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Development Sector

Egypt's digital transformation and collaborative regulation

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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.

Cosmas Luckyson Zavazava
Director, ITU Telecommunication Development Bureau

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1 Introduction

Egypt has prioritized digital transformation in recent years, in line with an economy-wide sustainable development strategy. The Ministry of Communications and Information Technology (MCIT) and the National Telecommunications Regulatory Authority (NTRA) play key roles in enabling the ongoing digital transformation of the economy, including engaging in collaborative regulation activities and other joint projects with other ministries and regulatory authorities in Egypt.

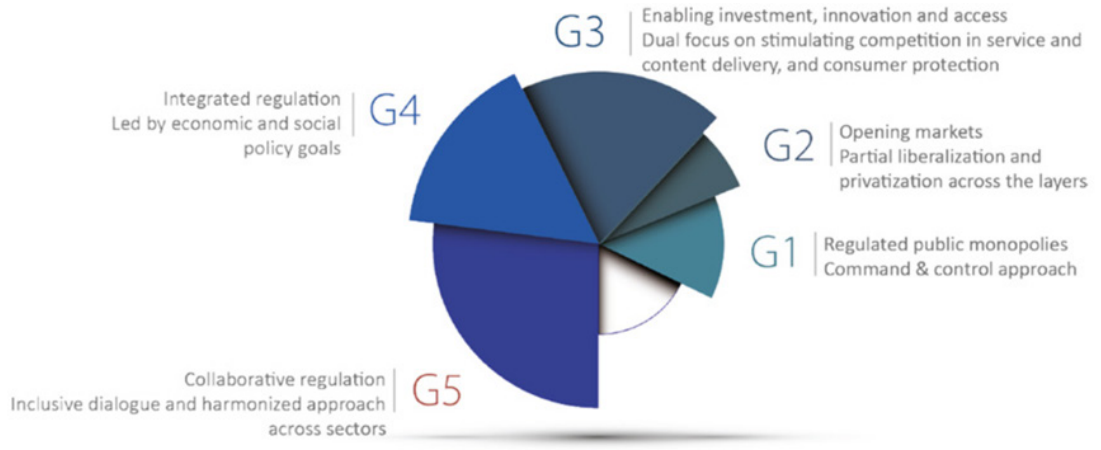
According to the International Telecommunication Union (ITU) ICT Regulatory Tracker 2022, Egypt was identified as a generation 4 (G4) category country[1] under the generations of regulation conceptual framework. A G4 level regulatory category enables investment, innovation, and access through integrated regulation led by social and economic goals. In this regulatory category, there is a separate regulatory authority with decision-making autonomy and the ICT sector has reached an advanced liberalization stage.[2]

One year later, Egypt also ranked fifth in the region and was classified as having reached the transitional level in the ITU 2021 G5 Benchmark[3], in line with the majority of the Arab States reviewed.[4] Egypt is among the highest-scoring of the transitional Arab State economies, particularly due to its high score in Pillar III, the digital development toolbox.

Globally, countries are moving towards G5 regulation (see Figure 1), which entails a collaborative approach to regulation. The aim is to harmonize frameworks across sectors by engaging public and private sector stakeholders. This entails ICT regulator collaboration with other sector authorities to coordinate an approach to overlapping digital economy issues, as well as working closely with industry and civil society to be more inclusive as new policies and regulations are developed. Establishing a more agile governmental organization to improve efficiency, effectiveness, and the speed of decision making is crucial to migrating to an advanced or leading level of G5 collaborative regulation. This involves establishing clearer links between policy decisions, implementation, and performance monitoring, and applying an evidence-based approach to decision-making processes.

1 ITU, G5 Accelerator, ICT Regulatory Tracker, https://appdev.gen5.digital/tracker/country-cards/Egypt.
2 ITU, Policy & Regulatory Frameworks, https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/Policy-&-Regulatory-Frameworks.aspx; ITU, Global ICT Regulatory Outlook 2018, https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-BB.REG_OUT01-2018-PDF-E.pdf.
3 ITU, G5 Accelerator, G5 Benchmark (Benchmark for Fifth Generation Collaborative Digital Regulation), https://appdev.gen5.digital/benchmark/country-cards/Egypt
4 ITU, The Benchmark of Fifth Generation Collaborative Regulation: Expert Report to the Review Board (June 21, 2021), https://digitalregulation.org/wp-content/uploads/G5Benchmark_ReviewBoardReport_21062021.pdf.

Figure 1: Generations of ICT regulation – conceptual framework



Source: ITU

Egypt's ICT-sector priorities and activities are driven by the Sustainable Development Strategy (SDS): Egypt Vision 2030, a high-level policy agenda for socio-economic advancement and transformation.[5] The core of the SDS states that by 2030, Egypt will achieve "a competitive, balanced, diversified and knowledge-based economy, characterized by justice, social integration, and participation, with a balanced and diversified ecosystem, benefiting from its strategic location and human capital to achieve sustainable development for a better life to all Egyptians."

The SDS sets out key performance indicators (KPIs) and programmes along three key dimensions: economic, social, and environmental. The economic dimension is built on four pillars: 1) economic development; 2) energy; 3) knowledge, innovation, and scientific research; and 4) transparent and efficient government institutions. The fourth pillar refers to a transparent, fair, flexible, and accountable public administration sector that efficiently and effectively maximizes citizens' satisfaction and responsiveness to citizens' needs. However, it does not explicitly refer to collaboration between various state agencies.

Notably, among the 77 economic development programmes and projects, several are related to ICTs, digital services, and technology, including a national high-speed Internet project, the development of cloud computing, the development of digital payments to achieve financial inclusion, and the development of the digital community to enhance efficiency and transparency for all institutions.[6] Similarly, SDS identifies knowledge, innovation, and scientific research KPIs to improve Egypt's ICT and public infrastructure rankings in the Global Innovation Index (GII) [7]. For each identified economic programme and project, the SDS also focuses on the need for legal or regulatory reform.

The MCIT digital transformation strategy aims to link governmental digital systems and enable Egypt's administrative apparatus to operate more efficiently and effectively.[8] To that end, MCIT has been actively engaging with other ministries and government agencies to advance joint projects. In 2021 alone, MCIT announced cooperation agreements or provided updates on

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5 Egypt Vision 2030, available at https://www.arabdevelopmentportal.com/sites/default/files/publication/sds_egypt_vision_2030.pdf.
6 Egypt Vision 2030, p. 17.
7 WIPO, Global Innovation Index, https://www.wipo.int/global_innovation_index/en/
8 MCIT, Institutional Development (accessed December 19, 2021), https://mcit.gov.eg/en/Institutional_Development.

joint projects with ministries responsible for agriculture, electricity, higher education, justice, labour, parliamentary affairs, and tourism, as well as the Central Bank of Egypt (CBE), the Council of State, and the Supreme Constitutional Court. Many of these agreements were driven or influenced by the New Administrative Capital project, announced in 2015, to build a new city for government ministries and agencies as well as Egypt's financial sector[9]. Government ministries and agencies began moving to the new city in December 2021, and MCIT has been heavily involved in their digitalization projects to help office relocations and improve administrative efficiency.

This case study reviews Egypt's progress in terms of digital transformation and collaborative regulation based on various sources, including virtual and written interviews with NTRA as well as multiple government agencies and private-sector entities. The topics addressed included:

- institutional setup in the ICT sector and across economic sectors;
- key ICT sector policies and programmes;
- cross-sector policies for the digital economy and digital transformation;
- collaborative practices across institutions, including views from the private sector;
- regulatory tools to promote the digital economy and transformation; and
- level of regulatory maturity and policy implementation.

[9] Ministry of Housing, Utilities, and Urban Communities, The new administrative capital (last accessed February 15, 2022), http://www.mhuc.gov.eg/Programs/Index/132.

2 Institutional setup in the ICT sector and across economic sectors

Egypt has a well-developed institutional framework with established regulatory authorities covering a range of economic sectors, including the ICT sector. This section provides a snapshot of Egypt's ICT and related markets, and highlights how key authorities are involved in the regulation of the ICT sector and the broader digital economy.

2.1 State of ICT markets

Egypt has a medium level of broadband penetration, with nearly 60 per cent of households having Internet access in 2019.[10] As shown in Figure 2, there were 6.69 fixed broadband subscriptions per 100 inhabitants in 2020, as well as 59.34 mobile broadband subscriptions per 100 inhabitants in 2019.[11] Mobile broadband levels consistently increased between 2015 and 2019, rising at rates of between 1.5 and 5.4 subscriptions per 100 inhabitants. Fixed broadband penetration grew more slowly and even decreased slightly between 2019 and 2020. In terms of overall totals, NTRA reported that Egypt had 7.99 million fixed broadband subscribers and 45.71 million mobile broadband subscribers in the second quarter of 2020.[12]

With Internet access available in approximately 60 per cent of households, there is still considerable room for growth in Internet penetration. Broadband services are crucial not only to digital transformation efforts, but also to achieving and taking full advantage of ICT, digital services, and technology projects identified in the SDS, as well as the goals of the Digital Egypt vision and plan (see section 3.1). Improving broadband access would be in line with a key recommendation in the GSR-21 Best Practice Guidelines, which urges governments to "[d]esign and implement demand creation for broadband services and digital literacy programmes, including with focus on women and girls, people with disability, and marginalized groups."[13]

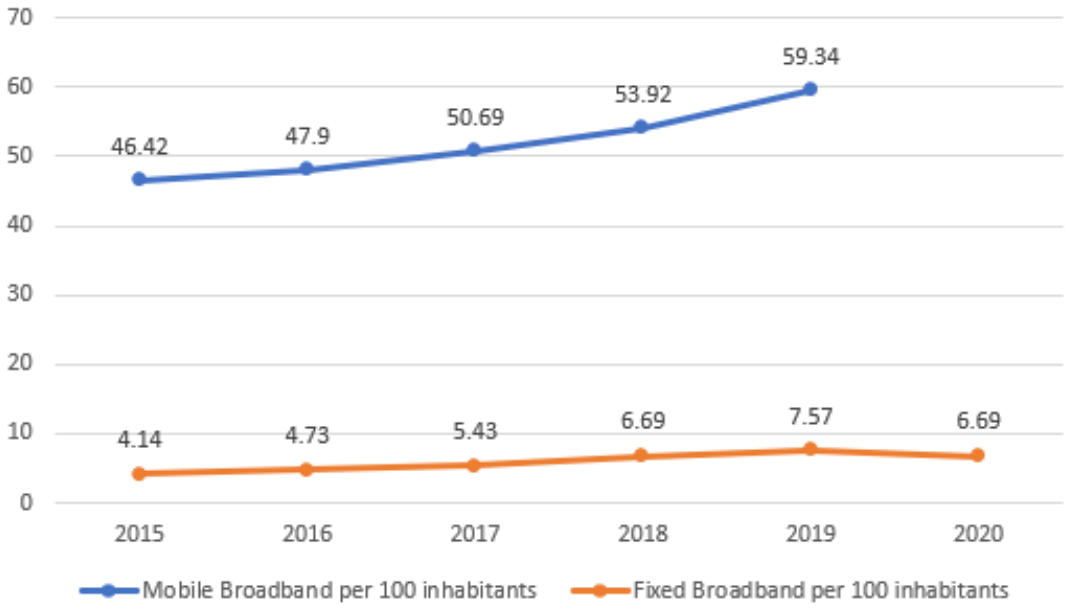
[10] ITU, ICT Eye, based on 2019 data (last accessed January 19, 2022), https://www.itu.int/net4/itu-d/icteye#/query.

[11] ITU, ICT Eye, based on 2019 data (last accessed January 19, 2022), https://www.itu.int/net4/itu-d/icteye#/query.

[12] NTRA, Market Indicators (last accessed January 19, 2022), https://www.tra.gov.eg/en/industry/telecom-market/market-indicators/.

[13] ITU GSR-21, Best Practices Guidelines: Regulatory uplift for financing digital infrastructure, access and use, p. 5 (June 2021), https://www.itu.int/en/ITU-D/Conferences/GSR/2021/Documents/BPG%20Adopted/GSR-21_Best-Practice-Guidelines_FINAL_E.pdf.

Figure 2: Mobile and fixed broadband penetration rates per 100 inhabitants (2015-2020)



Source: ITU ICT Eye

Egypt's mobile broadband and Internet markets are considered fully competitive based on 2020 data in the ITU ICT Eye.[14] The mobile market is comprised of four operators – Etisalat, Orange, Telecom Egypt, and Vodafone – all of which offer 4G services.[15] In addition, all but Telecom Egypt also offer 2G and 3G services. The same four companies hold licences to offer fixed-line services through fixed telephony or virtual fixed telephony licences. A fixed telephony licence allows Telecom Egypt to set up and establish core network infrastructure and to offer local and international fixed telephony services, as well as fax services.[16] Etisalat, Orange, and Vodafone hold virtual fixed telephony licences that allow them to provide fixed services using the core network infrastructure of other licensed operators.

Egypt has licensed 10 Internet service providers (ISPs) as of January 2022.[17] Three types of data service licences are available in Egypt.[18] Class A licences allow licensees to set up, manage, and operate core network infrastructure necessary for Internet services, while Class B licences allow licensees to set up, manage, and operate core infrastructure necessary for local and international data transfer services. Neither Class A nor Class B licences allow the provision of

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14 ITU, ICT Eye, based on 2019 data (accessed January 19, 2022), https://www.itu.int/net4/itu-d/icteye#/query.

15 NTRA, Information About Licensed Telecom Services Providers, (last accessed January 19, 2022) https://www.tra.gov.eg/wp-content/uploads/2021/08/%D9%85%D8%B9%D9%84%D9%88%D9%85%D8%A7%D8%AA-%D8%B9%D9%86-%D8%A7%D9%84%D9%85%D8%B1%D8%AE%D8%B5-%D9%84%D9%87%D9%85-%D9%84%D8%AA%D9%82%D8%AF%D9%8A%D9%85-%D8%AE%D8%AF%D9%85%D8%A7%D8%AA-%D8%A7%D9%84%D8%A7%D8%AA%D8%B5%D8%A7%D9%84%D8%A7%D8%AA.pdf.

16 NTRA, Licensed Telecom Services Description (accessed December 10, 2021), https://www.tra.gov.eg/en/regulations/licenses/licensed-telecom-services-description/.

17 NTRA, Information About Licensed Telecom Services Providers, (last accessed January 19, 2022) https://www.tra.gov.eg/wp-content/uploads/2021/08/%D9%85%D8%B9%D9%84%D9%88%D9%85%D8%A7%D8%AA-%D8%B9%D9%86-%D8%A7%D9%84%D9%85%D8%B1%D8%AE%D8%B5-%D9%84%D9%87%D9%85-%D9%84%D8%AA%D9%82%D8%AF%D9%8A%D9%85-%D8%AE%D8%AF%D9%85%D8%A7%D8%AA-%D8%A7%D9%84%D8%A7%D8%AA%D8%B5%D8%A7%D9%84%D8%A7%D8%AA.pdf.

18 NTRA, Licensed Telecom Services Description (accessed December 10, 2021), https://www.tra.gov.eg/en/regulations/licenses/licensed-telecom-services-description/.

voice services. Class C licences allow the licensee to offer free Internet services at the same tariff as fixed telephony calls. NTRA has awarded six Class A licences, three Class B licences, and one Class C licence.[19]

In response to the COVID-19 pandemic, both MCIT and NTRA implemented measures intended to ease the burden of connectivity on certain sectors. NTRA reported that it waived regulatory fees for a limited time for some broadband access services.[20] According to ITU, NTRA (in coordination with the Ministry of Health and Population) agreed with the four operators to grant a free allowance of 3 000 minutes and 10 gigabytes per month to all doctors, nurses, administrative personnel, and staff working in Egyptian isolation hospitals for COVID-19 patients.[21] In addition, MCIT supported e-learning when schools were suspended, specifically by increasing home Internet access download limits by 20 per cent at no cost to users and enabled free browsing of educational platforms and websites. More broadly, NTRA instructed operators to standardize their retail store operating hours in coordination with nationwide curfews and promoted the use of electronic transactions. MCIT also enabled free access to dedicated Ministry of Health and Population hotlines and expanded call processing capacity.

In addition, NTRA worked with the four operators to provide food to 250 000 families adversely affected by the preventive measures in place to stem the spread of COVID-19. This activity to reduce the burden on citizens, although outside of operator core competences, was in line with guidance from the Minister of Communication and Information Technology to support government COVID-19 efforts and within the framework of an initiative of the Egyptian Food Bank. NTRA and the operators coordinated food deliveries to 250 000 families, or approximately one million citizens.

The World Bank identified various measures that the government adopted to improve access to digital technologies and services during the pandemic, including:[22]

- providing flexibility for prepaid users to pay for usage after consumption;
- covering the additional cost of upgrading monthly packages;
- securing free cloud applications for companies; and
- providing free Internet services to university professors.

The World Economic Forum also noted that free SIM cards also offered to students in Egypt.[23]

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19 NTRA, Information About Licensed Telecom Services Providers (last accessed January 19, 2022), https://www.tra.gov.eg/wp-content/uploads/2021/08/%D9%85%D8%B9%D9%84%D9%88%D9%85%D8%A7%D8%AA-%D8%B9%D9%86-%D8%A7%D9%84%D9%85%D8%B1%D8%AE%D8%B5-%D9%84%D9%87%D9%85-%D9%84%D8%AA%D9%82%D8%AF%D9%8A%D9%85-%D8%AE%D8%AF%D9%85%D8%A7%D8%AA-%D8%A7%D9%84%D8%A7%D8%AA%D8%B5%D8%A7%D9%84%D8%A7%D8%AA.pdf.

20 NTRA, Responses to Collaborative Regulation Case Studies Interview Questions (DATE).

21 ITU, Efforts of NTRA and MCIT to curb the spread of COVID-19 (April 7, 2020), https://www.itu.int/net4/ITU-D/CDS/REG4COVID/Display.asp?ID=50299.

22 World Bank, Digital transformation in the time of COVID-19: The case of MENA (July 29, 2020), https://blogs.worldbank.org/arabvoices/digital-transformation-time-covid-19-case-mena.

23 World Economic Forum, 5 ways to protect critical digital connectivity during COVID-19, (April 20, 2020), https://www.weforum.org/agenda/2020/04/covid-19-5-ways-to-protect-critical-digital-connectivity/.

2.1.1 National Telecommunication Regulatory Authority

The NTRA was established in 2003 in line with the Egypt Telecommunication Regulation Law (Law No. 10/2003) as the national authority competent to regulate and administer the telecommunication sector, under the MCIT.[24] Article 4 of the law charges NTRA with enhancing and deploying services in compliance with the most advanced technology means, satisfying user needs at the most appropriate prices. NTRA also encourages both domestic and international investment in the sector in line with competition rules, particularly where it relates to providing universal service, protecting national security, optimizing spectrum use, ensuring compliance with approved international agreements, and monitoring the technical and economic efficiency of telecommunication services.

Law No. 10/2003 empowers NTRA to take various actions in pursuit of these goals, including establishing relevant strategies, programmes, rules, and management techniques and preparing and publishing licensing and authorization rules.[25] In line with this charge, NTRA has prepared several regulatory instruments and frameworks related to the digital economy, including a regulatory framework for data centres and cloud computing services and rules related to mobile wallets.[26] The cloud computing framework is organized based on the geographic location of beneficiaries, the type of service delivered, and the scope of the beneficiary clients (i.e., private or public). In brief, the framework does not impose a registration or licensing requirement on providers serving beneficiaries outside Egypt or on providers establishing and operating private data centres serving clients within Egypt. In contrast, public data centre operators serving clients in Egypt must be licensed with NTRA, and cloud service providers must be registered with NTRA. NTRA issued an Internet of Things (IoT) regulatory framework in January 2022[27]. As discussed further in section 4.1, NTRA works in close collaboration with the CBE on matters related to digital payments and mobile money.

The NTRA does not have decision-making autonomy, in line with its status under MCIT,[28] and is managed by a board of directors that includes the NTRA executive president, as well as representatives of the Council of State, the Ministry of Defense, the Ministry of Finance, national security entities, and the Radio and Television Union, as well as six members appointed by MCIT, and one NTRA employee nominated by the Federation of Egyptian Workers.[29] The board of directors is responsible for oversight of NTRA activities, including approval of plans and activity programmes, technical quality regulations and standards, the frequency spectrum usage plan, and spectrum licensing. While Article 9 of Law No. 10/2003 provides NTRA with budgetary independence regarding how its funds are used, the board of directors is also responsible for budgetary oversight, providing multiple ministries and agencies the possibility of influencing the budgeting process. The board of directors meets monthly if not more often, with at least a

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24 Egypt Telecommunication Regulation Law (Law 10/2003), Article 4, https://www.tra.gov.eg/wp-content/uploads/2020/11/Law-No-10-of-2003.pdf.

25 Egypt Telecommunication Regulation Law (Law 10/2003), Article 5, https://www.tra.gov.eg/wp-content/uploads/2020/11/Law-No-10-of-2003.pdf.

26 NTRA, Highlights of the Regulatory Framework for Establishing & Operating Data Centers and Providing Hosting & Cloud Computing Services (August 21, 2021), https://www.tra.gov.eg/wp-content/uploads/2021/08/Framework-Brief-English.pdf; NTRA, Mobile Wallets regulatory rules, https://www.tra.gov.eg/en/regulations/regulatory-framework/mobile-wallets-regulatory-rules/, (accessed December 10, 2021).

27 NTRA, Internet of Things (IoT) Framework In the Arab Republic of Egypt, https://www.tra.gov.eg/wp-content/uploads/2022/03/IoT-Framework-En.pdf

28 ITU, ICT Eye, based on 2019 data (accessed January 19, 2022), https://www.itu.int/net4/itu-d/icteye#/query.

29 Egypt Telecommunication Regulation Law (Law 10/2003), Article 12, https://www.tra.gov.eg/wp-content/uploads/2020/11/Law-No-10-of-2003.pdf.

majority of members present to satisfy the quorum requirement.[30] Board of director decisions are taken by majority agreement of members present at the meeting.

2.1.2 Supreme Council for Media Regulation

The Supreme Council for Media Regulation (SCMR), created by the 2018 Law No. 180/2018, is responsible for oversight and management of the media and broadcasting sector in Egypt, including the grant of relevant licences, the establishment of standards, and the protection of opinion, thought, and expression in the media.[31] As stated in Law No. 180/2018, SCMR regulates the affairs of audiovisual and digital media, print and digital press, and others and has technical, financial, and administrative independence.[32] However, by virtue of the process for selecting board members, Egypt's president exerts significant influence over SCMR. Through its role in licensing and regulating the audiovisual and media sectors, including content, SCMR is an important stakeholder in the development of Egypt's digital sector.

SCMR is comprised of nine members, including members chosen by the President of Egypt, the State Council, the competition authority, and NTRA. SCMR board also includes members of the journalism and media sectors and academia, although these are ultimately chosen by Egypt's president.[33] Notably, NTRA currently chairs the SCMR licensing committee.[34]

2.1.3 Other sectoral authorities involved in the digital economy

Numerous other sectoral authorities are involved in aspects of Egypt's digital economy, including several that have established cooperative agreements with MCIT or NTRA. Table 1 summarizes three key regulators in Egypt, focusing on entities that have implemented or can implement regulatory frameworks that enable or strengthen activities in Egypt's digital economy. Given the emphasis on enabling mobile payments from the highest levels of the Government of Egypt, CBE is a particularly noteworthy partner to NTRA in enabling Egypt's digital payments.

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30 Egypt Telecommunication Regulation Law (Law 10/2003), Article 14, https://www.tra.gov.eg/wp-content/uploads/2020/11/Law-No-10-of-2003.pdf.

31 SCMR, About the Council (accessed December 13, 2021), http://scm.gov.eg/%d8%b9%d9%86-%d8%a7%d9%84%d9%85%d8%ac%d9%84%d8%b3/.

32 The Law Regulating the Press, Media, and the Supreme Council for Media Regulation (SCMR), Law No. 180 of 2018, Article 68, http://scm.gov.eg/%d9%82%d8%a7%d9%86%d9%88%d9%86-%d8%a7%d9%84%d9%85%d8%ac%d9%84%d8%b3/.

33 The Law Regulating the Press, Media, and the Supreme Council for Media Regulation (SCMR), Law No. 180 of 2018, Article 73, http://scm.gov.eg/%d9%82%d8%a7%d9%86%d9%88%d9%86-%d8%a7%d9%84%d9%85%d8%ac%d9%84%d8%b3/.

34 NTRA, Responses to Collaborative Regulation Case Studies Interview Questions (DATE).

Table 1: Sample of sector authorities involved in the digital economy

Authority (Year created)	Overview of authority	Examples of role in the digital economy
Egyptian Competition Authority (ECA) (2005)	Protects competition and prevents monopolistic practices, monitors markets.[35]	September 2021 agreement with NTRA to cooperate in telecommunication competition cases.[36]
Consumer Protection Agency (CPA) (2006)	Regulates merchant-consumer relationship and ensures market safety.[37]	Publication of Internet-related guidelines addressing matters including broadband services, wireless security, and online shopping.[38]
Central Bank of Egypt (CBE) (1898)	Formulates and implements monetary, credit, and banking policies.[39] Issues currency and securities and supervises national payment system.[40] Oversees and regulates the National Payment System.[41]	Key stakeholder for mobile payments initiatives and oversees financial institutions and payment service providers. Launched a fintech and innovation strategy.[42] Established a regulatory sandbox for fintech ecosystem.[43]
Egyptian Supreme Cybersecurity Council (ESCC) (2015)	Develops national cybersecurity strategy and supervises implementation.[44]	NTRA EG-CERT acts as the execution arm for ESCC, implementing strategy and executing projects.[45]

Source: ITU analysis

35 ECA, About ECA (accessed December 13, 2021), http://eca.gov.eg/ECA/StaticContent/View.aspx?ID=1.
36 ECA, The National Telecommunications Regulatory Agency and the Competition Protection and Prevention of Monopolistic Practices sign a memorandum of understanding to develop a system for protecting free competition in the Egyptian telecom market (accessed December 13, 2021), http://eca.gov.eg/ECA/News/View.aspx.
37 CPA, Who We Are (accessed December 13, 2021), https://www.cpa.gov.eg/en-us/About-CPA/Who-we-are.
38 CPA, Safe Use of the Internet (accessed December 12, 2021), https://www.cpa.gov.eg/en-us/Guidelines/Safe-use-of-the-Internet.
39 Statute of the Central Bank of Egypt, Article 4, https://www.cbe.org.eg/_layouts/download.aspx?SourceUrl=%2Fen%2FAboutCBE%2FBankingLawDL%2FCBEStatuteStatuteoftheCentralBankfirstdraft.pdf.
40 Statute of the Central Bank of Egypt, Article 6, https://www.cbe.org.eg/_layouts/download.aspx?SourceUrl=%2Fen%2FAboutCBE%2FBankingLawDL%2FCBEStatuteStatuteoftheCentralBankfirstdraft.pdf.
41 Law 194/2020 on Central Bank and Banking System (New Banking Law), Chapter 4, https://www.cbe.org.eg/_layouts/download.aspx?SourceUrl=%2Far%2FAboutCBE%2FBankingLawDL%2F%D9%82%D8%A7%D9%86%D9%88%D9%86%20%D8%A7%D9%84%D8%A8%D9%86%D9%83%20%D8%A7%D9%84%D9%85%D8%B1%D9%83%D8%B2%D9%8A%20%D9%88%D8%A7%D9%84%D8%AC%D9%87%D8%A7%D8%B2%20%D8%A7%D9%84%D9%85%D8%B5%D8%B1%D9%81%D9%8A.pdf.
42 CBE, FinTech and Innovation (accessed December 13, 2021), https://fintech.cbe.org.eg/home/index?en.
43 CBE, Sandbox (accessed December 13, 2021), https://fintech.cbe.org.eg/home/sandbox?en.
44 National Cybersecurity Strategy 2017-2021, https://mcit.gov.eg/Upcont/Documents/Publications_12122018000_EN_National_Cybersecurity_Strategy_2017_2021.pdf.
45 NTRA, Responses to Collaborative Regulation Case Studies Interview Questions (DATE).

3 Key ICT sector policies and programmes

In recent years, many ICT sector high-level policy documents have enabled and will continue to guide digital transformation and the adoption of new digital services in Egypt. At the highest level, the Digital Egypt strategy intends to transform Egypt into a digital society, and it underpins several current MCIT activities. Additional key policies include strategies addressing artificial intelligence (AI), cybersecurity, and e-commerce.

3.1 Digital Egypt

MCIT is focused on the development of Digital Egypt, which it describes as "an all-encompassing vision and plan, laying the foundations for the transformation of Egypt into a digital society."[46] Digital Egypt is built around three main elements: digital transformation, digital skills and jobs, and digital innovation. These are collectively built on digital infrastructure and the legislative and regulatory framework. In discussing the legal and regulatory framework, MCIT notes that it is cooperating with other sectors to reform Egypt's legislative framework through the proposal of multiple laws, including those addressing cybercrime, intellectual property, consumer protection, e-signatures, and data protection.

In particular, digital transformation, as well as an MCIT focus on institutional development, prioritizes improvement of the ICT infrastructure underpinning Government of Egypt functions and citizen services. Regarding digital transformation, MCIT states that it seeks to:

- promote the development of the ICT infrastructure and improve digital services in government agencies,
- enhance the performance of ministries and other government agencies, and
- raise the quality and efficiency of services through improvements to work environments and providing support for decision-making processes, by improving the work environment, providing support for decision-making processes.[47]

3.2 National AI Strategy

In 2019, Egypt published its National AI Strategy, which identifies plans to expand the use of AI technologies and transform the economy. As described by MCIT, the strategy seeks to fundamentally rethink business models and make significant changes to reap the benefits of productivity growth and create new growth areas.[48] The National AI Strategy is built upon four pillars:

1. AI for government;
2. AI for development;
3. capacity building; and
4. international relations.

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[46] MCIT, Digital Egypt (accessed December 10, 2021), https://mcit.gov.eg/en/Digital_Egypt.
[47] MCIT, Digital Transformation (last accessed January 19, 2022), https://mcit.gov.eg/en/Digital_Government.
[48] MCIT, Egypt's AI Strategy (last accessed January 19, 2022), https://mcit.gov.eg/en/Artificial_Intelligence.

Collectively, these pillars seek to develop Egypt's AI industry, skills, and usage across all sectors of society, including in the public sector, addressing development needs, and ensuring that citizens and businesses know how to leverage the benefits of AI. At the international level, the strategy intends to position Egypt as a regional and international leader, particularly through participation in African and Arab fora.

The National AI Strategy identifies four categories of AI enablers: governance, data, ecosystem, and infrastructure. In addition, it sets out five priority sectors to benefit from AI: agriculture/environment and water management, healthcare, natural language processing, economic planning, and manufacturing and infrastructure management. Taken together, these priority sectors have the potential to reach a large part of society.

Egypt has been particularly active in developing the international relations pillar of the National AI Strategy. A review of relevant announcements from MCIT reveals participation in activities, including the Arab AI Working Group, the Global Partnership on AI, a UNESCO expert group on AI ethics, the Organization for Economic Co-Operation and Development Committee on Digital Economy Policy, an African Union working group on AI, and an ITU/World Health Organization workshop on AI for health.[49]

In November 2020, MCIT announced that in the Government AI Readiness Index 2020 report, published by Oxford Insights and the International Research Development Centre (IDRC), Egypt had advanced by 55 places.[50] Minister of Communications and Information Technology Amr Talaat noted that the progress reflected significant government efforts related to AI, notably including implementing modern technologies to provide Digital Egypt services.[51] A year later, Egypt's overall score increased slightly, although its overall position dropped from 56 to 65 place.[52]

3.3 National Cybersecurity Strategy 2017-2021

In December 2018, the Egyptian Supreme Cybersecurity Council published the National Cybersecurity Strategy 2017-2021 (Cybersecurity Strategy), which entails multiple programmes supporting Egypt's strategic cybersecurity objectives.[53] In particular, the Cybersecurity Strategy outlines the distribution of roles among various government agencies, the private sector, and civil society, as well as the role of the government in enabling progress. In addition to identifying the most significant challenges and threats facing Egypt, the Cybersecurity Strategy also lists the most-targeted critical sectors: ICT, financial services, energy, government services, transportation, health and emergency aid, information and culture, and key official state websites.

The Cybersecurity Strategy also sets out strategic direction pillars to face cyber threats. These include:

- strategic and executive political and institutional support;

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49 MCIT, Egypt's AI Strategy (last accessed January 19, 2022), https://mcit.gov.eg/en/Artificial_Intelligence.
50 Oxford Insights, Government AI Readiness Index 2020, https://www.oxfordinsights.com/government-ai-readiness-index-2020.
51 MCIT, Egypt Moves Up 55 Places on Government AI Readiness Index (November 12, 2020), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/53006.
52 Oxford Insights, Government AI Readiness Index 2021, https://www.oxfordinsights.com/government-ai-readiness-index2021.
53 National Cybersecurity Strategy 2017-2021, https://mcit.gov.eg/Upcont/Documents/Publications_12122018000_EN_National_Cybersecurity_Strategy_2017_2021.pdf.

- the legislative framework;
- the regulatory and executive framework;
- scientific research and development and cybersecurity industry development;
- developing cybersecurity human capacity and expertise;
- international cooperation; and
- community awareness.

The Cybersecurity Strategy includes an action plan covering the 2017-2021 period. The action plan is comprised of six strategic programmes:

1. develop appropriate legislative frameworks (cybersecurity, cybercrime, privacy, digital identity);
2. develop an integrated national system to protect cyberspace and ICT infrastructure;
3. protect digital identity, improve infrastructure necessary for e-transactions and e-government services;
4. prepare human capacity and expertise to implement cybersecurity improvements;
5. support scientific research and development, industry development;
6. raise awareness of e-services opportunities and the importance of cybersecurity to their protection.

3.4 E-Commerce Strategy

In December 2017, MCIT and the United Nations Conference on Trade and Development (UNCTAD) published the National E-commerce Strategy for Egypt (E-Commerce Strategy).[54] The E-Commerce Strategy was developed under the UNCTAD ICT Policy Review Programme at the request of MCIT. As noted by the Ministry, the E-Commerce Strategy entails a set of recommendations supporting decision-making policies in key aspects of e-commerce and enabling Egypt to overcome e-commerce challenges. The overarching strategic objective is to "leverage e-commerce to increase the wealth of the nation through economic growth, export competitiveness, enhanced productive capacity and job creation." The document includes six sub-strategies, or recommendations, and six "megaprojects," and is supplemented by an action plan. Notably, Egypt set a target for e-commerce to represent 2.35 per cent of gross domestic product (GDP) by 2020. According to a press report citing a Ministry of Supply and Internal Trade official, in fiscal year 2019-2020, Egypt's e-commerce volume was equal to USD 4.8 billion, or about 1.3 per cent of GDP.[55]

The six sub-strategies seek to:

1. empower businesses through e-commerce;
2. leverage e-commerce to incentivize formalization of the informal sector;
3. leverage e-commerce to exploit the strengths and opportunities in the ICT sector;
4. boost growth in the logistics sector and make Egypt into a regional logistics hub;
5. accelerate growth in the e-payments sector;
6. build Egypt's consumer market for e-commerce.

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[54] UNCTAD, ICT Policy Review: National E-Commerce Strategy for Egypt (2017), https://mcit.gov.eg/Upcont/Documents/Publications_1532018000_e-Commerce-Strategy-March2018.pdf.

[55] Business Today Egypt, Egypt's official retail trade sector is 14.5% of GDP at LE850B, ecommerce at $4.8B (March 23, 2021), https://www.businesstodayegypt.com/Article/1/444/Egypt%E2%80%99s-official-retail-trade-sector-is-14-5-of-GDP.

The six accompanying megaprojects were proposed to support the achievement of the overarching strategy and the sub-strategies. These included the creation of an e-commerce business facilitation hub and a national business-to-consumer e-marketplace, the launch of a rural e-commerce development initiative, empowering youth and small and medium enterprises (SMEs) for e-commerce, activating and creating additional e-commerce payment methods, and branding Egypt's business process outsourcing/IT-enabled services sector.

The document addresses governance and implementation of the E-Commerce Strategy, specifically referring to a new Ministerial E-Commerce Committee to be chaired by MCIT and comprising the heads of relevant ministries (Trade and Industry, Finance), as well as the chairs of the Federation of Chambers of Industry and Commerce, and CBE. In addition, an MCIT National E-Commerce Committee was designated to monitor policy implementation, coordination between different entities, and participation, as well as to monitor problem-solving. This committee would include representatives from 10 ministries, agencies, and private-sector groups.

4 Key cross-sectoral policies and activities

In line with the GSR-21 Best Practice Guidelines, regulatory governance structures should be adapted to new digital mandates.[56] In line with Digital Egypt and SDS, government agencies have already taken significant steps to bring the country further into a digital regulation era. This section identifies some key digital-focused policies and activities undertaken by NTRA, MCIT, CBE, and others.

4.1 Electronic payments and expanding financial inclusion

In February 2017, President Abdel Fattah al-Sisi issued a decree establishing the National Payments Council (NPC) in line with provisions of the New Banking Law.[57] CBE noted that NPC aims to promote the use of digital payments broadly across the economy, which includes the promotion of mobile money services.[58] According to press reports, the NPC is chaired by the President of Egypt and includes the prime minister, the governor of CBE, and the ministers of defense, planning, interior, communications, justice, and finance.[59] NPC also includes the heads of the General Intelligence Service and the Administrative Control Authority, the deputy governor of CBE for payments, the head of the Egyptian Financial Supervisory Authority, the chairman of an Egyptian bank, a legal adviser, and a non-voting planner appointed by the NPC. According to CBE, NPC does not itself have the power to issue national laws or decrees.[60]

In a related development, both NTRA and CBE referenced NPC and identified electronic payments and related issues as priorities for President al-Sisi that drove collaborative efforts between the two agencies.[61] Representatives of both agencies referenced agreements between their respective agencies to enable and expand digital payments. They also emphasized the productivity of their ongoing collaboration, which CBE and NTRA noted is based on multiple memoranda of understanding (MOUs) such as Mobile payments MOU and Fin-Tech MOU. The Mobile Payments MOU, identified as the most successful of CBE-NTRA MOUs, was highlighted as an important tool to resolve misunderstandings between the authorities related to rules and regulations included in mobile money licences and approvals, as well as related to limits, controls, market assessment, and guidance.

4.2 Enabling Digital Egypt

MCIT has been particularly active in recent years in terms of establishing cooperative agreements with various ministries and other government bodies. These agreements are in line with the Digital Egypt strategy discussed in section 3.1, with MCIT serving as the government focal

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56 ITU GSR-21, Best Practices Guidelines: Regulatory uplift for financing digital infrastructure, access and use, p. 8 (June 2021), https://www.itu.int/en/ITU-D/Conferences/GSR/2021/Documents/BPG%20Adopted/GSR-21_Best-Practice-Guidelines_FINAL_E.pdf.

57 State Information Service, Presidential decree establishing national council for payments (February 12, 2017), https://www.sis.gov.eg/Story/107854?lang=en-us; New Banking Law, Article 50.

58 CBE, Interview (October 18, 2021).

59 Daily News Egypt, Al-Sisi issues decree to establish National Council for Payments under his chairmanship, February 15, 2017, https://dailynewsegypt.com/2017/02/15/615532/.

60 CBE, Interview (October 18, 2021).

61 CBE, Interview (October 18, 2021); NTRA, Interview (October 17, 2021).

point for enabling and expanding the digital capacities of entities across the government. A representative sample of MCIT agreements is presented in Table 2.

Table 2: Selected MCIT 2021 cooperation agreements

Partner entity	Focus of cooperation	Associated entities
Ministry of Electricity and Energy[62]	ICT performance in the electricity sector, incorporation of electricity services into Digital Egypt portal, apply e-government standards.	Egyptian Electricity Holding Company
Ministry of Social Solidarity[63]	Provide telecommunication services to beneficiaries of social protection programmes.	NTRA, Telecom Egypt
Ministry of Manpower[64]	Development of Ministry of Manpower e-portal/enable services on Digital Egypt portal.	N/A
Ministry of Parliamentary Affairs[65]	Employ state-of-the-art ICT tools to achieve institutional development and digital transformation, develop employees' skills, improve quality of service and efficiency.	House of Representatives, Senate
Supreme Constitutional Court[66]	Continue automation and development process, promote use of electronic transactions, develop electronic litigation process, develop technical skills of SCC employees.	N/A
Council of State[67]	Automate Council of State activities, implementing Digital Egypt Justice project.	Ministry of Justice
National Press Authority (NPA)[68]	Develop NPA electronic application, develop national press, emphasize role of media in raising awareness.	Akhbar El Yom (newspaper)
CBE[69]	Facilitate digital government services, implement NPC strategy, enable Meeza card and mobile wallets on Digital Egypt platform.	Ismalia Governorate

Source: ITU analysis

62 MCIT, Electricity, ICT Ministers Sign Protocol to Develop IT Systems Performance at Electricity Sector, Enable Electricity Services on Digital Egypt Platform (January 7, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/53103.

63 MCIT, Social Solidarity, ICT Ministers Witness Signing New Cooperation Agreement (January 13, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/53116.

64 MCIT, Manpower, ICT Ministers Sign Protocol to Develop Manpower Ministry e-Portal, Enable Ministry Services on 'Digital Egypt' Platform (January 16, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/53120.

65 MCIT, ICT, Parliamentary Affairs Ministers Witness Signing Protocol to Achieve Institutional Development, Digital Transformation in Parliamentary Affairs Ministry (February 7, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/57169.

66 MCIT, SCC President, ICT Minister Ink Protocol to Automate, Develop SCC Work System (February 9, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/57172.

67 MCIT, MCIT, State Council Sign Protocol to Automate State Council (May 31, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/63397.

68 MCIT, MCIT, NPA Witness Signing Protocol to Create App for NPA (June 2, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/63404.

69 MCIT, CBE, MCIT Sign Protocol to Facilitate Rendering Government Services Electronically (July 16, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/63516.

The range of entities with which MCIT has entered into cooperation agreements reflects the importance of the ministry as the enabling entity for the Digital Egypt strategy and provides it with multiple opportunities to incorporate a wide range of government and citizen services into the Digital Egypt portal.

4.3 Ensuring telecommunication competition

In September 2021, NTRA and the Egyptian Competition Authority (ECA) entered into an MOU to enhance the existing system for protecting competition in Egypt's telecommunication market.[70] Recognizing that management of competition issues can become complicated due to potential conflicts between a horizontal competition authority, such as ECA, and a sector-specific regulator, such as NTRA, MOU seeks to achieve a collaborative approach to competition matters in the telecommunication sector. According to NTRA, minimizing uncertainty around competition matters will support existing investment and foster new investments.

NTRA and ECA agreed to establish a joint executive committee to cooperate on competition matters and to exchange relevant expertise. The ECA chair stated that the committee will establish further executive frameworks governing the cooperation between the two agencies. The cooperation is in line with NTRA strategy and vision to develop the ICT market and expand investment opportunities within a competitive, fair, and safe business environment, and also provides an avenue for ECA to take decisions that could enforce competition in the ICT sector and to minimize legislation, policies, and decisions that restrict free competition.

NTRA and ECA have a lengthy history of cooperating on ICT sector competition matters. While the two entities signed a new MOU in September, ECA notes that they previously signed a joint cooperation protocol in June 2011.[71] Similar to the recent MOU, the 2011 cooperation protocol sought to support freedom of competition in the telecommunication sector and the exchange of information and experiences between ECA and NTRA.

4.4 Additional collaboration

NTRA indicated that it also engages in collaborative activities with other agencies.

- An MOU is in preparation with the Consumer Protection Authority (CPA), under which all telecommunication sector complaints registered with CPA will be transferred to NTRA.
- NTRA participates in joint programmes and committees with the Ministry of Electricity and Energy related to smart services and implementing digital transformation of the electricity sector.
- NTRA participates in joint committees with the Domestic and International Land Transport Regulatory Authority, particularly in relation to smart transportation services and the regulatory framework for ride-hailing apps.

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[70] NTRA, NTRA and ECA sign a Memorandum of Understanding to enhance free competition practices in Egypt's telecom market - National Telecom Regulatory Authority (September 20, 2021), https://www.tra.gov.eg/en/ntra-and-eca-sign-a-memorandum-of-understanding-to-enhance-free-competition-practices-in-egypts-telecom-market-2/.

[71] ECA, Collaboration Protocols (accessed January 20, 2022), http://eca.gov.eg/ECA/StaticContent/View.aspx?ID=11.

- The Personal Data Protection Law provides that an NTRA representative sits on the board of the Personal Data Protection Centre (PDPC). Consultations have taken place concerning the establishment of PDPC.
- To complete the implementation of know-your-customer regulations for mobile money customers and the registration process in the Digital Egypt platform, NTRA established an online Hub to validate customer data with the recorded data at mobile network operator (MNO) databases.

5 Collaborative practices across institutions

In line with the SDS, Egypt is undertaking multiple activities intended to transform the country, including the leveraging of digital technologies and services. As seen in the examples above, MCIT and NTRA are playing key roles in Egypt's digital transformation through direct cooperation with entities across the economy. This section provides more concrete examples of specific collaborative activities related to Egypt's digital transformation and also provides information on collaboration between public and private entities in the ICT sector.

5.1 Public-sector activities

Collaborative efforts related to Egypt's SDS goals and its digital transformation are driven by ministries and regulatory agencies. The following examples highlight two areas of collaboration in which key public-sector entities are working jointly to transform Egypt.

5.1.1 Digitizing education

In addition to the recent agreements or extensions cited in section 4.2, MCIT has an ongoing cooperative relationship with the Ministry of Higher Education and Scientific Research related to digital transformation and information infrastructure. In May 2021, the respective ministers met to follow up on the implementation of several joint projects.[72] Among the joint projects discussed during the meeting were:

- digital universities, transforming national universities into digital universities and developing necessary information infrastructure;
- electronic exam system and smart university applications in national universities;
- innovation hubs in regional universities, providing access to technical training and promoting innovation and entrepreneurship;
- specialized Internet of Things (IoT) laboratories.

MCIT reported that there are 11 joint projects between the two ministries, with a budget of more than EGP 4.7 billion (USD 298 million). Minister of Communications and Information Technology Amr Talaat stated that the two ministries would form an executive committee to monitor and evaluate the status of the digital universities project and to provide necessary technical support. The committee will also establish criteria for digital universities to meet and a roadmap to meet the specified thresholds. Ideally, the ministries intend to implement the project in private universities as well.

5.1.2 Housing and smart cities

Another key example of cross-sectoral collaboration is seen in the housing sector, including with respect to building codes and the development of smart cities. NTRA has worked collaboratively with two housing and development-related authorities to meet SDS goals concerning housing

[72] MCIT, Higher Education, ICT Ministers Follow up on Joint Projects (May 25, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/63385.

and urban development: the Housing and Building National Research Centre (HBRC) and the New Urban Communities Authority (NUCA). NTRA collaboration with HBRC and NUCA includes joint efforts related to the development of Egypt's largest smart city, the New Administrative Capital.

According to HBRC, the Minister of Housing, Utilities, and Urban Communities and the Minister of Communications and Information Technology held an initial dialogue that resulted in the formation of a committee including representatives from both sectors.[73] Over the last two years, the collaboration between the two sectors has resulted in the development of key codes related to the development of smart cities. The planning, management and sustainability of smart cities is handled through codes providing a baseline for the design and requirements for smart telecommunication infrastructure for different building types. In addition, HBRC and NTRA continue to work jointly to develop second phases of each of the aforementioned codes, focusing on implementation matters. The codes were developed through weekly or bi-weekly committee meetings, resulting in an agreement on code structures, exchanges of ideas, and feedback from multiple stakeholders.

In addition to HBRC and NTRA work on key codes, NUCA has collaborated with NTRA to address issues related to land use and planning issues in smart city projects, ensuring that new developments are ready for current and future smart applications.[74] The two agencies have a formal collaboration protocol in place to ensure a joint approach to issues related to smart city development.

According to NUCA, NTRA has established a set of telecommunication codes and guidelines to be implemented in new smart cities and communities. NUCA specifically highlighted:

- NTRA codes related to telecommunication infrastructure and design codes for residential buildings, Residential Moderated Buildings[75], high-rise buildings, office buildings, service buildings;
- NTRA codes related to mobile network infrastructure such as cellular base station construction codes; and
- the Network Node/ Central Communication Office Design Guidelines and Educational facilities.

In addition, NUCA is required to send all new project designs to NTRA for approval. NUCA must ensure that NTRA approved designs are implemented.

It is clear, especially from information shared by HBRC, that there is a clear delineation of the duties of the housing and telecommunication ministries and authorities, enabling a productive collaborative relationship.

5.2 The private-sector role

In a competitive ICT sector, such as Egypt's, there are roles to be played by private-sector entities that provide and enable connectivity nationwide. Vodafone Egypt and Etisalat have also engaged with government stakeholders in order to progress Egypt's digital transformation.

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[73] HBRC, Responses to Collaborative Regulation Case Studies Interview Questions (December 2021).
[74] NUCA, Responses to Collaborative Regulation Case Studies Interview Questions (December 2021).
[75] A kind of residential buildings that are funded by the Ministry of housing and intended for low- and moderate-income citizens.

5.2.1 Vodafone Egypt

Vodafone identified NTRA as the most important entity and policymaker for digital transformation in Egypt.[76] However, the operator also noted that it has partnered with the Ministry of Health, the Ministry of Education, and other government agencies to support efforts related to digital transformation and other societal needs. In particular, Vodafone noted a need to work with the government to ensure that consumers and end-users are educated on digital experiences and digitalization. Recently, Vodafone worked with the Ministry of Health on activities related to the COVID-19 pandemic and vaccination needs, as well as increasing access to WhatsApp and other services in order to improve connectivity options for Egyptians abroad.

Vodafone has also worked with the Government of Egypt on financial inclusion efforts for the past three years and continues to do so. The operator sees a clear demand for such services, noting that it registers millions of customers using new mobile financial services within weeks of their introduction.

5.2.2 Etisalat

Like Vodafone, Etisalat is keen to continue enabling Egypt's digital transformation, in line with a company vision to deliver all services digitally.[77] Etisalat noted that it has partnered with the government on data centre management in the New Administrative Capital and hopes to increase its focus on electronic payments and mobile money transfer as part of an expansion of its digital services portfolio.

Etisalat cited the need to identify the commonalities between government objectives and private-sector business plans to enable growth. To this end, Etisalat maintained "constructive and collaborative communication" with both MCIT and NTRA. The operator characterized the communication as focusing on practical ways to solve chronic market problems. As a result, Etisalat identified achievements that included improved permit issuance processes with various government entities, supporting government initiatives for facilitating online education through the pandemic, expanding cashless financial transactions, and solving outstanding disputes between market players. Etisalat also pointed to the collaborative approach taken by regulatory authorities and the private sector as crucial to helping Egypt to overcome the COVID-19 pandemic.

[76] Vodafone Egypt, Interview (December 2, 2021).
[77] Etisalat, Responses to Collaborative Regulation Case Studies Interview Questions (December 2021).

6 Regulatory approaches to promote the digital economy and transformation

The GSR-19 Best Practice Guidelines highlighted seven core policy design principles for collaborative regulation, intended to assist regulators as they respond to new technology paradigms and business models in a more collaborative regulatory environment.[78] Egypt's approach to meeting its SDS and Digital Egypt goals demonstrates that it has internalized several of these principles. These activities are increasingly in line with the GSR-19 Best Practice Guidelines, although there remains room to further implement the core design principles.

6.1 Holistic policy and regulation

The first of the core design principles cites the need for a holistic, cross-sectoral approach to regulation that includes revisited regulatory approaches. In line with its SDS and Digital Egypt goals, Egypt is developing cross-sectoral, collaborative relationships at the ministry and regulator levels, with MCIT and NTRA as key focal points on digital transformation matters. The collaborative endeavours, including not only digital transformation within ministries and government agencies but also cross-sector efforts, are developing more forward-looking regulatory approaches that promote agile regulation.

Egypt's digital transformation goals are necessarily driving cross-sector collaboration efforts, such as between MCIT and NTRA and ministries and agencies in the financial, housing/urban development, and education sectors. Importantly, as noted in section 5.2, private entities in the ICT sector indicated that they have engaged in productive collaborations with NTRA and other government bodies, potentially pointing towards a more co-regulatory approach in the future.

6.2 Consultation and collaboration

In some important ways, Egypt has embraced the core design principle encouraging the inclusion of expectations, ideas, and expertise from a range of stakeholders in its collaborative regulation activities to enable digital transformation. Multi-agency committees with regular meetings and feedback mechanisms have enabled the incorporation of views from each stakeholder included in the process, such as in the case of CBE/NTRA activities related to digital payments and NTRA collaboration with HBRC and NUCA on smart cities.

However, key government entities involved in digital transformation activities do not have a robust history of public consultations seeking input from a wider range of stakeholders. NTRA has recently introduced changes to regulatory decision consultation processes intended to give the regulator stronger discretionary power. The new regulatory framework adopted in June 2021 gives NTRA considerable latitude to set the terms of public consultations, including whether or not to publish drafts of any given instrument and whether or not to publish comments

[78] ITU, GSR-19 Best Practices Guidelines (July 2019), https://www.itu.int/en/ITU-D/Conferences/GSR/2019/Documents/GSR19BestPracticeGuidelines_E.pdf.

received or a summary thereof.[79] The framework specifies 30 days as the default consultation period unless otherwise specified. However, stakeholders may request an extension of the consultation period in writing within the first 21 days of the consultation period. The framework also states that consultations shall consist of a single round, encouraging stakeholders to submit constructive, accurate, clear, and comprehensive submissions. The framework does not address any obligation on NTRA to take comments into account in its final decisions or instruments.

6.3 Evidence-based policy and regulation

A core policy design principle outlined in the GSR-19 Best Practice Guidelines encourages the implementation of evidence-based policies and regulations, noting that appropriate authoritative benchmarks and metrics can provide important guidance to regulators. Egypt has begun to make strides toward such evidence-based approaches in its publicly available policy instruments. Notably, the SDS sets out specific KPIs and targets for all 10 pillars, and the E-Commerce Strategy also identifies KPIs.[80] While the government is not currently publishing regular updates on progress toward the SDS KPIs and targets, at the end of 2021, MCIT published a press release identifying updated ICT indicators, including growth rates, GDP contributions, digital exports, rankings on GSMA and Economist Intelligence Unit indices, digital transformation progress, and capacity building, among others.[81] MCIT also publishes quarterly telecommunication sector indicators. The most recent such update covers the period up to December 2021.[82]

6.4 Outcome-based policy and regulation

The GSR-19 core policy design principles also encourage the development of outcome-based policies and regulations, with regulatory actions related to new technologies rooted in the impact on consumers, societies, market players, and investment flows, as well as national development. Collaborative regulation approaches involving Egypt's ICT sector are certainly rooted in national development, with numerous policies and initiatives citing the SDS and an overarching need to advance digital transformation. The impending relocation of government offices to the New Administrative Capital provides a concrete example of collaborative regulation driven by a specific outcome: numerous government entities are working jointly with MCIT to increase their level of digitization ahead of planned moves.

Egypt continues to introduce outcome-based collaborative regulatory approaches that consider impacts on consumers, market players, and investment flows. Returning to the example of the collaboration between NTRA and ECA, the regulators cited the need for regulatory certainty in order to protect and encourage investment in the sector as well as to preserve fair competition, which directly affects consumers. Similarly, the collaboration between MCIT and the Ministry of Higher Education and Scientific Research is focused on expanding access to education and training, which directly affects students while also supporting national development goals.

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79 NTRA, Regulatory Framework on the Rules and Measures of Public Consultations Issued by the National Telecom Regulatory Authority of Egypt (June 2021), https://www.tra.gov.eg/wp-content/uploads/2021/06/Regulatory-Frame-on-the-Rules-and-Measures-of-Public-Consultations-003.pdf.

80 Egypt Vision 2030; UNCTAD, ICT Policy Review: National E-Commerce Strategy for Egypt, pp. 62-64.

81 MCIT, ICT Sector Achievements in 2021 (December 29, 2021), https://mcit.gov.eg/en/Media_Center/Press_Room/Press_Releases/64908.

82 MCIT, Indicators (accessed February 15, 2022), https://mcit.gov.eg/en/Indicators.

6.5 Trust and engagement

The GSR-19 core policy design principles also focuses on the need for policy and regulation that builds trust and engagement. This provides opportunities for win-win positions and regulatory objectives that increase the engagement of industry. Egypt's intra-governmental collaborative regulatory activities have sought and made progress towards propositions that benefit the entities involved, such as the joint efforts of NTRA, HBRC, and NUCA concerning smart city building codes. Engagement between the public and private sectors is reflected in recent efforts to increase industry engagement in the activities related to mobile payments. Multiple stakeholders, including both government agencies and private-sector entities, identified mobile payments activities and engagement between the public and private sectors as both serving a national priority and providing opportunities for the private sector to expand its portfolio of services.

6.6 Incentive-based regulatory tools

The ITU Global ICT Regulatory Outlook 2020 identified several high-level policy design principles, including incentive-based tools that lay the foundation for collaborative regulation and redefine regulatory approaches under the G5 Benchmark.[83] Incentive-based tools can be market-based by promoting investment and regulatory-based by improving market outcomes through reduced or more streamlined regulation, as highlighted in the GSR-19 Best Practice Guidelines.[84]

In its response to the ITU G5 Benchmark questionnaire, NTRA identified multiple incentive-based regulatory tools:[85]

- regulatory fees are waived for licensees undertaking specific infrastructure projects that aid the digital transformation;
- licensees may obtain an exemption from research and development and universal service financial contributions for five years;
- for five years capex and opex is being funded in targeted rural areas through the universal service fund;
- in an effort to expand the market, NTRA offers discounted licences to SME Internet registrars.

6.7 Regulatory sandbox and experimentation

Both GSR-19 and GSR-21 Best Practice Guidelines cite the importance of opportunities for digital experimentation, such as regulatory sandboxes to "promote the deployment of emerging technologies and encourage market players, including from outside traditional telecommunication operators, to test and develop services."[86] Sandboxes offer flexibility for trialling new technologies and services, enabling a level of experimentation and innovation that might otherwise be stymied by the existing regulatory framework.

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83 ITU, Global ICT Regulatory Outlook 2020, https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-BB.REG_OUT01-2020-PDF-E.pdf.

84 ITU, GSR-19 Best Practices Guidelines (July 2019), https://www.itu.int/en/ITU-D/Conferences/GSR/2019/Documents/GSR19BestPracticeGuidelines_E.pdf.

85 NTRA, Responses to Collaborative Regulation Case Studies Interview Questions (DATE).

86 ITU, GSR-19 Best Practices Guidelines; ITU GSR-21, Best Practices Guidelines: Regulatory uplift for financing digital infrastructure, access and use, (June 2021), https://www.itu.int/en/ITU-D/Conferences/GSR/2021/Documents/BPG%20Adopted/GSR-21_Best-Practice-Guidelines_FINAL_E.pdf.

In 2019, CBE established a regulatory sandbox for fintech, enabling the testing and development of new business models that would be hindered by stringent authorization requirements and regulatory uncertainty. CBE noted that the purpose of the regulatory sandbox is to enable faster and easier access to new financial solutions and also to embed compliance within the fintech ecosystem at an early stage.[87] The CBE published a framework document that sets out the fintech regulatory sandbox principles, objectives, and eligibility criteria, as well as the sandbox stages and the testing parameters.[88]

In addition, NTRA indicated that it enables pilot projects for new technologies, such as 5G and fibre-to-the-home.[89]

87 CBE, Sandbox (accessed Jan. 19, 2022), https://fintech.cbe.org.eg/home/sandbox?en.
88 CBE, Cohort and framework (accessed Jan. 19, 2022), https://fintech.cbe.org.eg/home/sandboxCohorts?en.
89 NTRA, Responses to Collaborative Regulation Case Studies Interview Questions (DATE).

7 Level of regulatory maturity and policy implementation

The 2021 G5 Benchmark classifies Egypt's state of preparedness of legal and regulatory frameworks for the digital transformation as transitional (see section 1), with a relatively high digital development toolbox (pillar III) score that drives the overall score to the higher end of the transitional category. The SDS is designed to align with the Sustainable Development Goals and includes programmes and projects intended to advance Egypt's digital transformation. The Digital Egypt strategy and the related actions taken by MCIT have strengthened Egypt's G5 Benchmark scores related to the digital development toolbox.

However, there is still significant room for further development in terms of its overall holistic collaborative regulation and policymaking in a digital economy era. Considering, for example, core design principles and best practices identified by the global regulatory community, Egypt could focus on options increasing the incidence of approaches, such as co-regulatory and self-regulatory models, broader stakeholder consultation efforts, and further incorporation of authoritative benchmarks and metrics.[90] Egypt could also look ahead to innovation-based policy and regulation, and more adaptive, balanced, and fit-for-purpose policy and regulation. In addition, Egyptian authorities should bolster accountability and transparency through regular policy implementation progress reports. Finally, the government could take additional steps to bolster NTRA independence.

7.1 Broader stakeholder consultation

In stakeholder interviews, a recurring theme was the interest in more consultative exercises as part of Egypt's regulatory reform and development processes. This suggestion is in line with the GSR-19 core design principles and is one aspect on which the policy design principles pillar of the G5 Benchmark is scored.

- A private-sector entity stated that increased consultations and decision-making procedures would be extremely valuable actions that NTRA and other national regulatory authorities can undertake to support the move towards more open, collaborative regulation.
- A government agency also noted that external consultations with stakeholders or international parties, among others, are very important to the efforts of CBE and other agencies to ensure that they are acting according to standards, international best practices, and in the best interest of all parties involved.
- One government agency took a mixed view of stakeholder consultations, noting in some contexts that stakeholders and consumers are consulted informally and that policies are built in consultation with stakeholders and government entities, but also recommending "more activation" of public/stakeholder consultation mechanisms.
- A government agency identified public/stakeholder consultation mechanisms as one of the two most important policy or regulatory tools that could be implemented to enable the transition to agile, collaborative regulation in Egypt.

[90] ITU, Collection of GSR Best Practice Guidelines, https://www.itu.int/bestpractices

7.2 Agility and streamlined processes

Multiple stakeholders referred to the need to embrace a more agile, less burdensome regulatory approach to further enable Egypt's digital transformation.

- A private-sector entity noted that, broadly, regulatory authorities should evolve to be more flexible, agile, and enabling, while keeping appropriate control of the market. In terms of key lessons in regulatory reform, the company stated that "agility is key". The stakeholder used the COVID-19 pandemic as an example, citing the importance of an agile mindset when navigating from crisis management to adaptation and ultimately to forward planning. They identified a flexible crisis management strategy, presumably in collaboration with the government, as an important aspect in successfully managing the pandemic crisis.
- One private-sector entity suggested conducting consultations on simplifying administrative procedures, especially for regulators beyond NTRA. They noted that administrative procedures are currently very difficult for both citizens and companies.
- A government agency noted that reform should be gradual and continuous, due to the rapid development of communication services and technologies. The stakeholder also noted the impact of too specific and narrow legacy regulations that do not allow for new and emerging businesses.

7.3 Enhanced regulatory independence

In line with ITU definitions of an independent and autonomous regulator and international best practices, Egypt's ICT sector as well as the various agencies that interact with the ICT sector would benefit from greater separation between NTRA and the government, notably MCIT. Among other references, the GSR-20 Best Practice Guidelines and the ITU/World Bank Digital Regulation Platform emphasize the importance of regulatory independence and note that regulatory authorities collaborating across sectors in the context of digital transformation require the ability to act with integrity and make objective, future-proof decisions enabled by independence and appropriate powers.[91]

The NTRA is subordinate to MCIT and is managed by a board of directors that is heavily populated by representatives nominated by government entities, including six appointed by MCIT. While NTRA has nominal budget independence under the law, the board of directors holds budget oversight responsibility, effectively resulting in government control over the budgeting process. Reforms to bolster NTRA independence would allow it to exercise and obtain expert judgement and counsel while minimizing the risk of political influence. Such reforms would require legal reforms, given that the composition of the NTRA board of directors is enshrined in Law No. 10/2003.

[91] ITU, GSR-20 Best Practice Guidelines (2020), https://www.itu.int/en/ITU-D/Conferences/GSR/2020/Documents/GSR-20_Best-Practice-Guidelines_E.pdf; ITU and The World Bank, Regulatory independence: how to achieve it and how to maintain it (2020), https://digitalregulation.org/regulatory-independence-how-to-achieve-it-and-how-to-maintain-it/.

As noted in the ITU/World Bank Digital Regulation Platform, independence increases market participant confidence in receiving fair treatment and promotes the growth and vitality of the sector.[92] In the context of increasing regulatory collaboration and the development of a cross-sectoral digital economy, enabling greater NTRA independence would strengthen Egypt's ability to reach its policy goals.

7.4 Policy implementation progress reporting

Following from Egypt's efforts to align the SDS, and by extension the Digital Egypt strategy, with the Sustainable Development Goals, the government could take steps to routinely report on implementation progress. While the government has created a Vision 2030 website, for example, it does not yet provide information on either the strategy or progress towards SDS implementation. By providing regular implementation updates, the government would hold itself accountable for implementing its strategy and improving the KPIs. This accountability could be—and arguably should be—shared among the multiple government ministries and agencies responsible for implementation of Egypt's policy goals.

[92] ITU and The World Bank, Regulatory independence: how to achieve it and how to maintain it.

8 Conclusion

Egypt has taken important steps to enable its digital transformation and the transition to a regulatory and policy framework suitable for the digital economy. The SDS and the Digital Egypt strategy underpin a wide range of activities over the next decade that are intended to transform Egypt into a digital society. This includes collaborative efforts within the ICT sector and encompasses ministries and regulatory authorities in other sectors.

Egypt is currently making significant progress in its transition to an advanced level of digital transformation, for example in the G5 Benchmark digital development toolbox pillar, and steps to strengthen its transformation into an economy with a robust digital regulatory regime built on collaborative principles are being taken. Potential areas of focus could include expanding consultative processes and increasing focus on agile and streamlined regulatory processes.

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