media freedom, actively addressing ethical lapses. The South Africa Media Innovation Program (SAMIP, est. 2017) supports digital media startups and innovative journalism projects, expanding support to other Southern African countries.

The Institute for the Advancement of Journalism (IAJ, est. 1992) offers specialised training across all media platforms, including learnership programmes for aspiring journalists.

Additionally, Amplify South Africa (launched 2023) provides tailored mentoring, capacity strengthening, and grant funding to independent media organisations, collectively fostering a dynamic media environment through essential training and support.

Additionally, NEMISA (National e-Skills Institute of South Africa) has trained approximately 300,000 people in digital literacy, developing platforms for podcasting and citizen information dissemination, contributing to broader digital skills development across various sectors.

Access of media information

Broad Media's 2022 Digital Marketing Report, based on a February 2022 survey of 1,782 respondents, offers valuable insights into effective advertising strategies[171]. Most respondents, who are South African business decision-makers and professionals, significantly influence purchasing decisions, with 63% advising their businesses and 89% advising family and friends on product and service choices.

Key findings from the report highlight the preferred marketing channels for finding product information, the most trusted forms of online advertising, the most reliable advertising options for business purchases, and the most popular social media channels in South Africa, as illustrated in Figure 21.

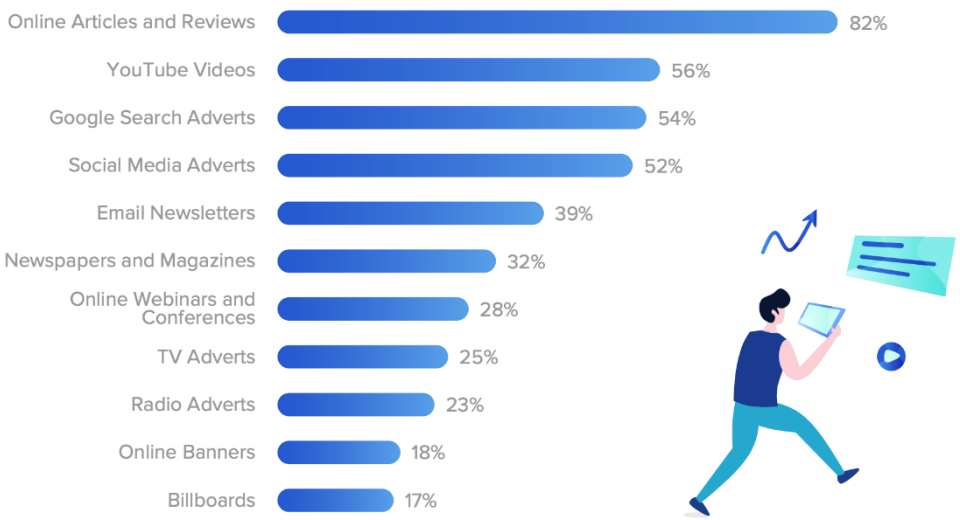


Figure 21 : Channels mostly used to find information.

[171] https://businesstech.co.za/news/industry-news/570552/the-most-trusted-form-of-online-advertising-in-south-africa-2/

The National Association of Broadcasters (NAB) advocates for the interests of South African broadcasters and endeavours to advance the broadcasting sector [172]. As reported on their 2024 report, traditional TV and radio listenership have slightly declined, but content consumption remains high across different platforms.

While the number of households owning TVs remains high, the transition towards digital platforms is evident. Traditional radio audiences have decreased from 35.8 million to 31.6 million over five years, as shown in Figure 22.

Despite this, radio remains popular, with 75% of those aged 15+ listening weekly, averaging over 5 hours daily. Community radio plays a crucial role for local listeners, supported by over 300 stations. The Broadcast Research Council of South Africa is expanding its audience measurement to include digital and streaming services to better capture radio consumption trends.

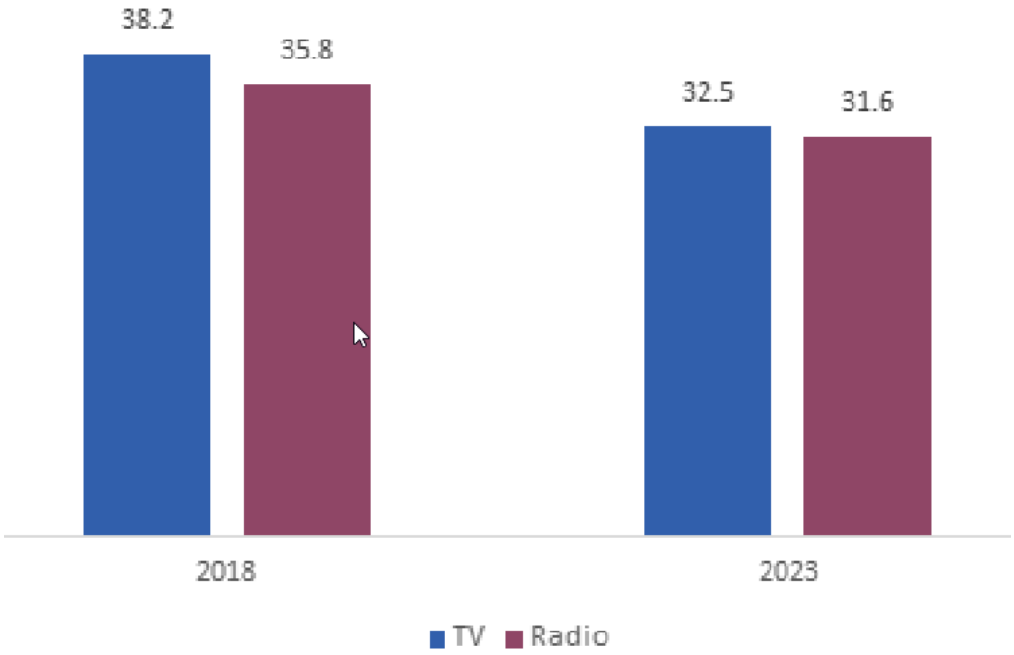


Figure 22: Total radio and TV audience (in millions).

The digital revolution is facilitating the expansion of online streaming platforms, thereby enabling audiences to access preferred radio stations and podcasts ubiquitously.

This transformation enhances the accessibility, interactivity, and engagement of radio for users nationwide. Reports on advancements in Information and Communication Technology (ICT) reveal that radio can now be accessed via various mediums, including traditional radio, car radio, mobile phones, DSTV, and other online streaming services (see Figure 23).

[172] The National Association of Broadcasters (NAB) advocates for the interests of South African broadcasters.

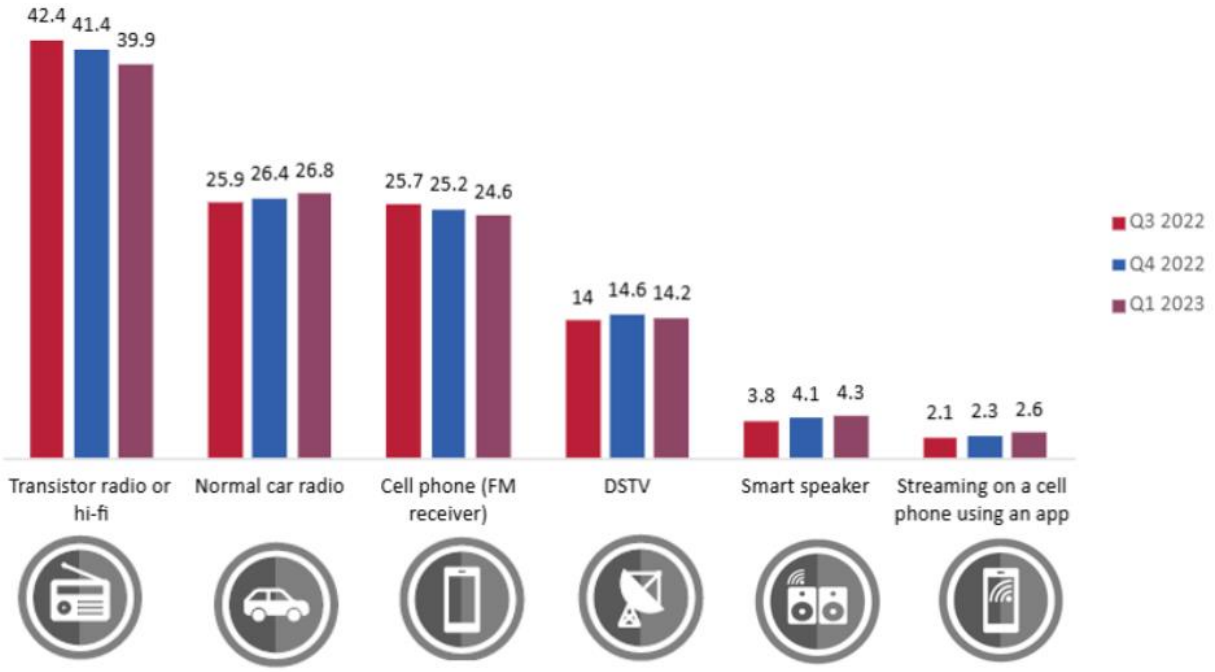


Figure 23: Listening devices as reported by NAB.

C9 Challenges

South Africa's media landscape, a cornerstone of its democratic society, faces a dynamic array of challenges in shaping an inclusive Information Society, as outlined by WSIS Action Line 9.

This Action Line emphasizes fostering a diverse, independent, and pluralistic media environment, crucial for information dissemination, public discourse, and cultural expression.

Despite significant strides since 1994, persistent issues, from evolving revenue models to the complexities of digital migration and the rise of harmful content, continually test the resilience and integrity of the nation's media ecosystem.

Financial sustainability of traditional media

A significant challenge is the declining revenue for traditional broadcasters, exemplified by the SABC's decreasing TV license fee revenue. As audiences shift to diverse digital platforms, the relevance and enforceability of these fees are increasingly questioned, impacting the financial viability of public broadcasting and its ability to provide diverse content.

Combatting harmful online content

South Africa faces a rising tide of illegal and harmful online content, particularly child sexual abuse material (CSAM) and cybercrimes targeting women. The Films and Publications Board (FPB) reported analysing a large volume of CSAM in 2024–2025, confirming thousands of cases. This highlights critical needs for improved media literacy, public education, and robust enforcement mechanisms to protect vulnerable groups online.

Digital migration and infrastructure

The transition to a fully digital broadcasting system (Broadcasting Digital Migration - BDM) continues to face hurdles. Challenges include outdated infrastructure, policy delays, and limited uptake of digital terrestrial television, exacerbated by slow decoder installations. These issues collectively impede the full benefits of digital broadcasting and necessitate significant upgrades to national broadcasting equipment.

Threats to journalism and media freedom

The sustainability and independence of journalism are under severe threat. Economic pressures, shifts in media consumption habits, and the dominance of global digital giants' strain media organisations. Concerns also exist regarding the safety of journalists and the potential for legislation, such as the Cybercrimes Act, to inadvertently criminalise journalistic activities or limit access to information, thus undermining press freedom.

Broadband quality and fake news

Despite ICT advancements, South Africa still grapples with substandard broadband quality, with fixed and mobile speeds lagging global benchmarks. This infrastructural deficiency limits effective digital media consumption and content creation. Furthermore, the pervasive rise of fake news, increasingly amplified by artificial intelligence, poses a significant threat to public discourse and informed decision-making within the media landscape.

C9 Future Priorities

Accelerating digital migration and infrastructure

A top priority is to accelerate the complete transition to Digital Terrestrial Television, involving urgent upgrades to broadcasting equipment and infrastructure. This includes swiftly installing set-top boxes to ensure all regions, particularly underserved areas, gain access to digital broadcasting. Concurrently, enhancing national broadband infrastructure is crucial to improve internet speeds and accessibility, supporting high-quality digital media operations for all citizens.

Bolstering cybersecurity and content integrity

Implementing robust cybersecurity protocols is essential to protect media platforms from exploitation and cybercrimes. This necessitates training media professionals in best practices, investing in advanced security technologies, and collaborating with regulatory bodies like the FPB to monitor and combat harmful online content effectively. Parallel to this, comprehensive media literacy campaigns must educate the public about online risks, the importance of ethical journalism, and how to recognise fake news, including AI-generated disinformation. Strategies will include fact-checking initiatives and collaboration with social media platforms to identify and remove false content.

Strengthening journalism and media protection

Reinforcing the importance of ethical reporting through continuous training and resources for journalists is vital, with organisations like SANEF leading efforts to rebuild public trust. Furthermore, advocating for stronger protections for journalists, including legal reforms aligned with international standards on freedom of expression, is paramount to address threats from legislation like the Cybercrimes Act and ensure journalists can operate without fear of retribution. Media organisations will also be encouraged to explore new, sustainable revenue models to mitigate financial pressures in the digital age.

10. Action Line C10: Ethical Dimensions of Information Society

Preface

WSIS Action Line C10 addresses the critical ethical implications arising from the rapid development and widespread use of Information and Communication Technologies (ICTs). It recognises that while ICTs offer immense benefits, their deployment must be guided by universal values and principles to ensure they serve humanity's well-being and do not lead to new forms of inequality, discrimination, or harm.

This action line encourages open dialogue and debate on the moral and societal consequences of digital advancements, calling for the development of ethical frameworks, codes of conduct, and educational initiatives. It aims to foster a human-centric Information Society where technology is used responsibly and respects human dignity, rights, and cultural diversity.

The core objectives of WSIS Action Line C10 are to:

- **Promote Ethical Principles:** Encourage the development and adoption of common ethical principles and values for the design, development, and use of ICTs.
- **Address Societal Impact:** Foster critical reflection and dialogue on the broader societal implications of ICTs, including issues related to privacy, security, access, equity, and human dignity.
- **Combat Misuse of ICTs:** Work to prevent the misuse of ICTs for unethical or harmful purposes, such as discrimination, hate speech, exploitation, or the spread of misinformation.
- **Ensure Equitable Access to Benefits:** Advocate for policies and practices that ensure the benefits of ICTs are shared equitably and do not exacerbate existing inequalities.
- **Promote Education and Awareness:** Raise public awareness and foster education on the ethical dimensions of the Information Society, equipping individuals to make informed and responsible choices.
- **Develop Ethical Frameworks:** Encourage the creation of national and international ethical guidelines, codes of conduct, and responsible innovation principles for ICT development and deployment, particularly for emerging technologies like Artificial Intelligence.
- **Foster Inclusivity and Human Rights:** Ensure that ethical considerations uphold fundamental human rights and promote inclusivity in the digital realm, respecting cultural and linguistic diversity.

C10 Achievements

This action line includes achievements, challenges, and future priorities of 20 years of progress in addressing the ethical dimensions of the evolving information society. It reflects ongoing global efforts to promote responsible innovation, the common good, uphold human rights, inclusive ethics, values and prevent abusive uses of ICTs that respond to the opportunities and risks brought by rapid technological change in South Africa, and then suggests future priorities.

Regulatory and legal frameworks

South Africa has fortified its digital ethical landscape through key legislation. The Protection of Personal Information Act safeguards privacy and personal data, while the Electronic Communications and Transactions Act of 2002 regulates digital communications and online transactions, preventing misuse

of information systems. The Cybercrimes Act of 2020 defines and criminalises cyber-related offences, upholding digital rights like privacy and dignity. These acts collectively establish clear rules and penalties, promoting a secure and moral online environment for citizens.

Professional ethics and governance

Professional bodies play a crucial role in shaping ethical conduct in the IT sector. The Institute of Information Technology Professionals South Africa (IITPSA, established 1957) guides IT professionals through its Code of Ethics and professional certifications, advocating for responsible data handling and adherence to data protection laws. Similarly, the South African Career Development Association (SACDA) contributes to the ethical facets of the Information Society by establishing and enforcing ethical standards for career development practitioners, ensuring integrity and professional conduct in the domain.

AI ethics and policy

South Africa has proactively addressed the ethical dimensions of Artificial Intelligence (AI) development. The 2020 Presidential Commission on the Fourth Industrial Revolution (PC4IR) report significantly influenced digital policy, embedding ethical values into recommendations for inclusive economic growth and social transformation. Building on this, the National AI Policy Framework (released October 2024) prioritises human rights, privacy, fairness, and non-discrimination in AI systems. The adoption of the new international standard ISO/IEC 42001 further provides a framework for responsible AI development and risk management.

Data governance and security

To ensure a secure and ethical data ecosystem, South Africa has developed strategic policies for data governance. The National Integrated ICT Policy White Paper (2016) and the draft National Data and Cloud Computing Policy (2021) focus on enhancing data sovereignty, security, and access to cloud services. These policies aim to treat the country's data as a valuable national asset, encouraging state-led cloud infrastructure and facilitating responsible and inclusive digital engagement, thereby promoting ethical digital governance.

Advocacy for digital rights and ethical development

Organisations like the African Centre of Excellence for Information Ethics (ACEIE), funded by the South African government and based at the University of Pretoria, coordinate research, education, and initiatives related to information ethics, with a particular focus on WSIS Action Line C10. The Association for Progressive Communications (APC) also plays a crucial role, advocating for human rights-based and gender-sensitive approaches in digital policy, critically examining the ethical implications of emerging technologies concerning surveillance, privacy, data governance, and algorithmic bias, ensuring technology serves social justice and empowers marginalised groups. They ensure technology serves social justice and empowers marginalised groups, actively participating in global internet governance forums to promote rights-based approaches to ICT policies.

Protecting digital human rights

The South African Human Rights Commission (SAHRC), established by the Constitution in 1996, is a key independent state institution supporting constitutional democracy. Its broad mandate includes promoting respect for human rights, protecting and developing human rights, and monitoring their observance across the Republic. In the context of the Information Society and WSIS Action Line C10, the SAHRC plays a pivotal role in ensuring that digital development is underpinned by ethical principles and human rights.

A significant achievement of the SAHRC is its accessible Online Complaints System. This digital platform allows individuals and organisations to lodge complaints regarding alleged human rights

violations directly with the Commission. The system is crucial for enabling timely interventions and securing appropriate redress where digital rights, including privacy and freedom from online abuse, have been infringed. By providing a streamlined mechanism for reporting grievances, the SAHRC strengthens accountability in the digital space and ensures that citizens have avenues for justice when their rights are threatened in the online environment.

Promoting ethical dimensions and digital rights

The SAHRC actively promotes the ethical dimensions of the information society by advocating for human rights in the digital age. This involves ensuring that the principles of privacy, freedom of expression, and access to information are protected online, mirroring their offline counterparts. The Commission engages in research and education programmes to raise public awareness of digital rights, empowering communities to understand and assert these rights in an increasingly digital world. Their work contributes to the development of policies that safeguard human rights against potential digital harms, such as surveillance, data misuse, and algorithmic bias.

Advocacy and policy influence

Beyond its complaints system[173], the SAHRC influences policy development to ensure human rights are central to digital governance. It contributes to discussions around legislation and policy frameworks that impact digital rights, such as data protection and cybercrime. The Commission's ongoing monitoring and reporting on human rights observance in South Africa, including in the digital realm, informs government action and fosters a culture of human rights across various sectors, ensuring that technological advancements align with constitutional values and the common good envisioned by WSIS Action Line C10.

The Figure 24 below outlines the SA achievements, the organizations/institutions/departments responsible for their implementation, the year they were established and organizes the core aspects (common good, values, human rights, and prevention of abusive use of ICT and values) supporting Action Line 10 based on their relative strength, from highest to lowest.

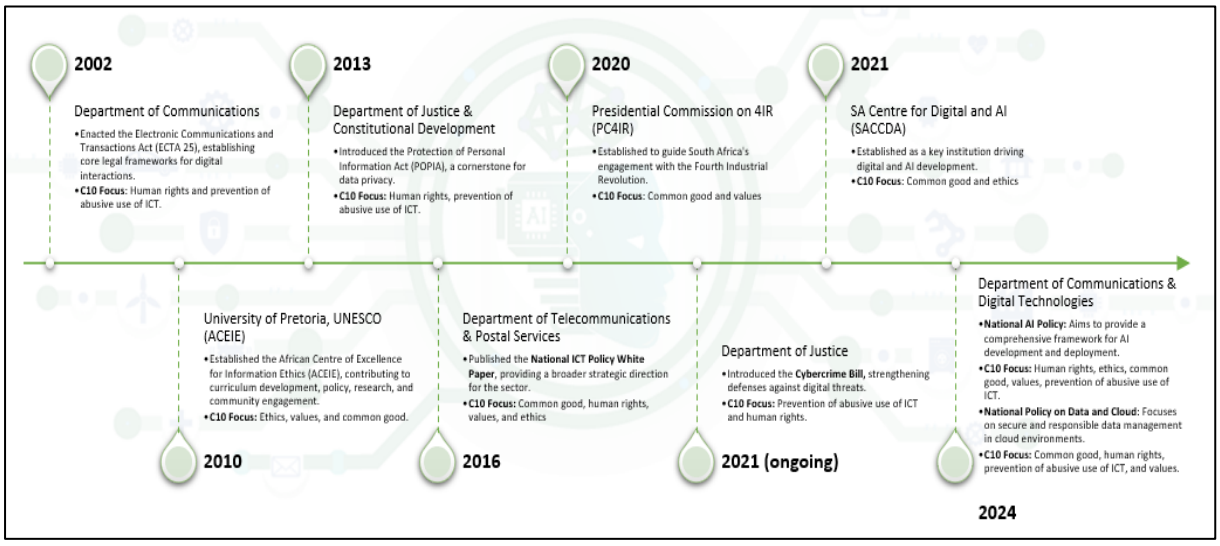


Figure 24: South Africa's ICT Governance and Ethics Milestones (2002-2024)

In addition, The Institute of IT Professionals South Africa (IITPSA), established in 1957, plays a pivotal role in promoting ethical ICT practices within the country. Its achievements include publishing and enforcing a Code of Ethics & Conduct, accrediting academic ICT programs, and contributing to policy

[173] SAHRC Complaints Systems

through white papers on ICT ethics, cybersecurity, and digital governance. Furthermore, IITPSA actively engages in professional knowledge sharing through various events and resources, conducts youth outreach programs such as coding competitions, and provides a digital platform for ethics reporting, all contributing to a robust and responsible digital landscape.

C10 Challenges

South Africa's pursuit of an ethical information society faces several critical challenges, primarily driven by rapid technological advancements and existing societal inequalities.

Ethical concerns of emerging technologies

The proliferation of new technologies like big data analysis, the Internet of Things (IoT), and particularly generative AI, presents significant ethical dilemmas. These include concerns about privacy and data security as machine learning algorithms embedded in IoT devices increasingly analyse local data. The rise of generative AI, specifically deepfakes and misinformation, poses severe risks to democratic processes and can exacerbate societal polarisation, necessitating enhanced governance frameworks and public awareness.

Digital inequality and exclusion

A major ethical challenge is the unequal distribution of digital technologies across different regions and populations[174]. This disparity deepens pre-existing social and economic inequalities, severely limiting access to essential information, services, and opportunities for disadvantaged communities, making inclusive and equitable digital participation a pressing ethical and developmental concern.

Data privacy and sovereignty

With the widespread adoption of data collection and surveillance technologies, there is an increased risk of infringing on individuals' privacy rights. The ethical implications of mass data collection by both governmental and private entities highlight the urgent need for robust privacy protections. Furthermore, the growth of cloud and edge computing introduces critical challenges related to data sovereignty, particularly given South Africa's strict data localisation requirements.

C10 Future Priorities

South Africa's future priorities for fostering an ethical information society are cantered on proactive governance and leveraging advanced technologies to safeguard rights and privacy.

Robust ethical governance for emerging technologies

A key priority is the implementation of comprehensive government rules and regulations for AI development and deployment, moving beyond sole reliance on corporate self-regulation. South Africa aims to contribute to international efforts, such as those led by UNESCO, in developing robust ethical regulations for emerging areas like neurotechnology, ensuring the nation can navigate these complex ethical implications responsibly.

Enhancing privacy and security through innovation

[174] https://thoughtleadership.org/digital-inequality-in-education-may-worsen-economic-divides/

Future strategies will focus on harnessing innovative technologies to significantly enhance data security and privacy. This involves leveraging advancements in blockchain, AI, quantum computing, biometric authentication, and IoT security to reshape how sensitive information is protected in the digital age.

Context-specific governance for new tech

To responsibly integrate emerging technologies, a critical priority is to conduct thorough evaluations of governance models and develop compliance frameworks specifically tailored to the South African legal and regulatory context. This ensures that technologies like Blockchain are deployed ethically and in alignment with national laws and societal values, promoting responsible digital engagement and protecting citizens' rights.

11. Action Line C11: International and Regional Cooperation

Preface

The objective of WSIS Action Line C11 is to foster collaboration and partnerships among all stakeholders at the international, regional, and national levels to address global and common challenges and opportunities related to Information and Communication Technologies (ICTs).

It recognizes that the Information Society is inherently global and that many ICT-related issues (such as cybersecurity, spectrum management, internet governance, and digital divides) cannot be solved by individual countries or sectors alone.

The key aspects and objectives of Action Line C11 include:

- **Promoting Global and Regional Dialogue:** Encouraging platforms and forums where governments, the private sector, civil society, the technical community, and international organizations can discuss, share experiences, and coordinate efforts on ICT policy and implementation. Examples include the WSIS Forum itself, the Internet Governance Forum (IGF), and regional bodies.
- **Facilitating Cross-Border Partnerships:** Encouraging collaboration on initiatives that span national borders, such as developing regional ICT infrastructure, harmonizing regulations, and sharing best practices in e-government, e-health, or e-learning.
- **Addressing Transnational Challenges:** Working together to tackle issues that transcend national boundaries, such as cybersecurity threats, combating cybercrime, managing international internet traffic, and ensuring fair and equitable access to global digital resources.
- **Sharing Knowledge and Expertise:** Promoting the exchange of technical knowledge, policy experiences, and research findings among countries and organizations to accelerate ICT development, particularly in developing countries.
- **Mobilizing Resources and Funding:** Collaborating to secure financial, technical, and human resources for ICT development projects, especially in underserved regions. This often involves public-private partnerships and international development assistance.
- **Harmonizing Standards and Interoperability:** Working towards international standards and interoperable systems to ensure seamless global communication and data exchange, avoiding fragmentation of the internet.
- **Supporting Developing Countries:** Providing technical assistance, capacity building, and knowledge transfer to developing countries to help them bridge digital divides and fully participate in the global Information Society.
- **Aligning ICTs with Global Development Agendas:** Ensuring that international and regional cooperation efforts contribute directly to the achievement of internationally agreed development goals, such as the Sustainable Development Goals (SDGs).

C11 Achievements

South Africa's international and regional cooperation in ICTs over the last two decades has been foundational to its digital progress. The country's involvement at international stage on ICT development over the past two decades is a multifaceted and strategic effort as depicted in Figure 25 below.

Global Leadership & Influence (ITU & UN):	Active in ITU Council, shaping global standards, spectrum, and development. Key participant in UN discussions on the Global Digital Compact and Summit of the Future, advocating for human-rights-based digital governance. Contributes to ITU's global ICT statistics and receives technical assistance (e.g., Wits LINK Centre).
Strong Regional Integration (AU & SADC):	Driving force in harmonizing African ICT policies, regulations, and infrastructure (e.g., DTSA, e-SADC Framework). Championing the African Digital Single Market vision for seamless digital trade and services. Crucial role in PIDA and undersea cable landing points, providing vital regional connectivity. Aligns national ICT development with AU's Agenda 2063 for continental prosperity.
Strategic Bilateral & Bloc Partnerships (EU & BRICS):	European Union: Major partner in Horizon Europe and Marie Skłodowska-Curie Actions, boosting research capacity and human capital. Collaborates on Data Governance in Africa (TEI) and ethical AI. BRICS: Leverages New Development Bank for alternative infrastructure funding. Engages in PartNIR for digital transformation cooperation, knowledge sharing (e.g., DPI insights from India), and collaborative research (e.g., BITDN). Advocates for digital sovereignty among Global South partners.
Fostering Local Innovation & Skills:	Supports local creative-tech hubs (e.g., Timbuktoo Creative Hub with UNDP/UVU Africa) to foster entrepreneurship and digital skills, aligning with NDP goals.
G20 Presidency (2025) Digital Agenda:	Utilizing its G20 Presidency to prioritize bridging the digital divide, building inclusive DPI, nurturing innovation, and championing ethical AI. Focus on global digital equity and ensuring the Global South's voice shapes international digital norms.

Figure 25: Summary of South Africa's Notable Achievements in C11

South Africa's engagement with key international organizations like the ITU, UN (including UNDP), and UNESCO, within the framework of WSIS Action Line C11 (International and regional cooperation), has been pivotal to its ICT development and digital transformation over the past two decades. This cooperation manifests in various ways, with discernible achievements, ongoing challenges, and clear future priorities.

South Africa is a vocal and consistent participant in key international bodies that shape ICT policies and standards, especially at United Nations level. Table 3 below summarises some of the entities and RSA' involvement.

Table 3: South Africa's International Cooperation

Entity	**South Africa's Involvement**
ITU	South Africa consistently contributes to ITU processes, serving on the ITU Council, participating in World Telecommunication Standardization Assemblies (WTSA), World Telecommunication Development Conferences (WTDC), and Plenipotentiary Conferences. This ensures its voice and African perspectives are heard in global decisions on spectrum allocation, technical standards, and development strategies.
UN System (UNDP, UNESCO, UNECA, OECD, etc.)	South Africa actively engages in UN-led discussions on digital transformation, including the development of the Global Digital Compact (GDC) and the WSIS+20 Review Process. It leverages these platforms to advocate an inclusive digital future, aligning ICT development with the Sustainable Development Goals (SDGs) and the AU's Agenda 2063.
UNESCO	Collaboration with UNESCO focuses on leveraging ICTs for education, promoting digital

	literacy, and contributing to ethical AI development, aligning with South Africa's national goals.
UNDP	Partnerships with UNDP often involve initiatives to bridge the digital divide, foster digital inclusion, and explore innovative solutions for connectivity in underserved areas, as seen in collaborations with the CSIR on 4IR technologies and low-cost internet solutions

Global Leadership within ITU

South Africa actively participates in international and regional cooperation on Information and Communication Technologies (ICTs), aligning robustly with WSIS Action Line C11. The nation holds a significant leadership role within the International Telecommunication Union (ITU), consistently securing elected positions on the ITU Council. and actively participating in major conferences like the World Telecommunication Standardization Assemblies (WTSA), World Telecommunication Development Conferences (WTDC), and WSIS Summits. This ensures its voice, and indeed broader African perspectives, are heard and integrated into global decisions on spectrum allocation, technical standards, and development strategies for ICTs.

This involvement allows South Africa to influence global decisions on spectrum allocation, technical standards, and ICT development strategies, ensuring that its voice, and broader African perspectives, are integrated into worldwide policy.

The country contributes both to and benefits from ITU's global ICT statistics, using them as benchmarks for progress. Furthermore, South Africa engages in ITU's Telecommunication Development Sector (ITU-D) initiatives, receiving technical assistance and contributing to digital skills enhancement, exemplified by collaborations like the Wits University LINK Centre.

ITU study group participation

South Africa demonstrates a robust commitment on International and Regional Cooperation through its active and significant involvement in ITU-T Study Group 17 (Security). This participation is exemplified by South Africa holding a Vice-Chair position in SG17 (2025-2028), currently held by Mrs. Honey Makola from ICASA, which places the nation in a leadership role in shaping global cybersecurity standards.

Notably, Honey Makola also served as a Co-convenor for the Correspondence Group on Child Online Protection (CG-COP) within SG17 for the 2022-2024 study period, highlighting South Africa's specific dedication to safeguarding children in the digital space.

Furthermore, experts like Dr. Jabu Mtsweni and Dr Moses Dlamini from CSIR actively contribute their research and technical insights to ITU's cybersecurity initiatives, particularly in emerging areas like AI security, reflecting South Africa's dedication to developing a secure and trusted global information society.

Through these contributions, South Africa helps to foster confidence and security in ICT use worldwide, facilitates international collaboration on critical information infrastructure protection, and promotes regional cooperation, especially within Africa, to address shared cybersecurity challenges.

By sharing expertise and contributing to the development of international Recommendations on a wide range of security issues, including those related to child online protection and cutting-edge technologies like AI, South Africa directly supports the collaborative and inclusive spirit of WSIS Action Line 11, ensuring that the benefits of the information society are realized securely and equitably for all

Shaping global digital governance

Beyond the ITU, South Africa plays a crucial part in shaping global digital governance. It actively participates in the development of the UN's Global Digital Compact and the Summit of the Future. This engagement positions the country as a leading advocate for an inclusive, human-rights-based digital future, directly supporting its national digital transformation goals.

South Africa's ICT development is also firmly anchored in the broader UN 2030 Agenda for Sustainable Development, with cooperation from agencies like UNDP and UNESCO. These partnerships leverage ICTs as cross-cutting enablers for achieving SDGs related to poverty, education, health, and economic growth, including specific initiatives such as the CSIR-UNDP collaboration on 4IR technologies and low-cost internet solutions. United Nations Development Programme (UNDP) in South Africa actively partners on digital inclusion efforts.

For instance, the collaboration between the CSIR and UNDP aims to strengthen research and development into 4IR technologies, promote digital inclusion, and explore low-cost internet solutions like TV White Spaces technology for rural communities.

The recent partnership between UNDP and UVU Africa to establish Africa's first creative-tech hub in Cape Town[175] further illustrates this collaboration on fostering digital entrepreneurship and UNESCO's work on digital inclusion and ethical AI.

South Africa's approach to "Privacy in the Digital Age," within the broader context of WSIS Action Line C11 on International and Regional Cooperation, involves active engagement with various global bodies to shape and align with international norms. The UN Human Rights Council (UNHRC) plays a pivotal role, setting global standards for human rights including the right to privacy in the digital sphere, particularly concerning surveillance and data collection. As a UN member state, South Africa participates in these deliberations, ensuring its constitutional and legislative frameworks, such as the Protection of Personal Information Act (POPIA), reflect international best practices while contributing to discussions on balancing individual privacy with national security and cross-border data flows.

Furthermore, South Africa's involvement in Groups of Governmental Experts (GGEs), typically UN-mandated, signifies its commitment to developing international norms for responsible state behaviour in cyberspace. These groups often address how international law applies to ICTs, including aspects of data protection and privacy to prevent the misuse of information by states. Through its participation, South Africa contributes to shaping the global consensus on secure and trustworthy digital environments, ensuring that state actions in the digital realm uphold fundamental human rights.

The World Intellectual Property Organisation (WIPO), while primarily focused on intellectual property, also intersects with digital age privacy. In the digital economy, managing IP rights often involves the collection and use of personal data. WIPO's work on domain name disputes, for instance, can touch upon registrant privacy, and its discussions on new technologies like AI raise significant privacy implications for data used in innovation. As a WIPO member, South Africa ensures its IP policies and legal frameworks align with international standards, while concurrently addressing data privacy concerns. This engagement helps in navigating the complexities of commercialising digital innovations, such as those from hackathons, by considering both IP protection and privacy compliance.

Cross-continental partnerships

Moreover, South Africa demonstrates strong commitment to South-South and Triangular Cooperation, sharing its digital transformation experiences with other developing countries. A notable dimension of this international collaboration is the strategic partnership with the European Union, marked by regular high-level dialogues on digital cooperation and artificial intelligence governance, which serves as a

[175] https://uvuafrica.com/news/

prime example of WSIS Action Line C11 in practice. Lastly, South Africa's critical role in the landing and operation of multiple undersea fibre optic cables significantly boosts international bandwidth and connectivity across the region, benefiting not only South Africa but also landlocked Southern African countries.

BRICS participation

South Africa's engagement with the BRICS bloc – comprising Brazil, Russia, India, China, and South Africa, and other new members – represents a crucial facet of its international and regional cooperation in ICTs, directly aligning with WSIS Action Line C11.

This partnership provides South Africa with distinct avenues for digital development, complementing its relationships with other global partners. South Africa's participation in BRICS+) has significantly shaped its approach to international and regional cooperation in ICTs over the past two decades. This partnership, driven by a desire for a more multipolar world order and shared development goals, has yielded distinct achievements, presented unique challenges, and set specific future priorities for South Africa within the digital sphere.

A key achievement in this regard is the establishment of the New Development Bank (NDB), often referred to as the BRICS Bank. This institution offers South Africa an alternative source of financing for critical infrastructure projects, including vital ICT infrastructure, thereby reducing its reliance on traditional Western-dominated financial institutions and diversifying its funding base

Fostering digital transformation and innovation

The BRICS Partnership on New Industrial Revolution (PartNIR), launched at the 2018 Johannesburg Summit, provides a formal and robust framework for deepening cooperation in digitalisation, industrialisation, innovation, inclusiveness, and investment.

Within PartNIR, dedicated working groups on the Digital Transformation of Industry and the Digital Economy facilitate focused collaboration. This platform is instrumental for knowledge sharing and best practices, allowing South Africa to learn from the diverse experiences of its BRICS partners, notably India's success with its Digital Public Infrastructure (DPI) initiatives like Aadhaar, and China's rapid digital industrialisation.

Furthermore, BRICS actively promotes collaborative research and innovation through joint projects and academic forums in science, technology, and innovation, including ICTs. Examples such as the BRICS Intelligent Telescope and Data Network (BITDN) and the virtual BRICS Vaccine Research and Development Centre illustrate how ICTs are leveraged for broader scientific and societal benefits within the bloc.

There is also a growing emphasis on digital skills development initiatives, with collaborative efforts including skills competitions and training programmes like the BRICS Digital Skills Competition, preparing workforces for the digital economy and emerging 4IR technologies such as AI.

Advancing digital sovereignty and global governance

South Africa, in conjunction with its BRICS partners, increasingly champions the concept of digital sovereignty. This advocacy aims to reduce reliance on foreign-owned digital infrastructure and promote indigenous technology development, data localisation, and open-source alternatives. This stance aligns with a broader push for a more equitable and multipolar global digital governance framework, reflecting the collective desire of BRICS nations to shape international digital norms.

The impact of this BRICS cooperation on South Africa's ICT development is multifaceted. It provides diversified funding for essential infrastructure, accelerates digital transformation through shared knowledge and innovation, enhances workforce capabilities via joint skills initiatives, and strengthens

South Africa's voice in advocating for a more balanced and inclusive global digital order, all of which are central to the objectives of WSIS Action Line C11.

G20 Presidency

South Africa, during its G20 Presidency in 2025, is significantly emphasizing its involvement in WSIS Action Line 11, which focuses on ICTs for development. This is particularly relevant as South Africa is the first African nation to hold the G20 presidency, providing a crucial platform to advocate for the Global South's digital agenda.

Knowledge sharing and best practices

Through its involvement in international forums like the G20 (as the only African member), South Africa leverages these platforms to share its experiences, learn from global best practices in digital transformation, and advocate for African priorities in global digital governance, AI, and data policy.

Elevating the global South's digital agenda

South Africa has successfully used its G20 Presidency[176] to bring the unique digital challenges and opportunities of the Global South to the forefront of international discourse. This includes emphasizing the disproportionate impact of the digital divide on developing nations such as:

- **Advocating for "AI for Africa":** By pushing for investment in low-resource language models, AI-ready datasets, and robust governance frameworks, South Africa is working to ensure AI development is relevant and beneficial to the African continent.
- **Building on Previous G20 Digital Initiatives:** South Africa has demonstrated continuity by integrating and advancing themes from previous G20 presidencies (Indonesia, India, Brazil) concerning digital literacy, infrastructure, and AI.

European Union Partnerships

The country has also particularly strengthened partnerships with European institutions and countries, leveraging these collaborations to build capacity, enhance digital infrastructure, and promote knowledge sharing.

A growing digital partnership

South Africa and the European Union maintain a robust and long-standing strategic partnership, with digital cooperation emerging as an increasingly vital pillar of their relationship. This collaboration exemplifies the principles of WSIS Action Line C11 on International and Regional Cooperation, grounded in shared values, mutual benefit, and a collective commitment to addressing global digital challenges.

Regular high-level engagements, including the 8th SA-EU Summit in March 2025[177], consistently feature dedicated discussions on digital cooperation, artificial intelligence governance, and efforts to bridge the global digital divide. This ongoing dialogue underscores a shared vision for global digital norms and a human-centric approach to technological advancement.

Boosting research and human capital

A cornerstone of this partnership is South Africa's leading role in Horizon Europe, the EU's flagship research and innovation programme.

[176] https://g20.org/track-news/south-africas-2025-g20-presidency-first-g20-digital-economy-working-group-dewg-meeting/
[177] https://www.eeas.europa.eu/eeas/joint-press-release

As the first African country to participate, South Africa gains significant funding opportunities for its researchers, fostering bilateral scientific collaboration. This direct engagement substantially strengthens South Africa's research capacity, drives innovation in critical areas like the Square Kilometre Array (SKA), and contributes to building a skilled workforce aligned with global best practices.

Furthermore, South African researchers benefit from eligibility for Marie Sklodowska Curie Actions and European Research Council grants[178], facilitating international mobility and the establishment of research groups, which profoundly enhances human capital and knowledge exchange.

A joint initiative between South Africa's DSTI and the European Union, focused on facilitating and strengthening collaboration in science, technology, and innovation called DSTI/EU ESASTAP (Europe/South Africa Strengthening Technology, Research and Innovation Cooperation[179]) was established in 2005. The programme's main objective is to strengthen ties within the field of science, technology and innovation.

To date, ESASTAP has successfully fostered numerous collaborative research projects between South African and European institutions. This has led to knowledge exchange, joint publications, and shared development of innovative solutions, enhancing South Africa's global research standing and access to cutting-edge technologies

Advancements in digital education through Erasmus+

A notable example is the University of Johannesburg's (UJ) leadership in the Pro-TELDE (Promotion of Technology-Enhanced Learning and Digital Education) project[180][181]. Funded by a €400,000 grant from the European Union's Erasmus+ programme, this initiative aims to modernise digital teaching methodologies in South African Technical and Vocational Education and Training (TVET) colleges. In collaboration with European universities such as the University of Florence, Sapienza University of Rome, and the University of the Peloponnese, the project focuses on equipping TVET lecturers with digital competencies, developing online courses, and creating a repository of digital teaching resources tailored for business and economics education.

Enhancing youth employment through digital skills development

Germany's GIZ has been pivotal in implementing the "Digital Skills for Jobs and Income" programme in South Africa[182]. This initiative addresses the high youth unemployment rate by providing digital skills training to young people, particularly women. The programme offers career guidance to TVET students, develops training aligned with the digital economy's demands, and facilitates practical work experiences. By focusing on creating demand-oriented career paths, the initiative aims to improve employment prospects for South African youth in the digital sector.

Collaborative efforts in digital policy and strategy

South Africa actively participates in the EU-AU Digital Economy Task Force, a joint initiative by the European Commission and the African Union Commission[183]. This collaboration focuses on enhancing connectivity, digital skills, entrepreneurship, and services across Africa. The Task Force's recommendations have been integrated into the African Union's Digital Transformation Strategy, guiding efforts to create a cohesive digital market and promote inclusive economic growth on the continent.

[178] https://research-and-innovation.ec.europa.eu/strategy
[179] https://cordis.europa.eu/project
[180] Tech4Good Africa
[181] https://www.uj.ac.za/faculties/college-of-business-and-economics/schools/school-of-accounting/uj-tvet-digital-skills-project/
[182] https://www.giz.de/en/worldwide/92020.html
[183] https://digital-strategy.ec.europa.eu/en/policies/africa

Collaborating on global digital governance

Both South Africa and the EU are actively committed to working together under the auspices of the United Nations to establish an international governance framework for Artificial Intelligence, in line with the Global Digital Compact.

This shared commitment demonstrates a common vision for ethical and inclusive digital norms. Moreover, South Africa participates in Team Europe Initiatives (TEI) under the EU's Global Gateway strategy, notably the Data Governance in Africa initiative.

This directly supports South Africa's efforts in data governance, the development of digital public infrastructure, and the creation of a secure and trustworthy digital environment.

It also plays a key role in facilitating capacity building for digital social innovators across the continent. These multifaceted collaborations collectively accelerate South Africa's digital transformation, enhance its global competitiveness, and contribute to shaping a more equitable and sustainable digital future for all.

Broadband Commission engagement

South Africa's consistent presence and contribution to the Broadband Commission for Sustainable Development is a prime example of its commitment to international cooperation. This includes participating in discussions, sharing experiences, and contributing to reports that inform global broadband strategies.

British High Commission partnership

South Africa's collaborations with the British High Commission over the past 5-10 years has been fostering a more inclusive, secure, and digitally empowered society. These partnerships demonstrate a shared commitment to leveraging digital technologies for sustainable development and bridging the digital divide.

One key area of cooperation has been digital connectivity and trade. South Africa and the UK have notably co-led the Commonwealth Digital Connectivity Agenda, aiming to boost intra-Commonwealth trade through digital means and promote inclusive economic growth[184]. This initiative focuses on sharing best practices, enhancing digital skills, and expanding investment to help all Commonwealth countries, especially developing and least developed nations, harness the benefits of digital trade and the 4th Industrial Revolution. This directly supports the "financing of ICT networks and services" and "infrastructure development projects" aspects of Action Line 11 by creating an enabling environment for digital economic growth.

Furthermore, a critical focus of the collaboration has been cybersecurity and digital skills development. Through the UK's Digital Access Programme and initiatives supported by the British High Commission, significant efforts have been made to bolster South Africa's national cybersecurity capabilities and promote digital literacy, particularly in underserved communities[185].

This includes supporting programs like the MiDO Cyber Academy to develop cybersecurity skills in young people and the DigifyBytes project to empower rural communities with basic digital literacy in partnership with private companies such as KnowB4 and KPMG[186]. These initiatives are direct contributions to "capacity building" and "building confidence and security in use of ICTs," which are essential for effective international cooperation in the digital space.

[184] https://www.gov.uk/government/news/uk-and-south-africa-to-co-lead-initiative-on-digital-trade-aiming-to-boost-commonwealth-trade-to-2tn
[185] https://www.gov.uk/government/publications/digital-development-strategy-2024-to-2030/digital-development-strategy-2024-to-2030
[186] https://gpa.net/blogs/africa/south-africa-partnership-to-bridge-cybersecurity-skills-gap

The regular SA-UK ICT Cyber Dialogues[187] also foster ongoing strategic discussions on cyber threats, governance, and international data transfers, further solidifying the bilateral commitment to a free, open, inclusive, and secure cyberspace

Interpol partnership in cybercrime combatting

South Africa's engagement with Interpol is a crucial component of its efforts to combat transnational cybercrime, particularly concerning the establishment of international mechanisms and information sharing for a secure digital environment.

A key aspect of this collaboration is South Africa's active participation in Interpol's Africa Joint Operation against Cybercrime (AFJOC)[188]. This initiative, often supported by international partners like the UK's Foreign, Commonwealth & Development Office, focuses on enhancing the capabilities of national law enforcement agencies across Africa to prevent, detect, investigate, and disrupt cybercrime activities.

Through AFJOC, South Africa contributes to and benefits from intelligence gathering and analysis, coordinated law enforcement actions, and the promotion of best practices among African member countries. This directly addresses the need for "international mechanisms" and "regional action plans" as outlined in WSIS Action Line 11, by building collective capacity to combat borderless cyber threats.

Furthermore, South Africa's Special Investigating Unit (SIU) has signed a Memorandum of Understanding (MOU) with Interpol's National Central Bureau (NCB) for South Africa[189]. This agreement grants the SIU direct access to Interpol's extensive global information system and provides up-to-date training resources. This partnership significantly strengthens South Africa's investigative tools against cybercrime, allowing for more effective tracing of individuals and assets across borders.

The continuous hosting of Interpol delegations by South African law enforcement, such as the recent event with the Hawks[190], further underscores South Africa's commitment to strengthening these vital international partnerships in the fight against cybercrime.

African Union

In addition, South Africa's regional involvement and active participation within the African Union (AU) has been a cornerstone of its international and regional cooperation for ICT development and digital transformation over the past two decades. This partnership is driven by the shared vision of an integrated, prosperous, and digitally empowered Africa, as enshrined in the AU's Agenda 2063.

A growing regional digital partnership

South Africa demonstrates a robust commitment to regional integration and digital harmonisation within both the Southern African Development Community (SADC) and the African Union (AU), serving as a prime example of WSIS Action Line C11 in action.

The nation actively participates in initiatives aimed at standardising ICT policies, regulations, and infrastructure across the continent. This includes significant contributions to foundational frameworks like the e-SADC Strategic Framework (2010) and the overarching Digital Transformation Strategy for Africa (DTSA) 2020-2030.

South Africa's expertise, particularly in areas such as financial technology and e-commerce, has likely influenced key elements of the DTSA, which seeks to harness digital technologies to accelerate African integration, promote inclusive economic growth, bridge digital divides, and eradicate poverty.

[187] https://dirco.gov.za/south-africa-and-the-united-kingdom-co-hosted-the-inaugural-sa-uk-dialogue/
[188] https://techafricanews.com/2025/03/24/red-card-for-cybercrime-interpol-and-kaspersky-crack-down-on-african-scammers/
[189] https://www.sanews.gov.za/south-africa?
[190] https://www.gov.za/news/media-advisories/government-activities/

This proactive engagement aligns South Africa's national ICT development plans with the ambitious aspirations of the AU's Agenda 2063, striving for a “Prosperous Africa based on Inclusive Growth and Sustainable Development.”

African Telecommunication Union

In the African Telecommunications Union (ATU), South Africa is a key and active member, contributing significantly to regional ICT development. Established in 1977, the ATU is a specialised agency of the African Union (AU) in the field of ICT, whose mandate is to promote communications development in Africa for universal access. It represents 52 African countries and 49 ICT operators on the African continent.

South Africa’s recent endorsement of Ms. Cynthia Lesufi for ATU Secretary-General for the 2026-2030[191] term highlights its deep commitment to strengthening African institutions and shaping the continent's digital future. South Africa leverages the ATU as a platform to influence telecommunications and ICT development in Africa, actively participating in forums, providing strategic guidance, and taking on leadership responsibilities, particularly in areas like spectrum management and coordination, which are crucial for regional connectivity.

Internet Corporation for Assigned Names and Numbers (ICANN)

South Africa's engagement with ICANN is characterized by its dedication to the multistakeholder model of Internet governance and ensuring African voices are heard in global discussions on the Internet's unique identifiers.

South Africa has a long-standing partnership with ICANN, having hosted three global public meetings and consistently engaging in various ICANN processes. This includes participation in the Governmental Advisory Committee (GAC), where it advises the ICANN Board on public policy issues, and contributing to initiatives like the "Coalition for Digital Africa," which aims to expand Internet access and infrastructure across the continent through collaborative partnerships.

Regional policy harmonization

A central tenet of this regional cooperation is South Africa's advocacy for the AU's vision of an African Digital Single Market (DSM)[192]. This ambition involves harmonising policies, regulations, and infrastructure continent-wide to enable seamless digital trade, cross-border data flows, and interoperable digital services.

South Africa's ongoing national efforts in modernising its payment systems and developing digital identity infrastructure directly contribute to this broader continental objective, fostering an environment where digital services can operate without fragmentation. Furthermore, South Africa plays a critical role in regional infrastructure development, participating in and benefiting from the Programme for Infrastructure Development in Africa (PIDA)[193].

Its strategic position as a landing point for major undersea fibre optic cables (such as SEACOM, WACS, and EASSy and others) not only meets national connectivity demands but also provides vital international bandwidth for landlocked Southern African countries. This robust infrastructure provision directly supports the regional integration targets set by the AU, demonstrating a tangible impact on continental connectivity and economic development.

[191] https://www.itweb.co.za/article/sa-rallies-behind-its-own-for-atu-secretary-general/G98YdqLGawJMX2PD
[192] https://www.iicba.unesco.org/en/africa-education-knowledge-platform/digital-transformation-strategy-africa-2020-2030
[193] https://nepad-aws.assyst-uc.com/nepad-oncontinent/

Cybersecurity and data protection (Malabo Convention)

South Africa has been involved in regional discussions and efforts to strengthen cybersecurity and data protection frameworks. The AU's Malabo Convention on Cybersecurity and Personal Data Protection (2014), which recently came into force, is a significant outcome of this cooperation. South Africa's own POPIA legislation aligns with principles advocated for at the AU level.

Knowledge sharing and capacity building

The Organisation for Economic Co-operation and Development (OECD) is an intergovernmental economic organization with 38 member countries, founded in 1961 to stimulate economic progress and world trade. South Africa is not a member of the OECD, but in 2007 the OECD Council at Ministerial level adopted a resolution which led to South Africa's becoming one of five Key Partners to the OECD, along with Brazil, China, India and Indonesia, known as the EE5 countries. This process seeks these countries' engagement with the OECD Members on an equal footing in a growing range of policy areas.

Through South Africa's participation in various OECD committees and working groups, the country officials gain insights into international best practices in digital government, data governance, and digital security. OECD has facilitated knowledge sharing and capacity building in critical areas of digital development with countries such as South Africa.

The recent Joint Work Programme signed in July 2023 solidifies this collaboration, focusing on aligning South Africa's policies with OECD standards to realize its economic potential through digital transformation[194]. This reciprocal relationship demonstrates a strong commitment to international cooperation in strengthening digital capabilities and fostering an inclusive digital future, directly contributing to the spirit of WSIS Action Line 11.

Smart Africa initiative

While South Africa is not a signatory to the Smart Africa Alliance (an initiative endorsed by the AU), its national goals align closely with Smart Africa's vision of creating a Digital Single Market and accelerating digital transformation. South Africa's efforts in smart city development and digital governance resonate with the principles of this initiative.

South Africa's deep engagement in SADC and AU ICT initiatives, alongside its strategic infrastructure contributions, significantly reinforces WSIS Action Line C11's goal of fostering international and regional cooperation. This collaboration helps to: harmonise regulatory environments, reduce digital divides across borders, accelerate digital transformation continent-wide, and ensure that Africa's digital development is inclusive and sustainable.

By promoting shared policies, interoperable systems, and vital infrastructure, South Africa actively contributes to a more integrated and digitally empowered African continent, capable of leveraging ICTs for collective socio-economic advancement and robust participation in the global information society.

Hosting international events

South Africa has hosted significant events related to broadband development and other digital development issues.

For example, the "State of Broadband 2018: Broadband for Catalyzing Sustainable Development" report[195] was released during the ITU Telecom event in Durban, South Africa and the event was addressed by the Honourable President C.M. Ramaphosa[196]. This major event brought together

[194] https://www.oecd.org/en/topics/sub-issues/economic-surveys/south-africa-economic-snapshot.html
[195] https://www.unesco.org/en/articles/broadband-commission-sustainable-development
[196] https://www.thepresidency.gov.za/address-president-cyril-ramaphosa-international-telecommunication-union-itu-telecom-world-2018

governments, industry leaders, and innovators to discuss critical themes like smart digital development, connecting the unconnected, and fostering innovation, all of which directly addressed WSIS objectives such as infrastructure development, capacity building, and creating an enabling environment for ICTs.

Furthermore, South Africa demonstrated its commitment to global digital governance by hosting the Regional Review Meeting for the UN Global Digital Compact in Cape Town in July 2023[197]. This crucial meeting provided an African perspective on emerging digital challenges and opportunities, including infrastructure, digital public goods, data protection, and the ethical implications of new technologies like AI. By contributing to the Global Digital Compact, South Africa actively shaped international consensus on a free, open, and secure digital future.

The 2023 Africa Internet Summit (AIS'23) was held in Johannesburg, South Africa, from September 26th to 30th, bringing together a diverse multi-stakeholder community of ICT business and technical experts from across Africa and beyond. Organized by the African Network Operators Group (AfNOG) and hosted by the ZA Domain Name Authority (ZADNA)[198], the summit's central theme was "Strengthening the multi-stakeholder approach for Internet development in Africa." It provided a crucial platform for discussing regional and global ICT challenges, including Internet policy, governance, access, and technical capacity building, through a hybrid format of presentations, tutorials, workshops, and in-depth discussions.

The significance of AIS'23 lies in its direct contribution to bridging Africa's significant digital divide, where internet penetration rates lag global averages. The summit fostered essential collaboration and partnerships among various actors—policymakers, regulators, technical experts, civil society, and the private sector—to promote inclusive, sustainable, and resilient internet development. It also played a vital role in building capacity, especially for underrepresented groups, to meaningfully participate in Internet governance processes, and facilitated networking, knowledge sharing, and the exchange of best practices to address common challenges and achieve shared goals.

A notable aspect of AIS'23 was ICANN's strong presence and engagement, including hosting an "ICANN Day" with sessions on DNSSEC, new generic top-level domains, and Universal Acceptance. ICANN's participation, along with bilateral meetings with the South African Ministry of Communications and Digital Technologies, ZADNA, and ICASA, underscored the global importance of the summit in reinforcing key partnerships and advancing shared goals such as connecting the unconnected and ensuring the security, stability, and resiliency of the Internet for Africa's users. The event ultimately symbolized a collective determination to shape a connected and digitally inclusive future for the continent.

C11 Challenges

While South Africa has achieved significant milestones in infrastructure and policy alignment, the challenges of access, affordability, and implementation demand continued, intensified, and more coordinated international and regional efforts to fully realize the transformative potential of ICTs for inclusive development.

Persistent digital divides[199]

Despite significant strides in international and regional ICT cooperation, South Africa faces challenges in fully realizing the ambitions of WSIS Action Line C11. A primary hurdle remains the substantial digital

[197] https://www.internetsociety.org/blog/2024/09/looking-beyond-the-global-digital-compact/
[198] https://afnog.org/afnog2023/index.php
[199] https://journals.co.za/doi/full/10.36615/vdjgg265

divide within the country and across the continent, where many communities still lack access to affordable and reliable broadband[200].

The root cause often lies in deep-seated socio-economic inequalities, the high cost of deploying last-mile infrastructure in rural and remote areas, and the affordability of data services for end-users, even with increased international bandwidth.

Policy and implementation inconsistencies[201]

Furthermore, while regional policies and frameworks exist, their consistent implementation and harmonization are often hampered by differing national priorities, limited regulatory capacities, bureaucratic hurdles, and limited strong collaborations between African countries.

This leads to slow progress and fragmentation, as seen with historical delays in spectrum allocation and varying data governance frameworks across regional blocs. The underlying issues include a lack of seamless cross-border coordination mechanisms and, at times, inconsistent policy formulation or leadership changes within national administrations.

Resource constraints and skill deficits

Securing adequate and sustained funding for large-scale ICT infrastructure projects and digital inclusion initiatives remains a persistent challenge, often necessitating complex public-private partnerships. The competing demands on national fiscus in developing economies like South Africa frequently limit available resources. Compounding this, there is a critical shortage of advanced digital skills across the continent, including in South Africa, which limits the full realization of digital transformation potential and the effective utilization of existing infrastructure.

Cybersecurity and trust challenges

Finally, the increasing interconnectedness fostered by international cooperation brings heightened risks from cyber threats, ranging from cybercrime to misinformation[202]. Developing and consistently enforcing robust regional and international cybersecurity frameworks, alongside ensuring responsible data governance in cross-border data flows, are ongoing and evolving challenges. The rapid pace of technological change and the varying levels of national cybersecurity maturity contribute to these complexities, impacting the overall trust in the digital environment.

C11 Future Priorities

South Africa's actionable future priorities for WSIS Action Line C11 are summarised as follows:

driving inclusive global and regional digital development

Under its 2025 G20 Presidency, South Africa is seizing a pivotal opportunity to champion the Global South's digital priorities, fundamentally aligning with WSIS Action Line C11. This leadership involves intensifying efforts to bridge the digital divide through meaningful connectivity, ensuring no one is left offline. A core focus is on building inclusive Digital Public Infrastructure (DPI), learning from global experiences like India's "India Stack," to foster secure digital identity, payment systems, and data exchange frameworks. This strategic prioritisation aims to accelerate comprehensive digital transformation across public services and the economy.

Fostering advanced skills and responsible innovation

[200] Research-ICT-Africa
[201] DCDT ICT Policy Review
[202] CSIR National Cybersecurity Survey

A key future priority involves accelerating advanced digital skills development through joint international programmes, concentrating on emerging technologies such as AI, IoT, and blockchain to cultivate a future-ready workforce and alleviate skills shortages. Furthermore, South Africa aims to champion responsible and inclusive AI governance, ensuring ethical deployment, safety, and equitable access to AI infrastructure and capacity for developing countries, as articulated through its G20 task force on AI[203]. This holistic approach supports local innovation ecosystems for SMMEs and encourages the creation of relevant local digital content.

Strengthening cross-border collaboration and investment

To underpin these ambitions, South Africa will continue to deepen regional digital integration, striving for a truly "Digital SADC" and contributing robustly to the AU's Digital Transformation Strategy for Africa to achieve a secure Digital Single Market by 2030. This necessitates further harmonizing policies on infrastructure sharing, roaming tariffs, and cross-border data flows.

Concurrently, the nation will prioritize strengthening cybersecurity cooperation internationally to combat cybercrime and build resilience against threats. Attracting and facilitating foreign direct investment into the ICT sector, particularly for infrastructure development and data centres, remains crucial for funding these extensive digital transformation efforts.

Addressing the digital usage gap

Beyond mere access, a significant future priority for South Africa's international and regional cooperation will be to actively address the "usage gap." This involves moving beyond simply providing connectivity to ensuring the meaningful use of ICTs by tackling persistent challenges around affordability, enhancing digital literacy, and ensuring the widespread availability of relevant local content and applications. This comprehensive approach ensures that digital progress translates into tangible socio-economic benefits for all citizens.

12. National Strategies and Policy Documents

Please provide details on national strategies, policies, and frameworks that have been implemented to achieve WSIS goals over the last 20 years:

In South Africa, the landscape of policy development is governed by a hierarchical and interconnected framework. At its apex is the Constitution of the Republic of South Africa, 1996, serving as the supreme law that enshrines fundamental rights and democratic principles, dictating the legal and value-based parameters for all government action and policy content.

Guiding the nation's long-term strategic direction is the National Development Plan (NDP) 2030, released in 2012, which acts as a blueprint for eradicating poverty and reducing inequality, thus informing the substantive goals of all sectoral policies, including the digital agenda.

The approach of South Africa's national digital agenda is fundamentally rooted in its overarching national development goals, as articulated in the NDP 2030, and guided by the principles of the Constitution. It aims for a holistic and inclusive digital transformation, viewing Information and Communication Technologies (ICTs) not merely as tools, but as critical enablers for socio-economic development, job creation, and poverty reduction

Finally, the National Policy Development Framework (NPDF)[204] 2020 provides the methodological guidelines for government departments, ensuring that all policies are systematically formulated,

[203] Minister Solly Malatsi Speech on Digital Economy
[204] https://www.gov.za/documents/other/national-policy-development-framework-2020-02-dec-2020

evidence-based, coherent, and, critically, aligned with both the foundational principles of the Constitution and the strategic vision of the NDP.

Figure 26: South Africa's Policy Development Guideline Factors

This framework was approved by the Cabinet in December 2020. Its purpose is to:

- Guide all government departments in drafting their public policies.
- Standardise policy formulation processes across all spheres of government.
- Set out clear principles for effective policy development and implementation, entrenching good public policy-making practices in South Africa.
- Codify policy-making practices and entrench evidence-based policymaking.
- Guide officials on policy analysis, development, authorisation, implementation, and review.
- Embed the Socio-Economic Impact Assessment System (SEIAS) in the policy-making process.

The SEIAS, which ensures that proposed policies are thoroughly analysed for impacts, costs, and benefits, and aligned with national priorities, was introduced earlier in 2015.

Figure 26 illustrates a multi-faceted framework influencing policy development in South Africa. At its core is Agenda Setting, surrounded by six key environmental factors that interact and drive policy shifts. This model helps explain how South Africa's digital agenda, particularly in line with the WSIS Action Lines, is shaped and interconnected with broader societal dynamics.

The factors triggering policy changes and agenda setting include:

- **Political:** This refers to governmental priorities, election cycles, ruling party mandates, and the political will to address specific issues. For South Africa's digital agenda, political directives – such as the National Development Plan (NDP) 2030's emphasis on a knowledge-based economy or the current G20 Presidency's focus on digital transformation – are crucial drivers. For instance, the 2019 Presidential Commission on the Fourth Industrial Revolution (4IR) demonstrates a high-level political commitment to embracing digital technologies.

- **Economical:** Economic conditions, growth targets, unemployment rates, and the need for new industries or foreign investment significantly influence policy. The digital agenda often aims to stimulate economic growth, create jobs, and improve competitiveness through e-business, e-commerce, and the development of a vibrant tech sector. The need to attract foreign direct investment into the ICT sector is a key economic consideration.
- **Social:** Societal needs, inequalities, demographics, and public demand for services directly impact policy. The persistent digital divide in South Africa, for example, is a major social factor driving policies to expand access, enhance digital literacy, and ensure inclusive participation in the digital economy. Initiatives like the establishment of creative-tech hubs respond to social needs for skills and opportunities.
- **Technological:** The rapid evolution of technology itself is a powerful trigger for policy change. New advancements like AI, IoT, and blockchain necessitate new regulations, standards, and strategic investments. South Africa's focus on building inclusive Digital Public Infrastructure (DPI) and championing ethical AI are direct responses to technological shifts. The 2025 Roadmap on the Digital Transformation of South African Government is a direct response to evolving technological capabilities.
- **Environmental:** Environmental concerns, including climate change and resource management, increasingly intersect with digital policy. ICTs are seen as tools for sustainable development, e-environment applications, and resource efficiency.
- **Legal & Public Opinion (Media), Personal Experiences and M&E Feedback:** This broad category encompasses the influence of existing legal frameworks (e.g., ECTA 2002, Electronic Communications Act 36 of 2005), public sentiment shaped by media, individual experiences with digital services, and feedback from monitoring and evaluation processes of existing policies. Public outcry over data costs or cybercrime, for example, can trigger policy reviews and legislative action. The National Cybersecurity Policy Framework is a direct response to security concerns.

For South Africa's digital agenda and its interconnection with WSIS, these layers are profoundly interlinked. For instance, Technological advancements (e.g., 4IR) create new Economic opportunities but also social challenges (e.g., skills gaps, digital divide). This then demands Political will to initiate policy reviews (e.g., DCDT ICT Policy Review) under C1 or create Enabling Environments (C6) and address Capacity Building (C4). Legal & Public Opinion feedback drives the need for greater Confidence and Security (C5) and impacts the development of E-government (C7) applications, while fostering Cultural Diversity (C8) and adapting Media (C9) are crucial for broad societal acceptance. All these national efforts then feed into International and Regional Cooperation (C11), where South Africa shares experience and aligns policies with global partners, demonstrating the holistic nature of policy development.

12.1. National Digital Strategy/Policy

Please provide details of any national strategy or policy for ICT development and digital transformation.

South Africa has recently unveiled its Roadmap for the Digital Transformation of Government; a critical national strategy aimed at modernizing public service delivery and fostering a more integrated digital environment. Launched in May 2025 and approved by Cabinet in March 2025, this roadmap is a collaborative effort spearheaded by The Presidency, the Department of Communications and Digital Technologies (DCDT), and National Treasury, and forms a key pillar of Operation Vulindlela Phase II, which focuses on accelerating structural reforms for economic growth and job creation.

The roadmap addresses the historical issue of fragmented digital initiatives within government, moving towards a unified, people-centred, and whole-of-government approach. Its core objective is to leverage

contemporary technologies and methodologies to enhance the efficiency, accessibility, and quality of services for all citizens.

Key elements and strategic initiatives of this national digital transformation strategy include:

- Digital Public Infrastructure (DPI): The roadmap emphasizes investment in DPI as a foundational framework for seamless digital interactions between citizens and the state. This includes:
    - **Functional Digital Identity System:** Developing a system that allows South Africans to securely and remotely access services through a verified digital credential wallet, where personal information (including identity and qualifications) can be stored and shared. This will streamline identity verification and reduce the need for repeated submissions of information.
    - **Real-time Data Exchange Framework:** Aimed at eradicating data silos across government departments, enabling secure, real-time sharing of information. This will eliminate the need for citizens to repeatedly provide the same information to different government entities.
    - **Digital Payments System:** Providing universal access to secure, low-cost payment options for transactions between government and citizens.
    - **Single, Zero-Rated Digital Services Platform:** A central channel where citizens can access all government services and information, managed through a personal profile, ensuring accurate information and remote access.
- **Phased Implementation:** The roadmap outlines a phased approach, with **Phase 1 (2025-2027)** prioritizing the digitisation of social protection services and their linkages with learning and earning opportunities. This phase aims to deliver immediate, measurable impact for vulnerable South Africans and lay the groundwork for broader digital reform, connecting social grants to employment and training pathways.
- **Governance and Coordination:** To ensure a cohesive and effective implementation, The Presidency has established a Digital Service Unit (DSU), led by tech entrepreneur Melvyn Lubega, to coordinate this whole-of-government effort. Furthermore, an Inter-Ministerial Committee (IMC), chaired by the Minister of Communications and Digital Technologies, Solly Malatsi, has been appointed, supported by an Interdepartmental Working Group (IDWG) to ensure integration across all government departments.
- **Broader ICT Policy Context:** This roadmap builds upon existing ICT development policies and strategies in South Africa, such as the National e-Government Strategy and Roadmap (2017) and the National Digital and Future Skills Strategy (2020). It also aligns with the broader National Integrated ICT Policy White Paper of 2016 and the ICT Research, Development, and Innovation (RDI) Roadmap which aims to increase investment in ICT R&D and position South Africa as a significant player in the global ICT RDI arena.

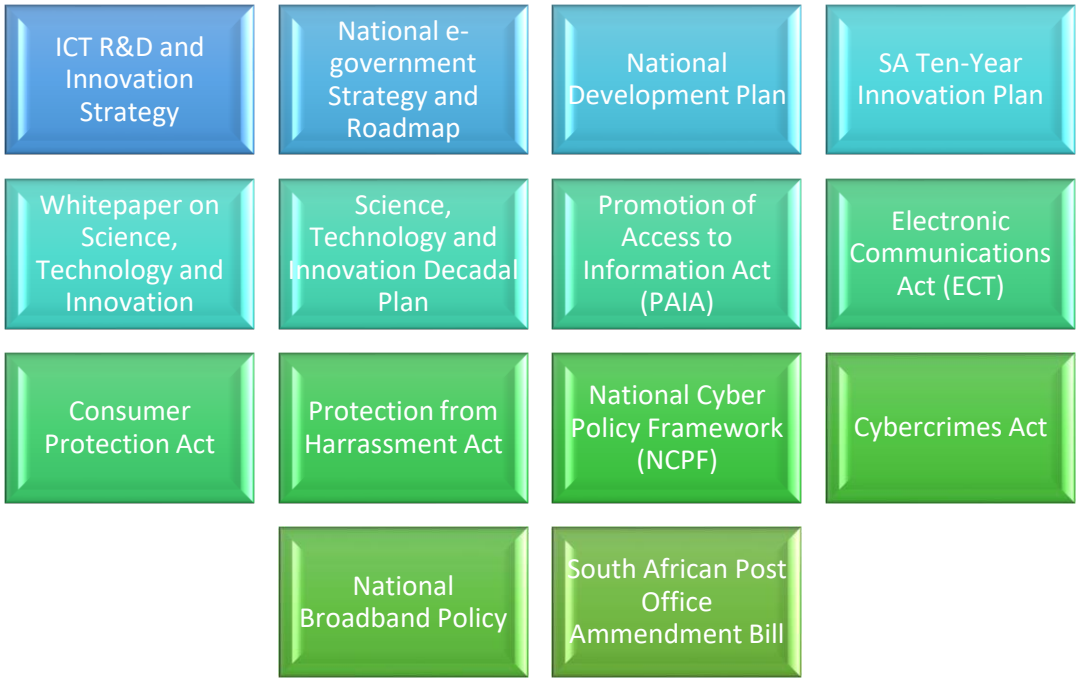
The overarching goal is to transform the relationship between citizens and government by making digital experiences with public services more convenient, cost-effective, reliable, user-friendly, and equitable, ultimately contributing to reduced inequality and a more inclusive and resilient South Africa.

12.1.1. Strategic Documents/Plans

List any key national reports or strategies that have aligned with WSIS Action Lines.

Since the World Summit on the Information Society in 2005, South Africa has progressively developed and refined its national strategy for ICT development and digital transformation, consistently aligning with WSIS Action Lines.

The overarching framework is the National Development Plan (NDP) 2030, adopted in 2012, which positions ICTs as critical enablers for socio-economic growth, job creation, and poverty reduction, embedding a long-term vision (consistent with WSIS C1: Role of Governments).



A significant early step was the Electronic Communications Act 36 of 2005, which converged the legal framework for telecommunications and broadcasting, creating a more cohesive regulatory environment (aligning with WSIS C6: Enabling Environment). This was followed by the DCDT ICT Policy Review which aimed to modernize policies to address rapid technological convergence and digital inclusion needs.

Building on these foundations, South Africa's national digital agenda has prioritized several key areas. The SA Connect broadband policy drives universal access to affordable broadband (WSIS C2: Infrastructure), while significant investments are being made in Digital Public Infrastructure (DPI) for enhanced service delivery and economic inclusion (WSIS C7: E-government). The National Cybersecurity Policy Framework addresses digital threats and data governance (WSIS C5: Building Confidence and Security).

Furthermore, the Presidential Commission on the Fourth Industrial Revolution (4IR) has provided strategic direction for embracing emerging technologies, which directly informs digital skills development initiatives and innovation ecosystems across sectors (WSIS C4: Capacity Building and WSIS C7: E-business). The commitment to ethical considerations in technology, particularly AI, aligns

with WSIS C10: Ethical Dimensions, while efforts to promote local content and preserve linguistic diversity reinforce WSIS C8: Cultural Diversity.

Most recently, the Roadmap on the Digital Transformation of the South African Government (launched in May 2025) provides a comprehensive plan to unify fragmented digital initiatives and modernise public service delivery towards a 'One Person, One Government, One Touch' system, further solidifying the nation's strategic digital path.

Throughout these strategies, South Africa has consistently advocated for multi-stakeholder engagement and active participation in regional and international cooperation (WSIS C11: International and Regional Cooperation), leveraging platforms like the AU, SADC, BRICS, and its 2025 G20 Presidency to shape a human-centric and inclusive global digital future.

12.1.2. Implementation of WSIS Mandates

Explain how the country has ensured that WSIS mandates are incorporated into national development goals.

South Africa has proactively integrated the mandates of the WSIS into its national development goals, demonstrating a strategic commitment to leveraging Information and Communication Technologies as enablers for socio-economic transformation. This integration is evident across various national plans, policies, and institutional frameworks, all aiming to address inequality, alleviate poverty, and foster inclusive growth.

At the core of this integration is the National Development Plan 2030, South Africa's overarching vision for a prosperous and equitable society. The NDP explicitly recognises ICTs as fundamental drivers for improving service delivery, enhancing economic competitiveness, and creating sustainable job opportunities. This aligns directly with the WSIS vision of a people-centric, inclusive, and development-oriented Information Society, positioning digital advancement as critical to achieving broader national aspirations.

Specific policy frameworks translate these high-level objectives into actionable mandates.

- The National Integrated ICT Policy White Paper (2016) serves as a foundational document, directly addressing numerous WSIS Action Lines.
- The SA Connect, the national broadband policy, targets universal broadband access (aligning with WSIS C2 and C3), while the National Digital and Future Skills Strategy (2020) focuses on digital literacy and ICT skills development (WSIS C4).
- Similarly, the National e-Government Strategy aims to digitise public services (WSIS C7), and robust measures like the Cybercrimes Act (2020) bolster confidence and security in the digital realm (WSIS C5).
- Emerging policies, such as the National AI Policy Framework (2024) and the Protection of Personal Information Act (POPIA), address the ethical implications of advanced technologies and data privacy, directly responding to WSIS C10 mandates.
- Institutional alignment and multi-stakeholder collaboration are central to implementation.

The Department of Communications and Digital Technologies (DCDT) leads governmental efforts, coordinating various ICT policies and strategies. This is complemented by active partnerships with the private sector, civil society organisations like APC and Media Monitoring Africa, and academic institutions such as the African Centre of Excellence for Information Ethics (ACEIE).

South Africa's engagement in international forums, including the ITU Council and the WSIS Forum, further underscores its commitment to aligning national digital development with global best practices and frameworks.

Ultimately, a recurring and paramount theme across all of South Africa's digital development strategies is the profound commitment to bridging the digital divide and ensuring that the benefits of ICTs are accessible to all citizens, particularly those in rural and underserved areas.

This unwavering focus on digital inclusion directly mirrors the WSIS principle of building a truly people-centric Information Society that leaves no one behind, thereby linking national development goals directly to the global WSIS vision.

13. Key Indicators of Progress

Provide key data or indicators that demonstrate the country's progress toward achieving WSIS goals (e.g. percentage of the population with internet access, mobile penetration, percentage of government services available online, number of broadband connections, cybersecurity initiatives, digital skills training, etc.)

South Africa has made significant strides over the past two decades in progressing towards the WSIS goals, particularly in areas related to connectivity, digital inclusion, and e-governance.

ICT indexes

South Africa continues to demonstrate significant progress in its digital transformation agenda. Recent international assessments highlight the nation's strides. In the 2024 World Economic Forum Network Readiness Index[205], South Africa ranked 72nd globally out of 133 countries,

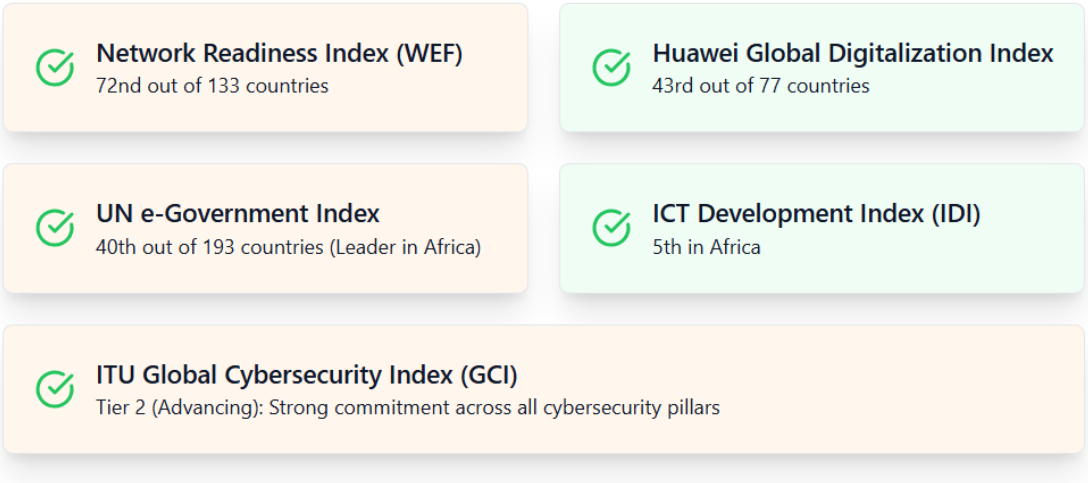


Figure 27: Key Indicators of Progress (Indices)

Furthermore, the country achieved a notable 43rd place out of 77 countries in Huawei's Global Digitalization Index (GDI) 2024[206]. Most impressively, South Africa has ascended to 40th out of 193 countries in the United Nations e-Government Index 2024[207], placing it as a leading nation in Africa for e-government development.

Latest data for the 2024 ICT Development Index (IDI) indicates South Africa is ranked 5th in Africa behind Mauritius, Seychelles, and Morocco. These achievements collectively underscore South Africa's

[205] https://networkreadinessindex.org/country/south-africa/
[206] https://www.huawei.com/en/gdi
[207] https://www.iol.co.za/business-report/economy/2024-10-14-sa-climb-the-ranks-in-un-e-government-index-leading-africa-in-digital-transformation/

ongoing commitment to leveraging information and communication technologies for national development and improved public services.

In the ITU Global Cybersecurity Index (GCI) 2024, which measures the commitment of countries to cybersecurity, South Africa was placed in Tier 2 ("Advancing"). This tier includes countries with scores between 85 and 95. In the African context, South Africa is one of four countries in this tier, indicating a strong level of commitment to cybersecurity across the five pillars: legal, technical, organizational, capacity development, and cooperation.

Figure 28 below shows a summary of the adoption and use of connected devices and services in 2025, which shows a positive acceleration over the WSIS review period.

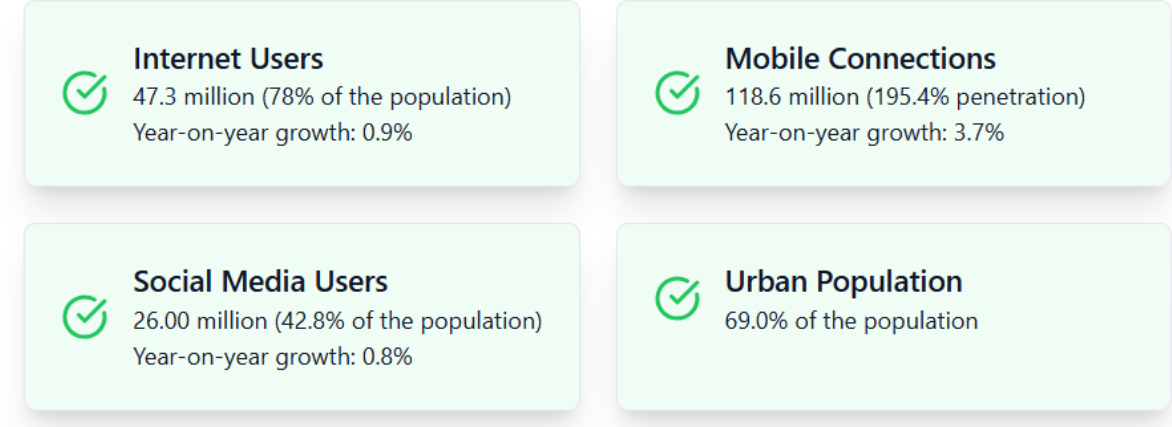


Figure 28: South Africa's Connectivity Report[208]

South Africa demonstrates strong progress in building an information society, as evidenced by key digital adoption metrics in January 2024. A substantial 47.34 million individuals, representing 78% of the total population, are actively using the internet. This high penetration rate underscores South Africa's advancement in achieving universal access to information and knowledge, a core objective of the WSIS. The consistent, albeit modest, year-on-year growth of 0.9% (an increase of 409 thousand internet users) indicates ongoing expansion of connectivity across the nation.

Further bolstering this digital landscape are the 118.6 million cellular mobile connections, which remarkably account for 195.4% of the total population. This significant figure highlights a pervasive mobile-first environment in South Africa, where mobile devices serve as a primary conduit for internet access and digital engagement. Such widespread mobile connectivity is instrumental in bridging the digital divide, particularly in areas where fixed-line infrastructure may be less developed, thereby facilitating access to information and services for a broader segment of the population. The robust 3.7% year-on-year increase, adding 4.2 million connections, signifies continuous and rapid growth in mobile adoption.

Beyond mere connectivity, the engagement of 26.00 million South Africans on social media platforms, constituting 42.8% of the population, points towards increasing digital literacy and participation in online communities. While not a direct WSIS key indicator of progress, high social media usage often correlates with enhanced digital skills, the ability to create and share content, and active participation in the digital sphere, all of which contribute to the broader WSIS goal of empowering individuals through information and communication technologies. This segment also saw a modest increase of 0.8% (200 thousand users) over the past year.

[208] https://datareportal.com/reports/digital-2024-global-overview-report

Finally, with 69.0% of the population residing in urban areas, South Africa presents a landscape where most of its citizens are situated in environments typically well-serviced by ICT infrastructure. While this urbanization contributes to easier deployment and access to digital services, it also implicitly highlights the ongoing challenge of ensuring equitable access and bridging the digital divide for the remaining rural population.

While challenges persist, key data and indicators demonstrate a strong commitment to building an inclusive information society (see Table 4), and this table shows a summary of various key indicators of progress across the Action Lines.

Table 4: South Africa WSIS Key Indicators of Progress

WSIS Action Line	**Key Data/Indicator**	**Progress / Achievement (2005-2025)**
C1: Government's Role	Policy Frameworks	Evolved with National ICT Policy White Paper (2016) and "Roadmap on the Digital Transformation of SA Government" (launched May 2025).
	Multi-stakeholder Engagement	Actively promoted involvement of government, regulators (ICASA), SOEs, private sector, civil society, and academics in ICT policy & implementation.
	Promotion of ICT for Development.	Policies consistently leverage ICTs to address national priorities like poverty, unemployment, and inequality (e.g., SA Connect, B-BBEE in ICT).
	Public-Private Partnerships (PPPs)	Extensively used in ICT rollout (e.g., fibre broadband), facilitated by government policy and an enabling regulatory environment.
	Regulatory Evolution	ICASA continuously adapts frameworks (e.g., spectrum allocation) to encourage investment, competition, and new technology adoption.
C2: Information and Communication Infrastructure	Mobile Penetration	Achieved near-universal mobile penetration, exceeding 100% of the population by 2023.
	Internet Access	Rose from ~10-15% (mid-2000s) to over 78% (2023-2024), primarily mobile broadband driven.
	Mobile Broadband Coverage	Expanded to over 90% of the population by 2023.
	Fixed Broadband (FTTH/B)	Grew from negligible to several million connections by 2024, driven by private sector.
	Public Internet Access	Initiatives like Thusong Service Centres and municipal public Wi-Fi hotspots provide community access.

C3: Access to Information and Knowledge	Access to Information (PAIA)	Legal framework in place but faces challenges with low compliance by public bodies (~17% municipalities reporting in 2020/21).
	Library & Information Services (LIS)	Systemic challenges in policy, human resources, and uneven access, with many public schools still lacking libraries (~74% in mid-2024).
	Digital Archival Access	Funding limitations and infrastructure disparities hinder full digitisation of extensive archival collections.
	Scientific Knowledge Access	Consistent and affordable access to scientific journals/databases for all remains challenged by subscription models.
	Public Domain Content	Limited volume of easily digestible, diverse linguistic formats online; fragmented datasets and lack of comprehensive national repositories.
C4: Capacity Building	Digital Skills Training	Thousands of learners trained annually by MICT SETA and other SETAs, DCDT, NEMISA.
	AI Hubs	Established by DCDT at UJ, TUT, CUT, and Military Academy, building advanced AI skills and R&D capacity.
	Teacher Training (ICT)	Ongoing focus by DBE to integrate ICTs into curriculum and train educators (e.g., ISPA SuperTeacher, NMU Tangible Africa).
	ICT Professional Training	SETAs (e.g., MICT SETA), public universities, and private colleges instrumental in meeting industry demands.
C5: Cybersecurity	National Cybersecurity Framework	NCPF adopted in 2012 (updated), providing a strategic roadmap.
	Cybersecurity Initiatives	Establishment of National Cybersecurity Hub (NCSH); Cybercrimes Act (2020) enacted in 2021.
C6: Enabling Environment	ICT R&D Investment	Increased focus via DSI and NRF. TIA plays a key role in funding and commercialising technological innovations.
C7: E-government	Government Services Online	Significant progress in digitising key services (e.g., SARS eFiling, e-Natis, Home Affairs online systems).
	Government Portal	Gov.za serves as a central hub for information and services.

C8: Cultural Diversity, Linguistic Diversity & Local Content	Digitalisation of Heritage	Support from Dept. of Arts and Culture and NLSA to digitise cultural heritage and indigenous knowledge.
	Local Content Creation	Increased production of local TV, radio, and music content across digital platforms by SABC and private/civil society.
C9: Media	Media Pluralism	Constitutionally protected free and diverse media landscape (public, commercial, community broadcasters, digital news).
	Regulatory Oversight	ICASA regulates broadcasting to ensure pluralism and fairness.
	Digital Presence of Public Broadcaster	SABC expanded digital platforms to provide news and info in various languages.
C10: Ethical Dimensions of the Information Society	Data Protection & Privacy	Enactment of Protection of Personal Information Act (POPIA) in 2020 provides a robust legal framework.
	Digital Rights Awareness	Campaigns by Information Regulator and civil society raise awareness on privacy and digital rights.
	Responsible AI Discussions	Growing prominence of discussions and policy considerations for ethical and responsible AI development.

14. Challenges and Gaps

Please identify key barriers or challenges the country has faced in implementing WSIS mandates and achieving desired outcomes.

South Africa, in its journey towards achieving WSIS mandates and building an inclusive information society, has encountered several significant barriers. These challenges, often interconnected, stem from deep-seated socio-economic inequalities and institutional complexities, impacting the country's ability to fully leverage ICTs for development.

Inconsistent Leadership and Institutional Instability

South Africa has, over the past two decades, experienced notable instances of frequent ministerial and senior management changes within critical departments responsible for ICT policy and implementation, such as the Department of Communications (and its various iterations, now DCDT) and the State Information Technology Agency (SITA). These changes can stem from political realignments, cabinet reshuffles, or performance-related issues.

Frequent changes in leadership can lead to shifts in strategic direction, a lack of institutional memory, and delays in the finalisation and implementation of crucial policies (e.g., the prolonged Broadcasting Digital Migration process, or the slow progress of certain phases of SA Connect). New leadership often means new priorities, potentially sidelining or restarting previously planned initiatives.

The lack of stable leadership at the helm of key digital transformation efforts makes it difficult to foster consistent inter-departmental cooperation and build enduring partnerships with the private sector and civil society. This exacerbates the challenge of fragmented coordination.

Instability at a leadership level can reduce confidence among international investors and local private sector partners regarding the government's long-term commitment to digital projects. It can also demotivate public servants who face constant changes in direction.

Projects requiring sustained, multi-year effort often lose momentum when there is a change in the political or administrative head, potentially leading to stalled progress and inefficient use of resources. This directly impacts the sustainability of WSIS-related initiatives.

Frequent changes can make it difficult to attribute accountability for project successes or failures, as leaders may move on before the full impact of their decisions is realised.

The persistent digital divide

The digital divide in South Africa is deeply rooted in its apartheid legacy, which resulted in uneven infrastructure development heavily favouring urban and historically advantaged areas. This is compounded by the high cost of connectivity (data and devices), insufficient investment in rural telecommunications by some private sector players due to low commercial viability, and unreliable electricity supply in many underserved areas.

This divide exacerbates socio-economic inequalities, limiting access to education, online job opportunities, e-health services, and democratic participation for a large segment of the population, particularly in rural and township communities. It creates a two-tiered society, where those on the "wrong side" of the divide are increasingly marginalised from the benefits of the digital age.

Human capacity and digital literacy gaps

Despite training initiatives, a significant portion of the population, including educators, still lacks basic digital literacy and advanced ICT skills. This is due to historical educational disadvantages, insufficient funding for comprehensive and continuous training programmes, outdated curricula in some institutions, and a lack of sustained professional development for teachers. There can also be resistance to adopting new technologies.

Low digital literacy hinders the effective utilisation of available infrastructure and online services. It limits individual participation in the digital economy, perpetuates unemployment, and slows down innovation. For educators, it directly impacts the quality and relevance of digital learning, leaving students ill-equipped for a digitised future.

Fragmented coordination and policy implementation

A key systemic challenge is the fragmentation of efforts and insufficient coordination across various government departments, state-owned entities, and other stakeholders involved in digital transformation. Siloed planning, bureaucratic inefficiencies, and a lack of integrated strategic oversight often led to duplicated efforts, inefficient resource allocation, and slow policy implementation. Delays in critical policy processes, like the digital migration of broadcasting, exemplify this.

This fragmentation undermines the potential for a cohesive national digital agenda, limits the scalability and sustainability of initiatives, and slows down the overall pace of digital development. It can also lead to inconsistent policy application and a lack of accountability.

Funding and sustainability of initiatives

Many digital inclusion and skills development programmes are reliant on short-term project funding or donor support, rather than robust, long-term government budgetary commitments. There is also insufficient private sector investment in non-commercial or high-risk digital initiatives in disadvantaged areas.

This results in inconsistent progress, with projects often halting once funding ceases, leading to a loss of momentum and wasted resources. It prevents the sustained scaling of successful pilot programmes, limiting their overall impact on national development.

Cybersecurity risks and awareness

The rapid increase in online activity, coupled with a general lack of widespread cybersecurity education and awareness among citizens, makes the population vulnerable to cyber threats. Sophisticated cybercrime methods often outpace public understanding and, at times, legal/enforcement capabilities.

This erodes trust in digital platforms and online services, leading to financial losses, personal data breaches, and increased online harassment (including misinformation and disinformation). It can deter vulnerable populations from engaging online, undermining efforts for digital inclusion.

Content relevance and localisation

Despite a rich cultural and linguistic diversity, there is a scarcity of digital content available in indigenous languages and content that is locally relevant. This is partly due to limited investment in local content creation, insufficient resources for digitising existing indigenous knowledge systems, and market forces that often favour international content.

This limits the engagement and relevance of digital platforms for many South Africans, particularly those in rural areas or whose primary language is not English. It also poses a threat to the preservation and promotion of South Africa's diverse cultural heritage and indigenous knowledge systems in the digital realm.

15. Future Directions and Areas for Collaboration and Vision Beyond 2025

Please outline the country's vision for the future of WSIS beyond 2025 and identify areas where collaboration with stakeholders could further accelerate progress.

South Africa's vision for the future of the World Summit on the Information Society (WSIS) beyond 2025 is deeply integrated with its broader National Development Plan 2030 and its commitment to harnessing the Fourth Industrial Revolution (4IR) for inclusive growth and sustainable development. The country aims for a digitally inclusive, innovative, and secure information society that addresses socio-economic inequalities and positions South Africa as a leader in Africa's digital transformation.

Vision for the future of WSIS beyond 2025

South Africa's vision for WSIS beyond 2025 is predicated on achieving universal and meaningful connectivity. This involves extending affordable, high-quality internet access to all citizens, especially in underserved rural and peri-urban areas, ensuring individuals have the skills, devices, and relevant content for full digital participation.

A key priority on the recently published digital roadmap is to decisively bridge the digital divide by equipping all South Africans with essential digital skills. This spans from fundamental digital literacy to advanced proficiencies in areas such as Artificial Intelligence (AI), cloud computing, and cybersecurity. Institutions like NEMISA are pivotal in delivering these skills to both the public and private sectors, thereby preparing the national workforce for future job opportunities and enabling efficient digital government services.

The vision also encompasses innovation and digital transformation, fostering an environment for the widespread adoption of emerging technologies across all sectors. This includes accelerating the digital transformation of government services for enhanced efficiency and accessibility. A central part of this is accelerating the digital transformation of government services, aiming for a "One Person, One

Government, One Touch" system to enhance efficiency, transparency, and accessibility, as articulated in the Roadmap for the Digital Transformation of the South African Government.

Furthermore, South Africa is committed to establishing an ethical and secure digital environment, prioritising cybersecurity frameworks, combating harmful online content, and upholding privacy rights in line with global human rights norms.

A future where local content development and media pluralism thrive is also central, aiming to reduce international imbalances in media and foster national identity and cultural expression.

Lastly, South Africa seeks to leverage its position for regional and global leadership, advocating for equitable digital access and innovation across Africa and contributing to global digital cooperation processes.

Areas for collaboration with stakeholders to accelerate progress

Accelerating South Africa's digital transformation requires robust multi-stakeholder collaboration across government, the private sector, civil society, academia, and international organisations.

For infrastructure development and universal access, Public-Private Partnerships (PPPs) have contributed significantly to the growth of ICT in South Africa and are essential for rolling out broadband infrastructure, with mobile network operators and local government extending coverage and making data more affordable. This will lead to faster deployment of advanced networks and a significant reduction in the digital divide.

In the realm of digital skills and literacy programmes, collaboration between government (DCDT, NEMISA), educational institutions, private tech firms, and civil society organisations is crucial for co-designing and delivering targeted training.

The intended outcomes include a digitally capable workforce, enhanced employability, and greater public awareness of online risks and opportunities. For content development and local innovation, the SABC, independent creators, media development agencies (MDDA), and tech startups can collaborate to promote local storytelling and innovative digital content, fostering a thriving local digital content industry and cultural expression.

Regarding cybersecurity and data governance, collaborative efforts between government agencies (SAPS, FIC, FPB, NPA), cybersecurity firms, academic researchers, and international partners are vital for threat intelligence sharing, capacity building for cybercrime investigation, and developing robust data protection frameworks.

This will lead to a more secure and trusted online environment with stronger protection of personal data. For digital government and service delivery, collaboration between SITA, government departments, and private sector providers is key to designing user-centric digital government services, resulting in streamlined, accessible services and improved citizen trust.

Finally, to ensure ethical AI and emerging technologies, policymakers, AI developers, ethicists, legal experts, and civil society must collectively develop ethical guidelines, regulatory frameworks, and public awareness campaigns. This aims to ensure responsible AI development that aligns with human rights and societal values, while mitigating potential negative impacts and fostering "AI for good" initiatives.

Regional and global digital leadership

A key strategic priority for South Africa's digital roadmap is to leverage its standing (e.g., as the only African nation in the G20) to advocate for equitable digital access and innovation across the African continent. The country aims to contribute distinct African perspectives to global digital cooperation processes, including the WSIS+20 review and the Global Digital Compact, striving for a just and inclusive global digital order.

By fostering these collaborative ecosystems, South Africa aims to not only sustain the momentum of WSIS principles but also to innovate and adapt them to the evolving digital landscape, ensuring a future information society that is truly inclusive, sustainable, and beneficial for all its citizens.

16. Acknowledgements

The report was researched and produced through a multi-stakeholder consultation process involving over 100 stakeholders across different sectors that we are unable to specifically name one by one.

We therefore extend our sincere gratitude to all stakeholders who contributed to the compilation of this comprehensive report.

- **Government & Public Sector:** All government departments, entities, State-Owned Enterprises (SOEs), and State-Owned Companies (SOCs) who actively participated in the review process.
- **Stakeholders & Experts:** The invaluable input provided by private sector, academia, local government, municipality, and civil society organizations.
- **Knowledge & Research:** The dedicated researchers and ICT and Policy Experts who collected and provided the essential data used throughout this report.
- **Coordination & Support:** The **CSIR (Council for Scientific and Industrial Research)** for coordinating the entire report compilation process, and the **DCDT (Department of Communications and Digital Technologies)** officials for their unwavering support and participation