ICT Sector Key Achievements during Sisi Era

The ICT sector has witnessed great development over the past seven years as a result of the full support that the sector has received from President Abdel Fattah el-Sisi, in light of the State’s orientation towards building “Digital Egypt”. This support represented an incentive for the ICT sector to intensify its efforts in implementing several projects that aim at enhancing Egypt's position on the ICT industry map, enabling the State's sectors to achieve digital transformation, and contributing to economic growth. This is in addition to building a broad base of professionals, in the technology fields, to be capable of implementing major national projects.

ICT Sector Indicators

The ICT sector has succeeded in achieving high performance rates at the economic level. The sector’s indicators during the last fiscal year showed an increase in the sector’s contribution to the Gross Domestic Product (GDP) to reach 4.4%, and in the sector’s domestic product volume to reach EGP 107.7 billion, while the growth of digital exports totaled USD 4.1 billion. The sector has maintained its position as the highest growing sector in the country for two consecutive years, and the growth rate is expected to reach about 16% during the current fiscal year.

Egypt's ranking also advanced in a number of international reports for ICT indicators, the most prominent of which are:

- Egypt maintained its regional leadership in the Middle East and Africa in providing cross-border outsourcing services and ranked first regionally and continentally.
- Egypt ranked fifteenth globally in providing outsourcing services, according to A.T. Kearney's Global Services Location Index (GSLI) 2021, and was among the 10 fastest growing countries in digital inclusion in 2020.
- Egypt has moved up 55 places on the Government Artificial Intelligence (AI) Readiness Index, to occupy the 56th rank, compared to the 111th out of 194 countries, in 2019.
• Egypt's global position has improved in the Network Readiness Index (NRI) to reach the 84th place compared to 92nd last year.

Digital Transformation:
Within the framework of the State’s vision to achieve digital transformation and build Digital Egypt, the Ministry of Communications and Information Technology (MCIT) has cooperated with all the State’s agencies and institutions in order to create an integrated and secure digital system to achieve a paradigm shift in the provision of government services to citizens. The most notable achievements in this pillar were as follows:

• More than 75 government databases have been linked to each other in cooperation with the Administrative Control Authority (ACA) within the framework of the implementation of the national project for the developing the information infrastructure of Egypt, which aims to enhance the comprehensive vision of planning and address duplication in databases. This project is the main pillar on which Egypt’s digital applications are based.

• The digital transformation system in Port Said governorate has been implemented as a first phase by launching more than 150 digital services in the governorate. The project’s work included automating the government and service sectors in the governorate, and linking them to the State’s unified databases in cooperation with the service-providing sectors.

• A number of 60 digitized government services have been launched on “Digital Egypt” platform, as part of a project implemented with investments of EGP three billion to digitize government services and make them available through multiple outlets that suit all members of society, including “Digital Egypt” platform, post offices, government service centers, and the call center (15999).

• The National Strategy for e-Commerce has been launched in cooperation with the United Nations Organization for Trade and Development (UNCTAD) and many international organizations such as the World Bank and MasterCard International. The Strategy aims to make Egypt a leading country in this field in the Middle East and North Africa and increase the volume of e-commerce in the national economy, thus contributing to achieving financial inclusion, increasing Egyptian exports and entering new markets.
The infrastructure of the root authority for e-signature has been developed with investments of EGP 30 million, and the executive regulations of the Egyptian e-Signature Law have been amended, adding e-seal and time stamp services, with the aim of benefiting from the e-signature technology in government, commercial and administrative e-transactions.

The project of automating the comprehensive health insurance system has been implemented in cooperation with the Ministry of Health and the Ministry of Military Production through launching the system in 50 sites in Port Said. This is in addition to a partial launch in 33 sites in Luxor Governorate, targeting 66 sites, and a partial launch in 14 sites in Ismailia. Preparations are being made to launch this system in the governorates of South Sinai, Aswan and Suez during the current year.

Work is now underway to implement a large number of service projects in cooperation with the State’s sectors to achieve digital transformation, most notably Egypt’s digital justice projects, the development of the agricultural tenure system, the issuance of the smart card for farmers, the automation of university hospitals, the digital transformation in the higher education system, the digital transformation in the state property management system, and the national real estate ID.

MCIT also cooperated with the State’s sectors to establish the technological infrastructure necessary for the government's relocation to the New Administrative Capital, through which work methods will be developed based on modern technologies. It aims to achieve a paradigm shift in government performance to become a participatory, smart, paperless government through which correspondence and information exchange takes place through digital mechanisms.

**Artificial Intelligence**

- Based on the State’s keenness to keep pace with the Fourth Industrial Revolution and for Egypt to be an active player in this field, MCIT, in cooperation with the Ministry of Higher Education and Scientific Research, has prepared the National Strategy for Artificial Intelligence. The Strategy aims to indigenize the AI industry and benefit from its capabilities in achieving development goals while
enhancing Egypt's leading role at the regional level to be an active global player in the AI field.

- As part of the implementation of the strategy, MCIT cooperated with major international companies in the technology field to build capacities for all segments of society in AI sciences at all levels, starting with programs to create awareness about AI technology, until reaching advanced programs to create a base of professionals specialized in these technologies, and to provide young people and employees in the State’s sectors with the necessary knowledge and skills about this technology.

- The Applied Innovation Center (AIC) has also been established, which cooperates with research institutes, academic institutions, and international companies to develop innovative solutions to the challenges faced by society using modern ICTs. In its first phase, AIC attaches importance to the fields of health care, agriculture, coping with water scarcity, Arabic language processing and machine translation, through which Egypt can achieve leadership in this field.

- Egypt has formed and chaired the African Working Group on AI to unify efforts regarding AI activities among the Member States of the African Union (AU).

- This is in addition to the Arab Working Group on AI, which is responsible for developing an Arab unified strategy.

- Egypt has also been selected as the Vice-Chair of the UNESCO- Ad Hoc Expert Group (AHEG), mandated to prepare a draft text for a Recommendation on the Ethics of AI.

**Technological Innovation and Entrepreneurship**

- CREATIVA Innovation Hubs project has been launched, with a plan to establish 15 Innovation Hubs in the governorates to achieve justice in development, and train young people in the various disciplines of ICT sciences. It seeks also to implement programs, aiming to foster technological innovation and encourage university students and entrepreneurs, in the governorates, to establish their entrepreneurial projects in the ICT field. The initial operation of a number of five hubs in universities of Mansoura, Menoufia, Minya, Sohag and Qena have been completed. The second phase of the project includes the establishment of five other hubs in Ismailia, Aswan, Cairo, Giza, and
the New Administrative Capital. The third phase of the project is being considered to launch the hubs in five additional governorates.

- The Innovation Clusters Initiative (ICI) has been also launched, which resulted in the establishment of two clusters, one in the Technology Park of Borg Al Arab, and the other in the Technology Park of New Assiut.
- This is in addition to the opening the Cyprus-Egypt-Greece Collaborative Innovation Network (CEG-COIN) in Borg Al Arab, which is a model for Egyptian-Greek-Cypriot cooperation in the ICT field.
- In light of deepening Egyptian-African cooperation, the United Nations Technology Innovation Labs (UNTIL) has been established in Smart Village to support technological innovation in Africa. The labs are provided with the latest scientific and technological means to develop skills and enhance the capabilities of researchers and those specialized in technological fields from all over the African continent.
- The African App Launchpad (AAL) initiative has been also launched, aiming to develop the capabilities of 10,000 Egyptian and African young people to develop digital games and applications using the latest technologies and stimulate the establishment of 100 Egyptian and African startups in this field, in cooperation with the Ministry of Foreign Affairs and a number of international companies, ministries and institutions in various African countries.
- Egypt has enjoyed a regional leadership in attracting investments in startups, in light of the great successes it has achieved and for its pioneering presence in the Middle East, Arab and African arenas. Egypt recorded the largest number of investment deals in technology startups, amounting to 24% of the total number of transactions in Africa in 2020.
- In addition, the 2020 Global Startup Ecosystem Report (GSER) selected Cairo among the top 10 ecosystems in the world that provide skills at competitive costs.
- The government platform EgyptInnovate won the ITU Innovation Challenge 2020 in the Best Ecosystem Practices category.
Developing Digital Skills

In terms of developing digital skills, several initiatives have been launched, aiming at building a base of professionals to meet the local requirements of the ICT industry, qualifying young people to obtain distinguished job opportunities, and enhancing their competitive capabilities in regional and international markets. An integrated strategy for capacity building has been developed that combines the method of direct training and learning through digital platforms.

Within the framework of this strategy, the number of trainees in the programs offered by MCIT and its affiliates in various fields of technology was doubled, to reach more than 115 thousand trainees during the current fiscal year, at a total cost of EGP 400 million pounds.

The training programs included various levels, starting with providing training in basic computer skills to disseminate digital culture; gradual specialization to build digital skills and qualify young people to work in various technological disciplines such as AI, data science, Internet of things (IoT), cybersecurity and information security, and establishment, operation and maintenance of fiber-optic networks.

MCIT training strategy included launching a number of initiatives and programs, including:

1- Launching initiatives that aim to empower young people in the freelance labor market via the Internet and take advantage of its many advantages represented in obtaining distinguished job opportunities from their places without being restricted to the limits of the local market.

The initiative includes “Future Work is Digital” with the aim of training 100,000 young people on self-employment skills in the fields of technology. This is in addition to the Freelancing and Remote Work Initiative, and the “Youth Enablement for Freelancing” grant, which aims to train 20,000 young people on self-employment skills through electronic platforms.

2- Digital Learning Initiatives:

- Implementing the presidential initiative “Next Technology Leaders (NTL)”. It is a digital platform that aim to provide training in 45 training tracks in advanced technological disciplines in cooperation with major technology companies, and accredited
certificates are granted from international universities. The initiative also includes the “Future Programmers” training program, which is a free training grant in the basics of programming for distinguished first year secondary students, where an accredited certificate from the global platform "Udacity" for e-learning is granted.

- Launching the digital platform "Mahara Tech" to train young people in a number of technological disciplines in Arabic through 10 tracks.
- Launching a distance learning platform targeting different segments of society nationwide to disseminate digital culture in a safe and effective manner, in cooperation with ICDL Arabia.

3-Providing intensive grants to train Egyptian youth within their governorates, including programs that fit the identity of each governorate and in line with the industrial activity and the needs of each governorate.

4-Implementing programs to build the digital capabilities of employees of the State’s administrative apparatus.

5-Launching “Wazeefa Tech” initiative in cooperation with the Ministry of Social Solidarity to link training programs with industry needs to include providing training on specialized technologies.

6-Launching “Qodwa-Tech” initiative to support and empower Egyptian women using information technology by supporting the skills of handicraft entrepreneurs in the field of digital marketing and e-commerce

7- Launching an initiative to qualify young recruits during their recruitment period in cooperation with the Ministry of Defense

This is in addition to launching an initiative to provide soft loans for trainees enrolled in various training programs at MCIT to get laptops.

Advanced technological training programs in technological disciplines are being implemented, including a specialized training program in AI, in cooperation with EPITA School of Engineering and Computer Science in France.

In support of the technical education system, and in cooperation with the Ministry of Education, Telecom Egypt launched a school for applied technology for communications and information technology, to prepare a
generation of qualified technical workers in modern technological disciplines.

MCIT also launched the **Digital Egypt Builders Initiative (DEBI)** which is a state grant provided to a thousand outstanding young people from the faculties of engineering, computers and information, and is based on a vision of building highly specialized technical calibers, through an intensive and integrated academic and practical program. After the completion of the program, learners earn a professional master’s degree in the fields of AI, data science, cybersecurity, robotics and automation, and digital arts, in addition to receiving accredited training certificates from major global technology developers, as well as a certificate in leadership and management skills, and another certificate in English from major global specialized companies.

**IT Industry Development**
Within the framework of the mandates of President Abdel Fattah el-Sisi, the technology parks project has been implemented in Borg Al Arab in Alexandria governorate, New Assiut in Assiut governorate, Sadat city in Menoufia governorate, and New Beni Suef in the governorate of Beni Suef. These parks were also supported with the necessary infrastructure to receive all activities of the ICT industry and innovation, and related service and other productive activities, especially those that are characterized by their ability to employ large numbers of university graduates, as well as stimulate investments in the electronics industry and industries supporting the various activities of the project.

In addition, "**Our Digital Opportunity**" initiative has been launched to develop small and medium-sized enterprises (SMEs) and independent professionals, through which 10% of Egypt's digital projects will be allocated to these companies. The first package that was launched, included 31 projects, with an estimated value of EGP 80 million for the business offered for SMEs.

A number of 16 companies won the implementation of 15 digital transformation projects in government agencies, with a total value of 44 million pounds.
Electronics Industry Development

In 2015, the President of the Republic launched the electronics design and manufacture initiative "Egypt Makes Electronics (EME)", which aims to indigenize the electronics industry. Within the framework of implementing the strategy, the first mobile phone bearing the Made in Egypt brand was launched in the local market.

Three electronics innovation complexes have been also opened in Smart Village, the Technology Park in Borg Al Arab, and the Technology Park in Assiut as a center for development, creativity and digital manufacturing of applications and electronic products, stimulating startups and developing calibers in the field of advanced electronics.

A contract has also been signed with the global company Samsung to manufacture the educational tablet in a new factory of the company to be established in Beni Suef with investments amounting to USD 30 million, and the factory contributes to providing job opportunities for more than five hundred people. The contract also includes training a thousand technicians on the latest technologies. The construction of the new tablet factory is to be completed by the first quarter of 2022 and manufacturing of the tablet is to start in March 2022.

In line with MCIT strategy in building Digital Egypt, the Knowledge City is being established on the latest technological systems in the New Administrative Capital as a technological edifice to support research and innovation in advanced technologies, attract investments from global technology companies and provide technical training. The first phase of the project is scheduled to open during the current year, with construction cost amounted to more than two billion pounds. The first phase includes four buildings for innovation and applied research, technical training, research and development in assistive technology, and Egypt University of Informatics (EUI).
**Telecom Infrastructure Development**

The first phase of the telecom infrastructure development project was implemented throughout the Republic in 2019 with investments amounting to EGP 30 billion, followed by the implementation of the second phase in the second half of 2020 at a cost of about EGP 5.5 billion during the current fiscal year. These efforts have resulted in the doubling of the Internet speed in Egypt more than six times since January 2019. The average fixed Internet speeds in Egypt increased to 39.6 Mbit/s in April 2021 compared to 6.5 Mbit/s in January 2019, and Telecom Egypt was named the fastest fixed network in North Africa.

In an effort to achieve digital transformation nationwide, the project to connect all of the approximately 31,500 government buildings nationwide to the fiber-optic network is currently being implemented, to be completed within 24 months, at a cost of up to EGP six billion. To date, more than 13,000 government buildings have been connected to this network.

As part of efforts to support digital transformation and develop the education system using technology, the infrastructure of communications networks has been developed to provide high-speed Internet services using fiber-optic technology in record time for 2,563 secondary schools in all governorates of Egypt by modernizing communication networks and linking them with fiber optics cables with a length of 4,500 kilometers from the centrals to schools.

MCIT also agreed with the Ministry of Housing, Utilities and Urban Communities to include the connection of fiber-optic cables to new homes and buildings at the level of the Republic within the requirements for construction, and to update the Egyptian building code to include the communication networks code, which includes standard specifications for the infrastructure for providing communication services.
Communication Services
To improve the quality of communications services provided to citizens, MCIT has achieved the following:

- Offering licenses of the Fourth Generation (4G) services and the virtual fixed phone to the four companies operating in the ICT sector, which signed an agreement to obtain the license and the agreed frequencies in 2016. The value of the licenses amounted to about USD 1.1 billion, in addition to about EGP 10 billion. In addition, Telecom Egypt, in which the state owns 80% of its shares, turned into an integrated national operator of telecommunications services after obtaining a license to establish, operate and manage the 4G networks and provide mobile services.

- Offering and allocating new frequency bands for companies licensed to provide mobile phone services in Egypt, with a value of $1.17 billion.

- Establishing a regulatory framework for offering new licenses for the construction and leasing of cell towers in light of the orientation to expand the coverage area and raise the level of quality of services provided by increasing the number of towers, to accommodate the steady increase in the number of users in the Egyptian market.

- In order to guarantee the rights of citizens to obtain the highest level of communication and Internet services, the National Center for ICT Services Quality Control and Monitoring has been established with investments amounting to EGP 50 million pounds to conduct a periodic measurement of the quality of voice and mobile Internet services provided by telecom companies operating in Egypt in accordance with internationally recognized standards for measuring the quality of telecommunications services. For ensuring transparency, the Center issues monthly reports that are published on the website of the National Telecommunications Regulatory Authority (NTRA) to inform citizens and companies of the level of service quality provided by telecom companies.

- A number of policies and procedures have also been taken to raise the level of citizens’ satisfaction with the telecommunications services provided to them, the most prominent of which is the launch of a new system to enable mobile telephone subscribers to retain their mobile telephone numbers when changing from one mobile network to another, coupled with a list of penalties for operators in
case of manipulation. This led to an increase in the success rates of transferring numbers from 20% before the implementation of the new system to 95% after its implementation, as well as a decrease in the average transfer time from one operator to another from two weeks to 24 hours.

- To ensure the protection of the rights of users of telecommunications services, the free short code *155# has been launched to inquire about or cancel value-added services, which include the entertainment services provided by mobile companies with a daily or monthly subscription, such as promotional competitions, news and sports services, or entertainment services.
- To support the use of electronic payments via mobile phone e-wallets, the registration of electronic wallets for mobile phones has been made available free of charge, using electronic means of identification from home.
- A system for receiving, following up and resolving user complaints, and its sanctions list, has been also developed, which led to a decrease in the average time for resolving a complaint from 3.8 days to 1.8 days. Legal measures have been taken to combat annoying text messages from companies and numbers of unknown sources without obtaining a license from NTRA.

**Egypt Post**

An ambitious plan has been implemented to reformulate the role of Egypt Post to become an outlet for providing services to citizens. In light of the plan, the development of 1,600 offices out of a total of 4,000 post offices has been completed, in addition to providing Post offices with 750 ATMs. A plan is being implemented this year to establish 500 new offices, develop 1,500 offices, and provide post offices with 1,000 ATMs. The offices of Egypt Post were also expanded and provided with devices that provide services with modern technologies through the deployment of postal kiosks and the provision of mobile post offices equipped with employees and ATMs to move during the peak hours of the post offices, especially during the times of pension disbursement.

The pension disbursement process has been also automated through the smart card, and the service of delivering pensions to homes for the elderly and people with special needs without incurring additional costs.
Egypt Post has become an outlet to provide Digital Egypt services, financial inclusion services, and an intermediary between the customer and the companies providing these services, including consumer microfinance, microfinance, and micro-insurance, through which applications are received, applicants’ data are registered, funding is disbursed, and premiums are collected. The launch of the digital "mobile" wallet, which will enable postal customers to obtain micro-loans, pay bills, pay the value of purchases, and make cash transfers are being considered.

To enhance the capabilities of Egypt Post in providing logistics and international e-commerce services, the postal logistics center has been established at Cairo International Airport in accordance with the latest international standards. The center contributes to facilitating the provision of e-commerce services for African countries.

In the context of preserving the State’s assets and heritage buildings, a development plan was implemented for the Egyptian Post Museum in Ataba, with the aim of reopening it to visitors after decades of closure. The development process relied on modern technologies in displaying collectibles, using AI and augmented reality techniques.

**Cyber Security**
The Supreme Council for Cyber Security has been formed to be responsible for preparing the strategy, policies, programs and plans for securing critical ICT infrastructure for all the State’s sectors. It is affiliated to the Cabinet, headed by the ICT Minister, and consists of representatives of the concerned parties (the Ministries of Defense, Foreign Affairs, Interior, and sovereign bodies) and representatives of the infrastructure management and operation in the vital sectors, public utilities and e-government. The Council has developed a strategic plan for cyber security to raise the level of preparedness to face cyber risks in various sectors of the country.

**Legislation**
The legislative environment has been prepared to ensure the governance of the digital environment and to achieve the required balance between protecting the privacy of citizen data in the digital environment, and motivating investment. The “Anti-Cyber and Information Technology Crimes” law and its executive regulations have been issued. The law covers a range of crimes targeting citizens, investment, government and private agencies, using digital evidence to ensure reaching perpetrators of various
electronic crimes, thus protecting citizens and encouraging investment. The Personal Data Protection Law has been also issued, in line with international best practices, especially the General Data Protection Regulation (GDPR). The law aims to protect the personal data of citizens and residents of Egypt. It is also an important step to enhance MCIT efforts to indigenize the data center industry in Egypt and create a secure environment for the circulation of information in cyberspace.

**International Relations**

In light of Egypt’s leadership at the Arab and African levels, Egypt was elected to chair the African Union (AU) Specialized Technical Committee on Communication and ICT (STC-CICT) Bureau for two years. Egypt has also been elected to chair the Executive Bureau of the Arab Telecommunications and Information Council of Ministers (ATICM) for two years, and it chaired the 24th session of ATICM meeting during which the selection of the New Administrative Capital as the Arab Digital Capital 2021 was announced, for its highly advanced digital and technological infrastructure.

The confidence of international organizations in the position of the Egyptian ICT sector, and Egypt's ability to organize major international events, has been emphasized in Egypt's hosting of the World Radiocommunication Conference (WRC), which is one of the most important international forums organized by the International Telecommunication Union (ITU). It resulted in the announcement of the International Radio Regulations convention, named "Sharm El-Sheikh 2019".
Social Responsibility

Within the framework of the presidential initiative to integrate and empower Persons with Disabilities (PwDs), launched in May 2016, with the aim of adapting ICT to provide educational and health services for PwDs, and to increase their ability to enter and integrate into the labor market and obtain a suitable job by providing them with appropriate training and rehabilitation, as well as to position Egypt as a regional center for the assistive technology industry in Arabic to serve and empower PwDs, MCIT has achieved the following:-

- Opening the technical center for services for PwDs as the first center of its kind in the Middle East and Africa, which enables people with hearing and speech disabilities to communicate by phone with emergency services.
- Opening the National Academy of Information Technology for Persons with Disabilities (NAID) to build the capacities of PwDs in the fields of technological sciences and support their integration into society.
- Completing the development of 166 youth centers, connecting them with fiber-optic cables and equipping them with computer halls to turn them into inclusive community centers, in cooperation with the Ministry of Youth and Sports.
- Completing the implementation of 150 telemedicine units. The project aims to develop health services and provide them to citizens in poor, marginalized and remote areas in order to provide them with the best medical service by senior doctors in university and major hospitals without burdening the citizen with the hardship and burden of travel and transportation, by linking the units technologically in poor and remote areas with university hospitals.
- A number of 12 government websites were made accessible for the use of PwDs, as part of the implementation of the presidential initiative to make government websites accessible to PwDs.
- Cooperating with the Ministry of Electricity and Renewable Energy to provide technological accessibility for electricity inquiries and complaints services in sign language for the benefit of persons with hearing disabilities and communication difficulties through the “Wasel” application, through which inquiries and complaints are transferred to the responsible distribution companies, which in turn
work to speed up the solution or response to the inquiry.

- Supporting 810 schools for students with disabilities and providing them with devices and assistive technology, and training 30,000 teachers on the use of computers and assistive technology to serve 60,000 students.
- Equipping 50 community schools with the necessary hardware and software to deliver education to students in poor and remote areas.