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International Telecommunication Union
Development Sector

Collaborative digital regulation country review: South Africa's digital transformation and collaborative regulation

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In partnership with:

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Foreword

I am delighted to present this new study in the series of collaborative digital regulation country reviews.

The digital age has brought about unprecedented advancements in technology and connectivity, but with it comes a host of new challenges for regulators and policymakers. The International Telecommunication Union (ITU) has made it one of our priorities to support countries in enacting effective, collaborative policy and regulation to ensure that the benefits of digital transformation are shared by all.

For over 20 years, ITU and our partners in the wider global regulatory community have made enormous progress in analysing, mapping and understanding the evolving role that regulation plays in society and in economies. Through this effort, we now have a clear-eyed view of the path ahead for all countries, no matter where they are, in their journey towards Fifth generation collaborative digital regulation, or G5, that has emerged as the gold standard for regulators and policymakers seeking to promote an enabling environment for digital transformation. The G5 framework marks a shift of scope beyond a narrow consideration of telecommunications/ICT to a far broader one of each country's readiness to exploit a fully enabled digital economy and society.

Taking the work one step further, ITU has developed a series of national country reviews on collaborative digital regulation, in partnership with government authorities, national stakeholders and recognized experts. Based on ITU's established evidence-based tools, the ICT Regulatory Tracker and the G5 Benchmark, the country reviews offer a comprehensive assessment of the regulatory and governance frameworks, policies, and practices in each studied country.

The country reviews are an important tool for regulators and policymakers as they work to create an environment that promotes investment, competition, digital innovation, protects consumers, and ensures that the benefits of digital transformation are widely shared. They highlight diverse experiences and different policy and regulatory patterns while exploring good practices, challenges and lessons learnt by regulators in navigating digital transformation. The country reviews also help develop a better understanding of the role and impact of collaboration and collaborative governance, and the use of new tools for regulating ICT markets.

Each country assessment is unique in focusing on the specificities of national regulatory and institutional frameworks for digital markets to thrive and on collaborative governance. While all country reviews follow a similar methodology, the process of developing the study is necessarily highly collaborative and tailored to the country's specific needs and priorities. For each country, the reviews capture hard-won gains, and provide actionable insights and pointers of immense value to other countries eyeing a similar path as they navigate the rapidly evolving digital landscape. Equally they deliver a practical and inspiring message of empowerment, of overcoming resistance and securing acceptance of the work's value and of what it can deliver.

First launched in 2021, the Collaborative Digital Regulation Country Reviews series has been leveraging country-specific experiences in moving the global digital agenda forward and aligning it with the 2030 Sustainable Development Goals (SDGs). The series also plays a central

role in ITU's efforts to measure the impact and benefits of G5 collaborative digital regulation, and support ITU Members in their journey to achieving SDGs and inclusive, sustainable digital transformation through meaningful policy and regulatory reform that will benefit all.

I hope that this series will serve as a catalyst for further collaboration and the advancement of digital regulation globally. I recommend this study as an enlightening and practical tool together with our regulatory metrics to all national regulators and decision-makers as they work to achieve meaningful connectivity and accelerate an inclusive and sustainable digital transformation through regulation that is open, cross-sector, and above all, collaborative.

Dr. Cosmas Luckyson Zavazava
Director, Telecommunication Development Bureau (BDT)
International Telecommunication Union (ITU)

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1 Introduction

As South Africa adopts reforms to further strengthen its economy across multiple sectors, this country review presents the policy, legislative, and governance frameworks that are enabling South Africa's digital transformation. It includes a review of key institutions and collaborative digital regulation practices, as well as common themes related to digital sector policies and frameworks.

This review draws on policy, legal, and regulatory instruments in place and it reflects the insights and challenges based on the research and analysis of official document, interviews conducted with public- and private-sector stakeholders and exchanges with the Independent Communications Authority of South Africa (ICASA). The report also leverages ITU resources, including the Unified framework to assess the state of readiness of policy, governance, and legal frameworks that are enabling digital transformation in South Africa.[1]

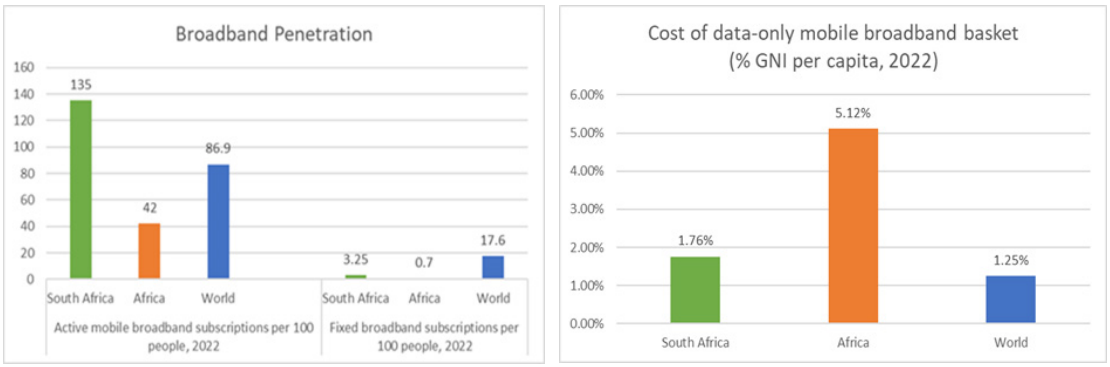
This country review concludes with high-level recommendations and suggested next steps for collaborative digital regulation and includes considerations of ongoing global discussions related to digital technologies and services.

2 Background and context

This section presents a snapshot of South Africa's communications sector in the context of regional and world trends and considers its priorities, strengths, and targets for future development, as well as its digital transformation progress and collaborative regulation efforts.

South Africa's broadband penetration, both fixed and mobile, far exceeds the regional average, with mobile penetration also surpassing the global average (see Figure 1). Considering the affordability of mobile broadband service, which is the most common means of accessing online services in South Africa and around the world, South Africa's prices are approximately three times cheaper than the regional average but 50 per cent more expensive than the global average, in terms of gross national income per capita.

Figure 1: Broadband availability and affordability, 2022



Source: ITU Data Hub

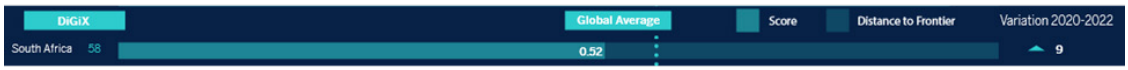
[1] ITU, Global Digital Regulatory Outlook 2023 – Policy and regulation to spur digital transformation, April 2023, https://www.itu.int/pub/D-PREF-BB.REG_OUT01 .

However, national statistics may obscure the presence of the digital divide in South Africa. According to 2021 data collected by Statistics South Africa (StatsSA) and quoted by ICASA, Internet penetration varies widely across provinces, ranging from 1.7 per cent to 25.9 per cent.[2] The same survey revealed that 2.2 per cent of households have no access to a fixed or cellular phone.[3] Stark discrepancies are observed across racial lines, "*among those who had access to the internet at home, close to half (50,4%) were white-headed households with individuals aged 5–24 years, while 3,6% were black African-headed households.*"[4]

The level of education in South Africa was also correlated with Internet access at home, with connectivity available in 86 per cent of households headed by people who completed at least secondary education.[5] Beyond Internet access, indicators of educational achievement and literacy are also below international averages, which complicates efforts to develop digital skills.[6]

BBVA Research DiGiX digitization index provides a snapshot of the progress of digitalization in South Africa (Figure 2).[7] It considers a range of criteria, including government adoption, enterprise adoption, user adoption, infrastructure, regulation, and affordability, each comprised of multiple variables. On a scale of 0 to 1, South Africa is near the global average of the 100 countries evaluated, with a score of 0.52.

Figure 2: Progress of digitalization in South Africa, 2022



Source: BBVA Research DiGiX 2022 Update

South Africa's innovation environment is a key enabler of national digital economy plans. The World Intellectual Property Organization (WIPO) Global Innovation Index (GII) considers the innovation ecosystem performance of 132 economies, analysing them with respect to seven innovation ecosystem pillars, as well as tracking progress from year to year. In the 2022, the GII scores for South Africa reflected a strong market sophistication pillar, and near global averages in the other six pillars.[8] Characteristics identified in the GII as among South Africa's strengths included measures of education expenditure, domestic credit availability, market capitalization, and intellectual property value.

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2 ICASA, The State of the ICT Sector Report of South Africa, March 2023, p. 13, https://www.icasa.org.za/legislation-and-regulations/state-of-ict-sector-report-2023-report.

3 ICASA, The State of the ICT Sector Report of South Africa, March 2023, p. 10.

4 Department of Statistics South Africa, COVID-19 and barriers to participation in education in South Africa, 2020 (Report No. 92-01-08), 2022, p. 32, https://www.statssa.gov.za/publications/Report-92-01-08/Report-92-01-082020.pdf .

5 Department of Statistics South Africa, COVID-19 and barriers to participation in education in South Africa, 2020 (Report No. 92-01-08), 2022, p. 33.

6 See, for example, Department of Basic Education, Progress in International Reading Literacy Study 2021: South African Preliminary Highlights Report, 2023, https://www.up.ac.za/media/shared/164/ZP_Files/2023/piirls-2021_highlights-report.zp235559.pdf.

7 BBVA Research, DiGiX 2022 Update: A Multidimensional Index of Digitization, June 2022, https://www.bbvaresearch.com/en/publicaciones/digix-2022-update-a-multidimensional-index-of-digitization/.

8 World Intellectual Property Organization (WIPO), Global Innovation Index 2022: What is the future of innovation-driven growth? 2022, https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2022-en-main-report-global-innovation-index-2022-15th-edition.pdf.

Figure 3: Global Innovation Index 2022 rankings overall and by innovation pillar

Country/economy	Overall GII	Institutions	Human capital and research	Infrastructure	Market sophistication	Business sophistication	Knowledge and technology outputs	Creative outputs
South Africa	61	81	81	77	39	63	56	64

Source: WIPO GII 2022

These findings are in line with national efforts to position the country as a regional leader while also improving its global position and influence.

2.1 Legislative and policy framework

South Africa's enabling environment and ongoing digital transformation is rooted in policy, legal, and regulatory frameworks and the multiple institutions that guide the development and implementation of these instruments. This section provides a brief overview of selected instruments, including more detailed summaries of two key laws and a review of certain policy documents. The intent of this section is not to provide a comprehensive analysis of all laws, regulations, and policies shaping South Africa's digital sector and transformation, but rather to demonstrate the breadth of issue areas that have been addressed by lawmakers, regulators, and government.

2.1.1 Selected laws and regulations

This section summarizes selected laws and regulations relevant to digital regulation and transformation in South Africa (Table 1).

Table 1: Selected laws and regulations relevant to digital regulation and transformation

Laws		
Instrument	**Year**	**Scope**
Constitution of the Republic of South Africa[9]	1996	Supreme law of South Africa, establishing the foundation for all other laws and regulations. Among relevant key provisions are the guarantee of freedom of information and the establishment of an independent broadcasting authority – a role filled by ICASA – among the independent authorities that strengthen constitutional democracy.
Promotion of Administrative Justice Act (PAJA)[10]	2000	The PAJA implements the right to just administrative action in South Africa's Bill of Rights. This states that all South Africans have the right to fair, lawful and reasonable action by State and parastatal institutions and to reasons for administrative action that affects them negatively.

[9] Constitution of the Republic of South Africa, 1996, https://www.gov.za/documents/constitution/constitution-republic-south-africa-04-feb-1997.

[10] No. 3 of 2000: Promotion of Administrative Justice Act, 2000, https://www.gov.za/documents/promotion-administrative-justice-act.

Table 1: Selected laws and regulations relevant to digital regulation and transformation (continued)

Independent Communications Authority of South Africa Act, 2000[11]	2000	Establishes the Independent Communications Authority of South Africa (ICASA) as an independent regulator with combined authority for telecommunications and broadcasting.
Electronic Communications Act, 2005[12]	2005	Convergence in broadcasting, broadcasting signal distribution, and telecommunications sectors; radiofrequency spectrum; universal service; licensing. Proposed amendments are discussed in section 2.1.2.
Film and Publications Act and Film and Publications Amendment Act[13]	1996, 2019	Classification of films, publications, and online content; establishment of Film and Publications Board.
Competition Act, 1998[14]	1998	Definition of prohibited practices and framework for merger control and establishment of the institutions that investigate, control, evaluate, and adjudicate restrictive practices (the Competition Commission, Competition Tribunal, and Competition Appeal Court).
Electronic Communications and Transactions Act (ECT Act)[15]	2002	Facilitation and regulation of electronic communications and transactions, universal access to electronic communications and transactions, human resource development in electronic transactions, encourage use of e-government services.
ICASA regulations[16]		
Instrument	**Year of first adoption**	**Scope**
Code for Persons with Disability Regulations[17]	2021	Access to electronic communications services and television broadcasting services by persons with disabilities.

[11] No. 13 of 2000: Independent Communications Authority of South Africa Act, 2000, https://www.gov.za/sites/default/files/gcis_document/201409/13000.pdf.

[12] No. 36 of 2005: Electronic Communications Act, 2005, https://www.gov.za/sites/default/files/gcis_document/201409/a36-050.pdf, as amended by Act No. 1 of 2014: Electronic Communications Amendment Act, 2014 (https://www.gov.za/sites/default/files/gcis_document/201409/37536act1of2014eleccommamend7apr2014.pdf).

[13] Film and Publications Act No. 65 of 1996, https://www.gov.za/sites/default/files/gcis_document/201409/act65of1996.pdf; Film and Publications Amendment Act, 2019, https://www.fpb.org.za/wp-content/uploads/2020/09/Films-and-Publications-Amendment-Act-2019-English-text-signed-by-the-President-Assented-to-19-September-2019.pdf.

[14] Competition Act (No. 89 of 1998) as amended, https://www.comptrib.co.za/Content/Documents/Competition_Act_No._89_of_1998.pdf.

[15] No. 25 of 2002: Electronic Communications and Transactions Act, 2002, https://www.gov.za/sites/default/files/gcis_document/201409/a25-02.pdf.

[16] Numerous ICASA regulations, including several listed here, have been amended since their initial adoption.

[17] ICASA, Code for Persons with Disabilities Regulations, 2021, https://www.icasa.org.za/uploads/files/Code-for-Persons-with-Disabilities-Regulations-2021.pdf.

Table 1: Selected laws and regulations relevant to digital regulation and transformation (continued)

Interconnection Guidelines[18]	2010	Electronic communications network and service Interconnection and interoperability; establishes obligation to interconnect and specifies guidelines.
Regulation in respect of the limitations of control and equity ownership by historically disadvantaged groups (HDG) and the application of the ICT Sector Code[19]	2021	Regulates limitations of control and equity ownership by historically disadvantaged groups (HDG) and the application of the ICT Sector Code.
General Licence Fees Regulations[20]	2013	Application, registration, and annual licence fees.
Digital Migration Regulations[21]	2012	Analogue-to-digital television migration.
Radio Frequency Spectrum Regulations and related amendments[22]	2015	Radiofrequency spectrum allocation and assignment, terms and conditions, licences and application processes, and award mechanisms. South Africa also updates its national band plan after each World Radiocommunication Conference (WRC) and publishes radio frequency spectrum assignment plans for various bands.[23]
Electronic Communications Facility Leasing Regulations[24]	2010	Electronic communications facilities leasing agreements, and its leasing and the resolution processes and timeframes for lodging disputes.

Source: ITU analysis.

18 ICASA, Regulations in terms of Sections 4 and 38 of the Electronic Communications Act of 2005 (Act No 36 of 2006) read with Section 4 (3) (j) of the ICASA Act of 2000 (Act No 13 of 2000) with respect to interconnection regulations, April 9, 2010, https://www.icasa.org.za/legislation-and-regulations/interconnection-regulations.

19 Regulation in respect of the limitations of control and equity ownership by historically disadvantaged groups (HDG) and the application of the ICT Sector Code, March 31, 2021, https://www.icasa.org.za/legislation-and-regulations/hdg-and-the-application-of-the-ict-sector-code-regulations.

20 ICASA, General Licence Fees Regulations 2012, https://www.icasa.org.za/legislation-and-regulations/general-licence-fees-regulations-1.

21 ICASA, Digital Migration Regulations, 2012, https://www.icasa.org.za/digital-migration-regulations-2012-gazette-no-36000.

22 ICASA, Radio Frequency Spectrum Regulations 2015, https://www.icasa.org.za/legislation-and-regulations/radio-frequency-spectrum-regulations-2015 as amended by Radio Frequency Spectrum Amendment Regulations, 2015 (https://www.icasa.org.za/legislation-and-regulations/radio-frequency-spectrum-amendment-regulations) and Amendment to the Radio Frequency Spectrum Regulations, 2015 (https://www.icasa.org.za/legislation-and-regulations/amendment-to-the-radio-frequency-spectrum-regulations).

23 ICASA, National Radio Frequency Plan 2021, https://www.icasa.org.za/legislation-and-regulations/national-radio-frequency-plan-2021; ICASA, Radio Frequency Spectrum Assignment Plans, https://www.icasa.org.za/legislation-and-regulations/radio-frequency-spectrum-plans.

24 ICASA, Electronic Communications Facilities Leasing Regulations, 2010, https://www.icasa.org.za/legislation-and-regulations/electronic-communications-facilities-leasing-regulations.

The next two sections examine the Electronic Communications Act (ECA) and the Independent Communications Authority of South Africa Act (ICASA Act) to provide further context on how key instruments are directly relevant to digital transformation.

2.1.2 Electronic Communications Act (ECA)

The Electronic Communications Act of 2005, which came into force in 2006, created a converged legal framework for broadcasting, broadcasting signal distribution, and telecommunication sectors and established the definitions and frameworks related to electronic communications services, electronic communications network services, and broadcasting services. The ECA provides the framework for service and network licensing, spectrum management, and the operation of South Africa's universal service and access fund (USAF) and provides a mandate for ICASA that includes roles related to broadcasting content. The act also addresses access, infrastructure rights of way, and competition. The ECA replaced laws or portions of laws that previously governed some of these activities, including the Telecommunications Act, the Independent Broadcasting Authority Act, and portions of the Broadcasting Act.[25]

The Electronic Communications Amendment Act 2014 modified the ECA to address additional matters, including competition, regulatory bottlenecks, broadband, universal service and align the Act with broad-based black economic empowerment legislation, in accordance with the requirements of the ICT charter.[26]

The amendments reintroduced a requirement previously in effect under the Telecommunications Act whereby ICASA must provide a copy of proposed regulations to the Minister at least 30 days prior to their finalisation. Notably, the 2014 amendments added a definition of "broadband" to ECA and allowed for the establishment of a national broadband council to advise the minister of communications on broadband policy and its implementation. While a national broadband advisory council was initiated in 2014, it was only active until early 2016.[27]

A draft amendment bill published by the Department of Communications and Digital Technologies (DCDT) in June 2023 proposes to further amend the ECA.[28] In November 2023, the bill was still waiting to be approved. If adopted as introduced, the bill would address a wide range of matters, including electronic communications facilities, spectrum sharing, rapid deployment, and competition. Among its key provisions is to create a new licence category for electronic communications facility services, bringing a currently unregulated category into the regulatory framework. Electronic communications facilities include infrastructure such as fibre-optic cables, antennas, masts, international gateways, earth stations, radio apparatus, data centres, and exchange buildings, among others. The proposed new electronic communication facility service would encompass services by which such facilities are made available, and this proposed new service would be subject to licensing as well as rules regarding mergers and transfers, and requirements for minimum ownership by historically disadvantaged groups.

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25 Electronic Communications Act, Schedule.

26 South Africa Government, Electronic Communications Amendment Act 2014, https://www.gov.za/sites/default/files/gcis_document/201409/37536act1of2014eleccommamend7apr2014.pdf ; ICT Charter refers here to the Black Economic Empowerment Charter for the ICT sector.

27 News24, EXCLUSIVE: Tech experts quit govt broadband council, January 14, 2016, https://www.news24.com/fin24/exclusive-tech-experts-quit-govt-broadband-council-20160114.

28 DCDT, Invitation to provide written comments on proposed Electronic Communications Amendment Bill, 2022, June 23, 2023, https://www.gov.za/sites/default/files/gcis_document/202306/48841gon3567.pdf.

The bill would also modify the spectrum assignment framework to improve community network access to spectrum and to legalize spectrum sharing. The bill further proposes to require the creation of a regulatory framework for mobile virtual network operators (MVNOs), the completion of which is currently at the discretion of ICASA. Finally, the bill would modify ICASA powers with regard to competition, giving it powers analogous to those conferred on the Competition Commission in the context of the electronic communications sector, such as market inquiries and pricing, contract terms, and business practices that ICASA deems to impede, restrict, or distort competition.

2.1.3 Independent Communications Authority of South Africa Act (ICASA Act)

The ICASA Act, as promulgated in 2000, provides for the establishment of an independent, converged communications authority that took over the responsibilities formerly carried out separately by the Independent Broadcasting Authority and the South African Telecommunications Regulatory Authority. The ICASA Act establishes the functions and composition of the authority, with decision-making authority vested in a nine-member council.

Section 5 is a key provision of the ICASA Act, which states that ICASA is a juristic person that is independent and subject only to the Constitution and the law. The same section notes that ICASA must function without any political or commercial interference. Notably, South Africa's independent broadcasting regulator, a role assigned to ICASA by the ICASA Act, is categorized as a State institution supporting constitutional democracy under Chapter 9 of South Africa's constitution.[29]

In parallel with the 2014 ECA amendments, the ICASA Act was amended to clarify the role of ICASA in spectrum management and strengthen its role regarding electronic transactions and related policy advice to the minister. The amendments reduced the time allotted for certain ICASA inquiries, modified ICASA obligations when establishing concurrent jurisdiction agreements with other regulators and confirmed the precedence of the ICASA Act over other electronic communication legislation in the event of any conflict.[30]

2.1.4 Key policy documents

The Government of South Africa has adopted numerous policy documents that inform and shape subsequent legislation. These include, but are not limited to, a 2015 ICT policy review, which resulted in a 2016 national integrated ICT white paper, and a 2023 draft audiovisual media services and online content white paper.[31] Additional, more targeted policy instruments established direction related to matters including digital skills (as discussed in section 3.1.2),

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29 Constitution of the Republic of South Africa, 1996, Chapter 9.

30 Independent Communications Authority of South Africa Amendment Act, 2014, https://www.gov.za/sites/default/files/gcis_document/201409/37537act2of2014icasaamend7apr2014.pdf.

31 Department of Telecommunications and Postal Services, National Integrated ICT Policy Review Report, March 2015; Department of Telecommunications and Postal Services, National Integrated ICT White Paper, October 3, 2016, https://www.gov.za/sites/default/files/gcis_document/201610/40325gon1212.pdf; DCDT, Invitation for Public Comments on the Draft White Paper on Audio and Audiovisual Media Services and Online Content Safety: A New Vision for South Africa, July 2023, https://www.gov.za/sites/default/files/gcis_document/202307/49052gen1934.pdf,

cybersecurity (as discussed in section 3.2.8), and funding of small, micro, and medium enterprises and co-operatives.[32]

It is worth noting, however, that the publication of a policy document does not always lead to full implementation of the policies and programmes described. Factors such as funding availability, evolving government priorities, and stakeholder engagement can all affect the likelihood of policies to deliver on their objectives.

2.1.5 Foundation for digital transformation

The laws, regulations, and policies cited above, while not a comprehensive list of all instruments that comprise or affect South Africa's digital regulatory framework, represent key building blocks for an ongoing digital transformation. Collectively, they address matters ranging from the mandate and independence of the regulator to a converged electronic communications legal framework to operational matters such as licensing, spectrum management, and ensuring access for persons with disabilities. These instruments, together with several other laws, regulations, and policies, both provide starting points for the next phase of South Africa's digital transformation and demonstrate the motivation of stakeholders across South Africa's institutions to undertake such changes.

2.2 Institutional arrangement

2.2.1 Overview

Several government and regulatory institutions, including DCDT and ICASA, are particularly relevant to South Africa's efforts to accelerate and capitalize on digital transformation. These include departments and agencies with responsibilities for matters including not only communications, but also content, financial services, electricity, and competition (Figure 4).

[32] Department of Small Business Development, SMMEs and Co-operatives: Funding Policy for South Africa, April 2023, https://www.dsbd.gov.za/sites/default/files/Final%20Gazetted%20SMMEs%20and%20Co-operatives%20Funding%20Policy.pdf.

Figure 4: Key institutions relevant to South Africa's digital transformation

Source: ITU analysis

Collaborative approaches involving a range of regulatory authorities and other stakeholders are an important aspect of South Africa's ongoing transformation.

2.2.2 Institutional mandates and activities

This section provides a high-level overview of institution mandates, key activities, and levels of independence or oversight in order to understanding the institutions that play critical roles in South Africa's digital transformation (Figure 5). More detailed description of institutional mandates, powers, and roles are available directly from each institution and their establishing legislation.

Figure 5: Key digital transformation institutions in South Africa

Department of Communications and Digital Technologies

Mandate	Key Activities	Independence
To lead South Africa's digital transformation to achieve digital inclusion that must result in economic growth through creating an enabling policy and regulatory environment.	ICT sector policymaking, ICASA policy direction, executive authority for entities including ICASA, Film and Publication Board, and Telkom	Administration, powers, and functions as established in legislation and by order of the president

Independent Communications Authority of South Africa

Mandate	Key Activities	Independence
To regulate the telecommunications, broadcasting and postal industries in the public interest and ensure affordable services of a high quality for all South Africans.	Make regulations, licence telecommunications and broadcasting service providers, enforce compliance with rules and regulations, control and manage radiofrequency spectrum	Independent statutory body, subject only to Constitution and law, functioning without political or commercial interference Councillors appointed by the Minister following recommendation by the National Assembly Financed via DCDT Appropriation Act adopted by National Assembly

Competition Commission

Mandate
To investigate all competition concerns as envisaged by the Competition Act. These include restrictive practices, abuse of dominance, exemptions from the application of the Act, and mergers and acquisitions.

Key Activities
Investigate and prosecute competition matters, decide on mergers/acquisitions, conduct sector competition inquiries, conduct legislative reviews

Independence
Independent statutory body, administratively accountable to the Department of Trade, Industry and Competition

National Consumer Commission

Mandate
To promote a fair, accessible and sustainable marketplace for consumer products and services.

Key Activities
Register and assess complaints, investigate alleged misconduct by businesses, refer individual complaints to Alternate Dispute Resolution (ADR) agencies for resolution, and represent consumers in the Consumer Tribunal

Independence
Commissioners appointed by Minister of Trade, Industry, and Competition (upon consultation with Parliament)

Subject to policy direction by minister

Department of Basic Education

Mandate
Monitor the standards of the provision, delivery and performance of education annually or at other specified intervals throughout South Africa.

Key Activities
Determine national education policy for grades R through 12, including adult literacy

Independence
Administration, powers, and functions as established in legislation

National Energy Regulator of South Africa

Mandate
To regulate the electricity, piped-gas and petroleum pipelines industries in terms of relevant legislation.

Key Activities
Set/approve tariffs and prices, licensing and registration, compliance monitoring and enforcement, dispute resolution, establish sector rules

Independence
Commissioners appointed by Minister of Minerals and Energy

Film and Publications Board

Mandate
Ensure efficient and effective consumer protection through regulation of films, games and certain publications, while empowering the public, especially children, through robust information sharing.

Key Activities
Film, publication, and online content classification and regulation.

Independence
Overseen by DCDT

Information Regulator

Mandate
To educate stakeholders on personal information processing and protection, and to monitor and enforce compliance.

Key Activities
Regulate the processing of personal information and the promotion of access to information in accordance with the Constitution and the law

Independence
Independent body subject to establishing law, Constitution, and National Assembly

Department of Trade, Industry, and Competition		
Mandate To create a dynamic industrial, globally competitive economy, characterised by meaningful economic transformation, inclusive growth and development, decent employment and equity, built on the full potential of all citizens.	**Key Activities** Promote structural transformation toward a dynamic, globally competitive economy. Provide an environment conducive to investment, trade, and development. Broaden economic participation.	**Independence** Administration, powers, and functions as established in legislation and by order of the president
South African Reserve Bank		
Mandate Protect the value of the currency in the interest of balanced and sustainable economic growth. Perform functions independently and without fear, favor or prejudice.	**Key Activities** Set and implement monetary policy, mitigate risks to financial system stability, regulate financial institutions and markets, manage national payment system, issue currency	**Independence** Constitutionally directed to operate independently
Financial Sector Conduct Authority		
Mandate Regulate market conduct of all financial institutions that provide a financial product and/or a financial service as defined in the Financial Sector Regulation Act.	**Key Activities** Ensure financial market stability, improve financial sector access, promote fair treatment of financial customers, provide financial education and literacy, assist in maintaining financial market efficiency and integrity, encourage self-regulation	**Independence** Administration, powers, and functions as established in legislation
Universal Service and Access Agency of South Africa		
Mandate Promote the goal of universal access and universal service, facilitate and guide schemes to provide such access/service, provide relevant recommendations to the Minister, manage Universal Service and Access Fund (USAF)	**Key Activities** Operate, administer, and utilise USAF, develop National Universal Access and Service Strategy	**Independence** Administration, powers, and functions as established in legislation; CEO approved by minister of communications; financed by parliamentary appropriation

Source: ITU analysis.

Government departments, such as DCDT, the Department of Basic Education (DBE), and the Department of Trade, Industry, and Competition (DTIC), set policy on key matters affecting South Africa's digital transformation, including technology development, access to communications services, digital skills development, industrial policy, and competition matters. Regulatory agencies, such as the Information Regulator, the Film and Publications Board (FPB), and the Competition Commission, are empowered by relevant legislation to implement policy and enforce sectoral rules. As an independent authority, ICASA, on the other hand, is required to consider policy directions. In line with their mandates, certain regulatory authorities have leading roles in various aspects of South Africa's digital infrastructure, services, and content, such as ICASA with respect to guiding and enabling the development of South Africa's electronic communications sector and broadcasting and postal services, FPB concerning content regulation, and the Information Regulator for personal data protection.

While ICASA independence is established in the ICASA Act, it is guided by the Department of Communications and Digital Technologies on matters of policy and legislation.[33] The Department also apportions ICASA's budget. In a 2019 letter to the President of South Africa, the then-minister and deputy minister presented a division of their oversight duties, with the minister retaining administrative oversight of ICASA.[34] The Authority reports to the National Assembly.

ICASA has several roles enumerated in legislation, but it is notably *not* charged with providing advice to DCDT. However, ICASA notes that it engages in a considerable amount of formal and informal interaction with DCDT. ICASA may choose to provide direction on policy statements or pronouncements and can agree or disagree with minister recommendations and suggest a different implementation path.[35] Although ICASA may offer recommendations on 'policy directions', the responsibility for establishing or deciding on policy direction ultimately rests with DCDT. Similarly, responsibility for implementing sector regulation rests with ICASA, which is obligated to consider policy established by DCDT.

As further discussed in section 3.2, several of these institutions collaborate formally and informally. For example, in addition to its relationship with DCDT, ICASA has co-jurisdiction relationships with the Competition Commission, the National Consumer Commission, and the FPB. The wide range of its formal and informal cooperation agreements puts ICASA in a good position to ensure coordination among various stakeholders. Notably, however, both ICASA and FPB have undertaken activities intended to create a standing forum in which issues of digital regulation, services, and content can be addressed by key South African institutions. There are also natural areas of intersection as the digital economy continues to grow, such as the potential involvement of both the South African Reserve Bank (SARB) and ICASA on matters related to mobile money and digital payments or possible areas of cooperation between ICASA and the Information Regulator.

2.3 Influences on the digital sector and transformation

South Africa's ICT sector and its digital transformation efforts must be considered in the broader context of the South African socio-economic and political environment and the trends observed therein, as well as global discussions regarding key digital technologies. These trends and discussions include the composition of South Africa's economy, the potential impact of globally prominent technologies such as digital platforms and artificial intelligence (AI), and regional cybersecurity considerations.

2.3.1 South Africa's economy

In 2023, the largest share of value added (or per-sector gross domestic product) among 10 sectors of South Africa's economy was contributed by the finance, real estate, and business services sectors, which together accounted for more than 26 per cent of national value added (Figure 6). The next three largest sectors were personal services (17%), manufacturing (13%),

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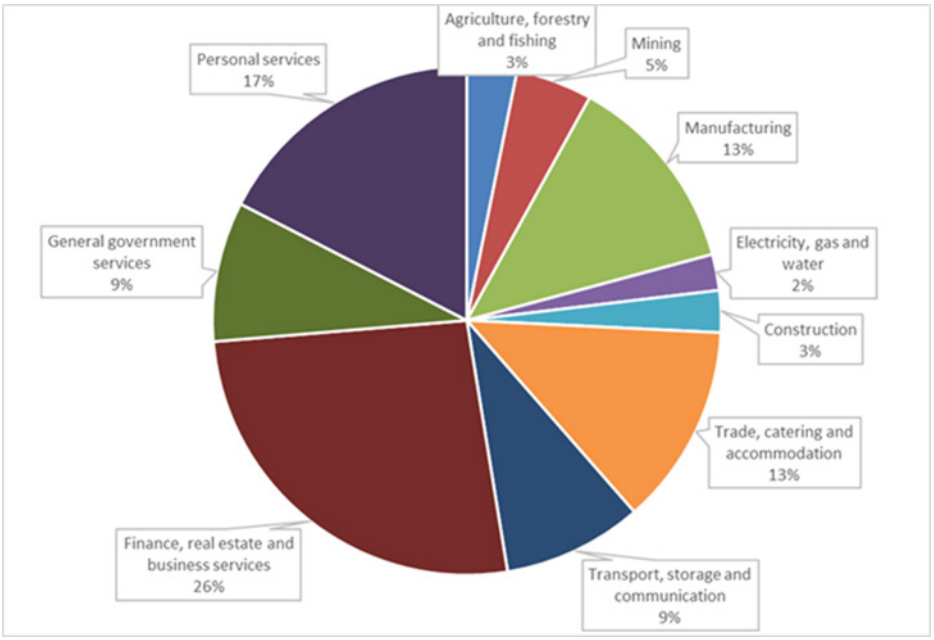
[33] Government of South Africa, List of SOEs for the Department of Communications and Digital Technologies, December 2020, https://www.gov.za/sites/default/files/The/entities-comm.pdf.

[34] Ministry of Communications, Ministry of Communications and Digital Technologies: Delegations and allocation of responsibilities: Minister and Deputy Minister, September 2, 2019, https://www.gov.za/sites/default/files/The/delegation-comm.pdf.

[35] ICASA, Interview conducted May 23, 2023.

and trade, catering, and accommodations (13%).[36] The same four sectors have contributed similar percentages of national value added since 2016.

Figure 6: Industry value added, Q2 2023



Source: ITU, based on statistics South Africa data

A key question is how South Africa's socioeconomic characteristics may affect policy objectives concerning investment and digital transformation, particularly in the context of efforts to promote investments and interventions that are intended to increase the size of smaller and larger sectors. The Report of the Presidential Commission on the Fourth Industrial Revolution, published in 2020 (see also section 3.1.1), included recommendations that specifically identified sectors of the economy that could be expected to benefit from key interventions and government actions. For example, one of the report's recommendations focuses on investment in the manufacturing sector, which currently comprises approximately 13 per cent of South Africa's overall economic production. The report also notes that investment in manufacturing will lead to the introduction of new technologies into areas, including agriculture, construction, and health (included in the personal services sector of Figure 6). The report further recommends investments in key infrastructure to support the fourth industrial revolution (4IR), including the energy and water sectors (currently relatively small sectors of the economy) and the health and education sectors.

2.3.2 Global technology discussions

The last several years have seen not only continued global development of ICTs and ICT-enabled services but also continued discussions of the appropriate policy and regulatory approaches to address these new technologies and services.

A key area of focus around the world, including in South Africa, over the last several years has been the development and deployment of 5G technologies. Since 2017, ICASA has facilitated a 5G Forum intended to provide recommendations to the regulator related to 5G deployment

[36] Statistics South Africa, P0441 – Gross Domestic Product (GDP), 2nd Quarter 2023, September 5, 2023, Table 1, https://www.gov.za/sites/default/files/The/delegation-comm.pdf.

and uptake. The terms of reference for the forum include assisting ICASA with the preparation of contributions to ITU meetings and standards bodies and ensuring that such contributions take into account the specific requirements of South Africa.[37] The forum undertakes a range of activities, including identifying requirements and capabilities of relevant use cases and advising on spectrum bands and requirements for 5G. Currently the Forum is being renamed to 'IMT Forum South Africa' so as to cover 6G and beyond.

South Africa has considered issues related to the regulation of over-the-top (OTT) services for over seven years, including the publication of the National Integrated ICT White Paper by the Department of Telecommunications and Postal Services.[38] In that 2016 paper, the government concluded that there was no immediate need to regulate OTT services, but that this position should be regularly reviewed. This was preceded by a broader 2015 ICT policy review that recommended a wait-and-see approach and to continue monitoring the impact of OTT services.[39] More recent activities include:

- the 2022 publication of the Film and Publications Amendment Act, which revised the legal framework to include online content regulation within the mandate of FPB;[40]
- discussions beginning in 2020 related to potential broadcast licence fee collection and payment by streaming services and the expansion of television licence fees to include devices, such as laptops or tablets, which was the subject of a 2023 DCDT consultation;[41] and
- a July 2023 Competition Commission report on online intermediation platforms (e.g., e-commerce, app stores, and search engines), considering the features of online platforms that affect competition in the digital market.[42]

AI is another emerging technology that is the subject of considerable attention both within and beyond South Africa. As will be discussed in section 3.1.1, South Africa policy-makers considered the role of AI in national development for several years and are taking steps to build national AI skills and capacity. However, as noted in section 4.2.2.3, there is not yet a comprehensive AI policy or law in place, but a virtual AI institute has been established.

Globally, there has been significant attention paid to AI codes of conduct and principles in recent years. The activities in international forums, including the G7 and the Organisation for Economic Co-operation and Development (OECD), among others, may influence the development of a future AI policy or legal framework for South Africa. Notably, in September 2023, ministers attending the G7 released a statement agreeing to create an international code of conduct for organizations developing AI and a comprehensive policy framework, including overall guiding

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37 ICASA, Terms of Reference for the South African 5G Forum, 2017, https://www.ellipsis.co.za/wp-content/uploads/2017/10/Terms-of-Reference-of-the-5G-Forum-08092016.pdf.

38 Department of Telecommunications and Postal Services, National Integrated ICT White Paper.

39 Department of Telecommunications and Postal Services, National Integrated ICT Policy Review Report, March 2015, p. 59.

40 Film and Publications Amendment Act, 2019, https://www.fpb.org.za/wp-content/uploads/2020/09/Films-and-Publications-Amendment-Act-2019-English-text-signed-by-the-President-Assented-to-19-September-2019.pdf.

41 DCDT, Invitation for Public Comments on the Draft White Paper on Audio and Audiovisual Media Services and Online Content Safety: A New Vision for South Africa, July 2023, https://www.gov.za/sites/default/files/gcis_document/202307/49052gen1934.pdf.

42 Competition Commission, Commission releases final report for Online Intermediation Platforms Market Inquiry, July 31, 2023, https://www.compcom.co.za/wp-content/uploads/2023/07/Media-Statement-Final-digital-markets-report-released-31-July-2023.pdf; See also https://www.compcom.co.za/online-intermediation-platforms-market-inquiry-final-report-launch/.

principles applicable to all AI actors.[43] The ministers also referenced OECD recommendations and a report on generative AI risks, challenges, and opportunities. G7 leaders adopted the code of conduct and guiding principles in October 2023[44]. DCDT published a draft discussion document entitled 'Government of South Africa's Artificial Intelligence (AI) Planning' in October 2023[45] and in April 2024 held a National AI Summit[46] to present the draft and solicit stakeholder input for the development of the National AI Policy

2.3.3 Regional cybersecurity considerations

In addition, South Africa's international obligations have the potential to influence domestic legal and regulatory frameworks that play roles in the continued growth and development of the country's digital economy. For example, the African Union Convention on Cyber Security and Personal Data Protection (also known as the Malabo Convention), first adopted in 2014, came into effect in June 2023 following the 15th signature by a Member State.[47] The convention is intended to lead to the development of a comprehensive, harmonized African legal framework for electronic commerce, data protection, and cybercrime and cybersecurity. South Africa's signature of the convention in February 2023 indicates the current government intent to ensure that South Africa's legal and regulatory framework aligns with the provisions of the AU convention, although the convention still requires ratification by Parliament.

3 Institutional setup in the ICT sector and across sectors

Considering the cross-sector nature of digital regulation, it necessarily involves a range of interested stakeholders and requires a coordinated approach across the national government. As such, South Africa has adopted multiple cross-sectoral policies and boasts several formal agreements under which its regulatory agencies work to coordinate their activities and avoid confusion or conflicts.

3.1 Key cross-sectoral policies and activities

Among South Africa's cross-sector efforts that are closely tied to the digital sector and digital transformation include the Report of the Presidential Commission on the Fourth Industrial Revolution, published in 2020, a national digital skills strategy, and a national development plan. However, as noted in section 2.1.4, the completion or publication of a policy document does not

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43 G7 Tech and Digital Ministers' Statement, September 7, 2023, https://www.politico.eu/wp-content/uploads/2023/09/07/3e39b82d-464d-403a-b6cb-dc0e1bdec642-230906_Ministerial-clean-Draft-Hiroshima-Ministers-Statement68.pdf.

44 Hiroshima Process International Guiding Principles for Organizations Developing Advanced AI system, 30 October 2023, https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-guiding-principles-advanced-ai-system, and Hiroshima Process International Code of Conduct for Advanced AI Systems, 30 October 2023, https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-code-conduct-advanced-ai-systems

45 Department of Communications and Digital Technologies (DCDT), South Africa's Artificial Intelligence (Ai) Planning, October 2023, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf

46 Department of Communications and Digital Technologies, National AI Summit, 5 April 2024, https://www.dcdt.gov.za/national-ai-government-summit.html

47 African Union, List of countries which have signed, ratified/acceded to the African Union Convention On Cyber Security And Personal Data Protection, May 12, 2023, https://dataprotection.africa/wp-content/uploads/2305121.pdf.

always result in implementation of the policies presented. South Africa policy implementation related to digital sector matters has been uneven.

3.1.1 National Development Plan 2030/medium-term strategic framework 2019-2024

In 2012, the Government of South Africa adopted the National Development Plan 2030 (NDP 2030) with the aim of eliminating poverty and inequality by drawing on the strengths of its people to build an inclusive economy, enhance government capacity, and promote leadership and partnerships throughout society.[48] Although not explicitly framed as a cross-sector policy with specific collaborative programmes or action items, it presents a high-level development strategy for the entire nation and is central to other more targeted collaborative and cross-sector plans and strategies.

To that end, the NDP 2030 was drafted to achieve six core objectives by 2030:

- uniting South Africans of all races and classes around a common programme to eliminate poverty and reduce inequality;
- encouraging citizens to be active in their own development, in strengthening democracy, and in holding their government accountable;
- driving economic growth, promoting exports, and making the economy more labour-absorbing;
- focusing on key capabilities of both people and the country (e.g., skills, infrastructure, social security, strong institutions, and domestic and international partnerships);
- building a capable and developmental state; and
- building strong leadership throughout a society that works together to find solutions.

NDP sets out overarching, economy-wide needs with a long-term vision and priorities for the country but does not establish many specific targets or any specific programmes or workstreams. NDP has been supplemented by two medium-term strategic frameworks (MTSFs). The current MTSF, covering the 2019-2024 period, outlines the implementation priorities as identified by the current Government of South Africa, considering the work carried out during the previous five-year period.[49]

MTSF 2019-2024 is organized into seven priorities, each of which includes detailed implementation plans and monitoring frameworks. Notably, most of the interventions and indicators included in MTSF 2019-2024 have multiple entities responsible for their achievement. This approach creates joint accountability for achieving the development goals established by the government but also requires clear coordination to ensure that all stakeholders carry out the appropriate activities.

Focusing on some of the interventions and indicators most related to the ICT sector or leveraging existing and emerging digital technologies, the government has entrusted multiple entities with responsibility (Table 2).

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[48] National Planning Commission, National Development Plan 2030: Our future – make it work, 2012, p. 6, https://www.nationalplanningcommission.org.za/assets/Documents/ndp-2030-our-future-make-it-work.pdf.

[49] Department of Planning, Monitoring, and Evaluation, Medium Term Strategic Framework 2019-2024, https://www.dpme.gov.za/keyfocusareas/outcomesSite/MTSF_2019_2024/2019-2024%20MTSF%20Comprehensive%20Document.pdf.

Table 2: ICT-related interventions and responsible entities

Intervention	Entities involved
Modernize public sector business processes, including e-government and industry 4.0 recommendations	DPSA, DCDT, State Information Technology Agency (SITA), Department of Public Works and Infrastructure (DPWI)
Spectrum licensing, broadband deployment, reduced communications costs	DCDT, ICASA, Sentech, Broadband Infraco
School connectivity	DCDT, DBE, Provincial Education Departments (PEDs)
Skills planning to support growth	DHET, DEL
Research and development investment	DSI, Council for Scientific and Industrial Research (CSIR)
Explore measures to support establishment of new, youth-owned startups	Department of Small Business Development (DSBD); DTIC, National Treasury (NT); Small Enterprise Development Agency; South African Revenue Service; Youth Development Agency
Programmes for equitable job creation, representation, and ownership by women, youth, and persons with disabilities	DSBD, DTI, Department of Women, Youth and Persons with Disabilities (DWYPD); DPWI; DEL
Infrastructure investment	NT, Presidency, DPWI, Development Bank of Southern Africa, Industrial Development Corporation, Government Technical Advisory Centre
Introduction of coding and robotics curriculum	DBE; PEDs; Department of Sports, Arts, and Culture (DSAC), DWYPD, Department of Social Development (DSD), NGOs
Leverage ICT-related programmes to support learning	DBE, PEDs
Public health facilities supplied with adequate ICT infrastructure to implement the Digital Health Strategy 2019-2024 of South Africa	National Department of Health (NDOH)

Source: Department of Monitoring, Planning, and Evaluation, MTSF 2019-2024.

3.1.2 National digital and future skills strategy

The development of digital skills across the South Africa economy and population is a key enabler of digital transformation and economic growth. In September 2020, the minister of communications and digital technologies published the national digital and future skills strategy, which presented a series of initiatives intended to "contribute to the capacities of South Africans to meet the challenges arising from the increasing deployment and adoption of digital technologies in economy and society."[50]

[50] Department of Communications and Digital Technologies, National Digital and Future Skills Strategy South Africa, September 23, 2020, https://www.gov.za/sites/default/files/gcis_document/202009/43730gen513.pdf.

The broad reach of digital skills across the South Africa economy, as well as the country's history of developing policies, plans, and strategies to address digital skills needs, is evident from the start of the strategy. In particular, the legal and policy context section of the document cites 14 previous policies that touch upon such topics as e-education, e-government, the justice system, broadband, and skills development.[51]

Of the eight strategic elements, the first four identify the relationships between government, industry, labour, communities, universities, and training institutions. These address basic and advanced digital skills, skills for "industry 4.0" and the world of work and creating "Society 4.0." The remaining four strategic elements focus on building digital skills awareness, digital skills research and monitoring, coordination among stakeholder groups, and funding for digital skills.

One of two key strategic objectives is the creation of a roadmap for stakeholder collaboration across State agencies and government-appointed committees, organized business and labour, academia, scientific organizations, and civil society.[52] To this end, *Strategy Element 7: Co-ordination across government, industry, labour, and other stakeholder groups* notes that a wide range of stakeholders are involved in various aspects of digital skills development and that they may have divergent views on issues or opposing interests in outcomes.[53] Thus, cross-governmental and multi-stakeholder cooperation is a requirement for advancing digital skills initiatives and aligns with an overall view that a whole-of-government approach is needed.

Specifically, this strategic element identifies several cross-government links that are relevant to digital skills initiatives. These involve, in various permutations, the following entities:

- DCDT
- Department of Basic Education (DBE)
- Department of Higher Education and Training (DHET)
- DSI
- Department of Employment and Labour (DEL)
- Department of Trade, Industry and Competition (DTIC)
- Department of Public Service and Administration (DPSA)
- Government Information Technology Officers Council (GITOC)
- Department of Home Affairs
- Department of Social Development
- South African Police Service

DCDT also identifies the National School of Government and the Ikamva Digital Skills Institute as important contributing entities for implementation of the strategy, along with 21 sector education and training authorities (SETAs).

As part of Strategy Element 7, DCDT sets out four strategic action points involving the following key subjects and entities:[54]

- Cross-governmental collaboration for digital government skills: GITOC and the South African Local Government Association;

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51 Department of Communications and Digital Technologies, National Digital and Future Skills Strategy South Africa, pp. 4-5.
52 Department of Communications and Digital Technologies, National Digital and Future Skills Strategy South Africa, p. 5.
53 Department of Communications and Digital Technologies, National Digital and Future Skills Strategy South Africa, p. 22.
54 Department of Communications and Digital Technologies, National Digital and Future Skills Strategy South Africa, pp. 23-25.

- Human-resource development initiatives, sector growth, and skills development: Human Resources Development Council, a new Digital Skills Forum, and DCDT;
- Organized business and labour interests and concerns: National Economic Development and Labour Council; and
- Coordination with academia, science institutions, professional bodies, and civil society: DCDT, Universities South Africa, the Committee of Heads of Organisations of Research and Technology, Engineering Council of South Africa, the Institute of Information Technology Professionals South Africa, and Information Systems Audit and Control Association South Africa chapter, as well as civil society organizations.

The strategy concludes with a commitment by DCDT to develop a five-year comprehensive digital and future skills implementation programme as well as to update the strategy through a formal public consultation process every five years.[55] In line with this commitment, the 2021-2025 implementation programme guide presents a more detailed array of implementation measures, targets, and key stakeholders, both leading and supporting.[56]

3.1.3 Presidential Commission on the Fourth Industrial Revolution

In 2019, the terms of reference and names of the members of the Presidential Commission on the Fourth Industrial Revolution (PC4IR) were published in Government Gazette No. 42388 leading to the publication of the 2020 report intended to guide South Africa's approach to the 4IR. The PC4IR was comprised of 30 members from the private sector and various government agencies, but notably not ICASA.

The commission objectives included proposing South Africa's overarching strategy and making recommendations regarding institutional frameworks and roles for various sectors.[57] As indicated in the report, the country's economic competitiveness and the well-being of its people were two guiding considerations for the commission. Two of the key lessons identified in the report note the central role to be played by the State in 4IR strategies around the world and the potential of the Government of South Africa to spur the creation of new industries, which align with the consideration of cross-sector policies and cooperation.[58]

The report identified five pillars that should underpin a South Africa 4IR strategy, each of which was analysed in significant detail by the PC4IR:

- technology, invention, and innovation;
- people and skills;
- infrastructure, resources, and natural environment;
- economic growth and inclusivity; and
- stakeholder relations and governance.

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55 Department of Communications and Digital Technologies, National Digital and Future Skills Strategy South Africa, p. 28.

56 DCDT, Implementation Programme for the National Digital and Future Skills Strategy of South Africa, 2021 – 2025, https://www.dcdt.gov.za/documents/reports/file/198-implementation-programme-guide-for-the-national-digital-and-future-skills-strategy-of-south-africa-2021-2025.html.

57 PC4IR, Summary Report & Recommendations, January 2020, p. 10, https://www.gov.za/sites/default/files/gcis_document/202010/43834gen591.pdf.

58 PC4IR, Summary Report & Recommendations, p. 15.

Building on the report analysis, the PC4IR presented eight key recommendations:[59]

1. **Invest in human capital.** The report presents the 4IR as an inflection point upon which to "redesign, streamline, and align" South Africa's education system and to redesign its overall skills ecosystem. The report identifies the Human Resources Development Council, the 4IR Commission, and the Digital and Future Skills Forum as key facilitators for the implementation of this recommendation.
2. **Establish an AI institute.** The report identifies AI as a bedrock 4IR technology and cites the importance of research and development and implementation capabilities. The recommendation links the development of AI with the generation of new knowledge and creative technology applications in several sectors across the South African economy.
3. **Establish a platform for advanced manufacturing and new materials.** Recognizing the importance of South Africa's manufacturing sector, the report calls for a State-led research initiative on advanced manufacturing and new materials to grow the manufacturing sector and apply new materials across several sectors of the economy. Such an initiative would build on existing work carried out by the Department of Science and Technology.
4. **Secure and avail data to enable innovation.** This recommendation encompasses the entire data ecosystem and the State's role in it, including bolstering cybersecurity capacity and capabilities, leveraging anonymized data sets, and appointing a national chief data officer.
5. **Incentivize future industries, platforms, and applications of 4IR technologies.** This recommendation focuses on the need to incentivize and streamline the ability of the South Africa economy to develop domestic small, medium, and micro enterprises into globally competitive industrial players. This approach includes subsidies and tax breaks, as well as reduced administrative burdens, such as patent registration. This recommendation also touches upon the role of the State as a major purchaser as well as the need to implement appropriate regulation and taxation of foreign platforms and other businesses.
6. **Build 4IR infrastructure.** In this recommendation, PC4IR highlights the importance of 4IR infrastructure as well as existing infrastructure such as energy generation and delivery, water infrastructure, and health and educational infrastructure. The commission report underlines the importance of building and accelerating the deployment of each of these infrastructure types.
7. **Review and amend (or create) policy and legislation.** This recommendation highlights the need to update South Africa's legal and regulatory framework to better achieve the proposed changes. Specifically, PC4IR notes the importance of intellectual property rights, the need for increased science and technology literacy among policy-makers, and the development of a regulatory and taxation regime that fosters fair competition.
8. **Establish 4IR strategy implementation coordination council in the presidency.** This recommendation proposes the creation of a council to interface with relevant government departments and to coordinate initiatives across the public and private sectors.

In March 2022, DCDT finalized a PC4IR strategic implementation plan (PC4IR SIP).[60] The plan is intended to drive various activities that implement the report recommendations, including unifying government efforts, providing model approaches to facilitate implementation, and assisting both the public and private sectors in identifying areas of collaboration and cooperation toward a 4IR-enabled South Africa.[61] SIP also includes a proposed methodology for framing and implementing specific interventions, including overviews of existing status, links to relevant PC4IR recommendations, the estimated impact of the intervention, the project value, and the

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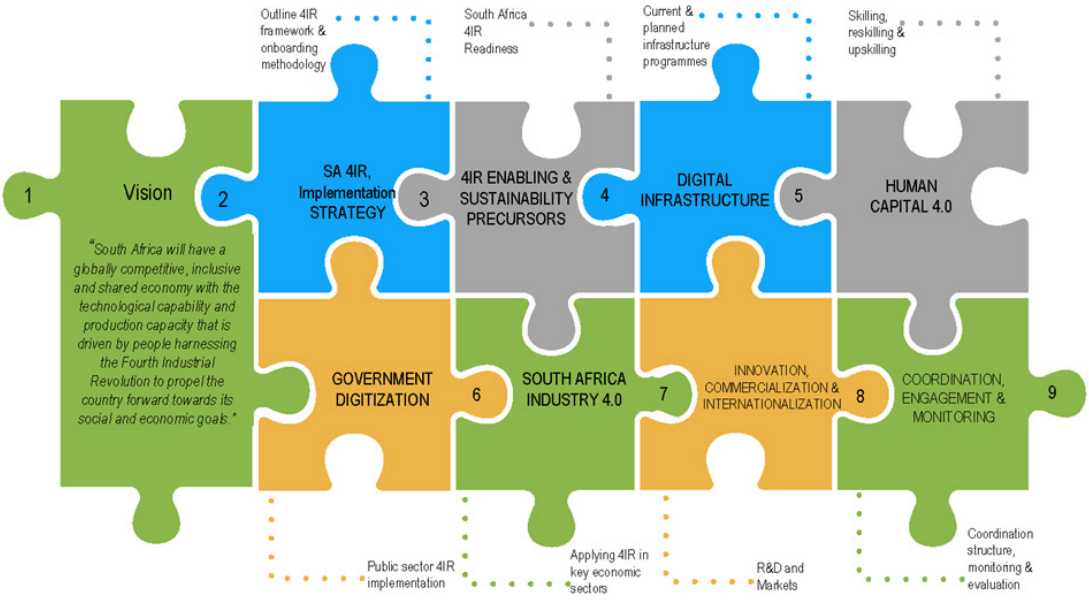
59 PC4IR, Summary Report & Recommendations, p. 50.

60 Remarks of Hon. M Gungubele, MP Minister of Communications and Digital Technologies, March 29, 2023, https://www.parliament.gov.za/storage/app/media/Pages/2023/27-03-2023_Three_Sphere_Planning_Session/session2/Communications_and_Digital_Technologies_Input.pdf.

61 DCDT, Progress update of PC4IR Strategic Implementation Plan, February 2022, https://www.ellipsis.co.za/wp-content/uploads/2022/01/Progress-update-on-PC4IR-Strategic-Implementation-Plan-Feb-2022.pdf.

identified beneficiaries of the intervention. Key strategic priorities include enabling 4IR, digital infrastructure, human capital, government digitalization, and innovation, as well as coordination, engagement and monitoring.

Figure 7: PC4IR SIP strategic priorities



Source: DCDT

In 2021, a PC4IR SIP consultation presentation identified 20 programmes spread across the precursor programmes; digital infrastructure; human capital; government digitalization; and innovation, commercialisation, and internationalisation priority areas.[62] These programmes were primarily to be coordinated by DCDT, with some led by the Department of Science and Innovation (DSI), the Companies and Intellectual Properties Commission, the Department of Mineral Resources and Energy, and the State Security Agency, with numerous additional stakeholders identified. The stakeholders listed were primarily South Africa government agencies but also included the private sector, State and local authorities, and the African Union.

As of May 2023, the PC4IR SIP had not yet been submitted for Cabinet approval, the next step in its implementation.[63] The momentum behind the PC4IR SIP appears to have stalled.

3.1.4 Future plans

The ICT and Digital Economy Masterplan for South Africa[64] published in February 2021 has experienced delay in its operationalization. DCDT is currently requesting information on implementation of projects falling under the Masterplan in terms of a Digital Economy Framework and Strategy.

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62 DCDT, Progress update of PC4IR Strategic Implementation Plan, February 2022.

63 Parliamentary Monitoring Group, Report of the Portfolio Committee on Communications and Digital Technologies on its deliberations of Budget Vote 30, May 9, 2023, https://pmg.org.za/files/230510pccomreport.doc.

64 Government of South Africa, Final Draft – ICT and Digital Economy Masterplan for South Africa, 22 February 2021, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ellipsis.co.za/wp-content/uploads/2021/08/Digital-Economy-Masterplan-22-Feb-2021v1_updated.pdf

Also, at the 2023 ITU Global Symposium for Regulators, DCDT Deputy Minister Philly Mapulane confirmed that the government is working on addressing data governance issues.[65]

In its 2020-2025 strategic plan, ICASA sets out its target outcomes and the criteria against which they will be measured during the 2019-2024 MTSF period.[66] These are guided by the following impact statement: "Access for all South Africans to a variety of safe affordable and reliable communication services for inclusive economic growth." The identified targets are presented in Table 3.

Table 3: ICASA MTSF 2019-2024 outcome goals

Outcome	Target	Sample enabling initiatives
Access to quality broadband services increased	50 Mbit/s download	Completion of IMT spectrum licensing, dynamic spectrum access regulations, 5G uptake recommendations.
Percentage of status of social cohesion (inclusive of diversity views) enhanced	50%	Regulatory interventions in the broadcasting of national sporting events, licensing of digital community television, regulations on limitation of ownership and control and equity ownership by historically disadvantaged groups.
Level of consumer rights protection	5	Implementation of code of conduct compliance enforcement plan, implementation of code of conduct compliance enforcement plan, regulatory intervention in mobile broadband services market.
Number of pro-competitive regulatory interventions	15	Regulatory intervention in mobile broadband services market.
Percentage of organizational service delivery	91%	Reduce staff vacancy rate, compliance with human resources standards, maintenance of organizational compliance maturity level, assessment of audit readiness level.

Source: ICASA Strategic Plan for 2020/21-2024/25

3.2 Collaborative practices across institutions

South Africa has several activities and mechanisms in place that foster or rely on collaboration among stakeholders, notably between ICASA and other government bodies. Such collaboration is in line with NDP 2030, which calls for both routine and strategic coordination.[67] The former refers to implementation matters that can be delegated to officials at the appropriate levels, while the latter refers to interdepartmental disagreements or gaps that require high-level coordination.

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65 DCDT, Speech by Deputy Minister Philly Mapulane at the ITU Global Symposium for Regulators in Egypt, June 6, 2023, https://www.dcdt.gov.za/deputy-minister-speeches/409-speech-by-deputy-minister-philly-mapulane-at-the-itu-global-symposium-for-regulators-in-egypt.html.

66 ICASA, Strategic Plan for 2020/21-2024/25, March 2020, Part C, https://static.pmg.org.za/ICASA_Strat_Plan.pdf .

67 National Planning Commission, National Development Plan 2030: Our future – make it work, 2012, p. 122.

The ICASA website indicates that it has entered into a memorandum of agreement (MoA) or memorandum of understanding (MoU) with 15 entities within and outside South Africa.[68] These include domestic agencies responsible for or involved in universal service, aviation, advertising, metrology, scientific and industrial research, standards, and maritime safety. ICASA has also entered into agreements with telecommunication regulators in Brazil and Lesotho, as well as a Swedish ICT development programme, and indicated that MoUs are in place with ICT sector regulators in India, Malaysia, Thailand, and the United States of America.[69]

ICASA identified several entities with which it has relationships that should be maintained, developed, and further reinforced (Table 4). These include not only some f the entities identified in section 2.2, but also agencies responsible for standards, aviation and maritime safety, and cybersecurity.

Table 4: ICASA collaborative partners

Entities with which to maintain the existing good working relationships and develop new areas	Entities with which to reinforce institutional relationships to ensure continuity, predictability
• DCDT • DTIC • Competition Commission • South Africa's National Computer Security Incident Response Team • Department of International Relations and Cooperation (DIRCO) • Films and Publication Board (FPB) • Information Regulator • Lesotho Telecommunications Authority • South Africa Bureau of Standards (SABS) • National Consumer Commission (NCC) • National Metrology Institute of South Africa (NMISA) • Council for Scientific and Industrial Research (CSIR) • South African Civil Aviation Authority (SACAA) • South African Maritime Safety Authority • National Regulator Compulsory Specification (NRCS)	• Department of Health • Department of Education • Department of Environmental Affairs • CERT-SA

Source: ICASA

3.2.1 ICASA/Competition Commission

In information provided to ITU, ICASA noted that it shares jurisdiction over competition issues in the telecommunication and ICT sectors with the Competition Commission.[70] As noted in Section 2.3, the Competition Commission is the South Africa competition authority, responsible

[68] ICASA, Memorandums of Understanding, https://www.icasa.org.za/pages/mous, accessed August 31, 2023.
[69] ICASA, Interview conducted May 23, 2023.
[70] ITU World Telecommunication/ICT Regulatory Survey 2022, sections 3.9.2 and 3.9.3; ICASA, Interview conducted May 23, 2023.

for investigating and prosecuting competition matters across the economy.[71] The Competition Commission duties include investigating and prosecuting restrictive horizontal and vertical practices, investigating and prosecuting abuse of dominant positions, conducting formal inquiries into the state of competition in a particular market, and conducting legislative reviews. South Africa's Competition Act provides that where a sectoral regulator (such as ICASA) is empowered with jurisdiction concerning prohibited practices and merger control, concurrent jurisdiction is established between the Competition Commission and the relevant regulator.[72] To address such situations, the Competition Commission has published agreements with 25 different government agencies, including ICASA.

ICASA and the Competition Commission signed an MoA in 2019 to set the terms of their concurrent jurisdiction.[73] The 2019 MoA, which replaces a 2002 agreement between the two parties, aims to:

1. Facilitate the cooperation between the two parties in market definition for electronic communications, broadcasting, and postal services.
2. Define roles for each institution in areas of co-jurisdiction.
3. Facilitate information sharing and research between the regulators on matters of mutual interest.

The MoA notes that the ICASA Act states that the Competition Commission has jurisdiction over behaviours and mergers within the terms of the Competition Act. Further, ICASA may not take action on matters that have already been brought to the attention of the Competition Commission.[74] Under the terms of the MoA, ICASA and the Competition Commission consult each other regarding the definition of markets for electronic communications, broadcasting, and postal services. They also provide each other with information on investigations into anti-competitive practices, regulation of mergers and acquisitions, research developments, and other studies on the electronic communication markets. Both parties comply with principles of cooperation and informing and assisting each other on matters of common interest.[75]

The MoA requires the establishment of a joint working committee that will meet at least quarterly to address matters on which the two agencies are to coordinate.[76] The Competition Commission and ICASA sometimes reach divergent conclusions on competition matters, such as in the case of a proposed merger of two fibre networks that was conditionally approved by ICASA and rejected by the Competition Commission,[77] which results from the requirement for the two

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71 Competition Commission, About Us: Our Role, https://www.compcom.co.za/about-us-2/, accessed August 30, 2023.

72 Competition Act (No. 89 of 1998) as amended, Article 3 (1A).

73 Memorandum of Agreement, the Competition Commission of South Africa and The Independent Communications Authority of South Africa, August 29, 2019, https://www.compcom.co.za/wp-content/uploads/2019/09/MOA-between-the-Competition-Commission-and-ICASA-signed-on-29-August-2019.pdf.

74 Memorandum of Agreement, the Competition Commission of South Africa and The Independent Communications Authority of South Africa, section 4.

75 Memorandum of Agreement, the Competition Commission of South Africa and The Independent Communications Authority of South Africa, section 3.

76 Memorandum of Agreement, the Competition Commission of South Africa and The Independent Communications Authority of South Africa, section 8.

77 See, for example, MyBroadband, Competition Commission denies approval for Vodacom-Vumatel deal, August 8, 2023, https://mybroadband.co.za/news/fibre/503742-competition-commission-denies-approval-for-vodacom-vumatel-deal.html.

authorities to decide independently of each other and subject to different criteria. The matter is currently before the Competition Tribunal.[78]

3.2.2 ICASA/National Consumer Commission

The National Consumer Commission (NCC) is the consumer protection authority of South Africa. NCC and ICASA share jurisdiction over consumer protection issues related to the telecommunication and ICT sectors.[79] The overlap between the mandates of ICASA and NCC creates concurrent jurisdiction between the two entities, which is managed by an MoA signed in 2015.[80] The MoA states that the NCC exercises primary authority to advance consumer social and economic welfare, while ICASA exercises primary authority to ensure universal and affordable access to electronic communications, broadcasting, and postal services.[81]

Further, the MoA:

- establishes and formalizes a relationship between NCC and ICASA on the uniform classification of complaints;
- improves the complaints handling and referral processes;
- regulates the release of joint statements on matters of collaboration affecting the interests of consumers; and
- liaises with each other on matters of common interest as contemplated in the Consumer Protection Act and the ICASA Act.[82]

The memorandum provides guidelines on the interaction between parties, such as the possibility for NCC to ask and receive advice from ICASA on consumer matters arising in the electronic communications, broadcasting, and postal industries. Likewise, ICASA may seek advice from NCC that require consideration of a regulatory nature.[83] For example, ICASA engaged with the NCC when preparing amendments to its End-User and Subscriber Service Charter regulations in 2016 and 2018. While the NCC-ICASA MoA does not include provisions for a joint working committee, it does identify the key contact points within each agency to be involved in any exchanges of information.[84]

3.2.3 ICASA/National Energy Regulator of South Africa

The National Energy Regulator of South Africa (NERSA) regulates electricity, piped gas, and petroleum pipelines under the Electricity Regulation Act (Act No. 4 of 2006), Gas Act (Act No. 48 of 2001), and Petroleum Pipelines Act (Act No. 60 of 2003). NERSA and the Ministry of Mineral

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78 See, for example, MyBroadband, Vodacom, Vumatel deal heads for big fight at Competition Tribunal, September 21, 2023, https://mybroadband.co.za/news/business/508858-vodacom-vumatel-deal-heads-for-big-fight-at-competition-tribunal.html.

79 ITU World Telecommunication/ICT Regulatory Survey 2022, section 3.10.2.

80 ITU World Telecommunication/ICT Regulatory Survey 2022, section 3.10.3.; Memorandum of Agreement Entered Into Between the National Consumer Commission and the Independent Communications Authority of South Africa, 2015, https://www.icasa.org.za/legislation-and-regulations/icasa-and-national-consumer-commission-moa.

81 Memorandum of Agreement Entered Into Between the National Consumer Commission and the Independent Communications Authority of South Africa, 2015, section 1.3.

82 Memorandum of Agreement Entered Into Between the National Consumer Commission and the Independent Communications Authority of South Africa, 2015, section 1.1.

83 Memorandum of Agreement Entered Into Between the National Consumer Commission and the Independent Communications Authority of South Africa, 2015, section 2.

84 Memorandum of Agreement Entered Into Between the National Consumer Commission and the Independent Communications Authority of South Africa, 2015, sections 5 and 6.

Resources and Energy share jurisdiction over energy policies and implementation issues.[85] NERSA and ICASA informally coordinate to enforce their actions, and NERSA has previously included ICASA among the regulators on its stakeholder map.[86]

However, ICASA has also independently taken action related to issues with South Africa's electricity supply and their impact on the communications sector. Notably, in May 2023, ICASA established a committee to determine the impact of the current state of load-shedding on the electronic communications, broadcasting, and postal services sectors.[87] The committee is intended to work closely with affected stakeholders and identify potential regulatory interventions that fall under ICASA.

3.2.4 ICASA/Film and Publications Board

South Africa's FPB regulates the content of films, games, and certain publications through a classification system. FPB is also charged with protecting children from sexual exploitation in media content and in 2022 was given oversight responsibility of online content. In 2016, ICASA and FPB entered into an MoU intended to establish a formal relationship between the two agencies.[88] The MoU addresses uniformity in classification and labelling of content by multiple categories of service providers, creation of awareness around compliance with key laws, promoting the roles of both agencies for the protection of children from undesirable content, and promoting information sharing between the two agencies.

The MoU sets out specific responsibilities for both bodies, primarily related to coordination and information-sharing. The two agencies agree, for example, to initiate and coordinate stakeholder engagements, to allow each agency to participate in key policy discussions carried out by the other agency, and to facilitate access to stakeholders in each sector.[89] The MoU also states that ICASA and FPB will establish a content regulators forum, which will provide a platform for regulators to share ideas and discuss matters of mutual interest.[90] To date, this forum does not appear to have been developed, although as described in section 3.2.7, both ICASA stakeholders and FPB have taken steps to develop broader digital regulation collaboration forums. ICASA notes that the two institutions are seeking to align their efforts. Although no other formal working group or committee is to be established, the MoU sets out the key contact points and mechanism for ICASA and FPB to exchange information.[91]

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85 ITU World Telecommunication/ICT Regulatory Survey 2022, section 3.16.2.

86 ITU World Telecommunication/ICT Regulatory Survey 2022, section 3.16.3; NERSA, Strategic Plan 2015/16-2019/20 / Annual Performance Plan 2018/19-2020/21, p. 108.

87 ICASA, ICASA establishes a Council Committee to ascertain the impact of Load-Shedding on the Communications Industry, May 29, 2023, https://www.icasa.org.za/news/2023/icasa-establishes-a-council-committee-to-ascertain-the-impact-of-load-shedding-on-the-communications-industry.

88 Memorandum of Understanding Entered Into Between Independent Communications Authority of South Africa and Film and Publications Board, August 23, 2016, https://www.icasa.org.za/legislation-and-regulations/icasa-and-film-and-publications-board-mou-2016.

89 Memorandum of Understanding Entered Into Between Independent Communications Authority of South Africa and Film and Publications Board, Section 3.

90 Memorandum of Understanding Entered Into Between Independent Communications Authority of South Africa and Film and Publications Board, Section 3.13.

91 Memorandum of Understanding Entered Into Between Independent Communications Authority of South Africa and Film and Publications Board, Section 6.

3.2.5 ICASA/Information Regulator

ICASA identified South Africa's Information Regulator as a key collaborative counterpart, even in the absence of a formal agreement.[92] The Information Regulator is responsible for monitoring and ensuring compliance with the Protection of Personal Information Act (POPIA). Collaboration between ICASA and the Information Regulator would be in line with a suggestion from the Consumer Advisory Panel (CAP) established by ICASA, which advises the authority on consumer issues. In the ICASA Annual Report 2021/2022, CAP identified the Information Regulator as a target for ICASA collaboration due to synergies in cybersecurity and ICT, as well as the fact that licences issued by ICASA must comply with POPIA.[93]

3.2.6 Information Regulator/Competition Commission

The Information Regulator and the Competition Commission entered into an MoA in October 2021, establishing a coordinated approach to addressing matters arising from the overlap in the regulators' respective responsibilities.[94] According to the Information Regulator, the agreement governs the information exchanged between the regulators and aids further interactions and cooperation between them as far as they relate to competition law, the protection of personal information, and access to information.[95] The MoA objectives include consistent interpretation and application of laws on competition and personal information or privacy when the agencies exercise their powers. The MoA also addresses consultation between the regulators concerning the investigation of anti-competitive practices, mergers and acquisitions, and non-compliance with POPIA and the Promotion of Access to Information Act (PAIA) among its objectives.

The MoA includes sections that set out the framework for cooperation between the two agencies, as well as specific guidance related to merger transactions, as well as the establishment of a joint working committee.

3.2.7 Broader digital regulation arrangements

Stakeholders within regulatory authorities in South Africa have engaged in discussions and actions intended to formalize collaboration among key institutions involved in digital infrastructure, services, and content. Stakeholders within ICASA discussed the concept of a regulatory engagement forum to bring together regulatory authorities with complementary interests and mandates relevant to digital regulation. The exchange of approaches as well as research and analysis, building capacity across organizations, and seeking coherence in regulatory approaches were central to these proposed efforts.

In August 2023, FPB reportedly launched the Digital Regulators Forum, which also includes ICASA, the National Consumer Commission, FSCA, and the .ZA Domain Name Authority.[96] The same forum was briefly referenced in a March 2023 FPB press release and was also mentioned

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92 ICASA, Interview conducted May 23, 2023.
93 ICASA, Annual Report 2021/2022, p. 59, https://www.icasa.org.za/uploads/files/ICASA-Annual-Report-2021-2022.pdf.
94 Memorandum of Agreement Entered into between The Competition Commission of South Africa and the Information Regulator of South Africa, December 17, 2021, https://www.gov.za/sites/default/files/gcis_document/202112/45649gon1624.pdf.
95 Information Regulator, written comments provided July 20, 2023.
96 ITWeb, Digital Regulators Forum SA to unify digital economy efforts, August 17, 2023, https://www.itweb.co.za/content/5yONPvEr8Wm7XWrb.

during stakeholder interviews.[97] The FBP chief executive officer noted in August 2023 that the Digital Regulators Forum is not intended to make decisions, but rather for the members to understand and respect each other's regulatory powers and to work together in line with global digital collaborative regulatory approaches, such as those established in Australia and the United Kingdom. One stakeholder noted that the proceedings of the Digital Regulators Forum are not open to other stakeholders, but that the group is intended to publish a report at the end of the financial year.[98]

3.2.8 Cybersecurity

The National Cybersecurity Policy Framework of 2015 mandated the establishment of a cybersecurity hub to be operated by the Department of Telecommunications and Postal Services following guidelines and standards issued by cybersecurity experts.[99] The cybersecurity hub is intended to serve as a central point for collaboration between industry, government, and civil society on all cybersecurity incidents and to promote a coordinated national approach to cybersecurity. The cybersecurity hub works with stakeholders from government, the private sector, civil society, and the public to identify and counter cybersecurity threats.[100] However, as discussed in section 4.3.4, whether the cybersecurity hub fulfils this role is unclear.

With regard to cybersecurity activities related to the financial services sector, the Financial Sector Conduct Authority (FSCA) works with the Prudential Authority and the SARB Cybersecurity Resilience Sub-committee (CRS).[101] This subcommittee includes members from regulators and industry bodies, such as the Banking Association of South Africa, CSIR, and other national organizations. CRS meets quarterly to discuss cybersecurity matters within the financial sector and to monitor, evaluate, and guide cybersecurity efforts.[102]

3.2.9 Space services

ICASA also provides regulatory support to agencies and organizations in South Africa related to space services and applicable Radio Regulations, and ITU procedures and recommendations. These include, for example, the South African Space Agency (SANSA).

3.3 Private sector role

As indicated in interviews with both public- and private-sector stakeholders, South Africa does not currently have a standing mechanism for collaboration between public and private entities. Private-sector stakeholders noted that the primary means of engagement with regulatory entities are informal meetings in which industry representatives briefly introduce themselves to a regulator, and participation in public consultation processes related to the publication of proposed regulatory instruments.[103]

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97 FPB, Contextualizing the FPB's new brand repositioning as a content regulatory authority, March 2023, https://www.fpb.org.za/wp-content/uploads/2023/03/Concextualising-the-FPB-as-a-Content-Regulatory-Authority-1.pdf.

98 Association of Comms and Technologies, Interview conducted August 8, 2023.

99 State Security Agency, National Cybersecurity Policy Framework, 2015, Section 6, https://www.gov.za/sites/default/files/gcis_document/201512/39475gon609.pdf.

100 Cybersecurity Hub, home page, https://www.cybersecurityhub.gov.za/, accessed September 19, 2023.

101 Financial Sector Conduct Authority, Interview conducted July 17, 2023.

102 International Monetary Fund, South Africa: Financial Sector Assessment Program, June 2022, p. 14, https://www.elibrary.imf.org/downloadpdf/journals/002/2022/181/002.2022.issue-181-en.xml.

103 Internet Service Providers Association of South Africa, Interview conducted July 14, 2023.

ICASA similarly identified a lack of structured engagement with non-government stakeholders, indicating that the authority has a history of serving as an arm's-length regulator, taking a formal and legalistic approach that was intended to minimize the risk of regulatory capture or the appearance of bias or impropriety.[104] However, ICASA noted that cooperation with stakeholders including service providers, potential and existing consumers, and the economy at large, as well as policy-makers is of key importance. ICASA further expressed an interest in developing and publishing a strategic plan or similar document that would spur engagement with a wide range of stakeholders, not only for licensees but also for non-governmental organizations and end users. ICASA has, for example, expressed its intention to voluntarily include greater stakeholder consultation in the development of its five-year strategic plans and its annual performance plans.

Private-sector stakeholders further highlighted the importance of regulatory engagement with the public sector, with one identifying engagement as a higher priority than transparency.[105] One stakeholder stated that ICASA takes stakeholder input into account, particularly when it is clear how industry will be affected by a proposal. Notably, the stakeholder praised public-sector entities for actively listening to service providers and technology manufacturers over the last 10 years to better understand how their businesses were changing. Another private-sector stakeholder noted that DCDT employed an effective and proactive approach during the COVID-19 pandemic with a project management office that invited all market players, both private and public, to participate in a daily call.[106]

In response to questions seeking input on mechanisms to enable collaboration between the public and private sectors, private-sector stakeholders also cited the importance of regulatory attendance at and participation in industry events and other engagements, which also serve to encourage stakeholders to provide feedback to the regulator. Stakeholders referred to previous public hearings organized by ICASA or DCDT, as well as industry-led events around the country to which the authority and DCDT are invited. The COVID-19 pandemic led to a curtailment of the in-person hearings coordinated by ICASA or DCDT, a situation that private-sector stakeholders would like to see reversed. For their part, private-sector interests are considering whether to expand the pool of public-sector invitees to industry-led events, with one citing the Department of Education as a potential participant.

4 Policies and frameworks to enable the digital economy

In addition to the high-level policies that guide both whole-of-government collaborative efforts for economic development, South Africa also has several policies and instruments in place specifically focused on digital economy matters. The ITU unified framework for consideration of digital transformation draws on information collected to establish the context in which these policies and instruments operate.

4.1 Unified framework evaluation of enabling environment

In the *Global Digital Regulatory Outlook 2023*, ITU introduced a unified framework for considering policy, governance, and legal frameworks enabling digital transformation. The

[104] ICASA, Interview conducted May 23, 2023.
[105] Wireless Access Providers Association of South Africa, Interview conducted July 12, 2023.
[106] South African Communications Forum, Interview conducted July 25, 2023.

unified framework combines ITU established tools for assessing policy, regulation, and governance in telecommunications and digital markets, including the *ICT Regulatory Tracker* and the *G5 Benchmark*. The framework provides a set of benchmarks that can be used to evaluate countries' readiness for digital transformation, as well as their policy, regulatory, and governance capacity based on information that countries report to ITU. As noted when the unified framework was introduced, such a benchmark analysis enables regulators and policy-makers to compare their frameworks with peers, while pinpointing strengths, gaps, and priorities for future reform.

This section presents an overview of the nine framework pillars, as well as the percentages of each that have been achieved in South Africa as compared to the Africa region and the global average.

Box 1: ITU unified framework

ITU unified framework for consideration of digital transformation

National digital policy agenda: This pillar includes various aspects, such as the development of national broadband and digital strategies, integration with universal access and service efforts, and a focus on [vulnerable] populations, such as women and girls, persons with disabilities, and youth.

Regulatory capacity: This pillar includes factors, such as an independent ICT sector regulator with enforcement powers and regulatory responsibility for licensing, spectrum, universal service/access, broadcasting, and Internet content.

Good governance: This pillar includes factors, such as a requirement to carry out a regulatory impact assessment before implementing regulatory changes, a mechanism for appealing regulatory decisions, a requirement for ex-post and rolling policy reviews, and protection of access to information and fundamental freedoms.

Collaborative governance: This pillar includes factors, such as collaboration with a range of domestic authorities and ministries. These include the authorities responsible for broadcasting, spectrum, cybersecurity, data protection, finance, competition, and energy, as well as ministries responsible for health, education, and the environment.

Stakeholder engagement: This pillar addresses engagement practices, including mandatory public consultation before implementing regulatory changes, industry codes of conduct, and mechanisms for regulatory experimentation.

Legal instruments for telecom/ICT markets: This pillar considers the presence of instruments such as ICT accessibility policies, an ICT licensing framework, requirements to publish reference interconnection offers and publication of interconnection prices, infrastructure sharing rules, and number portability mechanisms.

Box 1: ITU unified framework (contiuned)

Legal instruments for digital markets: This pillar considers the presence of instruments, such as strategies addressing the Internet of Things (IoT), AI, and cloud computing; data protection rules; and policies on e-government, e-education, and e-health.

Market rules: This pillar considers the presence of market-oriented characteristics, including competition in various services and foreign ownership in various components of the broadband value chain.

Regional and international collaboration: This pillar considers the country's engagement in regional and international collaborative efforts, such as regional ICT initiatives, World Trade Organisation (WTO) telecommunication services commitments, and agreements on key sector issues.

Source: ITU Global Digital Regulatory Outlook 2023

While levels of achievement in Africa were approximately in line with the global average for most of the nine pillars in 2023, South Africa's progress exceeded both the regional and global averages for each pillar (Table 3).

Table 5: Regional and international collaboration targets achieved, 2023

Thematic benchmark	Target achieved		
	South Africa	Africa	World
National digital policy agenda	73%	45%	48%
Regulatory capacity	94%	64%	63%
Good governance	95%	57%	58%
Collaborative governance	59%	45%	43%
Stakeholder engagement	90%	31%	36%
Legal instruments for telecom/ICT markets	88%	60%	60%
Legal instruments for digital markets	47%	45%	42%
Market rules	66%	57%	59%
Regional and international collaboration	70%	57%	43%
OVERAL READINESS	75%	53%	52%

Source: ITU, 2023.

This arguably positions South Africa as a regional or even global role model for pillars on regulatory capacity, good governance, and stakeholder engagement. However, as further discussed in section 4.3.3, some stakeholders believe there is room for improvement in stakeholder engagement efforts by South Africa authorities.

The framework further provides insights into areas where South Africa policy-makers may wish to focus attention to better position the country for digital transformation and stronger engagement with the global digital economy. These most notably include efforts related to collaborative governance and legal instruments for digital markets, as well as a national digital policy agenda, market rules, and regional and international collaboration.

4.2 Emerging technology legal and regulatory framework

4.2.1 Existing instruments

South Africa has developed and adopted several instruments that guide and establish frameworks that are critical to enabling and continuing digital transformation by promoting and enabling the development of emerging technologies (Table 6). As noted previously, the level of impact of such instruments, however, depends on the extent of implementation by responsible authorities and stakeholders.

Table 6. Emerging technology policy and regulatory instruments

Topic	Instrument(s)	Key topic(s) addressed	Responsible authority
Policies/Strategies			
Digital society	National e-Strategy: Digital Society South Africa[107]	ICT sector costs and competitiveness ICT sector interventions Other sector interventions (agriculture, minerals, utilities, industrial policy, small and medium enterprises, State reform) Digital industrial revolution Inter-ministerial transformation committee Digital industrial revolution working group	DCDT
Smart cities	A South African Smart Cities Framework[108]	Smart city principles South African context	Department of Cooperative Governance, South African Local Government Association, other national departments

[107] Department of Telecommunications and Postal Services, National e-Strategy: Digital Society South Africa, 2017, https://www.gov.za/sites/default/files/gcis_document/201711/41242gen887.pdf.

[108] Department of Cooperative Governance, A South African Smart Cities Framework, March 2021, https://www.cogta.gov.za/cgta_2016/wp-content/uploads/2023/01/Annexure-A-DCoG_Smart-Cities-Framework.pdf.

Table 6. Emerging technology policy and regulatory instruments (continued)

Topic	Instrument(s)	Key topic(s) addressed	Responsible authority
E-health	National Digital Health Strategy for South Africa 2019 – 2024[109]	NDP health sector priorities Multi-stakeholder engagement Governance and oversight Applications, networks, and infrastructure Policy, legal, regulatory framework Skills development	National Department of Health, provincial health departments, districts, facilities
Cybersecurity	National Cybersecurity Policy Framework[110]	Centralized coordination Public/private/civil society cooperation International cooperation Skills development Critical infrastructure protection Comprehensive legal framework	Department of Justice and Constitutional Development, National Prosecuting Authority, Presidency (formerly Ministry of State Security), State Security Agency, Department of Police, South African Police Service, DCDT, Department of Defence, DSI
Cloud computing	Draft National Policy on Data and Cloud[111]	Enabling environment for data ecosystem Alignment of policy, law, and regulation to realize value of data Applicable across economy	DCDT
Laws/regulations			
Data protection	Promotion of Access to Information Act (PAIA)[112] ECT Act Protection of Personal Information Act[113]	Personal information protection and minimum processing requirements Establishment of Information Regulator Cross-border data flows Right of access to information held by government or other parties	Information Regulator

[109] National Department of Health, National Digital Health Strategy for South Africa 2019-2024, https://knowledgehub.health.gov.za/elibrary/national-digital-health-strategy-south-africa-2019-2024.
[110] State Security Agency, National Cybersecurity Policy Framework, 2015, https://www.gov.za/sites/default/files/gcis_document/201512/39475gon609.pdf.
[111] DCDT, Draft National Policy on Data and Cloud, April 1, 2021, https://www.gov.za/sites/default/files/gcis_document/202104/44389gon206.pdf.
[112] Promotion of Access to Information Act 2 of 2000, https://www.gov.za/sites/default/files/gcis_document/201409/a2-000.pdf.
[113] Protection of Personal Information Act 4 of 2013, https://www.gov.za/sites/default/files/gcis_document/201409/3706726-11act4of2013popi.pdf.

Table 6. Emerging technology policy and regulatory instruments (continued)

Topic	Instrument(s)	Key topic(s) addressed	Responsible authority
Cybersecurity	Critical Infrastructure Protection Act[114] Cybercrimes Act[115]	Identification of critical infrastructure Resilience and protection of critical infrastructure Cybercrime offenses and jurisdiction International cooperation	Presidency (formerly Ministry of State Security)
Digital identification	Draft National Identification and Registration Bill[116]	Single integrated national ID for citizens, permanent residents, and visitors Population register Identification database for visitors	Department of Home Affairs
Online harms	Films and Publications Act[117] Films and Publications Amendment Regulations, 2022[118] Draft Industry Code on Prevention of Online Harm[119] Draft Guidelines dealing with peer-to-peer video sharing[120] Draft Guidelines to determine whether content is harmful[121]	Classification/rating of content, including online and user-generated content Prevention of online harm	FPB

Source: ITU analysis

4.2.2 Policy and legislative gaps

To date, South Africa has not adopted or published drafts of legal or regulatory instruments addressing certain digital sector topics. These include, but are not limited to, frameworks addressing:

- online platforms;

[114] Critical Infrastructure Protection Act, 2019, https://www.gov.za/sites/default/files/gcis_document/201911/4286628-11act8of2019criticalinfraprotectact.pdf.
[115] Cybercrimes Act 19 of 2020, https://www.gov.za/documents/cybercrimes-act-19-2020-1-jun-2021-0000.
[116] Department of Home Affairs, Draft National Identification and Registration Bill 2022, April 2023, https://www.gov.za/sites/default/files/gcis_document/202304/48435gon3311.pdf.
[117] Films and Publications Act.
[118] Films and Publications Amendment Regulations, 2022, https://www.gov.za/sites/default/files/gcis_document/202209/46843rg11484-gen2436.pdf.
[119] FPB, Draft Regulatory Instruments of the Film and Publication Board, August 18, 2023, https://www.gov.za/sites/default/files/gcis_document/202308/49140gon3798.pdf.
[120] FPB, Draft Regulatory Instruments of the Film and Publication Board, August 18, 2023.
[121] FPB, Draft Regulatory Instruments of the Film and Publication Board, August 18, 2023.

- mobile money; and
- finalizing the framework policy on artificial intelligence.

Online platforms

Particularly during the past two years, authorities in South Africa, including FPB, Competition Commission, and DCDT, have engaged in multiple activities intended to develop regulatory frameworks related to online platforms, although the majority remain in the consultation or recommendation phase. As noted in section 4.2.1, FPB has adopted regulations addressing online content, specifically implementing the expansion of South Africa's film and publication content classification regime to include online content. In August 2023, FPB published a draft industry code and two sets of draft guidelines intended to further address online harms.[122]

However, the continued growth and adoption of online platforms has raised other questions in South Africa and worldwide, some of which have been the subject of discussions or reports but have not been addressed in legislation or regulation. As noted in section 2.4.2, the Competition Commission report on online intermediation platforms considered a range of online platform matters. The report included several remedial actions intended to increase visibility for smaller platforms, increase platform competition, provide a level playing field for smaller businesses, and create a more inclusive digital economy. Such matters require careful consideration, including the effects on all stakeholders and the reactions of users affected by changes to existing platforms.

In July 2023, DCDT published a draft white paper and consultation on the topic of expanding broadcasting regulation and licensing to streaming services.[123] The consultation period closed on 9 October 2023.[124] If adopted, DCDT proposals would require licensing of streaming services and the establishment of local content obligations for such services. The topics addressed in the white paper have been under discussion within DCDT since at least the 2012 establishment of the ICT Policy Review Panel. As in the case of online intermediation platforms, issues around expanding an established licensing regime to new services require careful study to ensure an overall positive outcome for stakeholders.

In line with global developments, South Africa has also seen stakeholder discussion of issues related to payments between different stakeholders within the online platforms ecosystem. This includes a Competition Commission consultation on proposed terms of reference for a media and digital platforms market inquiry and operator advocacy (Vodacom, MTN) related to the issue of network usage fees (NUFs), also known as the "fair share" debate.[125] This is a complex topic that should be addressed in a manner that does not risk dampening investment in online content or services or a negative impact on the user experience.

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122 FPB, Draft Regulatory Instruments of the Film and Publication Board, August 18, 2023.

123 DCDT, White Paper on Audio and Audiovisual Media Services and Online Content Safety: A New Vision for South Africa: Comments invited, July 31, 2023, https://www.gov.za/sites/default/files/gcis_document/202307/49052gen1934.pdf. The consultation closed on October 9, 2023.

124 DCDT, Notice to extend the closing date for written comments on Draft White Paper on Audio and Audiovisual Media Services and Online Content Safety: A New Vision of South Africa 2023, September 4, 2023, https://www.gpwonline.co.za/Documents/Government/49245%204-9_CommDigitalTech.pdf.

125 Competition Commission, Media and Digital Platforms Market Inquiry Terms of Reference, March 20, 2023, https://www.gov.za/sites/default/files/gcis_document/202303/48252gon3171.pdf; TechCentral, Vodacom, MTN want internet giants to pay their 'fair share,' August 17, 2023, https://techcentral.co.za/vodacom-mtn-internet-giants-fair-share/229988/.

Mobile money

At present, South Africa's financial sector regulatory framework imposes requirements and restrictions that have constrained the availability and adoption of mobile money services. In 2018, the South African Reserve Bank (SARB), which oversees South Africa's payments system, published a policy paper that included a recommendation to expand the retail payment services and activities allowed by non-bank actors and the direct participation of such actors in the payment clearing and settlement processes.[126] The SARB specifically noted that limitations in the current legislative framework constrain the provision of payment systems and services to banks.

In a 2022-2023 report, SARB states that the National Treasury and SARB are developing proposed amendments to the legal framework, including amendments to allow non-banks to participate in the payments system.[127]

Artificial intelligence

There is also currently a gap in South Africa's policy, legal, and regulatory framework concerning AI, which is expected to be bridged when South Africa's Artificial Intelligence (AI) Planning document (currently under consultation) has been enacted into policy directions. Despite the inclusion of the goal for an AI institute in PC4IR, the government has not yet presented a high-level policy with a vision for the incorporation of AI into South Africa's economy or society. Similarly, there is no legal framework addressing potential questions around the use of AI. Stakeholder comments included a recommendation that the Department of Justice and Constitution and DCDT collaborate specifically on the appropriate regulatory framework to govern AI.[128]

It is noteworthy that despite the absence of an overarching AI strategy or legal framework, the Government of South Africa has moved forward with the PC4IR recommendation to establish an AI institute. The Artificial Intelligence Institute of South Africa, described as the brainchild of the Department of Communications and Digital Technologies (DCDT), the University of Johannesburg and the Tshwane University of Technology, was launched in December 2022.[129] The Institute is organized into two hubs, one each at the University of Johannesburg Business School and the Tshwane University of Technology in Pretoria. Both hubs announced "catalytic projects" including efforts focused on government and public service, agriculture, mining, biometrics, healthcare, and manufacturing.[130]

As AI technologies and use cases continue to proliferate, and as discussions related to the methods by which AI models are developed and trained continue, consumers, businesses,

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126 South African Reserve Bank, Review of the National Payment System Act 78 of 1998, September 2018, p. 51, https://www.treasury.gov.za/publications/other/NPS%20Act%20Review%20Policy%20Paper%20-%20final%20version%20-%2013%20September%202018.pdf.

127 South African Reserve Bank, National Payment System Department Regulatory and Oversight Report 1 April 2022-31 March 2023, p. 9, https://www.resbank.co.za/content/dam/sarb/what-we-do/payments-and-settlements/regulation-oversight-and-supervision/regulatory-and-oversight-reports/NPSD%20Regulatory%20and%20Oversight%20Report%202022-2023.pdf.

128 Association of Communications and Technology of South Africa, Interview conducted August 8, 2023.

129 Artificial Intelligence Institute of South Africa, Overview of the AI Institute of South Africa, https://aii-sa.co.za/about-us/, accessed September 19, 2023; University of Johannesburg, UJ, TUT and Department of Communications and Digital Technologies launch AI Institute of South Africa, December 1, 2022, https://news.uj.ac.za/news/uj-tut-and-department-of-communications-and-digital-technologies-launch-ai-institute-of-south-africa-2/.

130 Artificial Intelligence Institute of South Africa, Catalytic Projects, https://aii-sa.co.za/catalytic-projects/, accessed September 19, 2023.

and other stakeholders would benefit from further clarification on the incorporation of the technology across South African society.

4.3 Additional focus areas

Throughout interviews with public- and private-sector stakeholders, key subjects were identified as challenges or areas for potential improvement. This section summarizes some of the topics that were addressed by multiple stakeholders.

4.3.1 Up-to-date, agile, and flexible legal and regulatory frameworks

More than half of the stakeholders interviewed indicated a need for a legal and regulatory framework that enables agility, innovation, and flexibility. Respondents from regulatory authorities, as well as industry groups, indicated that the legal and regulatory environment was not keeping pace with industry and technological development, and that rapid evolution is not currently possible. Similarly, some stakeholders indicated a need for the regulatory framework to reflect a post-convergence environment, for a more agile and lighter-touch framework to enable innovation, for changes to outdated legacy frameworks, for a framework that accommodates changing conditions rather than reacting to specific concerns, and a need to support investment.

The identification of agility and flexibility as key enablers of effective digital regulation and digital transformation is in line with a key area of ITU focus on digital transformation. Globally, countries are moving toward generation 5 (G5) collaborative digital regulation, which entails a collaborative approach to regulation seeking to harmonize frameworks across sectors. Crucial to G5 collaborative digital regulation is establishing a more agile governmental organization to improve efficiency, effectiveness, and the speed of decision-making. This involves establishing clearer links between policy decisions, implementation, and performance monitoring, taking an evidence-based approach to decision-making processes. As ITU notes in its *Global Digital Regulatory Outlook 2023*, more agile G5 policy governance offers multiple paths through digital transformation, generating opportunities for businesses and benefits for consumers.[131]

Given the rapid rate of change in industries and sectors across the economy that increasingly rely on ICTs and digital services, a legal and regulatory framework that enables and empowers regulators to be nimble, responsive, and forward-looking is a necessity for ongoing digital transformation.

Closely related to the idea of agile and flexible frameworks that enable innovation is the need for such frameworks to be current and effective. Both public- and private-sector stakeholders identified outdated or ineffective legal and regulatory frameworks as current challenges to South Africa's digital transformation. Stakeholders noted that regulatory agency focus was on traditional issues, such as access and infrastructure deployment, and the presence of ineffective regulatory instruments and mechanisms as requiring attention from policy-makers. One stakeholder emphasized that the current ICT legislative framework is 20 years old and while appropriate for the liberalization of the sector, does not adequately take into account developments over the last two decades.

ICASA also noted not only the need for a comprehensive legislative overhaul but noted the importance of collaborating with stakeholders and seeing the regulator's role as one

[131] ITU, Global Digital Regulatory Outlook 2023, 2023, p. 35, https://www.itu.int/pub/D-PREF-BB.REG_OUT01.

that facilitates change.[132] In particular, this refers to implementing regulations, policies, and frameworks that enable the sector and markets to grow, provide better services, and reduce consumer prices, as well as recognizing when regulation is not necessary. To this end, ICASA also mentioned an interest in regulatory sandboxes, which it sees as helpful tools when seeking to regulate a fast-paced environment and with agility. Sandboxing is seen as bringing regulatory tools into a traditionally slow-paced legal and regulatory process. The regulator also cited the importance of embracing light-touch regulatory approaches and allowing an opportunity for the market to self-correct before ICASA takes action.

ICASA also noted that it has established a council committee to examine how the it might be transformed into a "regulator for the future," in line with the principles of G5 regulation and to adapt and respond to a rapidly changing and evolving digital market, economy, and technological environment. The regulator also noted a recent council committee focus on regulatory sandboxing, enabling ICASA and stakeholders to explore new services and technologies and identifying appropriate regulatory approaches.

4.3.2 High-level policy leadership and collaboration

Multiple stakeholders identified the need for stronger, more unified policy leadership and development. More than half of the stakeholders interviewed noted a need for a policy development and implementation approach that provides a clear vision for digital transformation. In particular, multiple stakeholders called for clear policies established by the government to guide necessary legislative and regulatory reforms. Responsibility for such policy leadership was attributed to not only DCDT but also the "highest levels" of the Government of South Africa. As noted, policy leadership and development are critical, but must be accompanied by follow-through in order to be effective.

Multiple stakeholders also identified a need to consider various views during the policy development phase. Recognizing that stakeholder buy-in is a key component of implementing an effective policy, legal, and regulatory framework, one stakeholder specifically referred to a need to build consensus around strategies, policies, regulations, and reforms.

The importance of policy leadership is highlighted in the ITU *Global Digital Regulatory Outlook 2023*, where it was identified as one of five strategies that policy-makers and regulators can adopt to navigate digital transformation. Specifically, the *Global Digital Regulatory Outlook 2023* refers to a strategy of developing ambidextrous leadership, those who concurrently consider long-term market development alongside agility and short-term flexibility, as well as being able to blend traditional and experimental approaches.[133]

4.3.3 Collaboration and engagement

Stakeholder interviews included interesting views on existing mechanisms and approaches to regulatory collaboration, as well as a need for additional and improved collaboration. While existing collaborative mechanisms and agreements are discussed in section 3.2, this section will focus on potential areas for improvement.

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[132] ICASA, Interview conducted May 23, 2023.
[133] ITU, Global Digital Regulatory Outlook 2023, 2023, p. 23.

It is notable that multiple stakeholders, when discussing collaborative approaches, characterized some as reactive or crisis-driven. In particular, multiple interviews touched upon the government response to the COVID-19 pandemic as an example of successful, agile collaboration that was responsive to changing conditions and needs. This example was presented both to illustrate that regulatory agencies are capable of effective collaboration and to emphasize that such collaboration was the result of an acute need rather than a case of leveraging existing collaborative activities.

While noting the existence of collaboration mechanisms between regulatory agencies, one stakeholder expressed an interest in broader regulatory collaboration on the overarching approach and national strategy related to digital transformation in South Africa. Another suggested the formation of a national body to bring together multiple regulators to discuss and share information on areas of common interest. Similarly, another stakeholder cited a need for an effective national regulatory council that would enable the transfer of cases or investigations to the relevant regulator, noting that such a mechanism requires a functioning and well-coordinated relationship between regulators. The Digital Regulators Forum mentioned in section 3.2.7 may be able to address this need, although there are no plans to make it a formal decision-making authority.

Taking a slightly different approach, a private-sector stakeholder noted that while there are some examples of past and current agreements for regulatory collaboration, there is a need for "standard operating procedures" to guide collaboration between stakeholders. This stakeholder cited the potential for such standard operating procedures to enable the development of ongoing collaborative discussions and to benefit industry.

In addition to collaboration between regulatory agencies, private-sector stakeholders identified a need to improve regulatory and policy-maker engagement with industry. One stakeholder shared that industry "feels unheard" by the government due to a lack of communication between commercial players and the agencies and departments that oversee them.

4.3.4 Additional challenges identified

The stakeholder interviews conducted for this country review also identified additional challenges that may indicate areas of focus for South African policy-makers, regulators, and other stakeholders in the near term.

A perceived lack of follow-through on national policies or collaborative mechanisms was identified. For example, two stakeholders referred to the establishment of South Africa's cybersecurity hub, but also referred to it as ineffective or questioned its effectiveness due to the lack of clear roles for participants.[134] Similarly, multiple stakeholders identified the activities of the Presidential Commission on the Fourth Industrial Revolution as incomplete or outdated, noting that recommendations were not implemented and that the report was first drafted in 2019. ICASA noted a similar situation with the National Broadband Advisory Council that ceased operations after less than two years, as noted in section 2.1.2.

One stakeholder also highlighted the importance of skills development within regulatory agencies. For example, an interviewee stated that multiple regulators are taking steps to expand

[134] Information Regulator, written comments provided July 20, 2023; Internet Service Providers Association of South Africa, Interview conducted July 14, 2023.

their areas of responsibility without first or concurrently developing the capabilities to effectively carry out such new or expanded roles.

Finally, although not explicitly a digital economy-specific challenge, multiple stakeholders referred to South Africa's ongoing electricity supply and distribution difficulties as an important matter that complicates the country's digital transformation. Nearly all stakeholders interviewed referenced load-shedding and unplanned outages as challenges that directly affect the development of the digital economy and digital services in South Africa. One stakeholder noted, for example, that operators cannot meet quality of service standards established by ICASA if the electricity supply affects their ability to deliver services.[135] Another noted that an unreliable electricity supply prevents network operators from sufficiently recharging battery backups and ultimately damaging the batteries, resulting in further system outages.[136] ICASA is well aware of the challenges of electricity supply and reliability, and recently established its own inquiry into the impact of electricity on connectivity.

As noted by stakeholders, the electricity situation has broader impacts on the development and implementation of a digital transformation strategy in South Africa. For example, one noted that while they believe ICASA and South Africa are moving in a positive direction with regard to the legal and regulatory framework related to digital transformation, it is difficult to prioritize the digital economy when there are frequent extended interruptions to the electricity supply.[137] Stakeholders also cited the need for collaboration between ICASA and NERSA as critical due to ongoing electricity issues.[138]

5 Recommendations

The topics addressed in this report, and particularly the insights shared by public- and private-sector stakeholders, provide the basis for the following high-level recommendations for improvements to collaborative regulation practices and overall policies and frameworks.

5.1 Collaborative governance practices

South Africa's regulatory authorities have implemented many collaborative regulatory agreements and approaches, notably multiple formal cooperation agreements between ICASA and other agencies. Despite this collaborative approach to regulation, further action could build on and strengthen these arrangements across the economy and the digital sector and lead to positive changes in collaboration targets identified by ITU in the unified framework for assessing the enabling environment for digital transformation, particularly with respect to collaborative governance and regional and international collaboration.

Formalize and strengthen ICASA cooperation with other entities. ICASA has identified a number of entities, particularly within South Africa, with which it seeks to reinforce or expand its working relationships. These include national government departments responsible for health, education, and environmental affairs, as well as regulators governing content, personal data protection, cybersecurity, and aviation and maritime safety. It is recommended that given the

[135] Association of Comms and Technologies, Interview conducted August 8, 2023.
[136] Wireless Access Providers Association of South Africa, Interview conducted July 12, 2023.
[137] Internet Service Providers Association of South Africa, Interview conducted July 14, 2023.
[138] South African Communications Forum, Interview conducted July 25, 2023.

central role of ICASA in digital transformation efforts and the overall importance of each of these matters in the continued evolution of the digital economy in South Africa, stronger working relationships between ICASA and these organizations would serve to ensure that cooperation is structured and conducted on a regular basis. In addition, by identifying any potential areas of concurrent regulation or possible confusion between ICASA and its counterpart regulators, the agencies could ensure that stakeholders have a clear understanding of the responsibilities of each authority.

Improve collaboration between DCDT and ICASA. They need to continue to work collectively on matters of policy, legislation and regulation. It is recommended that both institutions agree on their roles and relationship to improve collaboration and realize potential benefits.

Formalize mechanisms for private-sector engagement with policy-makers and regulators. Both private-sector stakeholders and ICASA expressed interest in more established mechanisms or channels that would improve private-sector engagement with policy-makers and regulators instead of the current use of informal meetings or public consultations. Although the exact form of such engagements may vary across regulatory agencies or subject areas, it is recommended that these should include regularly scheduled stakeholder forums or public-sector participation in industry events, and transparency of governance processes could also be ensured through regularly published minutes and reports of meetings and key agency deliberations.

Improve transparency of the Digital Regulators Forum roles and activities. In interviews with both public-sector and industry stakeholders, participants referred to an official forum where multiple digital economy regulators could meet to address common issues, the Digital Regulators Forum. However, there seemed to be a lack of agreement on which regulators were involved or whether the forum had already been established. It is recommended that if digital regulators are taking actions to share information and coordinate actions, this collaboration should be reported so that all stakeholders understand the role and activities of such a forum, not least by publishing meeting agendas and minutes.

Recognize the interdependence of connectivity and electricity at the policy level. South Africa's energy crisis has a direct and significant impact on connectivity and the growth of the national economy. It is critical that leaders, policy-makers, and regulators in South Africa understand this interdependence of connectivity and digital transformation and recognize the impact of inconsistent electricity supply on networks as well as end-user devices. It is recommended that policy should address factors that affect connectivity and digital transformation such as electricity generation and distribution, fuel costs, electricity infrastructure, anti-theft and anti-sabotage initiatives, and quality of service obligations.

5.2 Digital transition policies and frameworks

The policy and legislative gaps identified provide several targets for policy-makers and stakeholders to consider.

Present and reinforce high-level policy leadership. Multiple stakeholders interviewed perceived gaps in policy leadership at the highest levels of government that may fail to support the implementation of policy directions. It is recommended to develop and publish policies and plans and to demonstrate consistent implementation to stakeholders, drawing direct connections between policy ideas and more tangible results.

Implement current, agile, and flexible legal and regulatory frameworks. Many public and private sector stakeholders interviewed identified a need to adopt legal and regulatory frameworks that will allow regulators to keep pace with developments in technology and services. This observation by domestic stakeholders is in line with ITU activities supporting the use of agile and flexible frameworks as crucial components of effective digital regulation and digital transformation. It is recommended to introduce flexible and agile legal and regulatory frameworks that will create opportunities to update legacy frameworks from long before the current digital economy was in place. ICASA noted that these issues will be addressed in its planned 'Regulator of the Future' report.

Foster investment in key infrastructure to support digital transformation. Almost all stakeholders interviewed referred to ongoing energy supply challenges as a key constraint to digital economy development. Current load-shedding events are disruptive and serve as a significant limiting factor for future growth and stability. More broadly, and in line with the Presidential Commission on the Fourth Industrial Revolution (PC4IR) recommendations, the digital transformation and growth of the digital economy depend on multiple infrastructures including electricity, water, health, and education. It is recommended to invest in these key digital economy enablers to continue and expand the digital transformation.

Careful consideration of online platform regulatory frameworks. Discussions of online platform regulatory approaches are continuing both within South Africa and in countries around the world. It is recommended that regulatory changes are made under the auspices of a regulatory authority with a clearly defined mandate to ensure access to content and communications, avoid stifling innovation and investment, and promote growth.

Enable widespread mobile money implementation. Authorities have considered improvements to the mobile money legal and regulatory framework for at least five years, with legislative amendments under development. It is recommended to adopt a legal and regulatory framework that will expand the use of mobile and electronic payments to strengthen consumer participation in the digital transformation.

Update and implement cybersecurity legislation and regulation. The National Cybersecurity Policy Framework of 2015 and the subsequent creation of the cybersecurity hub were viewed as no longer effective by some stakeholders. The framework was published nearly 10 years ago, when digital services, and the threats to which the digital economy was subject, were less complex. It is recommended to update the cybersecurity legislative and regulatory framework that addresses cybercrime and considers current and emerging services and threats such as cloud computing, AI, online harms, child online protection, and the role of encryption. New approaches to legislation and regulation should be developed by an authority with a clear mandate and with input from all stakeholders to provide a range of perspectives and experiences.

Develop AI policy directions. Policy-makers have already recognized the potential importance of AI, including it in the PC4IR report recommendations and the AI Planning consultation document and moving forward to develop a dual-campus AI institute. It is recommended to develop a high-level policy direction concerning the use of AI that will bring the greatest benefits to South Africa and its citizens while also protecting them from potential abuse.

Strengthen regulatory skills. The digital transformation and further integration into the digital economy, with new and updated policies, laws, and regulations will require knowledgeable,

well-trained regulatory staff. Regulators who are familiar with ongoing technological and industry developments are better able to react thoughtfully and promptly to new developments. It is recommended that regular training is offered to regulators to ensure that they are prepared for new challenges of the digital transformation and further integration into the digital economy.

Simplify and streamline regulatory processes. Stakeholder interviews suggest that regulatory processes could be improved to reduce costs and time involved in the standard operation of companies involved in the digital economy, particularly when multiple regulatory agencies are involved. In one example, a stakeholder noted the need for communications sector merger applications to be filed with both ICASA and the Competition Commission.[139] Although the two regulators have a formal MoA, entities affected by the concurrent jurisdiction are faced with overlapping administrative processes. Beyond the formal and informal agreements in place to minimize regulatory conflict, it is recommended that authorities coordinate rules and procedures accompanied by clear guidance, for example to streamline processes for cross-sector infrastructure sharing, including the colocation of electricity and telecommunications infrastructure and the coordination of municipal infrastructure deployment, such as water and electricity supplies, with communications networks.

Improve public consultation processes. Beyond the need to formalize mechanisms for private-sector engagement, public consultation processes and timelines for the development of new policies and instruments should be improved. One stakeholder cited the example of a cloud data policy that has been under development for more than two years.[140] It is recommended that regulatory agencies and national departments should consider the adoption of standards for public consultation, including minimum comment periods and limits on the length of time that regulators consider inputs before issuing a new or updated instrument. Further, and in line with suggestions related to collaborative regulation, consultations should be co-designed by multiple regulators when addressing matters that cross jurisdictional lines, such as competition matters or mobile financial services.

Regular policy reviews. Stakeholders noted the need to conduct regular and more frequent reviews of legislation and policies governing the digital economy and digital transformation. Multiple stakeholders cited the continued basis of the ICT legislative framework in instruments that are 20 years old, such as ECA, ECT Act, and ICASA Act. Subsequent efforts, including a 2012 integrated ICT policy review process and panel, have led to few concrete outputs, namely the 2016 telecommunications white paper and a 2023 draft audiovisual media services and online content white paper.[141] A legislative framework rooted in the liberalization of a formerly closed market, even with subsequent amendments, may no longer be appropriate for the current and future development of South Africa's digital economy. It is recommended that policies established by the government should require a review of the policies themselves on a regular basis (e.g., every five years), as well as scheduled reviews of key legislation and regulations to ensure that they remain fit-for-purpose. One current example of a topic that warrants review is the question of whether and how to regulate OTT services. Such reviews should incorporate input from stakeholders across the public, private, academic, and civil society sectors so that policy-makers and legislators can make fully informed decisions.

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139 South African Communications Forum, Interview conducted July 25, 2023.
140 Internet Service Providers Association of South Africa, Interview conducted July 14, 2023.
141 Department of Telecommunications and Postal Services, National Integrated ICT White Paper; DCDT, Invitation for Public Comments on the Draft White Paper on Audio and Audiovisual Media Services and Online Content Safety: A New Vision for South Africa.

Develop a regulatory roadmap. It is recommended that key regulators involved in the digital economy should develop, publish, and regularly update clear roadmaps that set out their short to mid-term plans as well as longer-term objectives. Such roadmaps deliver benefits beyond simply communicating the regulator's planned actions and priorities to regulated entities. Clear indications of planned regulatory activities create a level of accountability for regulators, enabling stakeholders – including the regulators themselves – to measure progress toward stated goals. Stakeholders include not only regulated entities but other sector regulators and the general public. When all stakeholders are informed about regulatory efforts and intended timelines, all affected parties can plan appropriately, including engaging with regulators on emerging issues and planning for regulatory changes that affect business plans. Regulatory roadmaps can also serve as key tools for regulatory collaboration, enabling regulators to better coordinate their activities in areas of concurrent jurisdiction. In ICASA's case, regulatory roadmap improvements could include incorporating formal research and active stakeholder engagement in the development of its five-year strategic plans and annual workplans.

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