



## **Telecommunications Regulatory Commission–Jordan**

### **Annual Report**

**2019**



His Majesty  
King Abdullah II Ibn Al Hussein



His Royal Highness  
Crown Prince Al Hussein Bin Abdullah II

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## **(1) Statement by the Chairman of the Board of Commissioners/ CEO**



**Dr. Eng. Ghazi Al-Jobor**

**Chairman of the Board of Commissioners/ CEO**

The telecommunications and information technology sectors and the postal sector represent an essential part of the comprehensive sustainable development system and one of the most important engines of the economy in the various countries of the world, as the great impact of these vital sectors is directly reflected in the lives of people, and is linked to the quality of the received services, whether governmental or private ones, especially In the light of the trends of various countries toward the digital economy, business automation, and investment in technical infrastructure in order to enable digital transformation and develop performance efficiency in several fields.

The government of the Hashemite Kingdom of Jordan, driven by the guidance of the wise Hashemite leadership, realized from an early age the importance of the telecommunications and information technology sectors and the postal sector in enhancing our nation's opportunities for progress and prosperity, and this was represented by a number of procedural steps, the most important of which was the establishment of the Telecommunications Regulatory Commission (TRC) in the year 1995 to be the oldest regulatory body in the Kingdom, as the TRC assumed the responsibility of regulating the telecommunications and information technology sectors, as well as taking over the regulation of the postal sector in the Kingdom, since then achieving significant qualitative steps and many achievements that contributed to accelerating the fast development of these vital sectors and enhancing their levels of support. And its support for the Kingdom's development endeavors and its developmental directions.

This great interest, as well as the collaboration of the national efforts, has led to the growth of business in these sectors, the increase in its revenues, and the percentage of its contribution to the Kingdom's GDP, as well as to Jordan's gaining a prestigious regional and global reputation as one of the leading countries in the field of telecommunications and Information technology, and postal services, which is what we seek in the TRC to preserve and enhance it with new success stories that meet the aspirations of our wise leadership towards these important sectors, whose level of influence is expected to increase in different vital areas in the light of the changes that are taking place in the world in the era of the fourth industrial revolution, and many varied opportunities and challenges in it that have clearly enhanced the

importance of these sectors and remarkably demonstrated their exceptional role in human life, not to mention the remarkable spread in providing services through licensees, and this is obvious in the postal sector, where we are witnessing a tangible increase in the number of licensees, who will have the opportunity to provide services easily and conveniently.

Finally, the TRC believes in the inevitability of improving the quality of its performance at the various administrative, technical, organizational, and supervisory levels, among others, and is concerned with raising the efficiency of its human resources and enabling them to have the tools of excellence continuously, in order to achieve its strategic objectives, and to provide all the elements of support and success for the sectors in which the TRC is responsible for ensuring the effective participation of these sectors in the process of comprehensive sustainable development, and achieving the visions and aspirations of our wise leadership.

## **(2) TRC at a glance**

### **2.1 Establishment**

The Telecommunications Regulatory Commission (TRC) was established pursuant to the Telecommunications Law No (13) of 1995 as an independent government entity responsible for regulating the telecommunications and information technology sectors.

Under the Telecommunications Law, TRC holds numerous responsibilities and duties, including "regulating the telecommunications and information technology services in the Kingdom in accordance with the Telecommunications Law and the established Government Policy so as to ensure the provision of telecommunications services and information technology within high levels of proficiency at reasonable prices, and protecting the beneficiaries' interests to ensure optimal performance of the telecommunications and information technology sectors." This is in addition to "establishing the basis for the regulation of the telecommunications and information technology sectors, in accordance with the provision of services in a manner that meets the requirements for comprehensive development in the Kingdom," and "to specify the minimum level of service quality which must be committed by licensees in order to meet the beneficiaries' needs. This shall be done in consultation with licensees and shall be without the imposition to adopt specific technological solutions", and other specialized regulatory duties.

TRC represents the Hashemite Kingdom of Jordan in cooperation with the Ministry of Communications and Information Technology (MoICT) in the specialized forums related to TRC's duties. TRC is also responsible for regulating the postal sector in the Kingdom, monitoring the performance of all postal service providers and ensuring their compliance with the provisions of the Postal Services Law No (34) of 2007 and the Bylaws issued pursuant to.

Additionally, TRC is empowered to grant licensing and accrediting of the Certification Authorities (CA), and for carrying out auditing and monitoring functions on those CA's in accordance with the provisions of the Electronic Transactions Law of 2015 and the Bylaws issued there under.

### **2.2 Vision, Mission and Core Values**

#### **Vision**

Excellence in making the ICT and postal sector the pillars for growth at the national level, and the highly distinguished regulatory performance regionally.

**Mission**

An independent governmental commission to regulate the performance of the ICT and postal sector, stimulate competition, protect the interests of the beneficiaries, monitor the implementation of quality of service indicators (KPIS) and providing services at affordable prices in order to achieve sustainable growth in all relevant sectors through working within an institutional framework with the stakeholders, relying on highly enthusiastic intellectual capital.





**Core Values:**

- Sustainable partnership
- Listening to service recipients
- Focus on results
- Persistent improvement
- Applying governance standards

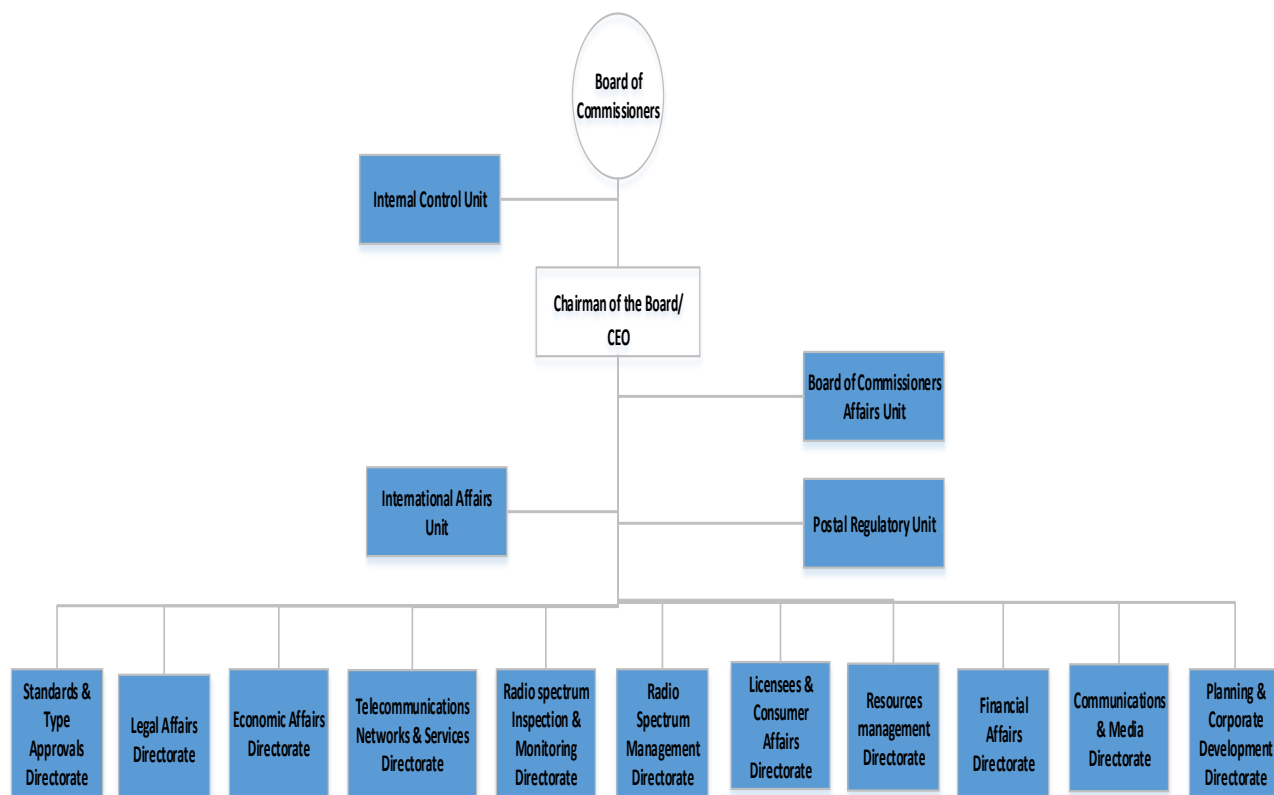


### 2.3 Board of Commissioners

Pursuant to the Telecommunications Law No (13) of 1995 and its amendments, TRC is administered and supervised by a Board called the (Board of Commissioners), which is comprised of five full-time members who shall be appointed by a resolution of the Council of Ministers upon the nomination of the Prime Minister, and which is based on the recommendation of the Minister of Information and Communications Technology (MoICT). By the end of 2019, the Board of Commissioners formed by the following:

TRC's Board of Commissioners	
 <p>H.E. Dr. Eng. Ghazi Al-Jobor Chairman of the Board of Commissioners – CEO As of 28/6/2015</p>	
 <p>H.E. Eng. Riad Ahmad Al-Bataineh Vice Chairman as of 18/11/2019 Member of the Board of Commissioners As of 27/10/2013</p>	
 <p>H.E. Eng. Belal AL-Hafnawi Member of the Board of Commissioners As of 12/12/2019</p>	 <p>H.E. Eng. Joma Al-Tayeb Member of the Board of Commissioners As of 11/11/2013</p>

## 2-4 Organization Structure



### **3 Executive Summary**

The Telecommunications Regulatory Commission (TRC) continues its efforts to improve the level and quality of the services it provides to the beneficiaries, and it works to build an integrated system of quality business and services consistent with its vision and mission, which are centered around enhancing the Commission's ability to play its role in regulating the performance of the telecommunications and information technology sectors, and the postal sector, to stimulate competition, protecting the interests of its beneficiaries, and monitoring the quality standards of services provided.

In order to achieve the role assigned to it, the (TRC) continued during the year 2019 the efforts exerted to accomplish more achievements that came in line with the rapid developments witnessed by ICT and Postal sector globally, and these achievements were reflected positively on the Commission's reputation as a Jordanian body that provides pioneering services in its field of work. This led by choosing Dr. Eng. Ghazi Jobor, Chairman of the Board of Commissioners, among the list of the 100 best Arab CEOs for the year 2018, which Global World / Arab Region announced during the year 2019, in addition to achieving a variety of achievements that strengthened the roles of the Commission and represented an extension of its continuous efforts and achievements over the years past.

At the level of enhancing the environment of the telecommunications sector and in order to create the appropriate conditions to achieve effective competition, reduce the effects of dominance, overcome barriers to entering the market, and provide new services. The TRC continued its efforts in 2019 in this regard, which were reflected in the accomplishment of a number of achievements that as detailed in this report, the Commission also sought to simplify procedures aimed at saving time and effort on them, so it activated the partnership council with the Jordan Computer Society, and continued to link a number of its staff electronically with Queen Alia International Airport Customs and its office located in Aqaba Customs, to ensure the provision of services in a timely manner to facilitates trade and stimulates the economy and investment. Therefore the TRC continued its work in reviewing the tariffs for licensing frequencies and approvals for telecommunications equipment, as well as preparing customs clearance completed through its external offices, which amounted to 82,664 customs statements during 2019.

In the field of enhancing the efficiency of the use of the radio frequency spectrum to keep track with global technical developments, the TRC took a number of important steps in this regard, including informing the operators about the availability of specialized frequency bundles for conducting experiments on operating (5G) mobile networks, and developing a new plan to define the uses of the frequency

spectrum. In partnership with the Royal Radio Directorate, and to take the necessary technical measures in some frequency beams for the purposes of providing their licenses to operate (5G) networks, and other measures that serve the TRC's efforts in this field.

The TRC also worked to increase the spread of the Internet and provide its services at affordable prices to all users, and enhance its accessibility, especially broadband access, in all regions of the Kingdom, especially rural areas, and continued to approve commercial offers submitted by Internet providers that are characterized by moderate prices targeted to governorates with low penetration rates, while continuing to encourage competition in the local Internet services markets that provide the service with its various technologies.

In order to enhance the environment for the information technology sector, and based on the importance of creating a regulatory and legislative environment capable of developing and stimulating e-commerce, the TRC has taken a number of procedural steps in this regard in partnership with the sectors concerned with e-commerce in Jordan.

In addition, TRC continued its endeavors on the issue of safe use of the Internet, by developing a comprehensive plan to raise awareness of the content of safe Internet use guidelines, and other measures in this field, such as conducting workshops and launching numbers of awareness campaigns.

The TRC also continued its efforts to improve the level of quality of services provided by mobile operators, and worked to reinforce their commitment to increase coverage, and protecting the interests of beneficiaries of telecommunications, information technology and postal services, while continuing to spread awareness that helped them to make informed decisions regarding their purchases. It has worked on receiving, following up and resolving complaints submitted by consumers, and worked to ensure providing services to persons with disabilities and enabling them to access telecommunications services, as well as a variety of procedures that can be viewed through this report.

At the level of the postal sector, the TRC has sought to ensure the regulatory effectiveness of this sector in a way that allows benefiting from the services provided by the licensed operators in it, and ensures raising the quality of its services, such as following up the automation project for special procedures in the Postal Regulatory Unit, and modifying the performance indicators of private postal operators in line with the development of the concept of e-commerce and its direct impact on the postal sector, as an indicator related to the total number of postal parcels made through e-commerce platforms that are

provided by licensees locally and internationally, and the collection of statistical data on e-commerce for licensees and others.

In terms of internal and external participations, the report reviews the Commission's participation in local, regional and international events, conferences and meetings that deal with the telecommunications and information technology sectors and organized by the specialized parties, as well as workshops and events organized by the Commission and in which a number of specialized agencies participated at the regional and global levels with the aim of exchanging experiences and diverse knowledge.

At the end, this report includes the TRCs efforts on regulatory and internal development levels, also its activities in the field of social responsibility, and the most prominent internal and external training programs implemented during the year 2019 and other procedural steps and achievements aimed in its entirety to enhance the work of the Commission and raise its efficiency of performance, and empower its intellectual capital to carry out their tasks in the most efficient and distinguished manner in order to achieve the objectives set for the Commission, and to provide all elements of success for the telecommunications, information technology and postal sectors in the Kingdom.

#### **(4) The Commission's achievements in 2019**

During 2019 the TRC has accomplished many achievements internally (domestically) and abroad (regionally and internationally), through its ability to deal effectively with the rapid developments in the era of telecommunications and information technology, the highlights of the achievements as follows:

##### **4.1 Excellence Awards, TRC Logo and Website**

➤ Global/Arab Region Awards:

Dr. Ghazi Al-Jobor, Chairman of the Board of Commissioners of the Commission, was named in the list of the top 100 Arab CEOs for 2018. The winners were selected through a methodology adopted by the General Secretariat of the Award based on various criteria that reached 17 criteria, the most important of which are: measuring the impact of candidates in their communities, positive strength, the extent to which they contribute to achieving the goals at the state and community level, in addition to other quantitative and practical criteria, in addition to other factors such as the scientific and academic achievements achieved by the candidate for this award.

➤ The TRC new logo:

The TRC has adopted a new logo with new philosophy, the new logo aims to express the vision and mission of the TRC. The new logo of the Commission in all its components and colors used carries the essence of excellence and advancement in achievement among all partners, both internally-between its employees, and externally -with companies working in the sectors of telecommunications, information technology and Postal sector. The symbols and colors used in its design also represent the means associated with the symbols of the Hashemite Kingdom of Jordan, the nature of the work of the TRC, and the values and objectives that the TRC seeks to achieve.

➤ Development of the TRC's website:

The TRC has developed its website in accordance with international standards for W3C website technologies, and the site has been awarded the logo of reliability by the W3C. W3C is an international organization that develops international standards to ensure the long-term growth of websites. The content of the website was also classified and displayed in the most appropriate ways possible, allowing access to its contents easily, as the website was connected directly to the pages of the TRC on social media platforms Facebook and Twitter, in addition to the page of the



Commission on YouTube, and the site has been developed to take into account its browsers with disabilities and visual, audio challenges, and those suffering from color blindness.

#### **4.2 Strengthening the telecommunications sector environment:**

In order to create the right conditions for effective competition, limit the effects of dominance, reduce barriers to market access, provide new services and simplify procedures, The TRC during 2019 accomplished a variety of achievements, the most prominent of which were:

➤ Public Telecommunications licenses, Spectrum licenses:

- The renewal the Public individual Telecommunications license for Umniah mobile phone company for a second term of 15 years.
- Renewal of the general Spectrum license of Umniah mobile phone company for the frequency band (1740–1750/1835–1845) MHz for 15 years from the date of its expiration and the modification of the terms and conditions of the license to remove the restriction on the technology used to become technology neutral, for renewal returns of more than (71) million Jordanian dinars.
- Renewal of Reuters group Ltd public Telecommunications license for 15 years so that the company can continue to provide its media services in the Kingdom, where the company has granted a number of frequency licenses for fixed land stations satellite VSAT to its subscribers, through which it seeks to provide its media services related to telecommunications services.
- Granting 4 Public Telecommunications licenses:
  - A Public individual Telecommunications license for The "Al-Nafath Al-Arabeyyah for Fiber Optic Installation".
  - A Public class Telecommunications license for "Space Arab Levant Technologies LLC Company".
  - A public individual Telecommunications license for "Jordan advanced Fiber company (Fiber Tech)", the company's objectives are to provide a new Telecommunications infrastructure through the implementation of a fiber–suspended fiber network in the areas of operation of the Jordanian Electricity Company through exploiting the existing Electricity Poles, in addition to connecting smart meters and components of the electrical grid owned by the Jordanian Electricity Company, as well as providing wholesale high–speed internet services to telecommunications companies and Internet service providers to benefit approximately 1.3 million houses and commercial facilities in the capital Amman. The company is owned by The Jordan Electricity Company and Umniah Mobile Phone Company.
  - A Public individual Telecommunications license for SMT for Technology and Information Systems, where the company will contract the necessary partnerships with electricity

companies with the aim of connecting the Internet (Internet over Power Line) through electricity networks to the final beneficiary, where these partnerships will allow the provision of internet connectivity services with the lowest costs, time and effort through the electricity networks and power lines, which provide internet service to remote areas at high speeds using the infrastructure of electricity networks alone and exploits the spread and high geographical coverage of electricity distribution networks that reach all populated places.

➤ Simplifying procedures:

For the purposes of simplifying procedures, saving time and effort on all beneficiaries of the services provided by the TRC, during 2019 the TRC has:

- Activated the Partnership Council between the TRC and the Jordanian Computer Society, where the partnership addressed all matters of the interested companies working in the telecommunications and information technology sectors in relation to the conditions and procedures of custom's clearance of Wireless Telecommunications equipments, and to overcome the obstacles that may face the TRC or companies importing telecommunications and information technology equipments.
- Continued remotely linking of the TRC's staff with the customs of Queen Alia International Airport/Shipping, that enables completing clearance procedures of shipments incoming after the official working hours, as this initiative is the first at the government level.
- Continued to conduct periodic review of frequency licensing tariffs and type-approvals for Telecommunication devices, thereby reducing requirements and procedures as much as possible, and reducing the burden of obtaining qualitative and entry approvals for those devices.
- Continued to clear customs declarations related to the entry-applications of various telecommunications devices through the TRC's external offices located at Queen Alia International Airport and at Aqaba Customs, where a total of 82,664 customs declarations were completed during 2019.

#### **4.3 Enhancing the efficient use of radio spectrum:**

In order to enhance the efficiency of spectrum use cases in the Kingdom, and to keep track with global technical developments, the TRC:

- Provided some frequency bands to Mobile telecommunications companies for the purposes of conducting technical experiments to operate 5G mobile technology networks using frequency Band (3640–3700) MHz and (3740–3800) MHz. in addition, operators have been informed of the readiness of the TRC to provide the necessary support to implement practical pilot experiments for the high–speed, high capacity 5G networks, and to exercise 5G integration with other interoperable advanced technologies.
- Developed a new plan to identify the uses of radio spectrum in partnership with the Royal Radio Service Directorate through the re–distribution and re–arranging of existing frequency bands and the provision of new frequency packages in different frequency bands identified for International Mobile Telecommunications (IMT) Services, including mobile and fixed radio Telecommunications services, particularly 5G network bands.
- Start taking all necessary procedural and coordinating measures to avail some frequency bands for 5G mobile technology networks.
- Continue to update policies of using and planning of frequencies on an ongoing basis considering changes in market conditions, technological developments and inputs provided by public and private stakeholders.
- Continue to update and audit the data related to the Microwave links and radio sites operated by public mobile telecommunications services’ providers and upgrade the data bases accordingly.
- Continue to conduct field surveys, respond to interference complaints and take direct and proportionate action to remove illegal use of frequency spectrum and correct violations by licensees.
- To empower the TRC’s staff, through the implementation of specialized capacity–building programs, providing training, and working on the transfer and acquisition of modern knowledge through organizing and participating in specialized local/ regional/international workshops in cooperation with the major specialized companies and international organizations and with the participation of concerned Arab countries.
- Renewal of the general radio spectrum license related to the integrated licensing regime granted to Umniah company for mobile phones in the 1800 MHz. with the advantage of technology neutrality for fifteen years term, which enabled the company to use more advance technologies than those

were restricted by the license before renewal, and thus played the greatest role in enhancing the efficiency of the licensed radio spectrum and improving the quality of services provided and meeting the needs and requirements of the beneficiaries.

- Launching the most advanced Automated Spectrum Management System in an electronic platform to apply/manage/follow-up all frequency use applications and electronically grant/issue the proper licenses, the system can conduct all technical studies and process applications in a computerized manner by integrating the functions of all units in the system in order to optimize the utilization of spectrum resources and enhance the efficiency of their use. Coordination with neighboring countries with the aim of updating the agreement on reducing radio interference and solve the cases of exceeding coverage in border areas, holding coordination meetings with public telecommunications operators and developing an action plan to complete coordination processes and end excesses and radio interferences.
- Participate in representing the Kingdom in the World Radio Communication Conference (WRC) in order to achieve the Kingdom's goals in the development of international mobile Telecommunication systems (IMT) and the protection of current allocations and keep up with all technological developments in the telecommunications sector, which contributes to enhancing the Spectrum efficiency.
- Develop a transitional plan to evacuate some of the frequency bands that have been identified globally to provide international mobile Telecommunications (IMT) services to meet TRC's Preparatory plans to license 5G mobile technology services.

#### **4.4 Enhancing Access to the Internet**

In order to enhance the access to the internet and provide internet services at affordable prices to all users and increase their reach, especially broadband access, in all regions of the Kingdom, especially rural areas, the TRC has worked on the following:

- The TRC has provided space for mobile operators in the Kingdom and expressed its readiness to provide the necessary support to conduct technical experiments to operate 5G mobile networks using frequency bands (3640–3700) MHz and (3740–3800) MHz.
- Sponsoring the technical experience of transferring the Internet through electricity networks (Internet over Powerlines) on the campus of The Al-zaytouna University of Jordan, In collaboration with SMT solution company, the aim of the experiment was to keep stakeholders

informed of the latest technologies related to the provision of internet connectivity services at the lowest costs, time and effort through electricity networks and power lines, which provide internet service to remote areas at high speeds using the infrastructure of electricity grids alone, competing with the traditional solutions currently available at a small financial cost, where Jordan aspires to be at the forefront of the countries adopting this technology.

- The TRC has monitored the readiness of internet service providers to move from IPV4 to IPV6, where a workshop was held in cooperation with the international organization RIPENCC about IPV6, for the purposes of building a solid knowledge base for licensees enabling them to create their future infrastructure for the smooth transition of the issue.
- Continue to approve commercial offers from internet service provider with moderate prices for governorates with low penetration rates.
- Continue to encourage competition in local Internet service markets that offer the service with its various technologies through a range of regulatory and market measures that will ensure reliable and affordable services and within many service options available.

#### **4.5 Enhancing the IT sector environment**

➤ E-commerce:

Based on the importance of the IT sector in order to create a regulatory and legislative environment capable of developing and stimulating e-commerce, the TRC:

- Restructuring the joint follow-up committee between the TRC and the Central Bank of Jordan and holding meetings to amend the signed memorandum of understanding to include the formation of a joint committee to license and approve financial and banking institutions to carry out the work of electronic documentation authorities and provide their services.
- forming joint committees to sign a memorandum of understanding with the Civil Aviation Regulatory Commission to provide electronic documentation services for aircraft licensed to the Civil Aviation Commission and determine the licensing mechanisms of an electronic documentation authority of the Civil Aviation Commission.
- Training the staff of the Electronic Transactions and Operations section on the International Standard 27001 on the audit of electronic systems to include auditing and monitoring work on electronic authentication entities.

- Continue to consult with the commercial and industrial sectors to improve the legal and regulatory frameworks for the electronic commerce sector in Jordan and enable the sectors to rely on electronic service provided by targeted electronic authentication providers.
- Continuing to conduct surveys of the electronic trade sector in Jordan, and encourage service institutions to the trade sector and raise awareness of the importance of providing reliable electronic services by linking to the RCA.

➤ Safe use of the Internet:

- As part of its efforts to ensure the safe use of internet and child protection, the TRC has developed a comprehensive plan to raise awareness of the guidelines on content of the safe use for the Internet, and monitored the means available to licensees in the sector of parental control, in addition to holding a workshop to exchange Knowledge and technical expertise among licensees to develop appropriate plans and programs of work and according to what can be applied in the future to provide parental control service to cover all beneficiaries of internet services in the Kingdom, in addition to launching specialized awareness campaigns through various media in addition to their pages through social media platforms.

➤ Maintaining the security of telecommunications networks and preventing the illegal use of telecommunications networks:

- The Commission continues to detect and locate devices and networks (SIM Boxes) that are used to illegally terminate international calls (Fraud) on licensed mobile telecommunications networks in order to protect the security of telecommunications, and not to allow the passage of illegal calls to and from unknown, undocumented entities, and to take violating entities to the court.

#### **4.6 Quality of Services**

In order to improve the quality of services provided by mobile operators, in addition to their commitment to enhance coverage in certain areas, the TRC has worked on the following areas:

- Continue to make measurements related to the quality of mobile telecommunications services and coverage of all types of technology used (2G, 3G, 4G), and to deal with the complaints through the technical teams in the TRC by performing field visits and conducting technical examinations necessary for coverage complaints in coordination with the relevant service providers.



- Start an upgrade project of the SwissQual Benchmark/Freerider system and add new and improved features to the current inspection system. In addition to converting one of the previous systems (DIVERSITY BM) to a new system (SMART BM) that supports the principle of the quality of experience, so that the system is totally dependent on conducting tests through direct testing devices without the need for addition of external antennas.
- Development of the (FM) radio stations monitoring system (87.5 MHz–108 MHz) through TRC's specialized technical staff. The system prepares specialized software capable of analyzing data extracted from electronic systems for monitoring radio spectrum, comparing it with the technical standards adopted by the TRC in licensing these stations, and then sending automatic real-time alerts to any irregularities committed by the licensee through text messages to the station management, explaining the nature of the violation, its history, its time, and the extent of deviation from the technical standards adopted by the Commission.
- Improving an automated system to manage and process quality of services technical reports.
- Contributed to the introduction of new recommendation by the International Telecommunication Union (ITU) related to measurement campaigns, monitoring systems and sampling methodologies for the purposes of monitoring the quality of services provided through mobile networks, the recommendation describes a basic framework for best practices to measure the quality of services as provided and covers the quality of the mobile phone network and the characteristics and requirements of Testing systems, sampling methodologies exploited by the manufacturers of testing equipment, as well as entities specialized in network measurement, data analysis and monitoring service subcontractors.

#### 4.7 Beneficiaries Interests Protection:

In order to protect the interests of the beneficiaries of telecommunications, information technology and postal services, and to continue to spread awareness that helps them make informed decisions regarding their purchases of telecommunications services, the commission has done the following:

##### ➤ Receiving, following up and resolving beneficiaries' complaints:

- The Commission received a total of (4583) complaints during 2019 of which (4216) complaints were processed through the channels designated to receive and follow up beneficiaries' complaints at a handling rate of 92%. Complaints related to coverage issues takes longer periods of time to resolve

in coordination with licensees, mainly due to onsite coverage status verification and logistical aspects.

- The commission followed up on many observations received from beneficiaries of telecommunications services related to the extent of the licensees compliance with the provisions of the instructions on” organizing sending wholesale messages”. Consequently, The Board of Commissioners has issued a number of warnings against mobile operators to correct the violating practices.
- Continuing to enable the deaf people to submit their complaints through the commission’s website, as it contains a cartoon personality that translates complaint text into sign language, in addition to the availability of tablets with sign language translation programs at the Beneficiaries Affairs Section. Implementing a number of training programs for the purpose of qualifying the employees of the Beneficiary Affairs Section to learn sign language, aiming to communicate with those with deaf challenges.

➤ Executing Inspection Tours

- Field inspection tours at points of sale in the governorates, were executed to limit the mobile subscriptions sale that are obtained without the necessary licenses from the concerned government agencies,
- Carrying out onsite visits to some telecom operator customer service center with the aim of identifying the most important problems that may be encountered by beneficiaries when visiting these centers.

➤ Studying Operators Offers and Subscription Contracts

The commission continuously studies all commercial offers for communications and information technology services that are announced by telecommunications and internet companies, as the Commission had:

- Studied a total of 17 commercial offers during 2019 to ensure compliance with the Commission instructions and decisions and that they do not prejudice the competition.
- Studied a total of 6 subscription contracts submitted by telecommunications and Internet companies in the Kingdom.

➤ Integrated chipset (eSIM):

- The commission issued the regulatory decision regarding the integrated electronic chips, after studying this technology and consulting mobile operators in the Kingdom on the terms of the decision. The integrated chips are a modern technology whereby an electronic card is used to identify the subscriber / beneficiary instead of an actual physical (SIM) card, which is distinguished by the fact that the beneficiary does not have to request a new card when changing or switching the service operator. So, the beneficiary can switch the operator remotely instead of having to request a new SIM card.

➤ Blocking and reactivating applications, news sites, and websites

- Many applications and news websites were blocked and repeated according to the administrative and judicial orders received, as more than 65 news sites were dealt with in cooperation with the Media commission, and new applications and dangerous games that may negatively affect the individual and society were followed up. Studies showed that some dangerous applications can negatively affect children and adolescents.

➤ Regulating Communications Records:

- Instructions have been issued to regulate the maintenance of communications records after the public consultation stages and after taking into account remarks and comments of stakeholders in the telecommunications and information technology sector. The instructions included provisions related to the obligations of the licensees and service providers, the period and mechanism for maintaining communications records, the relationship of the licensee with the service provider, the manner of coordination with the competent authorities, the violations and fines, the communications records that must be kept, the protection and integrity of data, its security and privacy. Noting that, the preservation of these records will be done in a protected manner with the licensed companies and no unauthorized (what, entity or personnel?) will be having access to, with an obligation to provide these data to the competent authorities when needed and under the commission supervision. According to the instructions, the licensed companies are obligated to keep all records

related to communication, including: source of communication, point of contact, type and means of communication, communication equipment of beneficiaries, and the location of communication equipment.

➤ Telecom cards charging systems and billing systems for mobile operators:

- The Commission announced and published on its website the results of the audit project on charging systems for telecom cards and billing systems for mobile telecommunications companies, beside measuring price transparency for announced offers the project measured mobile operators' internal policies in charging telecom cards and issuing bills.

➤ National Numbering Plan:

- The Commission finalized terms of reference for the National Registry of Automated Numbers Management System (NMS) bid. Similarly, terms of reference for number portability bid and the characteristics related to the central database and the operational aspects related to the subject were finalized.

The Commission also updated the National Register of Numbers and withdrawn unused numbering capacities, allocating numbers to government agencies from the national numbering plan to enable them to provide services to beneficiaries. The Commission also allocated new numbering capacities to some licensees to provide telecommunications services, including mobile communications.

➤ Enabling individuals with disabilities to access telecommunications services:

- Continuing the work of the specialized team to enable people with disabilities to access telecommunications and information technology services headed by the Commission and membership of each of the Higher Council for the Rights of Persons with Disabilities, the Jordanian Petra Mobile Communications Company (Orange), the Jordanian Mobile Services Company (Zain),

Umniah Company for Mobile Communications, the Jordanian Society for Information and Communication Technology (production), the Jordanian Coalition for People with disabilities and the Cultural Forum for the Blind, in addition to representatives of each of the hearing impairment, visual impairment and movement impairment.

- Providing a sign language translation service for the Commission visitors who are deaf by providing visual communication (by sound and image) with a sign language interpreter who in turn provides simultaneous interpretation to the deaf person and the employee who communicates with him so that the deaf person can express his needs and requirements at the same time, the employee will be able to provide the required service in the best way, noting that the Commission is the first governmental institution to provide this service.
- Receiving complaints through the commission's website, which allows submitting complaints to deaf people with hearing and speech challenges, as it contains an avatar character that translates text into sign language.
- Cooperating with the Command and Control Center in the Public Security Directorate and in agreement with telecom operators to set technical standards that enable the provision of 114 emergency line service to the deaf people, and it is expected to start implementing the project during 2020.

➤ Launching awareness campaigns:

- During 2019, the commission launched several specialized awareness campaigns through local TV channels. The campaigns dealt with different topics to increase beneficiary's awareness of telecommunications, information technology and postal services, and the most important of these campaigns were:
  - Campaign to block advertising messages.

- Campaign related to contracts and commercial offers campaign.
- Commission calls center free number campaign.
- Mobile app permissions Campaign.
- Fraudulent international messages and calls campaign .
- A campaign in the event of a lost or stolen mobile phone .
- A campaign related to setting phones at the border areas to avoid international roaming.
- Various campaigns targeting parents related to mobile applications to protect their children .
- Handling postal parcels campaign.
- A campaign for online store owners and shopping pages on social media platforms.

➤ Live broadcast from the Commission:

- During 2019, the commission in cooperation with the Public Security Directorate organized a morning program broadcast, "the open program," live from the TRC building and via the FM security radio, on all issues and facing the beneficiaries of telecommunications, information technology and postal services in the Kingdom, in addition to talking about the role that the TRC plays in the field of regulation of the telecommunications, information technology and postal sectors in the Kingdom.

➤ Managing social media platforms and Governmental service portal  
"houkmati bikdmati"

- The Commission applied radical changes to its visual identity through its pages on social media platforms (Facebook, Twitter, YouTube) to match the global developments in this field, and to be more attractive to platform surfers and thus reach larger number of followers for the purposes of direct communication with the beneficiaries of telecommunications services and information technology and post, the following was achieved:
  - Receive and follow up beneficiary's complaints in coordination with the concerned parties.
  - Respond and follow up on beneficiaries 'inquiries, and benefit from their observations.



- Designing, publishing and broadcasting informational materials at a rate of (25) advertisements per month, as the number of materials published through the commission's Facebook and Twitter pages increased from 238 by the end of 2018 to 302 by the end of 2019.
- Follow and publishing the press releases and interviews, the latest statistics and reports issued by the commission, in addition to publishing employment announcements, bids and other matters of interest to the beneficiaries.
- Contribute to consolidating the corporate identity of the Commission by providing all the necessary designs for the local events held by the Commission, in addition to designing all the internal and external reports.

It should also be noted that the Commission designed and broadcasted 20 informational and awareness articles through government e-mail (My government is at my service) in coordination with the Ministry of Digital Economy and Entrepreneurship.

➤ Number of licensed companies:

By the end of 2019, the number of companies licensed to provide public telecommunications services in the Kingdom reached (70) companies:

(24 Individual licensees).

(46 class licensees).

#### 4.8 Ensuring an effective Regulation of the postal sector:

For the purpose of developing the postal sector in Jordan and to benefit from the services provided by the operating companies, TRC in 2019 has:

- Continued to follow up on the work automation project of the postal sector procedures such as issuing licenses and receiving license applications electronically.
- Revised the performance indicators of the private postal operators in accordance with the development of the e-commerce concept and its direct impact on the postal sector, where an indicator related to the total number of parcels made through e-commerce platforms provided by licensees locally and internationally was added.
- Collected statistical data on e-commerce for licensees.
- Launched awareness campaigns about the necessity of dealing with electronic markets and shopping pages on social media platforms with local postal services operators.

- Continued to monitor the implementation of the General Postal Operator's conditions of performance contract by considering the deadlines in addition to monitoring the compliance of licensed private postal operators with the postal legislation in force and ensure their compliance with public health and safety standards, when transporting postal items, and conduct intensive periodic inspection tours on the violating parties.
- Continued work on the “prices adjustment of exclusive services” study.
- Continued work on revising the postal services law and updating the regulatory framework of private operators to deal with the current era’s demands, and requirements.
- Received beneficiary’s complaints related to Jordan Post Company and private postal operators and taking the necessary actions to resolve complaints.
- Continued to prepare and publish statistical data and indicators to study and monitor the development of the postal market.
- Hold a world post day celebration with the participation of a number of relevant government agencies and private postal operators as well as the Jordan Post Company.
- Come up with a final version of authenticated, documented licenses of private postal operator’s, and published them on TRC website in order to facilitate on licensees, in which more than 1,000 licenses have been certified.
- The number of licensed postal operators in the postal services sector at the end of 2019 reached a total of 98 operator:
  - (8) operators with international license category.
  - (90) operators with local license category

## **5– International participations and local events for 2019**

### **5.1 International Participation:**

A study visit to learn about Oman’s experience in regulating the telecommunications services 2/2019, Oman

Within the framework of the activation of the memorandum of understanding signed between the telecommunications Regulatory Commission TRC – Jordan and the Telecommunications Regulatory Authority TRA – Oman , the Chairman of the Board of Commissioners, Dr. Eng. Ghazi Al-Jobor, visited

the Omani Telecommunications Regulatory Authority, where he met the Minister of Communications; During the visit and among other topics shared between the Omani and Jordanian bodies, His excellency was briefed on Oman's experience in regulating 5G frequencies and pricing, as well as the frequency monitoring mechanism and electronic services of the automated spectrum management system and the Omani experience in the quality of services and procedures adopted to reduce exposure to electromagnetic radiation.

### Opening The Jordanian pavilion at the International Telecommunications Conference

2/2019 Barcelona

Organized by the Jordan ICT Association "Intaj", the Chairman of the Board of Commissioners, Dr. Eng. Ghazi Al-Jobor, opened Jordan's pavilion at the International Telecommunications Conference which was kicked off in Barcelona, Spain under the slogan "Creating a better future".

The importance of the Jordanian presence in such gatherings of hundreds of companies and ICT experts around the world is to provide opportunities to the leading companies and qualified young Jordanians to participate, in addition to displaying the products and ideas of Jordanian companies.

### Euro-Mediterranean Regulators Group (EMERG) Plenary meeting

3/2019 Sarajevo

TRC represented by the Chairman of the board of commissioners Dr. Ghazi Al-Jobor has participated in the plenary meeting of the Euro-Mediterranean Regulators Group (EMERG), which was held in Sarajevo.

During the meeting, EMERG members approved the outcomes of the contact network meeting and the group's action plan for the year 2019, and discussed several subjects related to EMERG group activities & workshops relate to best regulatory practices.

### ITU World Telecom Forum 2019

9/2019 Budapest

TRC participated in the ITU World Telecom Forum that took place from 9–12 September in Budapest, Hungary, on the theme of "Innovating together: connectivity that matters". The forum brought together governments, corporates and tech SMEs (small and medium enterprises) from emerging and developed markets around the world in its participation TRC aimed at sharing knowledge and transfer the Jordanian experience in the field of telecommunications regulation and to identify areas of investment in the sector in a way that contributes to the strengthening of both human and technological capacities.

Specialized experts covered topical areas from technological developments and impacts in 5G, IoT, Artificial Intelligence (AI), smart cities and the role of government in digital transformation.

#### 17th Arab Regulatory Network (AREGNET) meeting

9/2019

H.E Eng Dr.ghazi Aljoboor participated in the annual meeting of Arab Regulatory Network (AREGNET) which was held during the period from 24 – 26 September 2019 in Tunisia and hosted by National Regulatory Authority for Telecommunications of Tunisia.

The meeting was attended by representatives from Arab Regulators who came together to discuss and review the updates of various joint projects and working groups. TRC chaired two projects: “Sharing experiences in quality control of mobile communication services (QoS/QoE)” project & “Sharing experiences in combating the smuggling of international calls through SIMBox devices” project, and took the membership of other various projects.

## **5.2 local Events**

#### Specialized workshop on 5G

TRC organized a specialized workshop on “5G” in collaboration with Euro–Mediterranean Regulators Group (EMERG).

The workshop is part of the group's action plan that aims to exchange views among members and study the regulatory, technical and economic issues of the (5G), in addition to presenting the level of implementation and adoption of 5G in different member states.

#### Workshop to discuss Implementing Fixed Number Portability in Jordan

In January, TRC organized a workshop to discuss Implementing Fixed Number Portability (FNP) in Jordan, in cooperation with the Technical Assistance and Information Exchange Authority of the European Commission (TAIEX); the workshop was attended by mobile telecommunications operators in Jordan as well as a group of TRC employees who are specialized in the project of number portability. The workshop aimed to formulating new instructions to regulate the "Fixed Number Portability" in Jordan, and preparing a comprehensive operational Plan for the FNP implementation.

#### Scientific Day in cooperation with Road & Schwartz of Germany

In February, TRC organized in cooperation with Road & Schwartz and its local agent, “Solutions Communication & Security Systems Co. Ltd.”, a scientific day with the aim of raising awareness about ways to measure the quality of tests for mobile networks and enhance their capabilities, with the

participation of representatives of the relevant telecommunications companies and a number of relevant entities and stakeholders in TRC. By reference that, the TRC is concerned with training its staff by building real partnerships with specialized entities to keep up with the developments in the telecommunications sector.

#### Regional Specialized Workshops on: Radio Signals and Health & Internet of Things (IoT)

In March, the TRC organized two workshops on: “ Radio Signals and Health”, & “Internet of Things (IoT)” in cooperation with GSMA and with wide participation from, mobile operators, NGO's and concerned local entities and Arab Regulators Network "AREGNET" members.

These workshops were intend to look at the state of the scientific knowledge about electromagnetic fields (EMFs), standards for mobile technologies, regulatory compliance and public awareness and education based on TRC role in protecting the rights and interests of the beneficiaries of telecommunications and information technology services, in order to preserve public health and safety, in addition to its role in raising the awareness of the Jordanian citizen about the rapid technological developments affecting aspects of our human life in various fields.

#### Sponsoring a Technical Experience for the transmission of the Internet through electricity networks

In April, in cooperation with SMT solution, TRC carried out a technical experiment to transfer the Internet through electricity networks on the campus of The University of Zaytouna, Jordan, in the presence of the President of the University Dr. Turki Obeidat, a number of academic teaching staff, students from the University, as well as concerned staff from TRC, and representatives from various media organizations in order to inform the stakeholders about the latest technologies related to the provision of internet connectivity services at the lowest costs, time and effort, which provides internet service to remote areas at high speeds using the infrastructure of electricity networks alone.

#### Specialized workshop on regulating wholesale sales for high-capacity networks

In June, TRC in cooperation with the European Mediterranean Regulators Group (EMERG) organized a specialized workshop on wholesale regulation of very high capacity networks (VHCN), including: Price control, Promotion of competition and investment.

The aim of this workshop is to provide a platform for participants to exchange Knowledge and expertise in regard to regulatory, economic issues related to the policies development of wholesale regulation of very high capacity networks (VHCNS) in the EMERG countries.

#### Specialized workshop on the organization of 5th generation mobile communications

In September, TRC organized a specialized workshop on the regulation of the (5G) of mobile communications in cooperation with Huawei in order to keep its employees updated globally in the field of 5G services and the possibility of their use and application at the local level, in order to make it possible to provide these services in the future. The workshop covered several topics: the role of 5G in contributing to the development of the digital economy, reviewing global best practices in the use of spectrum for these services, as well as a review of global regulatory best practices in this area.

#### Regional workshop on human exposure to electromagnetic waves and qualitative absorption

In December, TRC organized a workshop on human exposure to electromagnetic waves and qualitative absorption in cooperation with the International Association of Mobile Operators (GSMA), with the broad participation of mobile operators, civil society organizations and local authorities, as well as representatives of the Network of Arab Telecommunications regulatory bodies and information technology (AREGNET), and the main topics addressed by the workshop was: The activities of the International Federation's Global Team in the areas of human exposure to electromagnetic waves issued by communication systems, guidelines on the international organization for the protection of non-ionizing radiation, international standards relating to radiation exposure and public health, and health standards and conditions adopted in many Arab countries, as well as public awareness and education about electromagnetic waves.

#### Holding Introducing workshop about the “Telecommunications Sector” for the judiciary

In December and in accordance with the requirements of the general policy of the telecommunications, information technology and postal sector 2019, TRC organized an introductory workshop about the “Telecommunications Sector” to the Jordanian judiciary, the aim of the workshop was to give an introductory about the telecommunications sector, in addition to explaining the nature of Telecommunications, information technology, services and associated markets. The workshop included specialized sessions on many various topics such as: contracts subscription, prepaid lines authentication, wholesale messages regulations, interconnection and quality of service, instructions for planning, allocating, licensing and monitoring the use of frequencies, and the postal sector regulation in the kingdom.

## **6– Institutional Development**

### **➤ TRC Organizational structure**



The Commission worked on reviewing the directorate's tasks and its sections' job descriptions for the purposes of ensuring the institutionalization of the work, to achieve specialty in it and to raise the productivity of the Commission directorates, so it worked on the following:

1. Developing the Commission Organizational structure by the committee that was formed for this purpose in order to separate some section's tasks and to establish new sections as follow:
  - Total Quality Management section in the Planning and Corporate Development Directorate.
  - Separating the Technical Auditing Section tasks from the Administrative Auditing ones in the Internal Control Unit.
  - Separating the Mobile Spectrum Monitoring and Inspection Section from Fixed Spectrum Monitoring section in the Radio Frequency Inspection and Monitoring Directorate.
  - Creating the Cyber Security section in the Telecommunications Networks and Services Directorate.
  - Separating cases' tasks in a specialized section in the Directorate of Legal Affairs.
  - Creating a section to take over the anti-fraud and counterfeiting tasks in the Standards and Type Approvals Directorate.
  - Defining the functions of the Board of Commissioners' Affairs Unit by creating the Chief Executive and The Board of Commissioners' Affairs' Offices.
  - Reviewing the job descriptions of the above directorates and creating new jobs to take on tasks in accordance with the amendment of the organizational structure, therefore; 113 functional descriptions were adopted and approved accordingly.

➤ **Internal and External Training Programs:**

The Commission was keen to raise the level of abilities, skills and knowledge of its staff at all functional levels. During 2019, the Commission implemented a number of specialized technical training programs with local and international training centers, trainers and international experts. A large number also participated in an internal training programs held inside the Commission building and outside. Among the most prominent programs are:

- Specialized technical training programs related to the key processes, the most important of which are: CCNA, CCNA Security, CCNP, Fundamentals of wireless communications, IOT, CA100, CISSP, The Unified Window, GIS, Introducing Electromagnetic Compatibility Requirements, Cloud Computing.
- Specialized administrative training programs related to support operations, the most important of which are: Writing Technical Reports, Certified Evaluator, Creative Leadership, Budget Implementation Tools, International Accounting Standards, Intellectual Property, Positive Energy

System, Professional Diploma in Media, Government Accountant, Financial and Administrative Control, Predicting the Future, Change Management, Risk Management, Preparation of Annual Plans and English courses at different levels.

➤ **Awareness Program**

In order to enhance the continuous communication between all the Commission employees, and to transfer and share knowledge among them, a total of 29 awareness lectures were held that included (15) Knowledge material from specialized, functional and cognitive subjects, It was co-sponsored by specialists from within the TRC and a number of external private and governmental entities.

**(7) Social Responsibility Activities**

The Commission was keen to contribute to the requirements of social responsibility, by implementing many specialized activities and initiatives, it contributed to many national awareness campaigns in cooperation with the relevant institutions in support of the local community. The following is what the Commission did in order to achieve this goal:

- Continuing the work of the specialized team for the empowerment of persons with disabilities chaired by the Commission and the membership of the Supreme Council for Persons with Disabilities, Zain, Orange Jordan, Umniah, Intaj, The Jordanian Coalition for People with Disabilities and the Cultural Forum for the Blind, In addition to representatives from hearing, visual and motor disabilities.
- Training a number of students and graduates from Jordanian universities.
- Signing a document of agreement and understanding with the Charity Clothing Bank and one of the departments of the Jordanian Hashemite Charitable Authority. The Commission has set up an in-kind-raise in its building to collect clothes, shoes, and toys for the benefit of the beneficiaries of the Charity Clothing Bank.

**(8) The operational objectives of the Commission:**

**1. Achieving regulatory effectiveness in the telecommunications, information technology and postal sectors.**

- 1.1 Developing regulatory frameworks in accordance with the requirements and developments of the telecommunications, information technology and postal sectors.
- 1.2 Developing key operations in accordance with the quality and level of the approved organizational interventions.

**2. Ensure effective competition and create a stimulating investment environment in the telecommunications, information technology and postal sectors.**

- 2.1 Reducing dominance and barriers to market entry.
- 2.2 Raising the level of operators' commitments to legislation and regulations of the telecommunications, information technology and postal sectors.
- 2.3 Encourage operators to introduce modern innovative services in the telecommunications, information technology and postal sectors.
- 2.4 Develop the effectiveness and efficiency of the Commission in the scarce resources management.

**3. To enhance the effectiveness of the Commission in protecting the interests of the beneficiaries of the telecommunications, information technology and postal sectors.**

- 3.1 Raising awareness among beneficiaries of telecommunications, information technology services, and postal services and from electronic authentication services.
- 3.2 Raising the level of measures to protect the interests of beneficiaries of telecommunications, information technology services and postal services.
- 3.3 Developing the effectiveness and efficiency of the Commission in monitoring the quality of services in the telecommunications and information technology sectors and the postal sector, and monitoring the work of electronic authentication agencies.
- 3.4 Ensuring the adequacy and appropriateness of the security of Telecommunications and information technology systems in the Kingdom, their diversity and general ability to adapt to the continuity of service in the relevant infrastructure

**4. Developing the institutional capabilities of the Commission and the functional competences of its employees.**

- 4.1 Activating the impact of support operations in improving the results of key operations.

- 4.2 Develop the functional practices that support the key and support operations.
- 4.3 Enabling the Commission with technical capabilities by technical systems and programs.
- 4.4 Development of functional competences for major and support operations.
- 4.5 Work to make the Commission a distinct regional technical and regulatory center.

**(9) Annexe**

**Telecommunications and postal sector in the Kingdom / indicators and figures**

**Table No. (1)**

Landline service indicators during the period (2015–2019)

Year	2015	2016	2017	2018	2019
<b>Subscribers Numbers (1000)</b>	369	359	328	319	317
<b>Penetration percentage according to Population (%)</b>	4,0	3,6	3,2	3,1	3

**Table No. (2)**

Indicators for effective mobile phone service during the period (2015–2019)

Year	2015	2016	2017	2018	2019
<b>Subscribers Numbers (1000)</b>	13,798	9,818*	9,703	8,731	7,778
<b>Penetration percentage according to Population (%)</b>	145	100	97	85	73

\*Audited for this year in accordance with the actual operator database

**Table No. (3)**

Indicators for Internet users during the period (2015–2019)

Year	2015	2016	2017	2018	2019
<b>Users Numbers (Million) *</b>	4,63	5,53	6,6	7,87	9,38
<b>Penetration percentage according to Population (%)</b>	48,4	56,4**	65,7**	**76,5	89**

\* Source, Department of Statistics.

\*\* Estimated by calculating the growth rate of previous years until actual information is available.

**Table No. (4)**

Indicators for Internet subscribers during the period (2015–2019)\*

Year	2015	2016	2017	2018	2019
<b>Subscribers Numbers (1000)</b>	3,064	2,229**	2,492	1,591	1,205
<b>Penetration percentage according to</b>	32,05	23,34	24,81	15,5	11,43

<b>Population (%)</b>					
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\* This number does not include the number of mobile internet subscribers.

\*\* Modified according to data update

**Table No. (5)**

Volume of investment in the telecommunications sector (2015–2019) (million)

<b>Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Landline</b>	20	23	26	36	32
<b>Mobile</b>	264	77	111	93	141
<b>Data and voice services' providers</b>	6	–5	12	6	4
<b>Other communications' services</b>	0,6	0,66	0,5	0,8	0,6
<b>Total</b>	290	95	150	136	178

**Table No. (6)**

Number of employees in the telecommunications sector (2015–2019)

<b>Year</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Landline</b>	1552	1547	1484	1439	1431
<b>Mobile</b>	2125	2046	2074	2115	2246
<b>Internet</b>	440	362	260	247	457
<b>Other communications' services</b>	42	270	196	244	90
<b>Total</b>	4159	4225	4014	4045	4224

### KPIS of Postal Sector

The current volume of postal parcels (million)					
	2015	2016	2017	2018	2019
Domestic Parcels	13,9	14	9,4	10,5	11,11
International Parcels	2,1	1,9	6,7	6,8	3,7
Total	16	15,9	16,1	17,3	14,8

Number of postal operators					
	2015	2016	2017	2018	2019
Public Postal Operators	1	1	1	1	1
Private Postal Operators	51	73	86	104	126
Domestic	44	65	79	97	118
International	7	8	7	7	8
Total	52	74	87	105	127

Number of the Postal Sector Employees					
	2015	2016	2017	2018	2019
Public Postal Operators	1084	1063	1090	1071	1059
Private Postal Operators	1032	956	1057	2283	4262
Total	2116	2019	2147	3354	5321



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