



Pakistan  
Telecommunication  
Authority

# ANNUAL REPORT 2020

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## Acknowledgement

This report has been prepared as an obligation under Section 18 of the Pakistan Telecommunication (Re-organization) Act, 1996. It has been compiled by the Economic Affairs Directorate team of the Pakistan Telecommunication Authority (PTA), led by Mr. Muhammad Arif Sargana, Director General, Commercial Affairs. The chapters have been drafted by Ms. Malahat Obaid, Deputy Director, Economic Affairs; Dr. Shahbaz Nasir, Deputy Director, Commercial Affairs; Mr. Abdul Rehman, Deputy Director, Economic Affairs; Mr. Waqas Hassan, Assistant Director, IL&T; and Mr. Muhammad Kashif, Assistant Director, Enforcement, based on input from multiple resources. Secretarial support for the publication was provided by Mr. Muhammad Riaz, Administration Officer, Economic Affairs. The Public Relations Directorate of PTA is acknowledged for the provision of photographs of various events. The authors would like to recognize input provided by the Divisions and Directorates of PTA, telecom operators, government bodies, and online sources accessed to prepare this report. Senior journalist and Technical Editor Ms. Shahina Maqbool provided copy-editing support. The valuable guidance and directions given by Members of the Authority, led by PTA's Chairman, Maj Gen Amir Azeem Bajwa (R), were the primary inspiration behind the contents of this report.

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# PTA's VISION



*“Create a fair regulatory regime to promote investment, encourage competition, protect consumer interests, and ensure high-quality ICT services.”*

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# Acronyms

<b>AIP</b>	Administrative Incentive Pricing	<b>IoT</b>	Internet of Things
<b>APNIC</b>	Asia-Pacific Network Information Center	<b>ISP</b>	Internet Service Provider
<b>APT</b>	Asia-Pacific Telecommunity	<b>ITU</b>	Information Telecommunication Union
<b>ARPU</b>	Average Revenue Per User	<b>IVR</b>	Interactive Voice Response
<b>BISP</b>	Benazir Income Support Program	<b>IXP</b>	Internet Exchange Point
<b>CERT</b>	Computer Emergency Response Team	<b>KPIs</b>	Key Performance Indicators
<b>CMO</b>	Cellular Mobile Operator	<b>LDI</b>	Long Distance and International Services
<b>CMPak</b>	China Mobile Pakistan	<b>LL</b>	Local Loop
<b>CMS</b>	Complaint Management System	<b>LTE</b>	Long Term Evolution
<b>COVID-19</b>	Corona Virus Disease 2019	<b>Mbps</b>	Megabits Per Second
<b>CSC</b>	Consumer Support Center	<b>MHz</b>	MegaHertz
<b>CTDISR</b>	Critical Telecom Data and Infrastructure Security Regulations	<b>mmWave</b>	Millimeter Wave
<b>CVAS</b>	Class Value Added Services	<b>MoITT</b>	Ministry of Information Technology and Telecommunications
<b>DIRBS</b>	Device Identification, Registration and Blocking System	<b>MTR</b>	Mobile Termination Rates
<b>FAB</b>	Frequency Allocation Board	<b>NADRA</b>	National Database and Registration Authority
<b>FBR</b>	Federal Board of Revenue	<b>NBTC</b>	National Broadcasting and Telecommunications Commission
<b>FDI</b>	Foreign Direct Investment	<b>NDMA</b>	National Disaster Management Authority
<b>FY</b>	Financial Year	<b>NETP</b>	National Emergency Telecom Plan
<b>G4</b>	4 <sup>th</sup> Generation Regulator	<b>NGMS</b>	Next Generation Mobile Services
<b>Gbps</b>	Gigabits Per Second	<b>NIH</b>	National Institute of Health
<b>GDP</b>	Gross Domestic Product	<b>NTA</b>	Nepal Telecom Authority
<b>GNI</b>	Gross National Income	<b>NTC</b>	National Telecommunication Corporation
<b>GoP</b>	Government of Pakistan	<b>OTT</b>	Over-The-Top
<b>GSM</b>	Global System for Mobile Communication	<b>PB</b>	Peta Bytes
<b>GSMA</b>	GSM Association	<b>PBS</b>	Pakistan Bureau of Statistics
<b>HEC</b>	Higher Education Commission	<b>PCP</b>	Pakistan Citizen Portal
<b>HF</b>	High Frequency	<b>PECA</b>	Prevention of Electronic Crimes Act
<b>ICT</b>	Information and Communication Technology	<b>PKR</b>	Pakistani Rupee
<b>IGNITE</b>	Integrated Group of National Industrial Technology Exhibitions	<b>pkSIG</b>	Pakistan School on Internet Governance
<b>IL&amp;T</b>	International Liaison and Training	<b>PSLM</b>	Pakistan Social and Living Standards Measurement
<b>IMEI</b>	International Mobile Equipment Identity	<b>PSTN</b>	Public Switched Telephone Network

**PTA** Pakistan Telecommunication Authority

**PTCL** Pakistan Telecommunication Company Limited

**PUBG** Player Unknown's Battle Ground

**QE** Quarter Ending

**QoS** Quality of Service

**RBT** Ring Back Tone

**RF** Radio Frequency

**RoW** Right of Way

**SAMENA** South Asia, Middle East and North Africa

**SATRC** South Asian Telecommunications Regulators' Council

**SBP** State Bank of Pakistan

**SCO** Special Communication Organization

**SDGs** Sustainable Development Goals

**SIM** Subscriber Identification Module

**SMS** Short Message Service

**SOP** Standard Operating Procedure

**SOS** Save Our Souls

**TIP** Telecom Infrastructure Provider

**TPSP** Third Party Service Provider

**TTP** Telecom Tower Provider

**TV** Television

**UAN** Universal Account Number

**UIN** Unique Identification Number

**UK** United Kingdom

**UNICEF** United Nations International Children's Emergency Fund

**URL** Uniform Resource Locator

**USF** Universal Service Fund

**VHF** Very High Frequency

**VoIP** Voice over Internet Protocol

**VoLTE** Voice over Long Term Evolution

**VPN** Virtual Private Network

**WEF** World Economic Forum

**WHO** World Health Organization

**WLL** Wireless Local Loop

**WRC** World Radiocommunication Conference



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## The Authority



**Maj Gen Amir Azeem Bajwa (R)**  
Chairman PTA



**Mr. Muhammad Naveed**  
Member—Finance



**Dr. Khawar Siddique Khokhar**  
Member—Compliance and Enforcement

# Chairman's Message

As we approach the next decade, rapid advances in technology continue to transform telecoms around the globe at an astounding pace, and in ways that we could not have imagined a few years ago. From 5G networks to Internet of Things (IoT), from cloud computing to Artificial Intelligence (AI) and Virtual Reality (VR), technology and services are moving forward amidst ever-intensifying competitive pressures. With today's tech savvy, well informed, skilled, innovative, and demanding telecom users, the telecom industry is left with no choice but to take quantum leaps in significantly improving the standards of its services and performance. Markets that have prudently planned ahead of the technological transformation will be spearheading future telecoms.

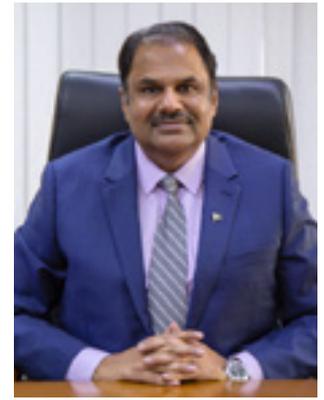
The accelerated pace of digital transformation was encountered with COVID-19—the worst pandemic of our times. As the world adjusts to the new-normal, the focus of the telecom sector has also shifted from accessibility and availability to resilience, speed, and continuity. Accordingly, regulators across the globe are revisiting their regulatory approaches while working hand-in-hand with international telecommunities and health organizations to ensure safe, secure, reliable, fast, and modern telecoms. Being at the forefront of response efforts, the Pakistan Telecommunication Authority (PTA) is working to ensure that critical services, vulnerable segments, and those reliant on telecom services stay connected as the intensity of the pandemic fluctuates. While we made sure that capacity upgrades, load-balancing, and traffic optimization of telecom networks excel beyond precision, our operators contributed by upholding our commitment to the nation.

I feel great pride in recounting that in the year 2020, the telecom sector emerged as a prominent player in Pakistan's economy. Its recognition as a major contributor to the national exchequer is praiseworthy. Moreover, the fact that one quarter of the total Foreign Direct Investment (FDI) in the country was made by this very sector is iconic. With the manufacturing of mobile devices being spurred with implementation of the Device Identification, Registration and Blocking System (DIRBS), the local mobile ecosystem has been enlivened. All our commitments and achievements are geared towards accelerating Pakistan's journey towards a 'Digital Pakistan'.

At the same time, we are alive to the challenges at hand as we continue our journey. Ensuring the availability of spectrum; facilitating fiberization and resolving Right of Way (RoW); supporting adoption of emerging technologies; maintaining Quality of Service (QoS) by enhancing benchmarks; engaging with stakeholders for safe Internet; and preparing ourselves for crisis management are some of our key areas of focus. Our vision can only be achieved with continued guidance, support, and assistance of the Government of Pakistan (GoP) and the telecom industry.

I take this opportunity to acknowledge the trust and confidence that the leadership has reposed in the telecom regulator and the telecom sector. I would like to concede that policies and initiatives of the Ministry of Information Technology and Telecommunication (MoITT) remained the cornerstone of our resolve and steadfastness. The collective resilience of the members and team of PTA, coupled with the persistence of our industry colleagues, has helped us attain a proud pedestal. I look forward to the leadership for continued guidance and support of the telecom fraternity.

**Maj Gen Amir Azeem Bajwa (R)**  
Chairman  
Pakistan Telecommunication Authority



*“With today's tech savvy, well informed, skilled, innovative, and demanding telecom users, the telecom industry is left with no choice but to take quantum leaps in significantly improving the standard of its services and performance.”*



## Executive Summary

**T**he Pakistan Telecommunication Authority (PTA) continued its pursuit for the development of Information and Communication Technologies (ICTs) during FY2020. PTA worked hand-in-hand with telecom operators, government organizations, and cross-sector partners to maintain the momentum of growth in the telecom sector, while contributing to overall economic development. A supportive regulatory environment, effective competition, presence of innovative international telecom operators, and the continuous resolve of the regulator to harness advanced technologies resulted in widespread availability of Internet services to over 87% of the population at one of the lowest rates in the region; mobile data prices declined to only 0.70% of the Gross National Income (GNI) per capita—well below the UN Broadband Commission’s recommendation of less than 2%.

In Pakistan, 98%<sup>1</sup> of the households own a mobile phone whereas penetration of mobile services reached 81.1% at the end of October 2020, with 172.3 million mobile subscriptions. Broadband subscriptions also showed impressive growth trends of 17% during FY2020, crossing the 90.1 million in October 2020 mark whereas 4G subscriptions registered an exponential 60% growth (FY2020). Resultantly, total broadband penetration in Pakistan reached 42.4% by the end of October 2020. With the expansion of 3G and 4G services, FY2020 also marked an increase of 77% in data usage.

Where historic lockdowns during the COVID-19 pandemic slackened economic activity, vibrant telecommunication systems played a pivotal role in ensuring availability of essential services to the community. In a way, the pandemic actualized the true potential of broadband services, transforming the way people lived their lives. All daily activities related to education, health, and virtually every other sector of the economy were shifted to digital dimensions, creating a huge nationwide demand for telecom services. Rising to the occasion, PTA—supported by other telecom operators—ensured connectivity and network resilience; offered low-priced, discounted broadband services; disseminated free advisories on the pandemic to its entire subscriber base; and facilitated the Government of Pakistan (GoP) in disbursement of financial assistance to the needy.

By and large, the sector withstood the impact of COVID-19 and showed sustainable revenues of PKR 537.2 billion in FY2020 as compared to PKR 488.8 billion in FY2018 and PKR 550.4 billion in FY2019. The sector also made a significant contribution of US\$ 622.5 million (24%) to the total net Foreign Direct Investment (FDI) in the country. The sector's contribution to the national exchequer also increased by 129% (PKR 278.4 billion) owing to deposits of US\$ 687.8 million by Cellular Mobile Operators (CMOs) under license and spectrum renewal fee, and a substantial increase in General Sales Tax (GST) and Withholding Tax (WHT), which remained suspended last year on the directions of the Honourable Supreme Court of Pakistan.

The International Telecommunication Union (ITU) ranked PTA as 4<sup>th</sup> Generation Regulator (G4), thus placing Pakistan among the top five regulators in the Asia-Pacific region and the only G4 regulator in South Asia. This recognition is a testimony to the rapid evolution of ICT regulations in Pakistan and a move towards collaborative regulations. PTA also bagged the distinction of implementing the world's first open-source, full-fledged Device Identification, Registration and Blocking System (DIRBS), and the same has internationally been recognized by ITU as a flagship project. Launched in collaboration with the Federal Board of Revenue (FBR), DIRBS has had a positive impact on the economy in terms of an exponential increase of 62.7% in the legal import of mobile devices from 17.2 million in 2018 to 28 million in 2019. Furthermore, successful implementation of DIRBS has also facilitated exploration of the opportunity for local manufacturing of mobile handsets. The provision of a level playing field has resulted in the establishment of more than 29 local assembly plants and production of over 18.36 million local mobile handsets since 2019. Through collaborative regulations, PTA is also facilitating the regulatory framework for local manufacturing in coordination with the Ministry of Industries and Production.

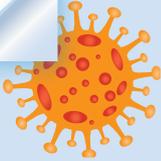
Given its regulatory successes, PTA continued to share its experiences and learning at international and regional forums including ITU, Asia Pacific Telecommunity (APT), South Asia Telecommunication Regulators' Council (SATRC), South Asia, Middle East and North Africa (SAMENA) Telecom Council, GSM Association (GSMA) and Commonwealth Telecommunication Organization (CTO). PTA has also been declared as the GSMA Centre of Excellence for regional regulatory training for government representatives and policymakers from South and Central Asia.

1 Pakistan Bureau of Statistics

**98%**  
of the households  
own a mobile.

**172 MILLION**  
mobile subscriptions.

**90 MILLION**  
Broadband subscribers.



Where historic lockdowns during the COVID-19 pandemic slackened economic activity, vibrant telecommunication systems played a pivotal role in ensuring availability of essential services to the community. In a way, the pandemic actualized the true potential of broadband services, transforming the way people lived their lives. All daily activities related to education, health, and virtually every other sector of the economy were digitized, creating a huge nationwide demand for telecom services. Rising to the occasion, PTA—supported by other telecom operators—ensured connectivity and network resilience; offered low-priced, discounted broadband services; disseminated free advisories on the pandemic to its entire subscriber base; and facilitated the Government of Pakistan (GoP) in disbursement of financial assistance.

During the year under review, PTA continued with its initiatives towards the development of a progressive regulatory framework to facilitate deployment of cutting-edge technologies in Pakistan. A conducive test and trial framework was provided for commercial adoption of 5G services, resulting in successful conduct of 5G tests and trials by operators; these were amongst the first trials of 5G services in South Asia. GoP and PTA are aiming for the availability of additional spectrum to expand 4G services and to enable the adoption of Voice over Long Term Evolution (VoLTE) and 5G services. PTA has also planned the auction of spectrum in Pakistan, including Azad Jammu and Kashmir (AJK) and Gilgit Baltistan (GB), and re-farming of the existing Wireless Local Loop (WLL) spectrum for 5G services.

In terms of industry facilitation, PTA continued with necessary initiatives and frameworks. PTA renewed the cellular mobile licenses of Telenor Pakistan, Pakistan Mobile Communications Limited (PMCL; Jazz) and China Mobile Pakistan (CMPak; Zong) to ensure continuous provision of mobile services. These companies have deposited 50% renewal fee (US\$ 687.8 million; equivalent to PKR 107.6 billion) in the national exchequer, while the remaining 50% of the amount is payable in five equal annual installments. Telenor, Zong and Jazz have paid their first installment of the remaining 50% amounting to US\$ 174.4 million.

PTA is also developing an Over-The-Top (OTT) framework in consultation with relevant stakeholders, while the development of a regulatory framework for Internet of Things (IoT) covering all IoT aspects including cross-sector requirements, is underway. Similarly, for a coordinated and effective mechanism for expeditious management of Right of Way (RoW), the Ministry of Information Technology and Telecommunication (MoITT) and PTA are working with relevant ministries, provincial governments, and other agencies to formulate a common approach for the provision of RoW.

PTA remained at the forefront for effective management of competition in the telecom sector, and protection of consumer interests. PTA reduced the Mobile Termination Rate (MTR) to PKR 0.70 effective January 1, 2020 to contribute towards retail tariff rationalization. The exercise will undergo further reviews in line with international best practices. Owing to the challenging competitive environment, the prices of Subscriber Identification Modules (SIMs) were deregulated to provide an opportunity to operators to fix reasonable prices based on market forces. However, to protect consumer interests, CMOs were debarred from demanding or levying charges on disowning of SIMs. In order to facilitate the marginalized segment of

Widespread  
availability of Internet  
services to over **87%**  
of the population.

the society vis-à-vis access and use of mobile services, PTA provided alternative and easy processes for SIM-related transactions for senior citizens and Persons with Disabilities (PWDs).

PTA also actively monitored objectionable, obscene, and immoral content on the Internet and promptly blocked its access in Pakistan. Since 2016, as many as 418,139 URLs have been processed for blocking. During the year under review, PTA pursued active engagement with international social media platforms to ensure that online content is compliant with the prevalent laws and legal frameworks.

In order to address consumer needs, PTA launched a Consumer Support Center (CSC) for registration of complaints about telecom services through a dedicated toll-free number. Due to its proactive complaint resolution mechanism, PTA secured top position in terms of consumer satisfaction on the Pakistan Citizen Portal. A comprehensive campaign was also launched on the print, electronic, and social media to raise awareness among telecom subscribers about fake text messages and phone calls hoodwinking subscribers with lucrative prizes and lotteries. PTA also amended Protection from Spam, Unsolicited, Fraudulent and Obnoxious Communication Regulations 2009, to protect telecom consumers. To keep users informed of various telecom developments and regulatory initiatives, and to remain abreast with public feedback, PTA maintained an active social media presence on platforms including Facebook and Twitter.

To ensure the provision of high standard telecom services to consumers, Quality of Service (QoS) surveys and drive test sessions of operators were conducted across 21 cities in Pakistan, and based on Key Performance Indicators (KPIs), operators were instructed to take corrective measures to improve services as per license conditions and QoS regulations.

In line with the Digital Pakistan initiative of GoP, PTA is committed to providing the required digital ecosystem by working with all relevant stakeholders for enhanced connectivity, improved digital infrastructure, and promotion of emerging technologies including IoT, VoLTE, and 5G. The critical resource for all these innovations is availability of required spectrum, for which required spectrum auctions and rationalization are planned in the coming year. PTA has already issued Request For Proposal (RFP) to engage international consultants to study auction of spectrum in 1800 MHz and 2100 MHz, and spectrum rationalization in Pakistan including AJK and GB.

International connectivity, bandwidth capacity, fiber footprint, and network redundancies are being improved to meet the ever-increasing demand for data services in the country. While providing modern telecom services, effective governance of Internet will be ensured to safeguard the interests of the people of Pakistan through active engagement with international platforms, forums, and organizations.

PTA has emerged as a trailblazer, not merely in terms of regulating the telecommunication sector of Pakistan, but also as a pace setter for overall digital ecosystem. It has also done the country proud by strongly advocating and implementing effective consumer protection frameworks and promoting the availability of efficient, low-cost, and competitive telecom services. Encouraging fair competition, keeping pace with rapid modernization of telecom systems, contributing to informed policymaking, and creating synergies by working in a partnership mode are just a few areas marked by substantive improvements. Bold actions taken in best national interest have empowered PTA to carve a niche for itself, both at the national and international telecommunication fronts. This is evidenced by the phenomenal pace at which penetration of telecom services has increased during this past year, and by the respect that PTA has been able to garner in the international regulatory environment for Pakistan. The rapid growth of synergy and teamwork at the organizational level, and collective resilience of the industry and the nation at large, have together placed PTA on a proud pedestal.

Quality of Service surveys were conducted across **21 CITIES** in Pakistan.

Pakistan conducted its first successful trials of **5G SERVICES.**



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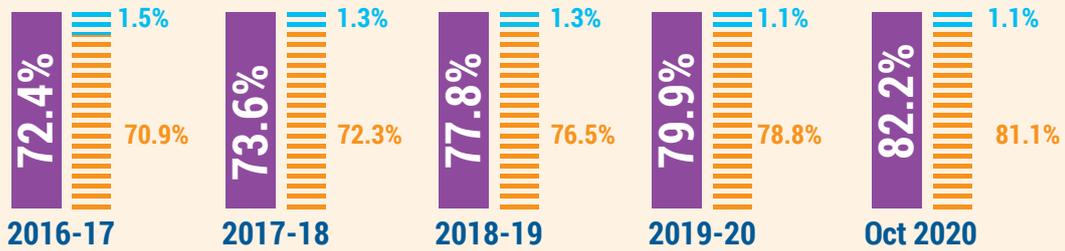
2020



# Telecommunication Market Statistics



## Teldensity Cellular Mobile and FLL & WLL



■ Cellular Mobile 
 ■ FLL & WLL 
 ■ Total



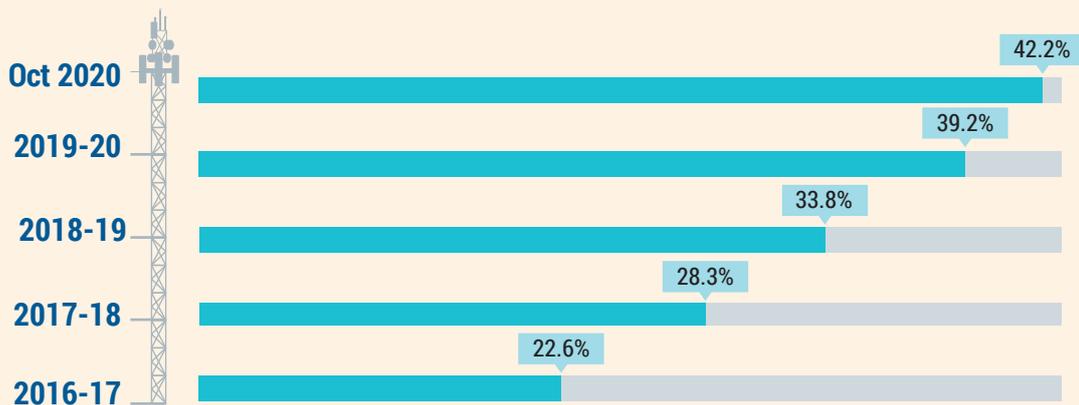
## Subscribers Cellular Mobile and FLL & WLL (Million)



■ Cellular Mobile 
 ■ FLL & WLL 
 ■ Total

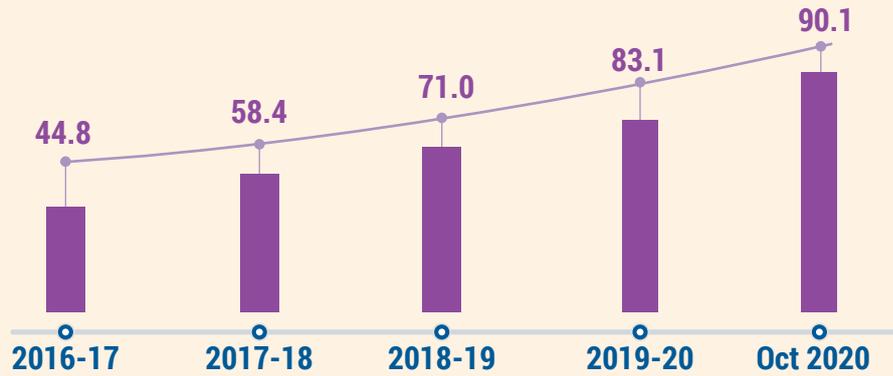


## Broadband Penetration Cellular BB & Fixed BB

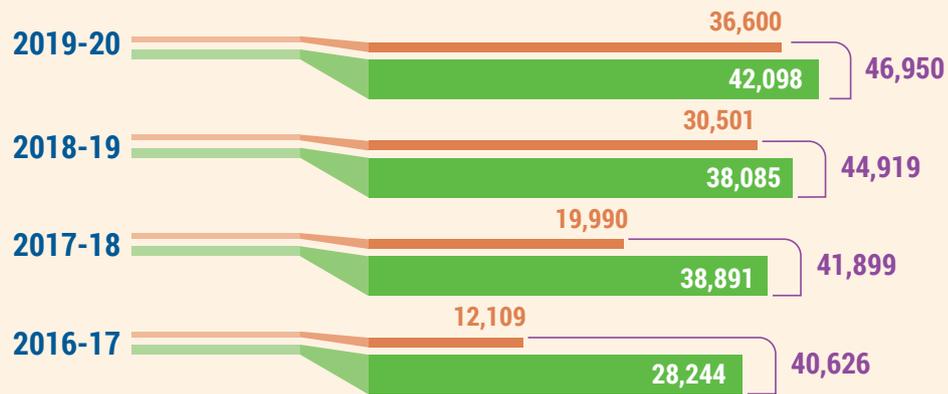




## Broadband Subscribers Mobile BB & Fixed BB (Million)



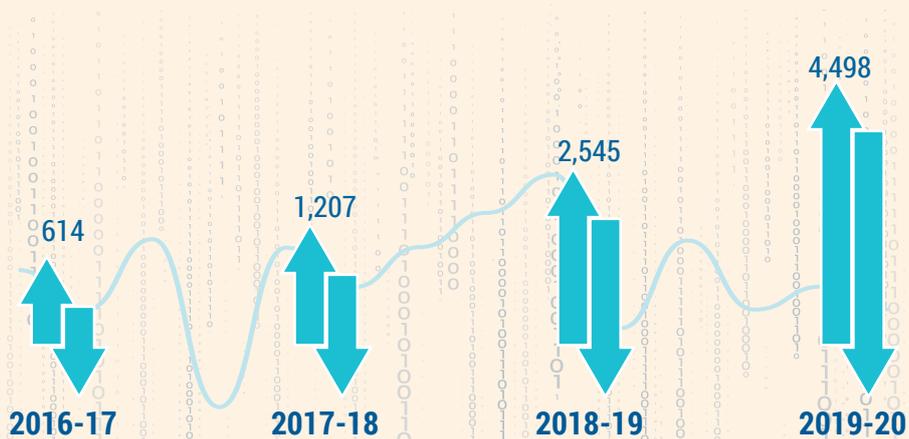
## Cellular Mobile Cell Sites



Note: Total cell sites are represented as 2G cell sites only 3G 4G Total

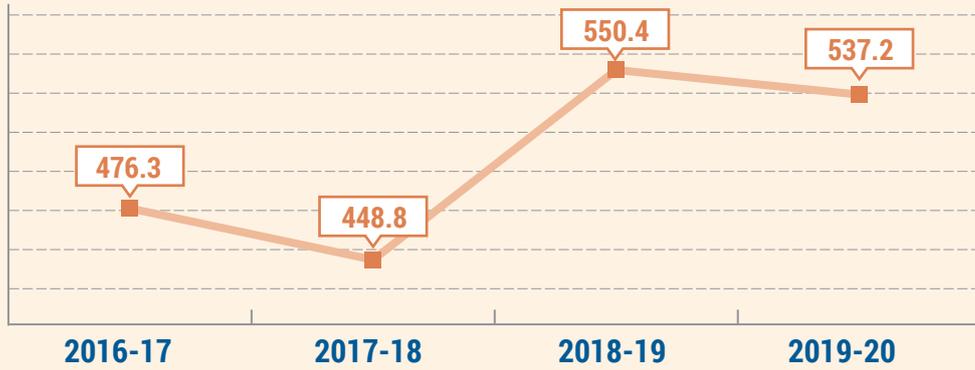


## Cellular Mobile Data Usage (Petabytes)





## Telecom Revenues (PKR Billion)



## Telecom Contribution to Exchequer (PKR Billion)

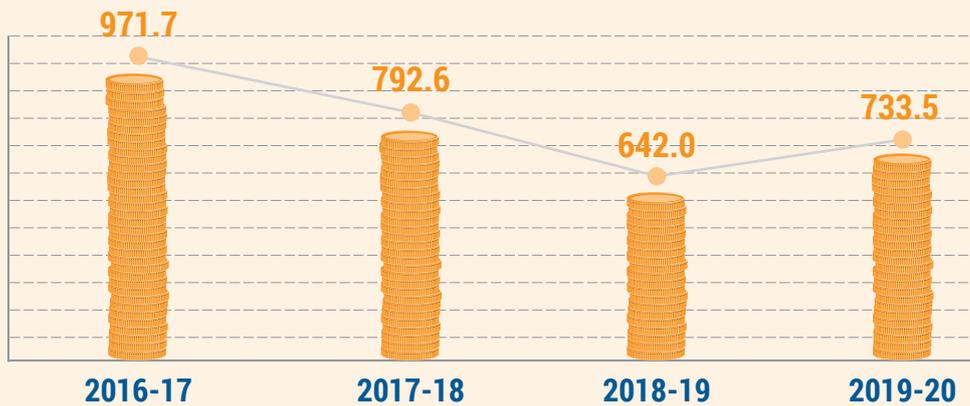


GST 
 PTA Deposit\* 
 Others 
 Total

\* PTA Deposits includes USF and R&D fund

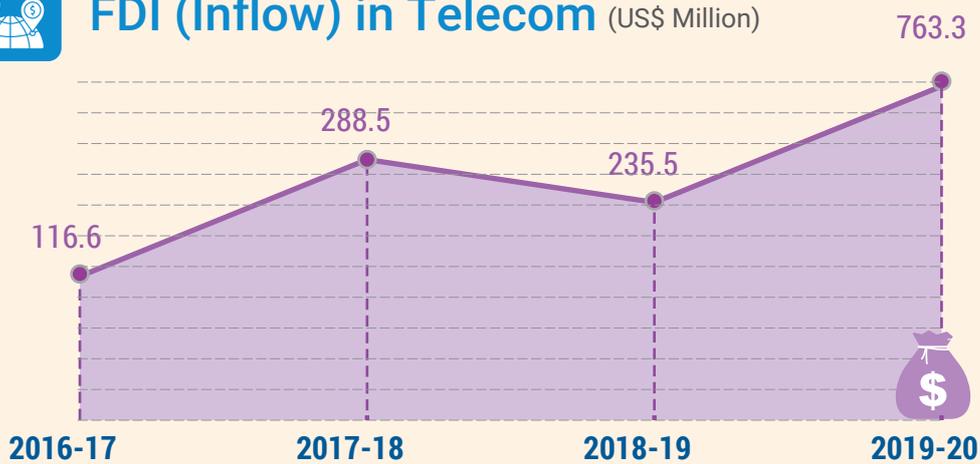


## Total Telecom Investment (US\$ Million)

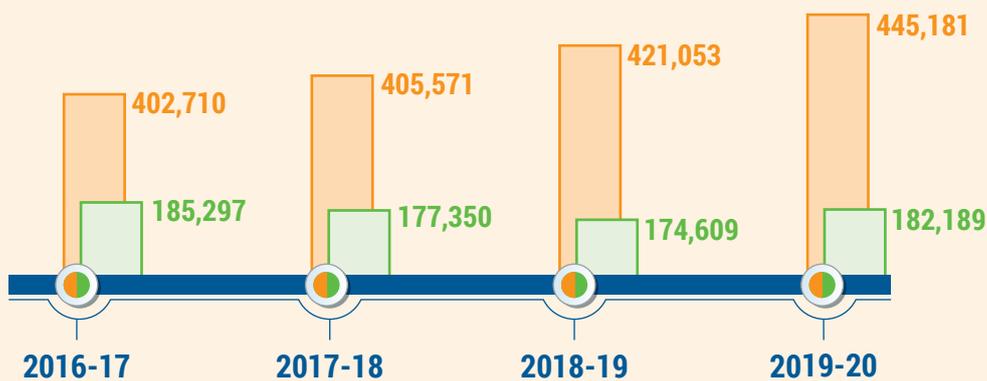




### FDI (Inflow) in Telecom (US\$ Million)



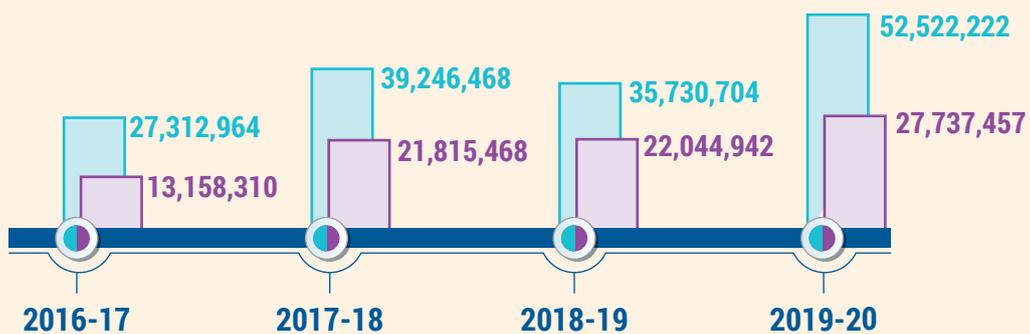
### Mobile Wallet Agents



No. of Mobile Wallet (BB) Agents No. of Active BB Agents



### Mobile Wallet Accounts



No. of Mobile Wallet Accounts Active Accounts



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# Picture Gallery



President of Pakistan Dr. Arif Alvi during an interaction with Chairman PTA, Maj Gen Amir Azeem Bajwa (R), who called on him at the Aiwan-e-Sadar in Islamabad on January 13, 2020.



Chairman PTA Maj Gen Amir Azeem Bajwa (R) with members of a visiting delegation from Huawei, China, during the COVID-19 pandemic. The delegation visited Islamabad on May 7, 2020.



Member Finance Mr. Muhammad Naveed looks on as Chairman PTA Maj Gen Amir Azeem Bajwa (R) presents a certificate to one of the participants of the International Workshop on 'Leveraging mobile to achieve SDGs,' held on February 11-12, 2020.



PTA's Member Finance Mr. Muhammad Naveed, Chairman PTA Maj Gen Amir Azeem Bajwa (R), Member—Compliance and Enforcement—Dr. Khawar Siddique Khokhar, and PTA officers at the inauguration ceremony of PTA's Consumer Support Center in Islamabad on February 18, 2020.



The Chief Operating Officer of VEON Group Jazz, Herrero Sergi, called on Chairman PTA Maj Gen Amir Azeem Bajwa (R) in Islamabad on February 20, 2020.

Chairman PTA Maj Gen Amir Azeem Bajwa (R) presenting a memento to the Head of APAC GSMA Mr. Julian Gorman after a meeting held at the PTA Headquarters in Islamabad on January 30, 2020. The interaction featured an in-depth discussion on areas of mutual cooperation.



Chairman PTA Maj Gen Amir Azeem Bajwa (R) in a group photograph with officers of PTA and the Ministry of Information Technology and Telecommunication. The occasion was the closing ceremony of a training session on 'Network performance scoring and 5G technology,' organised by Rohde and Schwarz Pakistan on November 6-7, 2019.



Chairman PTA Maj Gen Amir Azeem Bajwa (R) with Ms Clair Deevy, Director Public Policy WhatsApp (Facebook), who called on him at the PTA Headquarters in Islamabad on October 2, 2019.



Member Compliance and Enforcement PTA Dr. Khawar Siddique Khokhar presenting a memento to the Head of Indonesian delegation during their visit at PTA on November 13, 2019.



Chairman PTA Maj Gen Amir Azeem Bajwa (R) and officers of PTA at the closing ceremony of the PTA-GSMA Workshop on 'Unlocking rural mobile coverage,' held on October 15, 2019.



Chairman PTA Maj Gen Amir Azeem Bajwa (R) having a discussion on areas of mutual cooperation with & Mr. Julian Gorman Head of APAC GSMA during an interaction held on 17 October, 2019



Chairman PTA Major General Amir Azeem Bajwa (R); Muhammad Naveed (Member Finance); Dr. Khawar Siddique Khokhar (Member Compliance & Enforcement) and the senior management of PTA visited Jazz Digital Headquarters on October 7, 2020.



Chairman PTA Maj Gen Amir Azeem Bajwa (R) during a visit to the Zong stall at ITCN Asia held in September 2019.



Member Compliance & Enforcement PTA Dr. Khawar Siddique Khokhar alongwith Federal Minister of IT&T Syed Amin ul Haque and Secretary Ministry of IT&T Shoaib Ahmed Siddiqui attended the round table on Accelerating Digital Pakistan by GSMA on October 21, 2020.



Pakistan  
Telecommunication  
Authority





01

# Key Regulatory Initiatives



## Key Regulatory Initiatives

**P**henomenal multifaceted growth continued to be the hallmark of the telecom industry in the past decade. Unsettling competition, blurring boundaries, tech-savvy consumers, and the effects of vertical industries have collectively set the bar too high for regulators in the contemporary gigabyte era.

Ranked as 4<sup>th</sup> Generation Regulator (G4) in the Global ICT Regulatory Outlook (GIRO) 2020 issued by the International Telecommunication Union (ITU), PTA believes in integrated regulations aligned with economic and social policy goals that culminate into globally recognized growth trends. Receptive to changing global trends, PTA now focuses on a collaborative approach governed by principle-based inclusive regulation and decision-making.

Even though 2020 was overwhelmed with activities related to the COVID-19 pandemic, regulatory initiatives taken during the year enabled the telecom industry to brave the period of lull and distress, leading the nation to the new-normal era. Key initiatives taken by PTA during the year under review are discussed hereunder.

## Introduction of 5G Strategy and Technology Trials

The Telecom Policy 2015 laid down the conditions for commercial adoption of modern and future technologies and the establishment of a conducive test and development environment. This led to the development of National Strategy for 5G Deployment in Pakistan; the document encompasses the rationale, information plan, and roadmap for introduction of future technologies in the country within the next five years.

Prior to the commercial launch of 5G services, PTA unveiled a roadmap incorporating the testing of 5G technology and allied services. Under the policy directive issued for introduction and trials of future wireless networks in Pakistan, a stakeholder consultation was convened on November 29, 2018, and a draft framework to this effect was placed on PTA's portal. Further, PTA permitted tests and trials of 5G services under limited environment and on non-commercial basis. Successful trials were conducted by CMPak, Jazz and Telenor in August 2019 and January 2020 and March 2020, respectively. These were among the first trials of 5G services in any South Asian country, with a recorded download speed of more than 1 Gigabits per second (Gbps). Pakistan was thus recognized as a pioneer of 5G trials in the region.

PTA foresees 5G technology operating in a highly heterogeneous environment and providing ubiquitous connectivity for a wide range of devices, new applications, and use cases. Moreover, the country's journey towards collaborative regulation has also been highlighted as a special feature in the report.



The Secretary of the Ministry of Information Technology and Telecommunication, Chairman PTA, and Members of the Zong management at the Zong 5G trial ceremony held at Islamabad in August 2019.

## 4<sup>th</sup> Generation Regulator

PTA's ranking as 4<sup>th</sup> Generation Regulator (G4) places Pakistan among the top five regulators in the Asia-Pacific region. Of the 38 economies in the region, only 8% states have managed to attain this distinctive status.

Pakistan scored 20/20 for regulatory authority, 19/22 for regulatory mandate, 22/30 for regulatory

### Top Five Asia-Pacific Regulators (2019)

	Score	GEN
 SINGAPORE	130.5	G5
 JAPAN	109.5	G5
 AUSTRALIA	94.5	G4
 PAKISTAN	88.0	G4
 MALAYSIA	87.0	G4

Source: ITU 2019

regime, and 27/28 for competition framework. Moreover, the country's journey towards collaborative regulations has also been highlighted as a special feature in the report.

In order to achieve the G5 regulator status from ITU, PTA is continuously striving to protect consumer interests and enhance public-private collaboration for digital transformation and socio-economic uplift.

## Complaint Redressal on Pakistan Citizen Portal

The Pakistan Citizen Portal (PCP)—the first-ever online public grievance redressal system introduced by GoP and managed by the Prime Minister's Office—has recognized PTA as the country's best organization for efficient and effective disposal of subscribers' complaints. PTA, which receives innumerable complaints from the portal on a daily basis, leads the top ten regulators in terms of troubleshooting of complaints. The June 2020 review of PCP, wherein PTA has been ranked first among the top ten offices, depicted 48% customer satisfaction level.

## Commendation for DIRBS

The ITU-National Broadcasting and Telecommunications Commission (NBTC) Asia-Pacific Regulators Roundtable held in September 2019 recognized and commended successful implementation of DIRBS. In the same event, the Mobile and Wireless Forum and Qualcomm also recognized PTA's efforts to combat illegal device imports through this system. Pakistan enjoys the distinction of being the only country in the world that has implemented DIRBS as an open source system.

Launched in collaboration with FBR in 2018, DIRBS has the ability to identify all International Mobile Equipment Identities (IMEIs) connected on Pakistan's mobile networks and categorize them on the basis of their compliant status. The system not only helps curb import and use of illegal devices, but also identifies substandard, fake, and illegally imported mobile devices; it registers and blocks non-compliant devices on mobile networks.

## Renewal of Cellular Mobile Licenses

GoP issued a policy directive on May 9, 2019 for renewal of cellular mobile licenses of Telenor Pakistan, Jazz, and CMPak. Renewal fee per MHz for frequency spectrum in 900 and 1800 MHz has been determined at US\$ 39.5 million and US\$ 29.5 million, respectively. The CMOs deposited 50% of the renewal fee amounting to US\$ 687.8 million (equivalent to PKR 107.6 billion) in the national exchequer, while the remaining 50% of the amount is payable in five equal annual installments. Telenor, Zong and Jazz have paid their first installment of the remaining 50% amounting to US\$ 174.4 million. In addition to the financial boost accruing from collection of sizeable renewal fees, the renewal process has ensured continuity of services by major CMOs in Pakistan.

## Renewal of Integrated and Commercial Licenses

Integrated licenses were granted to Pakistan Telecommunication Company Limited (PTCL), National Telecommunication Company (NTC), and Special Communication Organization (SCO) under sections 39, 40, and 41(3) of the Pakistan



## Spectrum Auction for AJK and GB

Acting on PTA's directions, the Frequency Allocation Board (FAB) identified spectrum for provision of high-speed broadband services in AJK and GB in keeping with growing communication needs and rising demand for high-speed data services. PTA has planned auction of identified spectrum for AJK and GB; policy recommendations have been put up to the governments of Pakistan and AJK. The auction process will be completed on receipt of the policy directive from concerned ministries. Enhanced bandwidths are expected to be available to operators after spectrum auction; this will pave the way for provision of state-of-the-art mobile broadband data services to the people of AJK and GB.

Telecommunication (Re-organization) Act, 1996 for a period of 25 years effective January 1, 1996. These licenses will expire on December 31, 2020. Hence, under the Act, PTA has initiated the renewal process in consultation with relevant stakeholders. In a bid to fulfil commercial and practical communication needs, PTA granted commercial licenses to Sui Southern Gas Company Limited (SSGCL) and Pakistan Railways for establishment and operationalization of their own telecommunication systems and services. The process for renewal of these licenses has also been initiated with the consensus of all stakeholders and in consonance with the Telecom Policy. During the period under review, 62 licenses for telecom and 48 licenses for radio-based services were issued. Details to this effect are appended in the last section of this report (See Annexes).

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## Refund to Mobile Consumers

Complying with the Supreme Court's judgment of July 3, 2019, wherein CMOs were debarred from imposition of service and maintenance charges, PTA directed CMOs to abolish the levy of service charges on prepaid recharge with immediate effect, and to refund PKR 9.2 billion (already collected between April 24-July 10, 2019) to their respective customers.

The proactive approach adopted by PTA resulted in refund of over PKR 6.9 billion to mobile customers. It is pertinent to add that while Telenor and Ufone have refunded the entire amount, Jazz failed to fully comply with PTA's directive and was resultantly served with a show cause notice which also sought compliance of the directive in true letter and spirit. Zong too has been served with a similar notice for not refunding any amount to its customers; final decision on the litigation is pending with the court of law.

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## Deregulation of Minimum SIM Price

To recover the customer acquisition cost, PTA determined a minimum sale price of PKR 200 per SIM (vide its order dated November 8, 2016) for issuance of any type of new SIM at the retail level. The order aimed to bar CMOs from demanding or levying any charges from customers for

disowning of SIMs in Pakistan, including AJK and GB. The decision was made after hearing CMOs on CMPak's proposal to levy PKR 300 as SIM disowning charges, and Ufone's request to PTA to take steps to halt dumping practices in the form of selling zero price (free) SIMs by CMOs. However, several enforcement surveys revealed violations by CMOs in implementation of PTA's decisions, which led to warnings being issued to them for adherence.

In August 2018, Ufone requested PTA to review the minimum sale price of SIMs owing to the challenging competitive environment and difficulty to enforce minimum retail price of PKR 200 per SIM. Towards this end, PTA convened an industry consultation, an internal review, and deliberations with relevant stakeholders, and decided in favour of deregulation of the minimum sale price of SIMs. It was decided that CMOs providing services within Pakistan, including AJK and GB, shall not demand or levy charges on disowning of SIMs, and shall not resort to unfair commercial practices when selling SIMs to customers, as enshrined in Regulation 8 of the Telecom Consumer Protection Regulations, 2009.

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## Sale of SIMs to Senior Citizens and PWDs

In 2014, PTA made biometric verification a mandatory precondition for issuance of SIMs. The decision, however, did not fare well with senior citizens and Persons With Disabilities (PWDs) as they experienced difficulties accessing sale points for the purpose. As a remedial measure, the Prime Minister's Performance Delivery Unit (PMDU) issued directions for implementation of an alternative process for SIM-related transactions to facilitate the said segment of customers. Detailed deliberations with key stakeholders such as the National Database and Registration Authority (NADRA) and CMOs paved the way for implementation of an alternative process for SIM-related transactions. The step is expected to facilitate the marginalized section of the society in terms of access and use of mobile services. The process is being regularly monitored with progress assessment of CMOs. It is pertinent to mention that according to the demographic profile of Pakistan, 4% of the country's total population is aged 65 years and above.

## Retail Tariff for Mobile Services

Mobile Termination Rates (MTR) play a critical role in protecting smaller players and automatically rationalizing retail tariffs, particularly for off-net calls. The changing market structure of the cellular mobile segment in Pakistan necessitated a review of the existing MTR @PKR 0.90 per minute. Following in-depth deliberations, PTA reduced the MTR for all types of calls (local, long-distance, and international incoming) terminated on mobile networks from other mobile networks or fixed networks from PKR 0.90 to PKR 0.80 from January 1, 2019; the rate has further been reduced to PKR 0.70 in 2020. To provide relief to customers, MTR will be further reviewed in line with international best practices.



### Actions Against Objectionable Content

One of the key priority areas of PTA is to ensure that the Internet is sanitized and devoid of objectionable content so that children and youth can productively benefit from this global village. In a bid to curb the menace of pornography, PTA acquired a list of 2,384 websites from Interpol and managed to block them; it also identified and blocked several other URLs and websites containing porn content. This is an ongoing process as millions of webpages are uploaded on the Internet on a daily basis, requiring collective firewalling efforts.

Even though all well-known porn websites infested with millions of video clips have been geo-blocked in the country, users are still able to circumvent restrictions by using proxy servers, Virtual Private Networks (VPNs), special browsers, etc. Cognizant of the fact that unlawful content is being accessed through VPNs, PTA continues to block proxy websites on the fly. In addition to blocking of websites, PTA also ran print media awareness and behaviour change communication campaigns. The following Table presents a summary of links processed thus far for blocking.

Objectionable URL Contents Blocked			
Category	2016 to 2019	2019 to 2020	Total
 Contempt of Court	4,996	503	5,499
 Defence of Pakistan	6,853	5,053	11,906
 Glory of Islam	25,975	6,910	32,885
 Defamation/Impersonation	1,228	1,059	2,287
 Miscellaneous	704	1,062	1,766
 Decency and Morality	343,323	5,237	348,560
 Proxy	353	1	354
 Sectarian/Hate Speech	6,721	8,161	14,882
<b>Σ Total</b>	<b>390,153</b>	<b>27,986</b>	<b>418,139</b>

## Consumer Support Centre

On February 18, 2020, PTA launched a Consumer Support Center (CSC) for registration of complaints related to telecom services. Managed by an efficient and qualified team, this state-of-the-art facility remains functional seven days a week (from 9 a.m.-9 p.m.). Customers can lodge their complaints through a dedicated toll-free number (0800-55055).

The CSC, inter alia, handles complaints related to cellular mobile telephony, Internet Service Providers (ISPs), fixed and wireless telephony, DIRBS, web content reporting (blasphemy, pornography, etc.), Universal Account Number (UAN), toll-free, Unique Identification Number (UIN) and allocation of short/Class Value Added Services (CVAS) registration. On Average CSC receives 38,000 calls per month. The facility is testimony to PTA's commitment to provide innovative international quality services to address consumer needs.

## Actions against Illegal ISPs

In the wake of technological advancements and amalgamation of the Broadband Policy 2014, quite a number of fixed broadband service providers jumped on the bandwagon under the Class Value Added Services (CVAS) licensing regime. In the recent past, the industry raised numerous complaints against individuals and companies engaged in providing Internet services sans valid licenses, thereby negatively impacting

the revenues of licensed operators and causing losses to the national exchequer. PTA resorted to stringent action to curb this violation. As such, 320 companies were inspected, leading to suspension of bandwidth/services of 73 illegal ISPs.

## Imposition of Fines on Telecom Operators

### ■ Actions against Grey SIMS

PTA conducted a survey to ascertain the availability of grey SIMs in the market across Pakistan, and it transpired that CMOs were involved in this practice through different sale channels. Investigations revealed the involvement of Ufone and CMPak in the sale of grey SIMs. The Authority issued show cause notices to both operators, who were also provided with an opportunity to be heard. The process culminated with imposition of fines of PKR 100 million and PKR 50 million on CMPak and Ufone, respectively.

### ■ Unauthorized Management Changes

WorldCall Telecom Limited made substantial management changes without prior approval of the regulator and in sheer violation of the prevailing legal framework. To this effect, PTA issued a show cause notice to the company along with the opportunity to be heard. However, the company failed to convince PTA of its deviation to adhere to legal obligations, resulting in the imposition of a fine of PKR 10 million.

## Raids on Illegal Gateways

Determined to tackle the hazards of illegal grey trafficking, PTA, with support from the Federal Investigation Agency (FIA), carried out 39 successful raids against illegal Voice Over IP (VoIP) setups across Pakistan. As many as 139 illegal gateways were confiscated during raids conducted in the year 2019 and during the period between January to June 2020. These raids led to arrest of 29 persons

against whom further proceedings in the court of law are being conducted. The following Table presents a summary of the raids conducted, gateways confiscated, and arrests made.

Raids on Illegal Gateways		
	2019	2020 (Jan-Sept.)
 <b>Raids Conducted</b>	28	18
 <b>Gateways Confiscated</b>	102	37
 <b>Arrests</b>	23	9

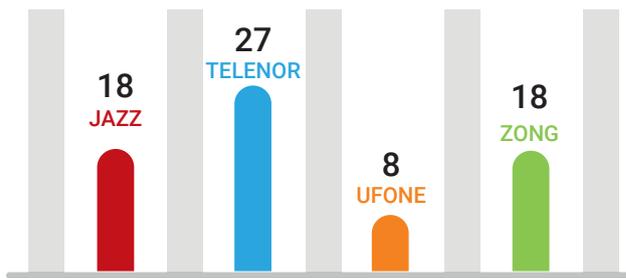
Degraded QoS KPIs (Joint Surveys FY 2019-20)



Quality of Service Surveys

During the period under review, PTA conducted QoS surveys in 21 cities of Punjab, Sindh, Balochistan, Khyber Pakhtunkhwa, AJK and GB, as reflected in the Table below. While surveys in 12 cities were conducted by PTA in its independent capacity, those in the remaining 9 cities involved collaboration with CMOs.

Degraded QoS KPIs (Independent Surveys FY 2019-20)



The QoS drive test sessions of each operator were analyzed and city-wise results of data, voice, and SMS KPIs prepared. The survey results have been published on PTA’s website for public consumption. The Graphs below reflect overall count of degraded KPIs for each operator in the surveyed cities. Consequently, show cause notices were issued to CMOs with instructions to take prompt corrective measures to improve service quality compliant with license standards.

Quality of Service Surveys (FY2019-20)				
Survey Type	City	Survey Period	City	Survey Period
<p>Joint</p>	Gilgit	July 2019	Skardu	July 2019
	Kohat	August 2019	Khanewal	September 2019
	Rahim Yar Khan	October 2019	Mardan	December 2019
	Sheikhupura	February 2020	Mansehra	March 2020
	Gujar Khan	March 2020	-	-
<p>Independent</p>	Gujranwala	September 2019	Sargodha	October 2019
	Abbottabad	Oct-Nov 2019	Muzaffarabad	Oct-Nov 2019
	Charsadda		Swabi	
	Murree	Nov-Dec 2019	Sibbi	November 2019
	Sukkur	December 2019	Tando Alla Yar	December 2019
	Taxila		Thatta	



Call Center Performance Survey

PTA acquired the services of a third-party Call Center for efficient and effective handling of consumer complaints. The Enforcement Division conducted two surveys in January and March 2020 to gauge the performance of this center. The results were encouraging; the second survey depicted considerable improvement in performance against ‘Complaint Prompt’ while performance against ‘Information Prompt’ remained 100%. The overall performance of the Call Center was up to the mark.



## Monitoring of Social Media

In a bid to ensure compliance with the prevalent legal framework, PTA strives to monitor and moderate the online content available in Pakistan. To this end, PTA engaged with social media and gaming platforms operating outside Pakistan to keep them informed of local sensitivities including social, ethnic, and religious norms and values, and to instruct them to follow and respect local laws. During the period under review, the following successful engagements were made, resulting in improved online experiences for Pakistani users in accordance with the laws of the state.

### YouTube

PTA approached YouTube to immediately block content containing obscenity, obnoxiousness, immorality, and hate speech for viewing in Pakistan. YouTube was urged to develop an effective content monitoring and moderation mechanism that can expeditiously respond to PTA's requests for removal of illegal and harmful online content. The objective was to facilitate and support YouTube in its efforts to excel in Pakistan's digital market while remaining compliant with local laws, societal norms, and YouTube's own community standards.

## Dating and Live Streaming Apps

Alive to the negative effects of immoral and indecent content streaming through dating and live streaming applications including Tinder, Tagged, Skout, Grindr, and SayHi, PTA issued notices to the managements of these platforms, demanding that they remove their respective dating services and moderate live streaming content in line with the local laws of Pakistan. However, since the said platforms did not respond to its notices within the stipulated timeframe, PTA consequentially blocked them.

### TikTok

Growing apprehensions about the quality of content on TikTok prompted PTA to flag public concerns with senior management of the platform, resulting in removal of objectionable content from viewing in Pakistan. PTA duly acknowledged the positive response of the management and demanded that the platform establish a robust monitoring and

moderation mechanism to block public access to immoral content within the country. TikTok is now accessible in Pakistan.

### BIGO

On account of issues pertaining to unlawful content, PTA banned BIGO. However, its interactions with the top management of the platform delivered a positive outcome as BIGO committed itself to moderating all objectionable content in accordance with Pakistani laws. Constant engagement with the management and detailed reviews by PTA led to reversal of the erstwhile decision; PTA unbanned the services of BIGO, which is now available and accessible in Pakistan in compliance with relevant laws.

### PUBG

Acting on orders of the Islamabad High Court and provisions of the Prevention of Electronic Crimes Act (PECA), 2016, PTA blocked the online game 'Player Unknown's Battle Ground' (PUBG) in Pakistan. Extensive engagement was pursued with Proxima Beta—the management company of PUBG—which welcomed PTA's feedback on the issue and assured corrective interventions that were taken in due course. Satisfied with the measures adopted by PB, PTA underlined the need for continued engagement and adoption of a comprehensive control mechanism. PB requested PTA to unban PUBG, which was done in view of positive engagement with the company.

## Economic Benefits of DIRBS

DIRBS was successfully introduced in Pakistan in 2019 to eliminate the grey handset market, and to abolish counterfeit, fake, and stolen mobiles that were freely available in the local market. Clearly, the system has not only benefitted consumers but also the government in terms of increased revenue generation. It has positively impacted the overall economy, and in tandem, has not only kept a tight rein on smuggling of handsets in Pakistan but has also created employment opportunities as a new handset manufacturing industry evolves in the country. Moreover, consumers appear more satisfied and safe with registered handsets.

One of the key features of DIRBS is the registration of IMEIs. Commercial importers can register IMEIs by using web portal, whereas individuals can do

so by utilizing multiple platforms including web portal and Unstructured Supplementary Service Data (USSD) platform, and by visiting their nearest cellular operator franchisees. The Device Registration System is integrated with all relevant government departments, which saves individuals from the hassle of having to personally visit multiple offices. DIRBS also provides an opportunity for consumers to check the status of a mobile device IMEI before purchase. Consumers and retailers can verify their respective IMEIs through multiple platforms such as web portal, mobile app, and SMS short code. Many positive outcomes have been achieved in the wake of DIRBS. Major achievements of the system are discussed below.

- a. The legal import and local assembly of mobile devices increased from 17.2 million in 2018 to 28 million in 2019—an exponential jump of 62.7%. During the first nine months of 2020, legal import and local assembly of mobile devices touched 24 million. This is a phenomenal number of imports, particularly in the backdrop of COVID-19 lockdowns and economic hardships. This was perhaps the

most visible change brought about by DIRBS as both businesses and individual consumers reposed confidence in the system and imports continued at the same pace.

- b. Taxes and duties collected from individual consumers, which was an untapped area for revenue collection prior to DIRBS, resulted in the collection of PKR 7.7 billion during the period between January 2019 to September 2020.

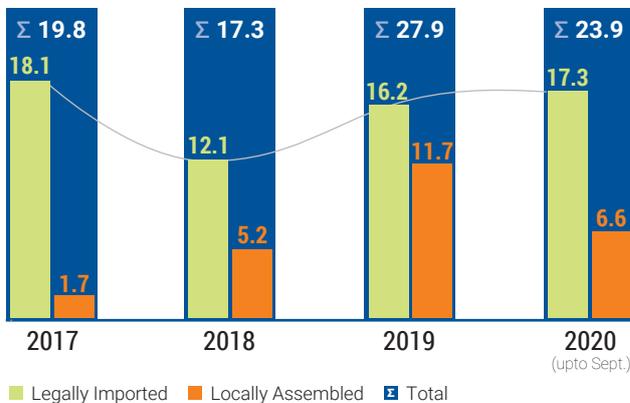


### Individual Imports

Untapped area where no revenue was collected before 2019

PKR 7.7 Billion

Assembly via PTA COC for Finished Devices



- c. PTA blocked 175,000 devices that were reported as stolen IMEIs through DIRBS.
- d. The system identified and blocked 24.3 million fake replica mobile devices.
- e. DIRBS identified and blocked cloned IMEIs whereby 66,465 IMEIs were cloned/duplicated against 661,625 MSISDN.
- f. Substantial growth was observed in 4G devices connected to local mobile networks. The pattern also pointed towards a decline in the use of 2G and 3G devices, with increased consumer appetite for 4G functionality devices. The pattern listed below complements GoP's vision of Digital Pakistan:

**↑ 4G DEVICES** growth from 16% (January 2018) to 34% (May 2020)

**↓ 3G DEVICES** decline from 19% (January 2018) to 12% (May 2020)

**↓ 2G DEVICES** decline from 64% (January 2018) to 54% (May 2020)



## Facilitation for Local Manufacturing of Mobile Handsets

The advent of DIRBS heralded a complete wipeout of grey channels in the local market vis-à-vis imported handsets, leading to an increase in legal imports. Healthy competition provided a level playing field for local manufacturing, and of late, 29 local assembly plants are permitted across the country and 17 are operational at present. These plants produced over 11 million mobile devices including 4G smart phones in 2019 only. In first nine months of 2020, as many as 6.62 million devices have been locally assembled out of which 0.68 million are 4G devices. Increased production of 4G devices reflects the interest of local players in establishing such manufacturing plants within Pakistan.

Recognizing this healthy trend, which owes it to the implementation of DIRBS, GoP decided to introduce a comprehensive mobile manufacturing policy to encourage and attract mobile manufacturing entrepreneurs and companies to establish their units in Pakistan. The Federal Cabinet approved the policy on June 2, 2020. With the policy in place and manufacturers already investing in the local industry, mobile manufacturing within Pakistan is expected to grow at an even faster pace, creating greater employment opportunities among other allied benefits.

Locally Assembled Devices		
Calendar Year	Locally Assembled Quantity (Million)	Number of Companies Net Addition
2016	0.29	3
2017	1.72	3
2018	5.2	9
2019	11.74	11
2020 (up to Sept.)	6.62	3



# Policy Framework for Telecom Sector

PTA proactively keeps itself abreast with latest global telecom trends and regulatory developments and is always prepared to tackle future challenges that may arise in the local telecom market. In this context, PTA conducted numerous studies, established various frameworks, and suggested workable recommendations to the concerned quarters. Activities undertaken in this regard during the period under review are discussed below:



## Environmental Protection and Health-Related Issues

Mindful of the impact of environmental hazards, PTA conducted a study to protect the environment from telecom hazards, if any. In countries such as the US and the UK, it is mandatory to perform desktop simulation-based studies to determine whether emissions from telecom towers, especially those installed on rooftops, lie within safe range. The studies also determine whether appropriate safety signs are placed on sites to restrict human proximity in case emissions exceed stipulated safety limits. Operators and regulators perform rooftop emission surveys to ensure Radio Frequency (RF) safety compliance.

With 5G planning underway at PTA, recommendations on 'Environmental Protection and Health Related Issues' of 5G services have been drafted. Currently, CMOs only submit a compliance certificate of RF emission safety limits, as defined by the International Commission for Non-Ionizing Radiation Protection (ICNIRP) for their Base Transceiver Station (BTS) sites. PTA has suggested that the requirement of desktop simulation-based studies be enforced on CMOs in order to ensure compliance with RF emission safety limits. PTA also plans to conduct random surveys of rooftops using power density meters.



## Over-The-Top Framework

Over-The-Top services are gaining considerable popularity as compared to traditional licensed telecom services. The Telecom Policy 2015 requires the development of a regulatory framework for VoIP and other OTT services in Pakistan. As such, forging ahead in the perspective of global trends, PTA is in the process of developing an OTT framework in consultation with relevant stakeholders.



## Internet of Things Framework

PTA is in the process of developing a regulatory framework for IoT, covering all its aspects including cross-sector requirements. A joint working group comprising representatives of the industry, academia, government bodies, and other stakeholders will be formed for deliberation, consultation, and evaluation of various IoT aspects such as spectrum requirements, data protection and privacy issues, roaming, numbering and addressing, device standardization and type approval requirements, etc. As a pre-requisite, FAB has already identified frequency bands for IoT and Short Range Devices (SRDs). A public consultation on the draft IoT and SRD frameworks will be initiated in due course.



## Administrative Incentive Pricing Framework

PTA was mandated to devise a charging mechanism for microwave back haul frequency spectrum through Administrative Incentive Pricing (AIP). In this regard, a framework listing proposed charging options and mechanisms was prepared and submitted to MoITT after due consultations with relevant stakeholders, and extensive deliberations with CMOs and FAB. Tangible recommendations for implementation of AIP also constituted part of the said framework.



## Policy Directive on Right of Way

Right of Way, as defined under Section 27-A of the Pakistan Telecommunication (Re-organization) Act, 1996 requires PTA to implement a framework for processing of RoW cases; the said framework should also contain a mechanism for dispute settlement. The Telecom Policy also calls for the development of a coordinated and effective mechanism for expeditious treatment of RoW. To this end, MoITT is required to liaise with relevant ministries, provincial governments, the Council of Common Interests (CCI), and agencies that have RoW oversight so that the requirement of a common approach for provision and coordination of RoW can be formed. The participating

institutions include those dealing with electrical power, gas, water transmission and distribution, and sewage. Depending on the outcome of these engagements, MoITT, in consultation with PTA and relevant stakeholders, will develop a new framework for implementation by PTA. MoITT has prepared the draft RoW (2018) Rules and draft Policy Directive on RoW while PTA has shared its feedback with the Ministry after analyzing the policy directive.

## Senate and National Assembly Engagements

In order to effectively respond to issues of national and public interest pertaining to the telecom sector, PTA extensively engaged with various Standing Committees constituted by the Senate and the National Assembly of Pakistan. PTA also addressed concerns raised by public representatives in the Senate and National Assembly Committees, as and when required. During the period under review, PTA responded to various issues concerning DIRBS, QoS, coverage, unlawful and blasphemous content on the Internet, and blocking of fake social media accounts fostering cybercrime. The following Table presents a summary of PTA's engagement on both floors of the Houses and Standing Committees.

Engagements with Senate and National Assembly (July 2019-June 2020)		
Detail	National Assembly	Senate
Starred Questions	17	10
Un-Starred Questions	6	-
Resolutions/Motions	2	-
Calling Attention Notices	1	-
Standing Committee Meetings		
Standing Committee on IT and Telecom	5	14
Standing Committee on Cabinet	1	5
Standing Committee on Interior	-	6
Standing Committee on Defence	3	-
Functional Committee on Human Rights	-	1
Standing Committee on States and Frontier Regions	-	1
<b>Total</b>	<b>35</b>	<b>37</b>

## Human Resource Management

Being the regulator of the telecom sector, PTA requires highly skilled professionals and field experts for smooth implementation of its regulatory objectives. PTA is committed towards professional training and capacity building of its employees while keeping them abreast of the technological changes transforming the telecom sector. During the year under review, PTA offered training and development opportunities to its employees as per their job requirements and in line with a training assessment carried out in collaboration with the Divisional Heads. Even during the COVID-19 pandemic, the Human Resource Directorate strived to provide training and development opportunities to employees through online training programs such as Data Warehouse and Business Intelligence, Certified Financial Modeler (CFM-UK), Financial Modeling, etc.

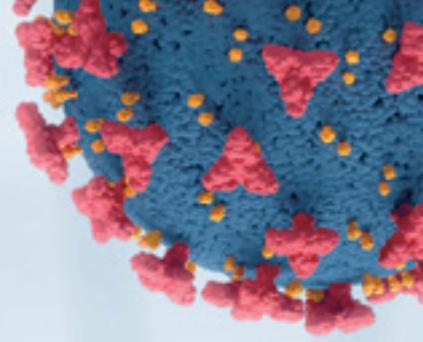
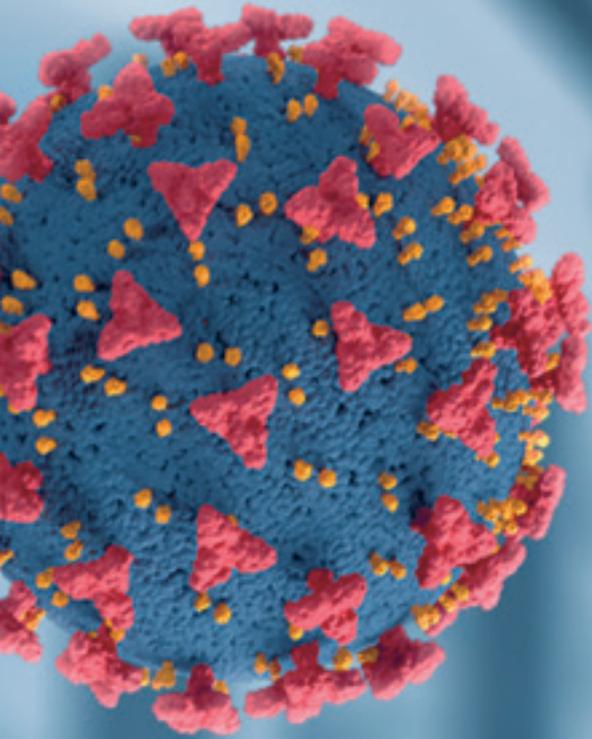
PTA also offered management training and internship opportunities to fresh graduates, who gained practical exposure and hands-on experience on some of the latest IT and telecom projects such as DIRBS. As such, PTA delivered its corporate and social responsibility towards the youth of Pakistan by training them for better placements in the job market.

## Online Hiring Solution

PTA has developed an online hiring solution to enhance the efficiency of HR systems and processes, and to bring them at par with modern practices based on paperless recruitment. The software has eased the process governing submission of job applications and has enabled PTA to float online advertisements and accept online applications—tasks that were previously accomplished manually through a paper-based system. During July 2019 to June 2020, PTA advertised 11 jobs vacancies for which 1,405 applications were received; all advertised positions were filled.



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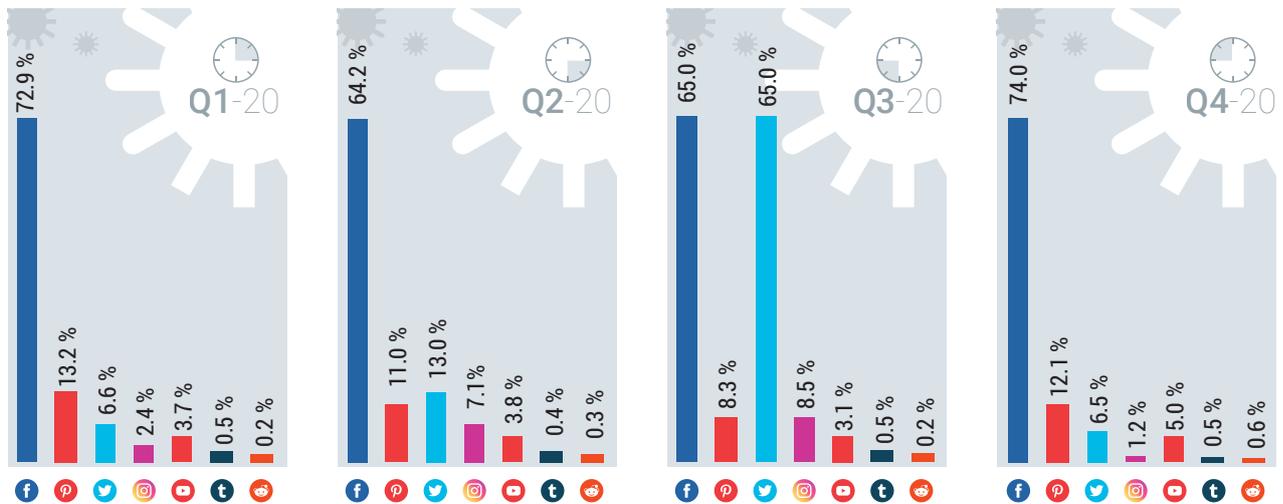


## COVID-19 and Telecoms

*The COVID-19 outbreak has had an adverse impact on national and global economies and social lives of people worldwide. However, telecom networks, infrastructures, digital devices, digitally skilled human capital, and smart work practices emerged as saviors during this period, globally providing the impetus for strong collaborations between telecommunication and other sectors such as health, education, security, etc. The ITU and governments segmented the pandemic into three phases namely, emergency, recovery, and the new-normal. As the world transitions to the new-normal wherein living paradigms are fast morphing via connectivity, burgeoning growth patterns are being witnessed in the use of broadband and social media platforms. Economies are becoming increasingly dependent on digital platforms and technologies, completely changing the way traditional economies used to function.*

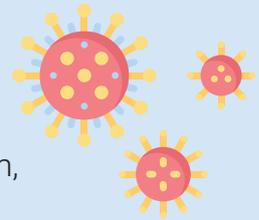
# Global Impact of COVID-19 on Social Media Usage

Facebook | Pinterest | Twitter | Instagram | Youtube | Tumblr | Raddit



Source: <https://gs.statcounter.com/social-media-stats>

## COVID-19 IMPACT ON NETWORKS



- 300% growth** in teleconferencing applications (such as Zoom, Skype, etc.) in the US.
- 400% growth** in gaming (with children being at home!) in the US.
- 828% rise** in data traffic from Zoom, and a 215% spike on Skype video conferencing applications in Thailand.
- 15-70% increase** in data traffic across Europe and the Americas, especially in rural and remote areas, as observed by satellite operators.
- Substantial increase** in global submarine cable system traffic on account of e-commerce.
- Establishment of partnerships** with digital platforms such as Netflix, YouTube, and Amazon to restrict video streaming quality globally, and to reduce network congestion.
- Provision of additional temporary spectrum** (as in the US and South Africa) by regulators in an attempt to ease network congestion.

Source ITU report - Impact on COVID-19, June 2020

## Response of ITU and Global Stakeholders

Recognizing the role of the telecom sector in fostering inter-connectedness, ITU, alongside other international stakeholders, mounted an effective response to the COVID-19 emergency, shouldering multiple responsibilities during the pandemic. Initiatives taken by telecom organizations included provision of support to governments, policymakers, and international institutions in managing the information and communication industry's response to the pandemic.

### REG4COVID Platform

The ITU established the Global Network Resiliency (REG4COVID) platform to empower the ICT community, among others, to tackle the pandemic. The primary goal of this platform was to encourage the global ICT community to share information on initiatives taken by regulators and operators of member states in areas such as consumer protection, traffic management and prioritization, broadband availability, affordability and accessibility, emergency telecommunications, universal service strategies, and the quality of service and experience so that members could mutually benefit from each other.

Although initially envisioned as an information tool, the REG4COVID platform has been expanded to provide an interactive platform for continuous sharing of practices and experiences throughout the pandemic and beyond. Regulators and operators around the world have shared their experiences on how they managed COVID-19 in their respective countries by virtue of telecom platforms and allied technologies. As for Pakistan, PTA and Jazz shared local experiences<sup>1</sup> featuring awareness campaigns, availability of services, and network resilience, etc.

### Emergency Communication Guidelines

Among the many lessons learned from the pandemic is the fact that the world's telecommunication network and digital infrastructure must be better prepared to withstand all kinds of disasters. In March 2020, ITU launched New Emergency Communication Guidelines<sup>2</sup> for reliable and effective information and communication during all four phases of disaster risk management—mitigation, preparedness, response, and recovery. These guidelines fed into policy, procedures, and governance; flagged the need to implement National

Emergency Telecom Plans (NETPs) to enable countries to strategize their respective disaster response activities in the wake of COVID-19; and recommended inclusion of overall risk assessment in the NETPs. Like many other countries, Pakistan too is in the process of finalizing its NETP under ITU Guidelines whilst aptly utilizing telecom and technology to respond to COVID-19.

### International Organizations Action Plan<sup>3</sup>

The Broadband Commission, ITU, World Bank, World Economic Forum (WEF), and GSMA issued a joint action plan to counter the adverse impact of COVID-19 through resilient ICT networks. Key objectives of the plan include increasing bandwidth, strengthening resilience and security of networks, managing congestion, connecting vital services and ensuring continuity of public services, powering FinTech and digital business models to support the most impacted businesses and communities, promoting trust, online security and safety, and leveraging the power of mobile Big Data.

The accomplishment of these objectives requires sequencing of immediate and short-term activities; these include fostering network resilience, ensuring access to and affordability of digital services; supporting compliance with social distancing principles while providing vital connectivity; leveraging e-health, telemedicine and Big Data to address the health crisis; and ensuring suitability and aptness of institutional frameworks.

### GIGA Partnership

As many as 1 billion students worldwide fell victim to the lockdown phase because most of the educational institutions lacked the facility of digital connectivity. While a number of countries are trying to address the issue at the global level, the GIGA Partnership—supported by ITU, UNICEF, and several other organizations—is attempting to bring digital connectivity to every school. The focus is on providing meaningful connectivity and key digital services like education, financial services, and health information, not just to children but to whole communities. Pakistan is also engaging with GIGA Partnership to digitally connect local schools.

## Activities of Global Service Providers in Pakistan

Without compromising on the quality of its services, Netflix developed ways to reduce its traffic on

1. [https://reg4covid.itu.int/?page\\_id=59](https://reg4covid.itu.int/?page_id=59)

2. [https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/2019/NETP\\_Global\\_guideline.pdf](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/2019/NETP_Global_guideline.pdf)

3. <http://pubdocs.worldbank.org/en/788991588006445890/Speedboat-Partners-COVID-19-Digital-Development-Joint-Action-Plan.pdf>

telecom networks in Pakistan by 25% during the pandemic. Similarly, new parental control tools were introduced to prevent children from viewing any content inappropriate for their age.

Google introduced expansion of COVID-19 SOS Alerts and Knowledge Panels on Google Search, as well as on YouTube Information Panels, and linked these to the National Institute of Health (NIH) for retrieval of locally relevant information. Google also offered inventory services to the Ministry of National Health Services, Regulations and Coordination. Moreover, it provided relevant local information and removed misinformation and abusive content vis-à-vis COVID-19 across its platforms to minimize stress on systems.

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## COVID-19 and Pakistan Telecom Sector

The immediate impact of the COVID-19 pandemic on Pakistan's telecom sector is visible in the growth trends of vital telecom indicators. However, the sector braved the adversity—rather converted it into an opportunity. As it is, digitization of the economy was already underway when the pandemic struck Pakistan by end-March 2020. The telecom sector met with a huge demand from corporate set-ups and individuals alike to meet the social, educational, health-related, and economic requirements across the country. This unprecedented situation created rather daunting circumstances for PTA as it had to ensure connectivity, provide broadband services at lower cost, disseminate free information on the pandemic to the entire populace, counter disinformation, and put up with the pressure to provide broadband services in rural and far-flung areas for educational and other online activities, to name a few. The initiatives taken by the telecom industry during the period under review are discussed below:

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### Regulatory Response to COVID-19

PTA took various initiatives to tackle and reduce the impact of the pandemic across Pakistan.

#### i. COVID-19 Monitoring Cell

A COVID-19 Monitoring Cell was established at PTA to ensure that the industry mounts a prompt and effective response to the pandemic in consultation

with GoP. The Cell was tasked with leading a massive public awareness campaign on the electronic, print, digital and social media, also utilizing blogs and websites, Ring Back Tones (RBTs), and awareness SMSs in Urdu, English, and regional languages. The Cell also engaged in IP whitelisting and facilitating COVID-related helplines by providing short codes and UANs to various organizations.

PTA directed mobile operators to send COVID-19 awareness messages to subscribers across Pakistan. During March-June 2020, a total of 1,843 million messages were sent to mobile users and more than 1 million cautionary messages were sent to travelers and persons suspected of contracting the virus. Moreover, PTA also directed mobile operators to replace the standard RBT with a message on how to prevent Coronavirus; the function was auto activated on mobile devices of 79.4% (131.7 million) subscribers.

#### ii. Ensuring Network Resilience

Determined to ensure that Pakistan stays connected, PTA immediately analyzed international and national bandwidth peak trends and capacity, and engaged all operators for capacity upgrades, load-balancing, and traffic optimization. As the country moved into the lockdown stage, mobile data traffic in Pakistan increased by approximately 22%, mainly in areas with limited fixed networks. To manage the surge in data demand and other telecom services, PTA issued advisories to telecom operators and stakeholders, urging them to remain fully prepared for provision of uninterrupted telecom services, and efficient and timely redress of consumer complaints during the crisis.

Telecom operators were directed to ensure availability of necessary resources at all levels for smooth functioning of voice and data services and networks; and to oversee strict adoption of necessary preventative measures against COVID-19 by the support staff.

#### iii. Easing Out Telecom Consumers

In order to provide relief to telecom consumers and to ensure connectivity during the pandemic, PTA extended the DIRBS registration date for all unregistered GSMA valid device IMEIs from 60 to 108 days, which ended on July 3, 2020. PTA also carried out a survey of sales channels to ensure uninterrupted issuance of SIMs, scratch cards, and balance load, and to check incidents of overcharging by retailers. Acting on the findings,

PTA directed CMOs to rectify highlighted issues related to sales channels.

#### iv. Facilitation to Health, Education and Online Businesses

PTA allowed the use of VoIP, VPN, and video conferencing applications with zero restrictions to enable continuation of routine activities by educational institutions and online businesses. Schools and businesses were thus able to freely use video conferencing open-source applications such as WhatsApp, Zoom, Skype, Google Meets, Blue Jeans, etc. To facilitate operations of educational institutions and businesses (call centers, organizations etc.), 1,589 IPs were whitelisted to carry out voice over Internet during the reported period. PTA also allocated 15 different short codes and 7 UAN (Toll-Free Numbers) to government entities working to control the pandemic.

Working with the Higher Education Commission (HEC), PTA sent over 239.2 million awareness SMSs in connection with the creation of Pakistan's first online educational channel, TeleSchool.

In order to facilitate students during COVID-19 pandemic, PTA requested all cellular mobile operators to come up with discounted "Taleemi Bundle" to HEC and PEC students. Resultantly, CMOs especially Jazz and Zong offered heavily discounted packages to HEC which offered 50 Gb data @PKR 600 (inclusive of tax) compared to the routine 60 GB monthly data package @ PKR 1500 (inclusive of tax). Ufone and Telenor also offered student data bundles to HEC and PEC but they were on higher side in comparison to Jazz and Zong.

The CMOs also acceded to PTA's instructions to

send out awareness SMSs; 2 billion SMS on COVID awareness were disseminated by CMOs. About 240 million SMS were disseminated about the precautionary measures to be taken by students, teachers and parents while school opening during COVID-19. SMS for taking precautionary measures against coronavirus were disseminated to almost 1 Million travelers/suspected persons with corona virus symptoms. The Corona Awareness Ring back tone was activated on 131.75 million subscribers. Ring Back Tone about precautionary measures to be taken by Students, teachers and parents during school opening was activated on 131.75 million subscribers for 1 month.

To provide health-related information services to the public, PTA allocated the short code 1166 to the National Command and Operations Center (NCOC); this code continues to be used nationwide by people keen to keep abreast with COVID-related information.

PTA assisted the ministries of National Health Services and Interior, the National Disaster Management Authority (NDMA), and NIH in their efforts to track and trace patients' migration, and to identify patient clusters for implementation of smart lockdowns.

#### v. Financial Assistance

PTA and the telecom industry contributed approximately Rs. 221 million towards the Prime Minister's COVID-19 Relief Fund. The following Table shows operator-wise cash contributions made to strengthen the national response to the pandemic. The management and staff of PTA donated their two days' salary to the PM's Fund; PTA also helped to generate donations from telecom consumers via SMSs on 6677.

In addition to contributing towards the Fund, Jazz and Telenor also pledged PKR 1.2 billion and PKR 1.6 billion respectively, for COVID-related activities including the expansion of networks and other measures.

PTA continues to play a pivotal role in raising public awareness, facilitating the general public in disbursement of funds, creating an enabling environment for mobile banking, and ensuring availability of online services.

SMSs sent out from applicants of the Benazir Income Support Program (BISP) Ehsaas Emergency Cash



#### Cash Contributions to PM's COVID Relief Fund (PKR Million)

<b>Jazz</b>	<b>50</b>
<b>Telenor</b>	<b>50</b>
<b>Zong</b>	<b>07</b>
<b>Ufone and PTCL</b>	<b>100</b>
<b>SMS donations by Subscribers</b>	<b>13</b>
<b>PTA</b>	<b>01</b>

Program on short code 8171 were also subsidized @PKR 1 plus taxes. CMOs and NADRA charged this paltry fee to meet operational costs of the service, whereas PTA extended gratis support to BISP in its efforts to reach out to the needy and deserving.

## Telecom Industry’s Response to COVID-19

Cognizant of the need for effective management of the pandemic, telecom operators proactively responded to the situation by bringing best public-private partnerships to fruition. To this effect, CMOs utilized data analytics to identify poorest of the poor in need of cash assistance from Ehsaas. Operators also offered free access to WHO and other health-related websites. Some of the commendable services offered by CMOs comprised public service messaging through SMS, IVR, web, and RBTs containing COVID safety measures and precautions; free calls to COVID helpline and hospitals; free transfer of funds from mobile wallets to bank accounts; and extension in balance expiry and continuity of services despite non-payment of bills by postpaid subscribers.

CMOs also extended relief to consumers through incentives and reduced price offers for telecom and broadband services. The prices of some bundles were reduced by as low as 82-90% while many services that were previously charged were extended to customers free of cost. For example, Jazz offered weekly work-from-home bundle of 10 GB data @PKR 88 compared to its regular weekly bundle of 1 GB @PKR 95. Similarly, Telenor and Ufone offers namely, ‘Monthly WhatsApp and Facebook Offer’ and ‘Free WhatsApp Offer,’ which were previously charged @PKR 44.45 and PKR 60 per month respectively, were made available free of cost. Zong extended its ‘SIM Lagao Offer’ with 2GB data and daily 100 on-net minutes, free

of cost for two months. Telenor offered weekly 4 GB (6 a.m. to 6 p.m.) @PKR 62 (inclusive of taxes) and Zong offered a daily work-from-home bundle of 1.2 GB data (from 4 a.m. to 7 p.m.) @PKR 21.5 per day (inclusive of taxes).

The offers and subsidized tariffs continued as CMOs extended support to their customers in a variety of ways. For instance, Telenor offered free first call of the day by dialing \*888#free; live dissemination of COVID-19 advisory in local languages to over 10 million customers through its agriculture and rural focused digital audio platform; and a live program ‘Khushaal Nama,’ which provided hourly updates on COVID-19 by medical professionals.

Zong not only provided its customers with cheap data services but also worked with frontline government offices for smooth wireless connectivity, particularly free access to WHO and NDMA websites even with zero balance. Additionally, it also provided free GSM, Corporate Bulk SMS (CBS), Bulk Voice Message (BVM), and Virtual Private Branch Exchange (VPBX) services to NIH to improve communication and connectivity for frontline workers. It also partnered with NESCOM for a BVM campaign to broadcast two-way call on tracking the health records of their employees during COVID-19.

Ufone offered emergency minutes during lockdown and unlimited on-net calls on its super card. Similarly, PTCL offered unlimited volume for Charji customers and free Internet for PTCL voice and TV customers; this included discounts on E-Junior and Starzplay subscription for Smart TV customers.

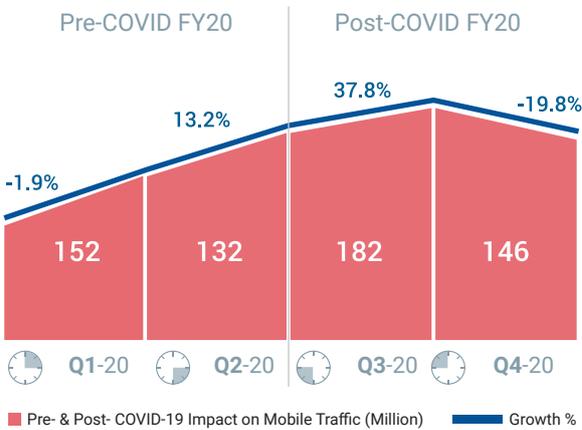
NTC provided hosting platforms for all COVID-related websites, applications, and video conferencing systems for conducting meetings of the Prime Minister, the Cabinet, the Economic Coordination Committee (ECC) and the NCOC. All connectivity and services provided to government organizations by NTC ensure end-to-end security.

<p><b>2 BILLION</b> awareness messages to subscribers across Pakistan.</p>	
<p>Messages on how to prevent Coronavirus to <b>240 MILLION</b> subscribers.</p>	
<p><b>1 MILLION</b> pre-cautionary messages to travelers and persons suspected of contracting the virus.</p>	
<p>Mobile data traffic increased by approximately <b>19%</b>.</p>	

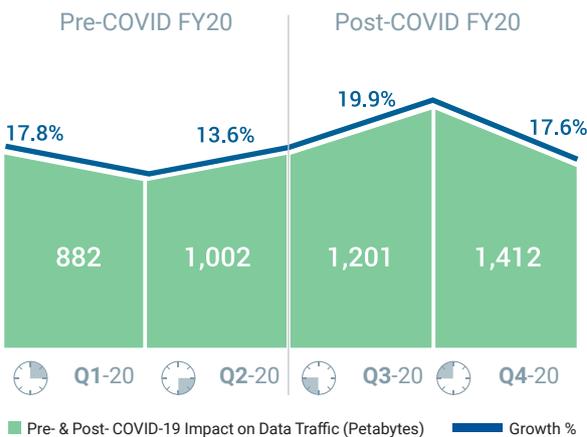
## COVID-19 Impact on Growth of Pakistan's Telecom Sector



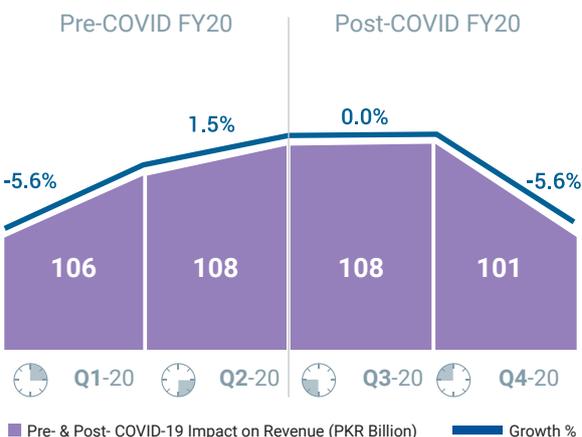
### Domestic Voice Traffic



### Data Traffic (Petabytes)



### Revenue (PKR Billion)



COVID-19 cast its menacing shadows across the globe, showing zero mercy to even the mightiest of world economies; of course, Pakistan was only a small fry. The economic impact of the pandemic across all sectors was widespread owing to reduction in consumer spending and rapidly freezing businesses. Pakistan's ICT industry also got the brunt as its telecom sector was beset with huge challenges arising from tremendous increase in data usage and reduction in prices for the sake of public facilitation. This resulted in declining revenue streams for operators.

The downward trend ever since the pandemic hit Pakistan in March 2020 witnessed total revenues of CMOs by April-June 2020 reaching PKR 101 billion—5.6% lower as compared to the previous quarter, and about 9.6% lower as compared to the same period last year. To mitigate revenue loss, operators may reduce the costs and further modernize the system.

Data usage trends show that data consumption during the lockdown period (March-June 2020) increased by 19%; however, data usage increased by 77% during FY 2020. On the other hand, domestic voice traffic, which increased by 38% in QE March 2020 experienced 20% decline in QE-June 2020. This phenomenon may be attributed to the fact that people shifted to OTT services rather than traditional voice calls during the pandemic phase. However, positive results across the economy are now on the horizon as the pandemic gradually subsides in Pakistan. From June 2020 onwards, financial pressure on the telecom sector is expected to subside.

# Participation in International COVID-19 Forums

In addition to contributing to ITU initiatives, PTA also actively involved itself with COVID-related activities organized by other regional and international telecom organizations. A snapshot of such activities is presented below.

## **'Leveraging the Power of Digital Technologies to Tackle COVID-19'**

A high-level Webex virtual dialogue on 'Leveraging the Power of Digital Technologies to Tackle COVID-19' was organized by the World Bank, WEF, and GSMA on April 21, 2020. Participating in the dialogue, PTA focused on mobilization of digital technologies for management of the pandemic.

## **'Challenges during COVID-19 for Telecom Regulators in South Asia'**

APT arranged a dialogue on 'Challenges during COVID-19 for Telecom Regulators in South Asia' on June 20, 2020. PTA participated in the event to highlight some of its relief efforts including coordination in data sharing with frontline government departments dealing with public health and safety, support allowance, passenger tracking, etc.

## **'Technology, Trade and Innovation in a COVID-19 World'**

CTO organized a high-level virtual forum on 'Technology, Trade and Innovation in a COVID-19 World' on June 25, 2020. PTA participated in the forum and discussed innovative solutions to address challenges posed by rising demand for digital connectivity in the post-pandemic era.

## **Regulator Members Virtual Consultation**

SATRC arranged a virtual consultation with all the member regulators on July 20, 2020 to discuss the way forward amid COVID-19. PTA, alongside other members, brainstormed on plans and strategies best suited for the South Asian region in the post-COVID-19 era.

## **Telecom Leaders' Summit**

PTA participated in the Telecom Leaders' Summit organized by SAMENA. The Summit focused on challenges of COVID-19 and the telecom industry's role in its management. Latest technologies including 5G were termed as an excellent opportunity for telecom stakeholders to support their national economies in the wake of lockdowns and allied restrictions.



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# Telecom Sector Developments

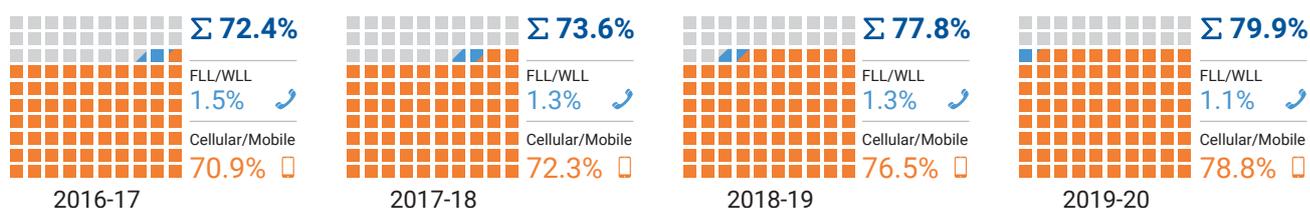


## Telecom Sector Developments

*Ever since the liberalization of the telecom sector in 2003, Information and Communications Technologies (ICTs) have been playing a pivotal role in creating opportunities for economic and social growth. PTA, in line with the vision of GoP, is striving hard to make the best ICT infrastructure available for enhanced productivity and growth of various Internet-based services that can fuel expansion of businesses. Resultantly, the exports of IT and IT-enabled services increased from a mere US\$ 433 million in 2010 to US\$ 1 billion in 2019, showing an average compound growth rate of over 10.8%<sup>4</sup>. Pakistan's telecom and ICT networks have grown at a faster pace in the last few years owing to supportive regulatory environment, huge FDI inflows, and effective competition among foreign telecom players. All these factors collectively resulted in expansion of networks and availability of Internet to over 87% of the population at affordable rates. Teledensity touched 80% in FY2020, with cellular mobile density increasing by 3% as compared to previous years.*

4. World Bank (May 2020). "Pakistan, Economic Policy for Export Competitiveness: Digital Pakistan: A Business and Trade Assessment"

## Teledensity (Percentage)



## Broadband Services

Broadband services play a significant role in creating a knowledge-based economy by generating job opportunities and raising productivity. The ITU (2020)<sup>5</sup> Study revealed that in least developed and landlocked countries, an increase of 10% in mobile broadband penetration yields an increase of 2.5-2.8% in GDP per capita, whereas an increase of 10% in fixed line broadband penetration contributes to an increase of 2-2.3% to GDP per capita.

The digital policy of Pakistan envisions "to improve its citizens' quality of life and economic well-being by ensuring availability of accessible, affordable, reliable, universal, and high-quality ICT services." This vision can be achieved by creating a digital ecosystem that promotes the use of technology in education, health, agriculture, and other key socioeconomic sectors. To this end, PTA is sparing no efforts to ensure the availability of quality ICT infrastructure and broadband services across the country at affordable rates.

Mobile broadband is leading the provision of broadband services in Pakistan at lowest possible prices. The 'ICT Price Trends 2019' report of ITU mentions that 1.5 GB mobile data is being offered in Pakistan @US\$ 0.99, which is 44% lower than

the price of the same basket in India and 176% lower than in Bangladesh. Moreover, mobile data prices in Pakistan achieved the UN Broadband Commission target, which recommends that prices should be less than 2% of the GNI per capita. In case of Pakistan, mobile data prices are only 0.70% of GNI per capita. ITU has also ranked Pakistan at 37<sup>th</sup> position in terms of affordability of mobile data, while its peer countries like India and Bangladesh are placed at 49<sup>th</sup> and 91<sup>st</sup> positions, respectively. However, Pakistan ranks low in the fixed broadband basket, which is still expensive compared to its regional peers.

## Broadband Subscription

According to ITU<sup>6</sup>, the prices of both fixed and mobile broadband are declining around the world; however, decline in price trends does not translate into rapidly increasing Internet penetration rates, which suggests that other barriers including low level of education, lack of relevant local content and digital skills, and low-quality Internet connection may also prevent effective use and penetration of Internet.

During the last five years, total broadband subscriptions in Pakistan grew by 175%. Despite the challenges of COVID-19 in the last quarter of FY2020 when

## Price Trend—Mobile Data Basket (1.5 GB and Above)

	PAKISTAN	INDIA	BANGLADESH	SRI LANKA	IRAN
Percentage GNI/Capita	0.70	0.90	1.90	0.60	0.70
Price in US\$	0.99	1.43	2.74	2.15	3.40
Price in PPP\$	3.58	4.75	6.73	6.56	10.86
GB (Data):	4.90	2.00	1.50	2.00	2.00

Source: ITU, 2019

5. Economic Impact of Broadband in LDCs LDCs and SIDs – An Empirical Study by ITU

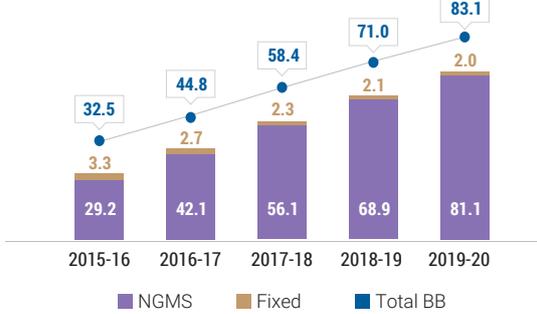
6. Measuring Digital Development ICT Price Trends 2019

businesses were closed, broadband subscriptions crossed 83 million, registering an impressive growth of over 17% during FY2020. Broadband growth in Pakistan is led by mobile broadband services which comprise 98% of the total broadband subscribers. During last year, NGMS (3G and 4G) subscriptions grew by about 18% while fixed line broadband services declined by 5%. A rapid migration from 3G to 4G services was witnessed in mobile broadband subscriptions where 4G registered a positive growth of 60% and 3G subscriptions declined by 19% during the period under review. Of the total 81.1 million NGMS subscribers, the share of 4G increased from 47% in 2019 to 63% in 2020. In terms of net additions, Jazz led the way with highest number of new additions (5.7 million), followed by Zong (2.9 million).

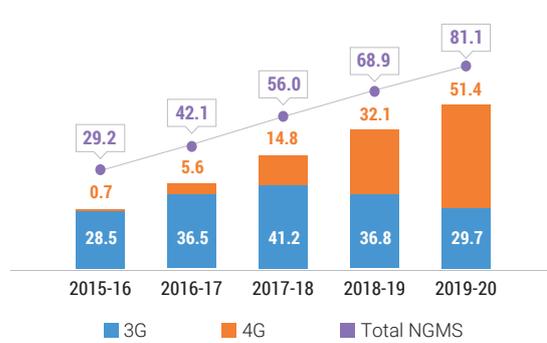
With regard to share of operators in mobile broadband subscriptions, Jazz and Zong had a share of 36.8% and 29.6% respectively, in the total NGMS subscriptions during FY2020. Jazz and Telenor gained 1.7% and 0.8% respectively, in their broadband subscription shares as compared to last year, whereas Zong lost its share by about 1.1%. It may be inferred that Zong, which carried out aggressive marketing and offered attractive packages during previous years—leading to maximum subscriber gains—largely focused on retaining its subscriber base during the year under review.

CMOs also continued to expand their networks through installation of over 2,031 new cell sites across the country. Of the 4,6950 cell sites,

**Broadband Subscription (Million)**  
Mobile and Fixed



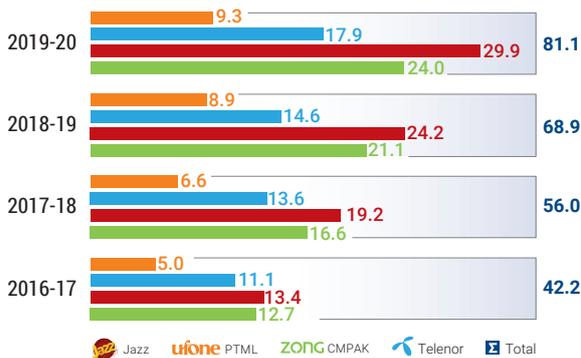
**NGMS Subscription (Million)**



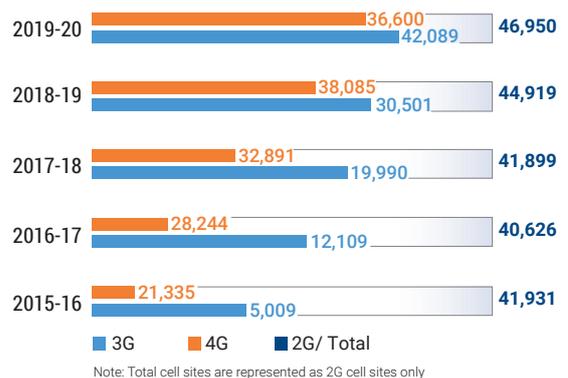
**NGMS Subscriber Share (Percentage)**



**Operator-wise NGMS Subscribers (Million)**



**Cellular Mobile Cell Sites**



36,600 (78%) are 4G-enabled while 42,089 (90%) are 3G-enabled.

### Mobile Broadband Penetration

The total broadband penetration (both fixed and mobile) in Pakistan stood at 39.2% in FY2020, registering an increase of about 16% as compared to the previous year. Since mobile is leading broadband services, 3G and 4G services crossed 38.3% penetration, showing a growth of 17% in the last one year. According to the PSLM Survey, 34% households across Pakistan (41% in Khyber Pakhtunkhwa including merged areas, 37% in Sindh, and 33% in Punjab) have Internet facility.

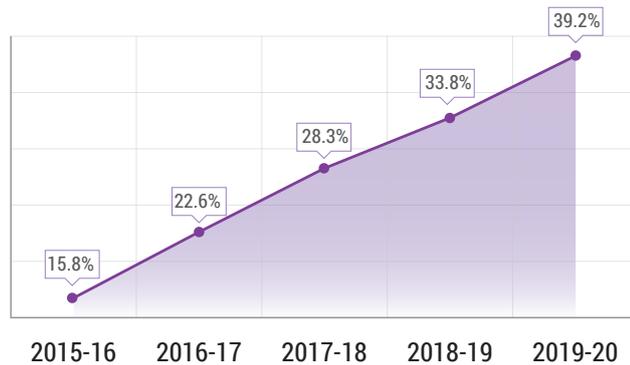
In Pakistan, Internet is generally used for social media and social communication rather than businesses. As reported in the PSLM Survey, 71% individuals used Internet for email, chatting, Facebook, voice and video calls, etc., while 7% reported using it for online shopping and banking.

### Mobile Data Usage

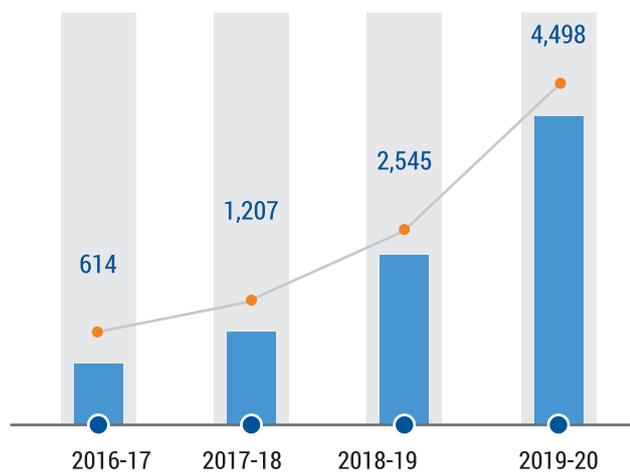
Data usage by CMOs witnessed 77% growth in FY2020 to over 4,498 Petabytes as against 2,545 Petabytes in FY2019. In addition to increase in 4G subscriptions, attractive data packages lured consumers towards enhanced data consumption. Exponential growth of data usage also corroborated the expansion of 4G subscription by CMOs. Interestingly, data usage by Zong customers remained maximum during FY2020 even though its NGMS subscription base (24 million) fell behind Jazz customers (29.9 million). Zong customers used 2,214 Petabytes, which constituted 49% of the total consumption by the industry during the year, followed by 1,304 Petabytes by Jazz (29% of the total consumption).

Data usage per subscriber hovered around 5GB by growing at a steady pace, starting at around 3.4GB in 2019. According to ICT price trends issued by ITU, the affordability of broadband services in Pakistan is better as compared to regional economies. Pakistani operators are providing mobile broadband packages (only data) at a most affordable price of US\$ 0.99 for almost 5GB data; however, combined Voice+Data packages, which are available for US\$ 3.7, are relatively expensive by regional standards.

**Broadband Penetration (Percentage)**  
Mobile and Fixed



**Cellular Mobile Data Usage (Petabytes)**



**Average Data Usage by Operator**  
(GB/Month/Subscriber)



## Cellular Mobile Services

The cellular mobile sector in Pakistan demonstrated impressive growth in terms of nationwide expansion of networks and provision of broadband services. According to the PSLM Survey, 98% households in the country have mobile phone and about 45% individuals own them. Today, with over 167.3 million cellular mobile subscribers in Pakistan, 4G signals are available to more than 68.8% of the population, and cellular mobile services cover 87% of the population.

### Individual Mobile Phone Ownership (Percentage)

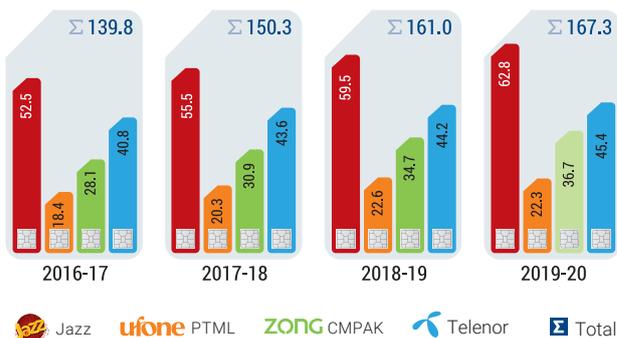
	Rural	Urban	Male	Female	Total
Pakistan	39.25	55.13	64.83	26.35	45.30
KPK	42.83	53.54	63.21	27.83	44.68
PUNJAB	40.53	55.33	65.82	27.83	46.20
SINDH	32.34	56.65	65.36	24.50	45.56
BALUCHISTAN	34.76	43.56	58.21	13.72	37.26

Source: Pakistan Bureau of Statistics, PSLM Survey 2018-19

## Cellular Mobile Subscriptions

Cellular mobile subscriptions in Pakistan continued to grow at an astounding rate; operators successfully added an average of 0.52 million subscribers per month during FY2020 as against 0.90 million per month in FY2019. The growth in subscriptions slowed down towards end of FY2020 owing to COVID-19 and the resultant countrywide closure of businesses. The total number of cellular mobile subscribers touched the figure of 167.3 million at the end of FY2020, reflecting a growth of 4% as compared to the previous year, when subscription stood at 161 million.

### Operator-wise Cellular Mobile Subscribers (Million)



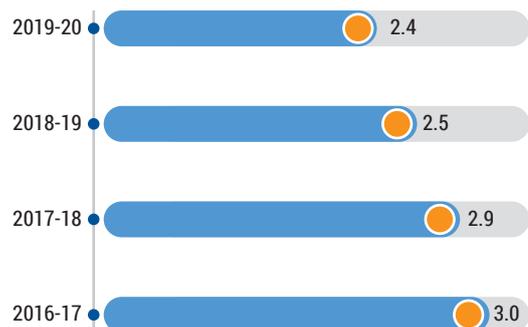
Operator-wise subscriptions show Jazz in the lead with 62.8 million (37%) subscribers, followed by Telenor with 45.4 million (27%). During the year under review, the cellular mobile industry added over 6.2 million subscribers to its various networks. Jazz added over 3.3 million subscribers to its network in FY2020, followed by Zong (2.0 million) and Telenor (1.2 million only), while Ufone reported a net loss of 0.3 million.

## Fixed Line Services

Fixed line services continued to be expensive and showed a declining trend in Pakistan, as elsewhere around the world. PTCL remained the predominant operator for provision of fixed line services even though PTA issued licenses to several other companies as well back in 2003. Companies are hesitant to indulge in expansion of fixed line networks in Pakistan owing to expensive deployment, and easy and cheap availability of wireless services.

PTCL has resolved to introduce high-speed data products in the future; to this end, it has completed an ambitious network upgrade. PTCL sees Fiber-To-The-Home (FTTH) as the technology of choice for fixed network operators to meet high-speed data demand. As such, it has enhanced its FTTH footprint, modernized its copper access network, and reduced copper loop lengths. It is also eyeing the enhancement of IP bandwidth capacity for better revenue stream and claims to have rolled out FTTH in 11 major cities of Pakistan, successfully grabbing 8% of the FTTH market share in 2020 with total market share of 29%. Fixed line subscription (Fixed+WLL) continued to decline in FY2020, standing at 2.4 million. WLL are depleting services; there are only 57,157 subscribers in Pakistan, as reported by operators.

### FLL and WLL Subscribers (Million)

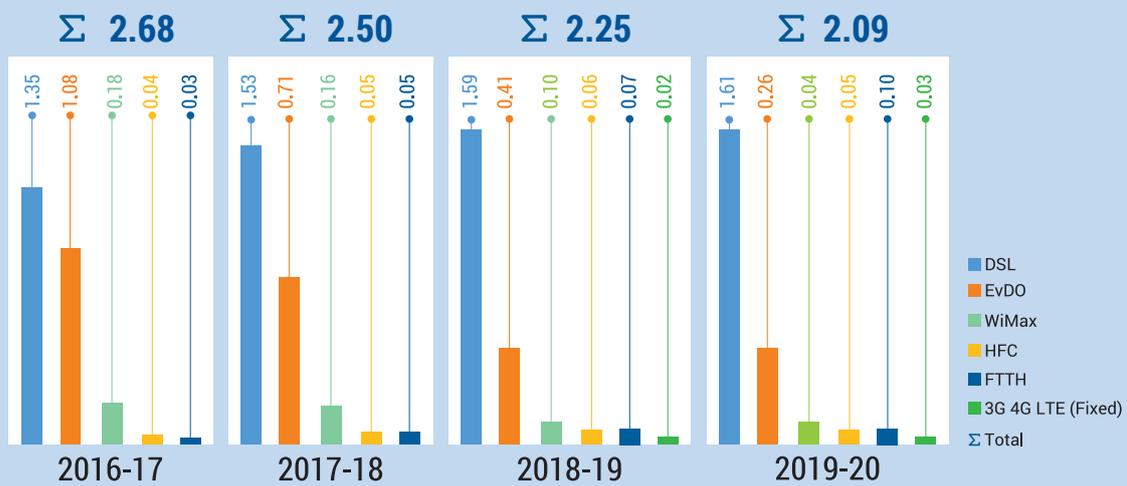


### Fixed Broadband Subscribers

Currently, there are a little over 2 million fixed broadband subscribers in the country, with services being provided by PTCL, NTC, Nayatel, Optix, QuBee, Storm Fiber, WorldCall, Wi-tribe and Fiberlink. Both DSL and FTTH are fast picking up in fixed line broadband services. The combined subscriber count of these companies comes to about 1.7 million. However, total fixed broadband subscription declined by about 7.1% during FY2020 owing to availability of wireless-based services and PTCL's limited capacity for expansion. However, PTCL is already working on the expansion of its FTTH and DSL services, for which network upgradation was completed in 2019.



Fixed Broadband Subscribers by Technology (Million)



## Financial Health of Telecom Industry

The ITU reported a general decline of 5-10% in telecom sector revenue across countries owing to COVID-19. Pakistan was no exception; in FY2020, telecom sector revenue declined to PKR 537 billion, which was 2.4% less as compared to last year. The cellular mobile sector registered a decline of 4.8% in its revenue (from PKR 445 billion in 2019 to PKR 424 billion in 2020). The COVID-19 pandemic,

revenue streams. In Pakistan, the cellular mobile industry ARPU per month (Voice+Data) stood at PKR 214 in FY2020, indicating a decline of 10% as compared to the preceding year. The industry data ARPU stood at PKR 240.5 in FY2020 as against PKR 262.3 during FY2019. The drop in ARPUs can be attributed to significant price reductions introduced by operators during COVID-19 and rapid increase in subscriptions as against revenue. Although the 10% decline in total ARPU occurred because consumers shifted away from traditional voice services, the 8% decline in data ARPU can only be justified with reduction in prices as data usage increased by 77%.



Telecom Revenues (PKR Billion)				
	Cellular	Fixed	LDI	Total
2016-17	367.5	78.4	30.4	476.3
2017-18	382.4	75.4	31.0	488.8
2018-19 (Revised)	445.7	69.2	35.6	550.5
2019-20 (Estimated)	424.3	78.2	34.7	537.2

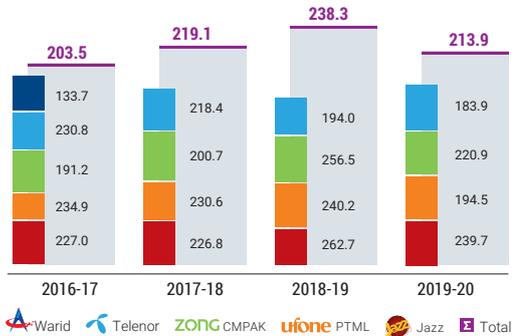
coupled with revenue pressure, impacted the profitability of major operators. A major setback was endured by Zong, which had been earning positive profits during the last two years but reported negative profit (loss) of PKR 3.6 billion in FY2020 as against positive profit of PKR 12.9 billion for the same period last year. Telenor and Jazz continued to earn positive profits of PKR 4.1 billion and PKR 36.8 billion respectively, in FY 2020 though profits declined by 79% and 7% respectively, when compared to the previous year. Telenor attributed its huge profit decline and gross subscriber loss of about 1.4 million in QE June 2020 to COVID-19.

### Average Revenue Per User

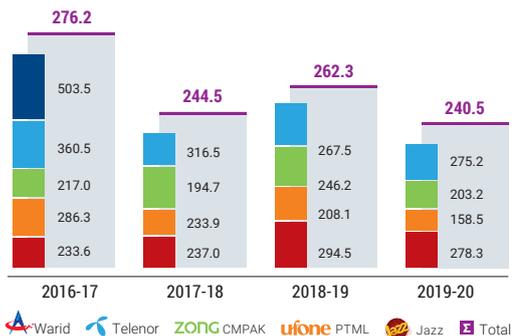
Generally, Pakistan is considered low ARPU and predominantly a prepaid subscription market where subscribers enjoy the flexibility of altering their usage patterns in response to any price fluctuations introduced by operators. Service providers face challenges in maintaining their ARPUs where voice is still a dominant factor in

Telenor and Jazz data ARPU closely competed at PKR 279 and PKR 275 respectively, while Zong struggled to catch up with data ARPU of PKR 203 in FY2020. Telenor improved its data ARPU by 3% while Jazz lost it by 5.5%. Zong continued to attract maximum subscribers to its network, offering low prices; as such, its data ARPU declined by about 17% during the last one

### Total-ARPU Per Month CMOs (PKR)



### Data-ARPU Per Month CMOs (PKR)



year while overall industry data ARPU declined by 8% during 2020 owing to competing data prices offered by service providers in general and reduced offers in the wake of COVID-19 in particular. It is pertinent to mention that despite an increase in Zong's subscriber base and data traffic, its ARPU registered a decline.

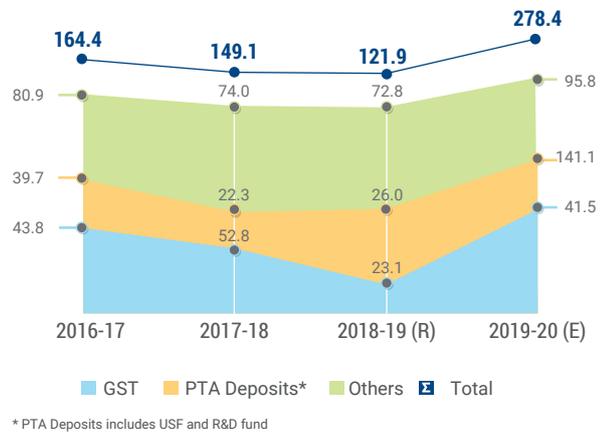
### Tax Contribution to Exchequer

Essential services such as banking, health, and education, amongst other sectors, are becoming increasingly dependent on wide coverage of broadband and other telecom services; GoP expects widespread low-cost availability of such services with latest technologies. However, the telecom sector is generally burdened with heavy taxes, which restrict network access and attraction of foreign capital; these taxes are also a major impediment towards achieving the objectives enshrined in the Digital Pakistan Policy vis-à-vis Telecom Policy 2015. Rationalization of taxes will not only enable the sector to support further growth but will also result in better tax collection due to increased usage. GoP has extended tax relief for broadband service providers and infrastructure operators; the minimum tax regime has been reduced from 8% to 3% for corporate income in the FY2020 budget. The Prime Minister has also established a high-powered committee to propose comprehensive tax relief measures for the telecom sector for expansion of broadband services across the country.

The telecom sector's contribution (including PTA deposits) to the national exchequer registered 129% growth in FY2020, primarily owing to deposits of US\$ 687 million by three CMOs as 50% of license fee, and a substantial increase in GST and other taxes which were suspended during the previous year by the Honorable Supreme Court of Pakistan. PTA deposits include initial license fee, USF, R&D fund and other levies that amounted to PKR 141.1 billion in FY2020, which is 443% higher than the previous year. The total telecom taxes (excluding PTA deposits) grew by 43% and stood at PKR 137 billion. Major operators, CMOs, and PTCL contributed PKR 134 billion (over 97.6%) to total taxes, while small operators contributed the remaining. In addition to the aforementioned taxes and contributions made by the telecom sector, the FBR also collects a huge amount against import of cellular mobile handsets, which allows only

registered and tax-paid handsets to connect to telecom networks in Pakistan.

### Telecom Sector's Contribution to Exchequer (PKR Billion)

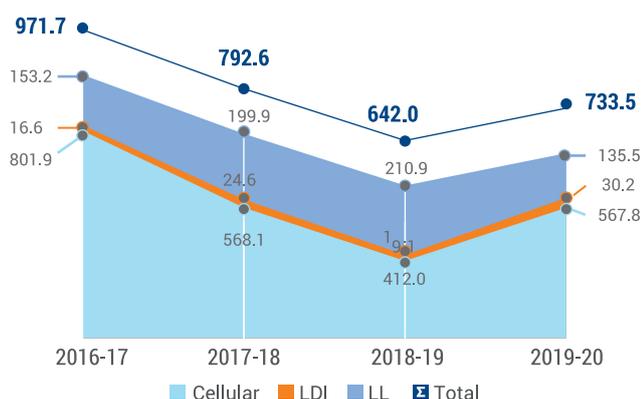


### Investments

Mobile operators and PTCL are the leading companies investing in network expansion and QoS improvement, in addition to non-developmental investments in the shape of license renewal, etc. During the year under review, the telecom sector invested over US\$ 733 million in Pakistan, of which the mobile industry's share comes to 77%. License renewal fee by three CMOs contributed a major share to investments made by CMOs.

Total investments in the sector grew by 14% in FY2020. PTCL is another major operator that invested in its LL network and upgraded its system, thereby providing reliable fixed broadband services.

### Telecom Investment (US\$ Million)



## Foreign Direct Investment

The telecom sector has been exhibiting positive and encouraging FDI trends in Pakistan. The FY2020 turned out to be the best as far as FDI was concerned, since net FDI of over US\$ 622 million was brought into the telecom sector. This huge investment became possible primarily because of the license renewal fees that mobile operators (Telenor, Zong and Jazz) paid to the regulator. The telecom sector reported a share of 24% in the total FDI of Pakistan during FY2020 as against negative share in FY2019.

In terms of foreign investment, the sector exhibits stability as inflows have increased and outflows are decreasing. Infrastructure providers, manufacturers, and broadband companies also contributed to positive FDI.

### FDI in Telecom



**FDI in Telecom**  
(US\$ Million)



**Total FDI**  
(US\$ Million)



**Telecom Share in Total FDI**

Year	FDI in Telecom (US\$ Million)		Total FDI (US\$ Million)		Telecom Share in Total FDI
	Inflow	Outflow	Inflow	Outflow	(%)
2016-17	116.6	207.4	3,435.0	704.2	3.4%
					29.5%
	Net FDI	90.8	2,730.8		3.3%
2017-18	288.5	188.4	3,794.7	702.7	7.6%
					26.8%
	Net FDI	100.1	3,092.0		3.2%
2018-19	235.5	313.1	3,160.0	1,422.8	7.5%
					22.0%
	Net FDI	(-77.6)	1,737.1		(-4.5%)
2019-20	763.3	140.8	3,285.8	724.6	23.2%
					19.4%
	Net FDI	622.5	2,561.2		24.3%

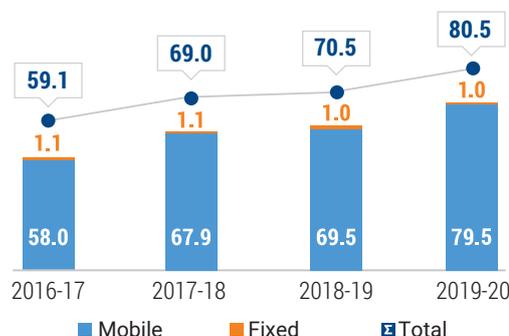
Source: State Bank of Pakistan

## Telecom Developments in AJK and GB

The development and strengthening of the telecom sector in Azad Jammu and Kashmir (AJK) and Gilgit-Baltistan (GB) remained a key priority area of GoP. It was back in 1976 that a license was issued to the SCO, making it the first service provider to have been tasked with the development, operationalization, and maintenance of telecom services in AJK and GB. The organization has, since then, been meeting the communication needs of the local population. The AJK Government and GB Council adopted the Pakistan Telecom (Re-organization) Act, 1996 and thereon existing CMOs of Pakistan were licensed to provide cellular services in the area. Today, healthy competition exists in the local telecom market, where companies including SCO, Jazz, Telenor, Zong and Ufone are providing modern telecom services to 4.9 million population of AJK and 1.5 million in GB.

The total Teledensity of AJK and GB stands at 80.5%, which is almost as much as that of Pakistan; this includes 79.5% cellular penetration, and 1% fixed line penetration. Teledensity increased by 14% during FY2020 as against growth of only 2.2% during FY2019.

### Teledensity in AJK and GB (Percentage)



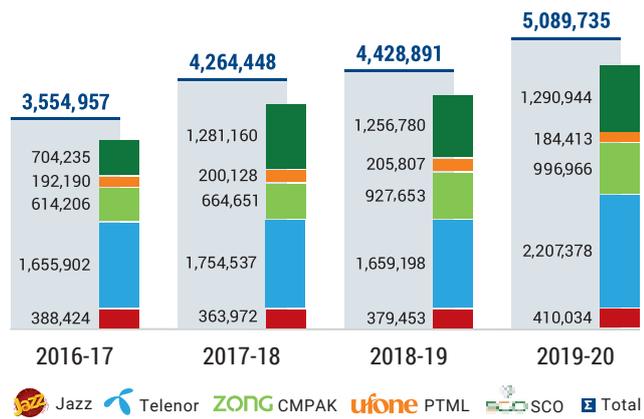
### Cellular Mobile Services

Cellular services in AJK and GB grew at an astounding pace owing to high demand, ease of availability in an otherwise difficult terrain, and reasonable choice of operators. Today, there are over 5.1 million mobile subscribers across a region of over 6 million inhabitants. The subscriber base grew consistently, with an average annual growth rate of 12.9%. Telenor and SCO were the preferred choice of the local population because both have a larger footprint in the region as compared to

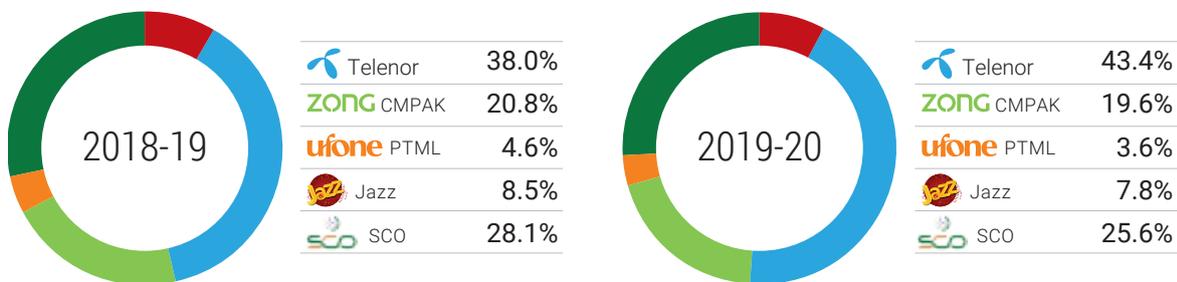
the other three operators. Telenor had over 2.2 million subscribers. Zong also penetrated well in AJK and GB; the company’s total subscriber base remained close to 1.0 million, just behind SCO, which had 1.3 million subscribers.

Telenor grabbed over 43% of the market share, making it a dominant player. Telenor’s market share grew by 14% during the period under review. Although SCO, Zong, and Jazz added to their subscriber base during the year, their market share witnessed a reduction in favour of Telenor.

### Cellular Mobile Subscribers in AJK & GB, by Operator



### Cellular Mobile Subscribers Share in AJK and GB (Percentage)



### Broadband Services

SCO introduced broadband services in AJK and GB after 2015. The global trend of slow growth in fixed broadband penetration was evident in AJK and GB too, which experienced staggered growth. Today, there are a total of 22,471 DSL subscribers, which translates into less than 1% penetration of fixed broadband in the region. However, SCO is moving towards adoption of Gigabyte Passive Optical Network (GPON) technology, which is likely to be commissioned by end-2020, resulting in improved fixed broadband in the near future. The region, however, saw substantial adoption of mobile broadband services after SCO, Telenor, and Zong offered services to their subscribers. Today, there are 1,133,782 mobile broadband subscribers—1,051,844 in AJK and 81,938 in GB.

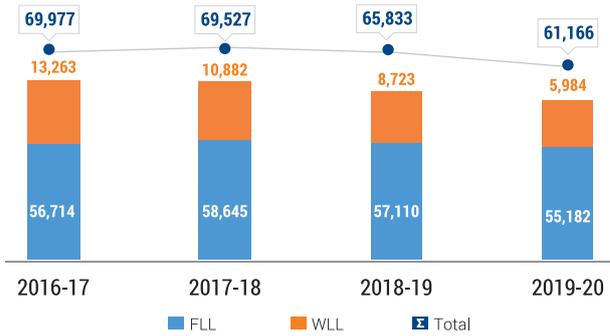
Both 3G and 4G services are available, with 3G currently leading. Telenor has maximum subscribers in the region; however, SCO is also aggressively working on increasing its footprint for NGMS services; the company plans to upgrade 92 of its

2G sites to 4G by the end of 2020. Another new 66 green field sites will also be operational by the end of the ongoing year. The deployment of 65 coverage sites along the Karakorum Highway will ensure major road coverage in GB.

### Broadband Subscribers in AJK and GB (FY2020)

Operator		NGMS	Total
Telenor	AJK	448,270	513,775
	GB	65,505	
Zong	AJK	409,636	426,069
	GB	16,433	
SCO	AJK	153,938	453,944
	GB	300,006	
Total	AJK	1,051,844	1,133,782
	GB	81,938	

### PSTN Subscribers in AJK and GB



### Fixed Line Services

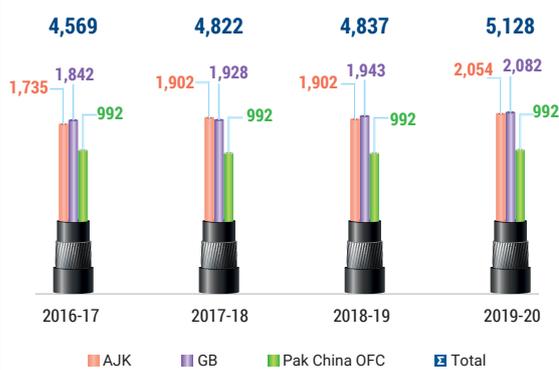
The fixed line market in Pakistan, as well as in AJK and GB, continued to shrink due to dominance of the mobile industry and the global trend of decreasing fixed line services. SCO and PTCL are currently the major fixed line service providers in the region. Fixed line subscribers in AJK and GB stood at 61,166 compared to the previous year's 65,833, showing a declining trend of approximately 7% during the year under review; in GB, the subscriber count stood at 17,494 in FY2020 as compared to the previous year's 17,878. Following the deployment of phase 1 of the GPON project in 11 major cities of AJK and GB, the negative trend is expected to improve in both regions. SCO will additionally cover another 30 cities and towns of the region by virtue of phase 2 of the GPON project by end-2021.

### Telecom Infrastructure

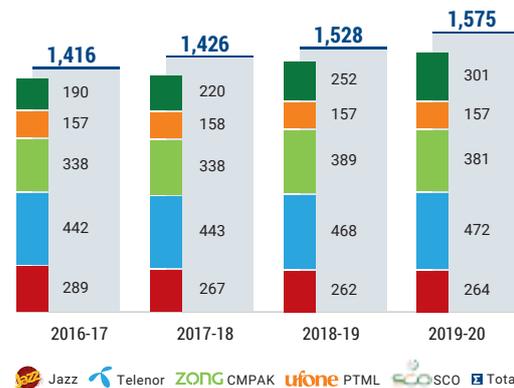
AJK and GB are difficult terrains where provision of telecom services has always been a challenge. Right from 1976 onwards, SCO enjoys the distinction of connecting AJK and GB to the rest of the world. The company installed the telecom infrastructure in these hard-to-access areas. However, since 2006, other companies have also started adding to the telecom infrastructure in the region. Today, there are 1,576 cell sites across the region. Telenor being the largest service provider has 472 cell sites, followed by Zong (381) and SCO (301); the latter has a higher number of subscribers, compared to Zong. Cell sites registered growth of only 3% during FY2020 as against over 7% in the preceding year. This decreasing trend can be attributed to slowdown of business activities due to the COVID-19 pandemic.

Moreover, SCO has taken the lead in connecting AJK and GB with Optical Fiber Cable (OFC), not only with the rest of the country but also with China. The Pakistan-China OFC project has recently been completed under the China-Pakistan Economic Corridor (CPEC) program. Under this project, SCO has deployed approximately 992 kilometers of OFC from Rawalpindi to Khunjerab and Karimabad to Khunjerab for establishment of the first-ever land-based connection with China. The total length of OFC laid across AJK and GB, inclusive of the Pak-China OFC, is 5,128 kilometers. SCO is consistently increasing its OFC, which grew by 6% during FY2020.

### OFC in AJK and GB by SCO (Kilometers)



### Cell Sites in AJK and GB





**175%**

increase in

**BROADBAND SUBSCRIPTIONS**  
in Pakistan grew During the last  
five years



**60%**

**4G SUBSCRIBERS GROWTH**  
during 2020



**90 MILLION**

**BROADBAND SUBSCRIPTIONS**  
as of October 2020



**88 MILLION**

**NGMS SUBSCRIPTIONS**  
as of October 2020



**US\$ 733 MILLION**

**INVESTED**

by Telecom Sector during FY 2020



**424 BILLION**

**PKR REVENUE**

registered by Cellular Mobile  
Operators during FY2020



Pakistan  
Telecommunication  
Authority





**04**

# **Safeguards for Consumers**



## Safeguards for Consumers

**W**ith the advent of advanced broadband technologies and structural changes in the provision and usage of ICT and telecom services in the society, Pakistan's telecom sector has evolved from a traditional voice-based market to one that is versatile and vibrant. In many ways, these services create tremendous opportunities for individuals, businesses, and governments; however, appropriate measures are required to protect the interests of subscribers and to provide reasonable safeguards to them against frauds and scams. In view of the foregoing, PTA continuously improves its internal complaint management procedures to ensure quick and effective redress of consumer grievances and to utilize the consumer perspective as a key input for informed policymaking. PTA also amended Protection from Spam, Unsolicited, Fraudulent and Obnoxious Communication Regulations 2009, to protect telecom consumers.

## Ease of Making Complaints

The phenomenal expansion of telecom and ICT networks in Pakistan has substantially increased available choices for telecom consumers in the shape of lower tariffs, improved quality, advanced features, and nationwide availability. Conversely, this widened scope has placed the bar too high for the regulator to ensure provision of best quality services at affordable rates. The availability of telecom services should be complemented with quality of service and consumer satisfaction. The timelines for complaint resolution, as defined in the regulations, license conditions, and SOPs are reflected in the following Flow Chart.

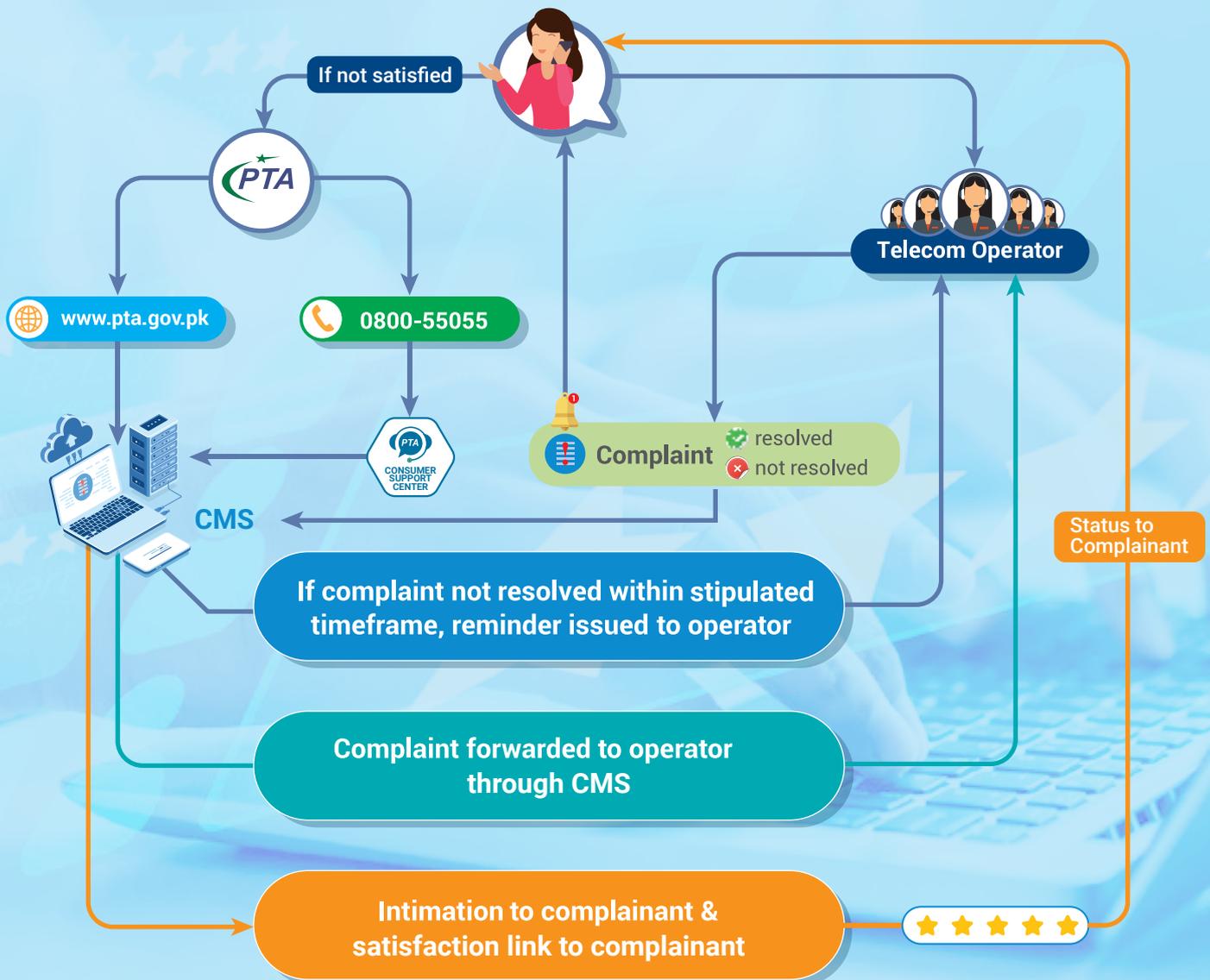


## Complaint Management System

Recognizing the need to resolve issues faced by telecom consumers, PTA launched an state-of-the-art online Complaint Management System (CMS) in 2018 to facilitate consumers; this was followed by the establishment of a Consumer Support Center (CSC) on February 18, 2020 for efficient management of the mounting volume of complaints. The launching of the CSC is testimony to PTA's commitment to innovation, deeper understanding of consumer needs, and pledge to offer progressive solutions. Telecom consumers are encouraged to take up their complaints with relevant service providers. In case a complaint is not addressed by the relevant telecom operator, or the complainant is dissatisfied by the response, they may either contact the CSC or lodge a complaint on PTA's website (www.pta.gov.pk) for prompt redress.

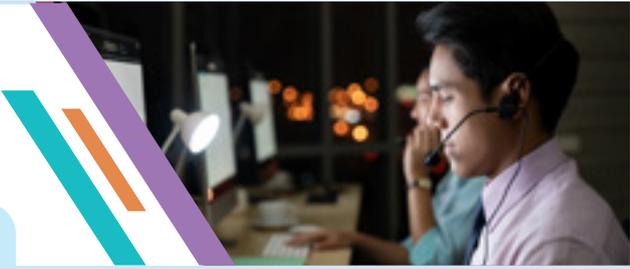
Subsequent to the establishment of the online CMS, PTA upgraded the CMS in line with suggestions and feedback received from the CSC. To facilitate complainants, a number of additional features have been incorporated into CMS; these include notifications and alerts for complainants to track the status of their complaint, provide feedback on the response or resolution, and expedite complaint resolution, etc. The current framework and cycle for complaint registration is reflected in the above Flow Chart.

## How to Lodge a Complaint





CSC services are available 7 days a week from **9 AM to 9 PM** through a dedicated toll-free number **0800-55055**



### Consumer Support Center

To facilitate telecom consumers, PTA established the CSC for efficient management of complaints received through email, call, SMS, fax, and social media. The aim of this Center is to facilitate the public for lodging complaints pertaining to telecom services. It provides a common point of origin for all service requests related to telecommunication services. Consumers can register their complaints related to cellular mobile telephony, ISPs, fixed and wireless telephony, DIRBS, web content (blasphemy, pornography, etc.), UAN, Toll-free, UIN, and allocation of short/CVAS registration, amongst others. PTA received around 232,037 calls from the CSC during the period between February-July 2020. The following Table presents a month-wise breakup of complaints.

CSC Complaints (Feb-July 2020)	
	Calls Received
February	48,491
March	40,499
April	29,279
May	46,226
June	28,068
July	39,474
<b>Total</b>	<b>232,037</b>



### Consumer Awareness Campaign

The key to consumer activism lies in creating awareness among consumers regarding their telecom rights, including basic knowhow of contacts and procedures for registration of complaints and grievances.

Fake text messages and phone calls from unknown numbers deceiving subscribers with lucrative prizes, lotteries, and plots is a contemporary scam of the time, wherein they prey upon gullible subscribers with convincing stories, depriving them of their hard-earned money. Also, calls and marketing messages from unknown numbers are a perpetual nuisance that breach the subscribers' right to privacy. To address this menace, PTA utilized the print and electronic media to raise public awareness on unsolicited marketing and spamming calls and SMSs, and obnoxious calls and SMSs. To achieve maximum outreach and awareness, the campaign was implemented through SMS broadcasts, print media advertisements, and FM radio shows participated by PTA officials.

Print Media Advertisement

**Report Financial Fraud**

People are being deprived of their money through fake text messages and phone calls from unknown numbers/ unauthorized number. Sometimes account information and personal data is also asked from consumer through email, social media and other online methods. **Please do not share your personal information like account details, password, account pin code, pin code received on your phone, and transfer any cash or phone credit in response to such calls and SMSs.** Faking which the consumer will be responsible for any loss resulting from such frauds as it does not fall under the regulatory ambit of PTA except blocking of number.

- Register your complaint at the helpline of your telecom operator for blocking of fraudulent number.
- Register complaint at PTA website (through online complaint form) or at toll free number 0800-55055 for blocking of fraudulent number.
- Report all type of frauds at National Response Centre for Cyber Crime (NRCC)-FIA helpline: 9911, 051-9106384 or visit [www.nrcc.gov.pk](http://www.nrcc.gov.pk)
- Report financial mobile banking frauds at State Bank of Pakistan's email: [qcd.helpdesk@sbp.org.pk](mailto:qcd.helpdesk@sbp.org.pk)
- Report Benazir Income Support Program (BISP) fake messages at BISP helpline: 080056472.
- If fraudster uses name of Pakistan Army, report to ISPR helpline: 1125 & 1135.

For more details regarding 'Consumer Support', please visit [www.pta.gov.pk](http://www.pta.gov.pk)

**Pakistan Telecommunication Authority**

## Pakistan Citizen Portal

During FY2020, PTA resolved all of the 19,152 complaints received through the Prime Minister's portal. A dedicated department in PTA has been tasked with priority handling and resolution of all complaints received.

PTA takes pride in consistently securing the top position among government offices vis-à-vis consumer satisfaction on the said portal. According to the 'Review of Pakistan Citizen Portal' report issued by the PM's Office, PTA secured highest satisfaction percentage (48%) in 2020 for complaint resolution. The following Table provides a list of the top 10 offices at the Federal and Provincial levels in this context.



### Review by Pakistan Citizen Portal (Top 10 Offices)

## 2020



Department	Complaint Resolved	Satisfaction Level
<b>Pakistan Telecommunication Authority (Federal)</b>	21,063	48%
<b>Sui Northern Gas Pipeline Limited (SNGPL) (Federal)</b>	120,634	43%
<b>GEPCO (Punjab)</b>	15,773	42%
<b>IESCO (Federal)</b>	35,084	41%
<b>FESCO (Punjab)</b>	27,756	40%
<b>MEPCO (Punjab)</b>	48,217	39%
<b>State Bank of Pakistan (Federal)</b>	20,220	34%
<b>HESCO (Sindh)</b>	17,646	33%
<b>PESCO (Khyber Pakhtunkhwa)</b>	22,470	33%
<b>SEPCO (Federal)</b>	14,748	30%

## Complaint Resolution

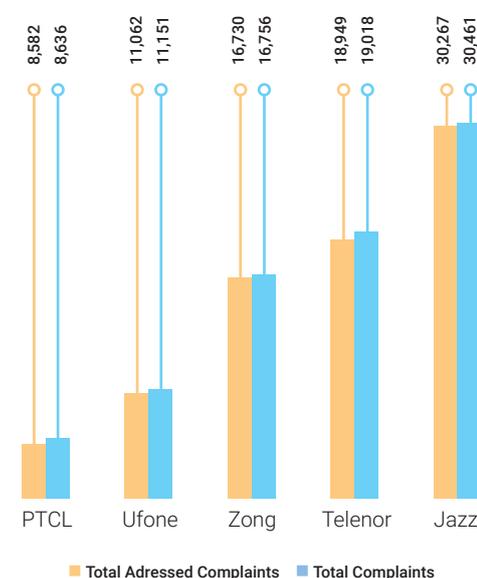
During FY2020, PTA received 89,143 complaints against telecom licensees (Cellular Mobile, ISPs, and Local Loop 'FLL&WLL'). Since 79.65% of Pakistan's population uses mobile services, 77,542 (87%) of the total complaints were related to CMOs. It is pertinent to mention that 31% of the complaints against CMOs were related to fraudulent calls and SMSs, including misuse of BISP disbursement messages. PTA, in collaboration with the respective operators, resolved these complaints in accordance with available legal tools. The following Table presents license-wise break-up of complaints and the percentage share of the licensees in the total number of complaints.

The following Graphs depict data on complaints received against major operators, and distribution of complaints by sector and category.

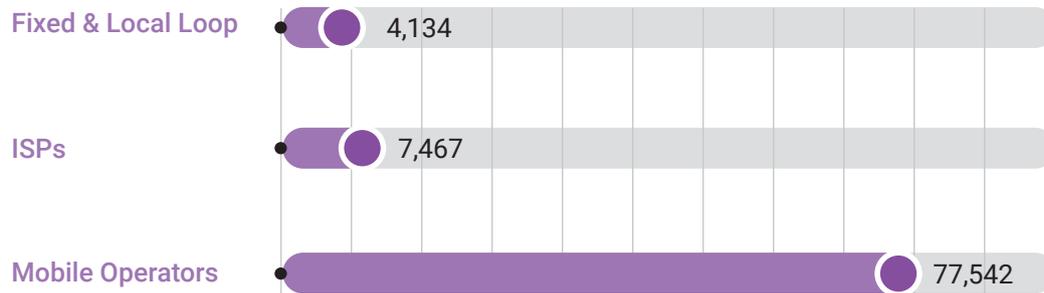
### Telecom Segment-wise Complaints (FY2020)

	No. of Complaints	Share in Total Complaints (Percentage)
<b>Mobile Operators</b>	77,542	87
<b>ISPs</b>	7,467	8.4
<b>Fixed Local Loop</b>	4,134	4.6
<b>Total</b>	89,143	100

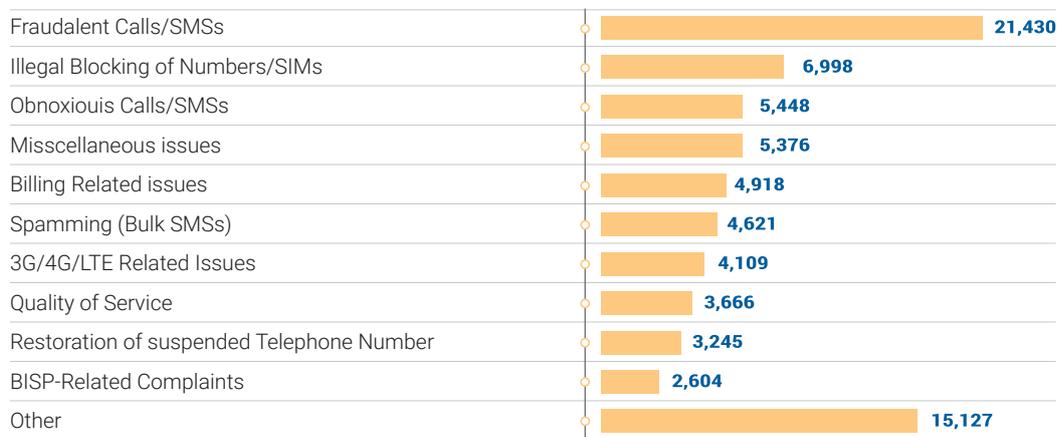
### Complaints against Major Operators (FY2020)



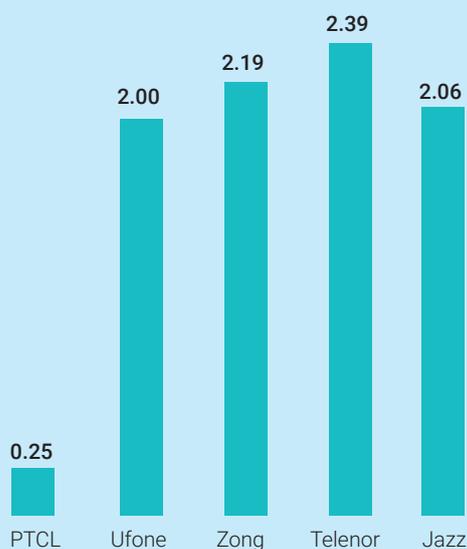
## Telecom Segment-wise Complaints (FY2020)



## Category-wise Complaints Against Mobile Operators (FY2020)



## Ratio of Complaints per 1,000 Subscribers (FY2020)



## Comparison of Complaints (FY2020)

There is a marked difference in the subscriber base of operators—ranging from 2.1 million (PTCL) to 62.8 million (Jazz). Hence, a comparison of complaints per 1,000 subscribers is an appropriate yardstick vis-à-vis operator subscriber base. Interpreted in this context, PTCL has the lowest ratio i.e., 0.25 complaints per 1,000 subscribers while CMOs have a much higher ratio. Among CMOs, Telenor has the highest ratio of complaints i.e., 2.39 per 1,000 subscribers.



## Social Media Presence

PTA enjoys an active social media presence on all three major platforms namely, Facebook, Twitter, and YouTube. During the year under review, PTA's social media presence was effectively utilized, not only to keep users and consumers informed of different telecom policies and developments but also to seek public feedback regarding regulatory decisions.

As a regular practice, PTA used its social media pages to publish its press releases and updates, public awareness messages, and informational videos highlighting its various initiatives and services. Since COVID-19 remained in the foreground during a major part of 2020, PTA worked round the clock to inform the public about interventions undertaken for their facilitation; these included measures to promote inter-connectedness; availability of discount packages offered by various telecom companies; and extension in deadlines for VPN and DIRBS registration, among others.

Moreover, PTA leveraged the social media in its public awareness campaigns regarding fraudulent SMSs, blocking of stolen IMEIs, Biometric Verification System (BVS), and grey trafficking, to name a few domains. Feedback received on PTA's social media pages also helped understand followers and feel the general pulse of public sentiment.

Social Media Presence (FY2020)		
	Facebook	Twitter
Number of Posts	263	263
Number of Replies	3,634	1,937


 @PTAofficialPK
  PTA Official\_PK



## Curbs on Unwanted Communication

Fake messages and calls have always been a cause of public annoyance and inconvenience. Alive to the situation, PTA remained committed

to fulfilling its basic functions as defined under Section 4(c) of the Pakistan Telecommunication (Re-organization) Act, 1996. PTA promulgated the Protection from Spam, Unsolicited, Fraudulent and Obnoxious Communication Regulations 2009, to promote and protect the interests of users of telecommunication services.

Despite all efforts, however, PTA continued to receive complaints relating to unsolicited messages

and calls from multiple sources including the Supreme Court, Cabinet Division, Members of the Parliament, Wafaqi Mohtasib, consumer courts, and the general public. PTA is trying its utmost to curb the menace of such unwanted communication.

In this context, a consultation paper on 'Unsolicited/ Spam Messages/Calls' was issued to telecom operators on October 31, 2019, uploaded on PTA's website, and notified in newspapers for the general public. All stakeholders were invited to submit their comments and suggestions on the recommendations proposed in the said paper. After compilation of the feedback received, amendments in relevant Regulations and SOPs are underway.

**PTA Resolved  
100% Consumer  
Complaints During  
FY2020**

**CSC Received on  
Average 38000  
Calls Per Month**

**PTA Highest  
Consumer  
Satisfaction as per  
Pakistan Citizen  
Portal (48%)**



**“PTA Utilized The  
Print and Electronic  
Media to Raise  
Public Awareness”**

- Unsolicited marketing and spamming calls and SMSs
- Obnoxious calls and SMSs.

**PTA Enjoys an Active  
Social Media Presence  
on all Three Major  
Platforms Namely,  
Facebook, Twitter,  
and YouTube.**

**CSC Services are  
Available  
7 Days a Week  
9.00 am-9.00 pm  
0800-55055**



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**05**

# **International Linkages**



## International Linkages

**W**ith Pakistan at the crossroads of digital transformation, PTA remains at the forefront of the revolution to facilitate and regulate the telecom and ICT infrastructure. The technological landscape of the world has undergone drastic changes over the last few decades; the global positioning of states is being measured by the magnitude of innovation and ICT adoption in their development agenda. This fact has become more evident after the world's dependency on digital solutions and access necessitated by COVID-19. Pakistan also made extensive efforts for the safety and security of its citizens and telecom staff, who were part of the frontline workforce that tirelessly participated in efforts to foster inter-connectedness under an emergency situation. PTA has continuously been projecting such achievements on global forums to highlight the resilience of the country's telecom sector under unprecedented circumstances. Such projection is critical to attract foreign investment, develop organizational relationships, and bring new technologies to the country.

PTA accords top priority to skill development and global engagements in order to stay abreast with technological advancements in the telecom and ICT sector. Since foreign trainings and visits were halted in 2020 due to international travel restrictions, PTA participated in virtual events and online training courses.

## Representation at Global Forums

Foreign visits and trainings provide an opportunity to showcase our telecom achievements at international forums in a bid to attract interest and investment from global entities. Moreover, PTA followed and contributed to international fora on telecom standardization and spectrum assignments, consistent with the national interests of Pakistan. Furthermore, participation in regional and global events has strengthened PTA's established organizational relationships, leading to greater collaborations and information exchange. Details of a few such engagements are discussed below.

### ■ SATRC Virtual Informal Consultation

The Chairman PTA, Maj Gen Amir Azeem Bajwa (R), attended a high-level online meeting of the SATRC Heads of Regulators on July 20, 2020 to discuss the effects of COVID-19 on implementation of the SATRC Action Plan VII. Member countries evaluated various options for utilization of digital channels to keep up with activity timelines. With general consensus, it was decided that the SATRC meeting will also be held virtually this year, and with the addition of new work items to existing portfolio of the SATRC Working Groups.

### ■ APT Web Dialogues

On June 20, 2020, APT convened a dialogue on 'Challenges for Telecom Regulators in South Asia during COVID-19.' The Chairman PTA apprised the audience of the efforts and relief measures taken by PTA; these included establishment of a COVID-19 Monitoring Cell at PTA to coordinate all activities; data sharing with frontline government departments dealing with health and safety; support allowance; passenger tracking; and ensuring network resilience, availability, and accessibility.

On May 19, 2020, APT arranged a web dialogue on COVID-19 where speakers from the Asia-Pacific region shared their efforts for provision of sustained connectivity to their citizens. PTA's Director General Licensing shared the efforts made by GoP and operators for provision of reliable connectivity amid the COVID-19 lockdown.

### ■ SAMENA Telecom Leaders' Summit

The SAMENA Telecom Council is a tri-regional, not-for-profit industry association spanning more than 25 countries in South Asia, Middle East, and North Africa, including Pakistan. Delivering the keynote speech at the opening ceremony of the high-level SAMENA Telecom Leaders' Summit, which was held on July 9, 2020, the Chairman PTA called upon the developing and least developed countries to capitalize on the technical and financial prospects of 5G through policy and regulatory harmonization and whole-of-the-government approach. Commercial deployment of this transformative technology should be precisely timed, featuring adequate spectrum resources, under favourable market conditions, and with the consensus of all stakeholders, the Chairman communicated. PTA is fully committed to the National 5G Strategy that prioritizes availability of sufficient spectrum resources, robust infrastructure, secure networks, affordable data, and legal devices.



“Participation in regional and global events has strengthened PTA's established organizational relationships, leading to greater collaborations and information exchange.”

“PTA accords top priority to skill development and global engagements in order to stay abreast with technological advancements.”

### ■ Interaction with ITU

The Chairman PTA called on Ms. Atsuko Okuda, ITU Regional Director Asia-Pacific, on May 22, 2020. He welcomed the new ITU Director and exchanged views on prospective areas of cooperation between the two organizations. Both of the dignitaries agreed to continue meaningful dialogue and mutual collaborations to strengthen the organizational relationship.

The ITU regional offices are placed under the ITU Telecom Development Bureau (BDT) that fosters international cooperation, policy and regulation, delivery of technical assistance, development projects, ICT statistics, cyber security, digital inclusion, capacity development, and emergency telecommunication, among other domains.

### ■ Meetings with GSMA Leadership

The Chairman PTA held two meetings with Mr. Julian Gorman, Head of Asia-Pacific, GSMA on October 19, 2019, and January 29, 2020. The Chairman highlighted Pakistan's achievements on the digital front and discussed areas of future collaboration with GSMA. Both PTA and GSMA agreed on fortifying of bilateral relations to attract investment, introduce latest technologies, and foster data harmonization.



PTA's Chairman Maj Gen Amir Azeem Bajwa (R) and Head of the Asia-Pacific GSMA Mr. Julian Gorman having a one-to-one discussion on areas of mutual cooperation during an interaction held in Islamabad on October 17, 2019.

### ■ ITU Global Dialogue

In collaboration with the World Bank, GSMA, and WEF, the International Telecommunication Union held a high-level dialogue on 'Joint COVID-19 Digital Action Plan' on April 21, 2020. Finance and ICT ministers, ICT regulators, as well as telecom operators and technology companies from around the world participated in the event. Senior PTA officers represented Pakistan in the dialogue, which featured discussions on immediate and medium-term actions taken to ensure that digital technologies are fully mobilized in the context of the pandemic.

### ■ CTO Forum

CTO organized a virtual forum on 'Technology, Trade and Innovation in a COVID-19 World' on June 25, 2020. The Chairman and senior officers of PTA attended the forum where innovative solutions were tabled to address the challenges posed by demands for digital connectivity in the pandemic era. A CTO report on 'Digital Connectivity and OTT Services' was also launched during the event.

## PTA-GSMA Centre of Excellence for Training

PTA has been declared as the GSMA Centre of Excellence for Regulatory Training, where free training courses on emerging topics related to telecommunications and ICTs are conducted for government representatives and policy makers from South and Central Asia. Under this program, PTA provides local host facilities while GSMA caters for tuition-free trainings, international experts, and course materials. Details of training sessions conducted during the period under review are discussed below.

### ■ Unlocking Rural Mobile Coverage

Both PTA and GSMA co-organized a day-long capacity building training course on 'Unlocking Rural Mobile Coverage' at PTA Headquarters in Islamabad on October 15, 2019. Representatives from MoITT, Cabinet Division, PTA, Pakistan Electronic Media Regulatory Authority (PEMRA), Universal Service Fund (USF), and Ignite attended the course. The training focused on expansion of mobile coverage in the rural areas, and the role of government and industry in closing the mobile broadband coverage gap.



Participants of the workshop on 'Unlocking Rural Mobile Coverage' pose with PTA's Chairman Maj Gen Amir Azeem Bajwa (R) at the close of a successful training held at PTA Headquarters in Islamabad on October 15, 2019.

Mr. Calum Handforth, Senior Insights Manager, Connected Society, GSMA, delivered the training, which enabled the participants to improve their understanding of strategies to enhance rural coverage, and innovative models to tackle challenges associated with the digital divide.

Speaking on the occasion, the Chairman PTA, Maj Gen Amir Azeem Bajwa (R), appreciated that the training added value to the knowledge and expertise of the participants. He also highlighted how PTA, alongside other stakeholders, is working to support socio-economic growth and development by bringing the power of the mobile and Internet to rural communities. The Chairman also thanked GSMA for this collaboration and assured that PTA would continue to extend all possible support for holding similar training courses and programs in the future as well.

### ■ Leveraging Mobile to Achieve SDGs

PTA and GSMA organized a two-day training course on 'Leveraging Mobile to Achieve Sustainable Development Goals (SDGs)' at PTA Headquarters in Islamabad on February 11-12, 2020.



*“PTA, alongside other stakeholders, is working to support socio-economic growth and development by bringing the power of the mobile and Internet to rural communities.”*

The course was attended by officers of the Nepal Telecom Authority (NTA), along with representatives from the Cabinet Division, MoITT, Ministry of Human Rights, National Commission on the Status of Women, Ministry of Federal Education and Professional Training (MoFEPT), State Bank of Pakistan (SBP), PTA, FAB, USF, Ignite, Pakistan Software Export Board, and Engineering Development Board.

The course offered critical insights into the impact of mobile-enabled services on sustainable development; this included the effects of expanding mobile coverage in underserved areas, and the role of government and industry in bridging the mobile broadband coverage gap.

Mr. Michael Nique, Director of Research, Mobile for Development Department, GSMA, delivered the course. Speaking on the occasion, the Chairman PTA, Maj Gen Amir Azeem Bajwa (R), stated that the course proved to be a valuable experience—one which addressed the impact of the mobile industry in achieving targets enshrined in the SDGs.

The next course titled 'Bridging the mobile gender gap' in this series of trainings is planned virtually in the first quarter of FY2021.



PTA's Chairman Maj Gen Amir Azeem Bajwa (R) with participants of a training course on 'Leveraging Mobile to Achieve SDGs,' held at PTA Headquarters in Islamabad on February 11-12, 2019.

### ■ International Trainings

The COVID-19-induced restrictions on international travel led to cancellation of major events and conferences around the world. As such, PTA shifted its focus to online trainings and events. During the period under review, its officers participated in nine online courses related to 5G, spectrum management, future technologies, network security, and QoS, etc.

Moreover, both PTA and the Asia-Pacific Network Information Center (APNIC) conducted a successful online capacity building workshop on 'CERT incident, investigation, and response' for Pakistan's telecom industry.

## Contribution to International Standardization and Reporting



International standardization and reporting, which is a consultative process headed by ITU, requires member states to make regular contributions on technical matters. Under this role, PTA submits its stance at international forums for standardization of technology and spectrum harmonization. A few such efforts are detailed below.

### ■ SATRC

SATRC is a sub-regional cooperation organization of telecommunication regulators operating under the umbrella of APT. It is a platform to discuss and coordinate mutually agreed issues related to telecom and ICT by forming working groups and organizing capacity building workshops as part of broader action plans. PTA has been an active member of SATRC, which has eight other members namely, Afghanistan, Bhutan, Sri Lanka, India, Maldives, Bangladesh, Iran, and Nepal.

The Council has formed two working groups where officers of regulatory authorities of member countries contribute as experts on different work items related to prevalent telecom and ICT challenges being faced by the region. PTA has the honour of leading the SATRC Working Group on Policy, Regulation and Services; it also contributes to the Working Group on Spectrum. Till now, PTA has completed all of its assigned tasks within the stipulated timeframe for both the working groups.

### ■ Case Study on DIRBS

In recognition of the outstanding achievements of DIRBS, a case study has been presented at the ITU-NBTC Asia-Pacific Regulators' Roundtable and also submitted to the ITU Study Group 11 responsible for development of global standards for conformance and interoperability. This revolutionary system saves government revenue, ensures use of legitimate devices on the network, prevents unfair competition, protects consumers from fraud, and supports the mobile ecosystem. Some countries intend to implement similar system to address the above challenges.

### ■ World Radiocommunication Conference

Every four years, ITU holds the World Radiocommunication Conference (WRC) to review and revise Radio Regulations, which govern the rational use of scarce resource of Wireless Frequency Spectrum and allocation of geostationary and non-geostationary satellite orbits. MoITT constituted a working group for development of National Common Proposals (NCPs) with membership of all stakeholders. PTA played an active role in the working group by submitting its views on various agenda items of WRC-19. Moreover, senior PTA officers participated in WRC-19 and shared PTA's stance on RF assignments, especially 5G spectrum.

### ■ ITU ICT Development Index

PTA is GoP's focal point that collects data from the industry, compiles it into meaningful information, and disseminates the internationally agreed telecom and ICT indicators to national and international bodies. This is an important area of work that not only helps in providing accurate and reliable data for surveys and questionnaires, but also improves the country's global position in ICT rankings. In this context, PTA contributed to the development of a new ITU ICT Development Index (IDI) that provides a monitoring tool for governments to assess how digital transformations may impact our ability to achieve the SDGs. PTA attended the meeting of the ITU Study Group and also conveyed its suggestions and comments for consideration.



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06

# Internet Governance



## Internet Governance

**T**he Internet has become the cornerstone of social, economic, academic, technological, and communication systems. It empowers marginalized communities and facilitates service delivery in an efficient and effective manner. Applications and services, coupled with super-fast connectivity and smart devices, have brought the entire world to the fingertips of users. This revolution has come about because of the inherently borderless, decentralized, and all-inclusive features of the Internet; its 'open-by-design' nature provides incredible opportunities for anyone to learn, entertain, and be entertained. It is also important to highlight that no one person, organization, or government runs the Internet; on the contrary, it is a globally inter-connected system of autonomous networks, each having its own internal policies that follow internationally agreed standards.

Any technical expert can voluntarily contribute to the development of Internet standards by following a designated process developed by the Internet Engineering Task Force (IETF). Hence, companies and innovative thinkers are using Internet as a platform to convert their revolutionary ideas into exemplary business models that become multi-billion-dollar companies. Over the period of time, tech giants have not only projected dominance over cyberspace but have also become showstoppers of global economics.

A glaring example of the power of digital technologies and Internet-based companies is the fact that in 2005, Microsoft was the only tech giant among the top eight global companies, by market capitalization. Today, there are seven tech companies in the list of top 8<sup>7</sup>. This rise of the tech tycoons has been so rapid that governments around the world are still struggling to cope with ramifications such as taxation, data protection, access gaps, cyber threats, data leaks, electronic frauds, online harassment, fake news and disinformation, etc. In order to address these challenges, the UN recommends that the evolution and use of Internet should be governed by a multi-stakeholder approach involving governments, the private sector, and civil society<sup>8</sup>.

PTA recognizes and respects the UN recommendation and follows this principle by establishing communication channels with relevant stakeholders. Over the past fiscal year, PTA consulted major stakeholders such as government departments, OTT platforms, service providers, telecom operators, civil society, and general users to shape its regulatory approach in best public interest.

## Cyber Security

The Internet infrastructure comprises a variety of critical elements that work in unison to provide reliable and robust access to the general public. However, this infrastructure is also prone to cyber-attacks and hacks, which not only endanger service continuity but may also result into financial loss for affected users. PTA has undertaken numerous initiatives to secure the national cyber space under its statutory mandate of Pakistan Telecommunication (Re-organization) Act, 1996 and PECA 2016.

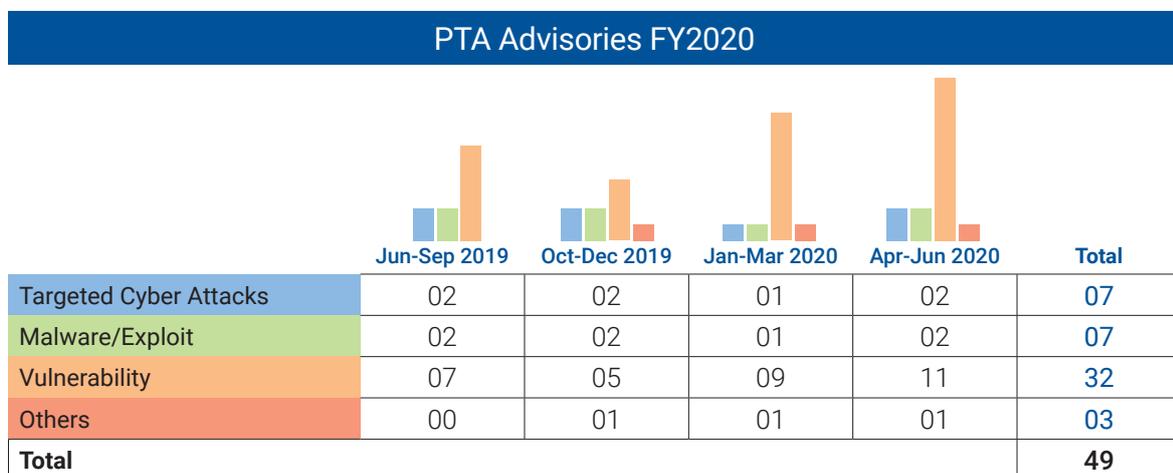
### Security Regulations

Privy to security of critical telecom data and infrastructure, PTA is developing the Critical Telecom Data and Infrastructure Security Regulations (CTDISR) which will pave the way to improve the security of Pakistan's telecom sector. Salient features of the framework are cyber security framework; physical and environmental security; monitoring; malware protection; data protection; critical telecom infrastructure management; cyber security incident management; service and cybersecurity continuity management; and confidentiality of information.

During the period under review, PTA completed the stakeholder consultation process on CTDISR, which are expected to be finalized in the second half of 2020.

### Telecom CERT

The Computer Emergency Response Team (CERT) is a group of technical experts primarily responsible to counter cyber-attacks and perform disaster



7. <https://www.statista.com/chart/22677/the-age-of-the-tech-giants/>

8. <http://www.wgig.org/docs/WGIGREPORT.pdf>

response in case of an online emergency. PTA developed a CERT framework and submitted the same to GoP for approval. PTA regularly shares security advisories with telecom operators on latest cyber threats and vulnerabilities as one of its key functionalities.

## VPN Registration and IP Whitelisting

The registration of VPNs is a mandatory requirement under Clause 6 of the Monitoring and Reconciliation of Telephony Traffic Regulations, 2010. To facilitate VPN users, public notices were periodically issued for necessary registration of VPNs through relevant service providers. A swift process has been adopted to register VPNs without any fee. Moreover, to protect legitimate service providers and their businesses, PTA posted multiple notices on its website and issued press releases for whitelisting of IP addresses. PTA worked closely with stakeholders to streamline the whitelisting process including online applications. Temporary and advance whitelisting of IP addresses was also allowed to facilitate legitimate businesses of call centers during COVID-19.

## Deployment of Internet Exchange Points

The latest trend in Internet traffic routing to achieve efficient usage of bandwidth is to keep the traffic local. The idea is to improve latency and quality of service. Most popular applications are using local cache or Content Delivery Networks (CDNs) to minimize latency issues.

An initiative for deployment of Internet Exchange Points (IXPs) was undertaken in consultation with stakeholders. In the first phase, IXP was established in Islamabad on the HEC premises, where nine operators terminated their fiber. In the second phase, with the cooperation of HEC, another IXP was established in Karachi, where eight operators terminated their fiber to share local traffic with each other.

In view of the anticipated success of the first two IXPs, PTA initiated consultations with stakeholders for the third IXP in Lahore. In this regard, APNIC is extending support through provision of necessary hardware.

## Community Protection and Awareness

PTA believes in decision making after active engagement and consultation with the general public regarding Internet issues. Key initiatives taken during the year under review in this context are discussed below.

### Online Safety of Citizens

Section 37 of PECA 2016 empowers PTA to issue directions to remove or block access to any information from any system if considered necessary in the interest of the glory of Islam or the integrity, security, or defence of Pakistan or any part thereof, public order, decency or morality, or in relation to contempt of court, or commission of or incitement to an offense under PECA.

To meet the given mandate, PTA has devised a Standard Operating Procedure (SOP) for registration of complaints on offences under PECA 2016. An online portal has been established to enable stakeholder organizations to lodge complaints according to their respective domains and scope of work. Currently, 34 stakeholders including Federal and Provincial organizations are using the said portal. PTA has also published an email address (content-complaint@pta.gov.pk) in all major newspapers of the country for public convenience. Any person can lodge a complaint regarding objectionable content over Internet. In addition, complaints can be received via PTA CMS and PM's Portal.



**PTA is striving hard to develop an effective liaison mechanism connecting all digital platforms that are providing services in the country. PTA remains committed to facilitating and supporting online platforms to excel on Pakistan's digital market canvas, while remaining compliant with local laws and societal norms.**

## Public Information

In today's age of social media and online information resources, effective communication channels have to be maintained with the general public to curb the menace of fake news and disinformation. In this regard, PTA regularly updates the Internet community about responsible use and major developments on key issues related to cyberspace. During the period under review, PTA published 14 press releases on Internet issues and released six advertisements, including an infographic on user safety to the media.

## Pakistan School on Internet Governance

The Pakistan School on Internet Governance (pkSIG) aims to educate the community regarding latest trends, issues, procedures and processes in national, regional and global Internet Governance (IG). The annual school features a rich mix of comprehensive and structured knowledge on various aspects of IG, as well as the players,

issues and settings surrounding it. PTA is among the founding organizations of the school since its inception in 2015, and currently manages its secretariat along with Internet Society Pakistan Islamabad Chapter, a civil society organization.

The fifth edition of pkSIG was held at the National Incubation Centre (NIC), Quetta, from August 21-23, 2019. A total of 60 participants (33% females) and 15 speakers participated in the school. The program featured lectures and discussions covering political, legal, economic, socio-cultural, technological, and other dimensions of Internet Governance. Mr. Tariq Qamar Baloch, Secretary IT, Government of Balochistan, presided over the closing ceremony and distributed shields and certificates among participants.

## Internet Legislations and Frameworks

States around the world have developed legal instruments to promote open and secure use of Internet and to protect citizens from undesirable online experiences. Responding to the need for Internet legislation in Pakistan, PTA is in the process of developing legal frameworks including the following.

## OTT Regulatory Framework

According to the Telecom Policy 2015, PTA is mandated to develop a regulatory framework for VoIP and other OTT services that partially or fully substitute traditional licensed telecommunication services. In line with international best practices and provisions of the said policy, PTA initiated a consultation process with different stakeholders including licensed operators, OTT service providers (Google and Facebook) and Law Enforcement Agencies (LEAs) on the subject. As such, the draft regulatory framework will be developed in the light of feedback received from stakeholders.



Participants of the Pakistan School on Internet Governance posed for a group photograph taken at the National Incubation Centre, Quetta, where the school's fifth edition was held from August 21-23.

## Citizens Protection (Against Online Harm) Rules, 2020

To exercise the power of blocking or removing unlawful online content under Section 37(1) of PECA 2016, PTA is mandated to prescribe Rules under Section 37(2) which, among other matters, shall provide for safeguards, a transparent process, and an effective oversight mechanism (herein referred to as 'CP Rules').

Prior to notification of the CP Rules, the Prime Minister constituted a consultation committee that convened a broad-based consultation with all stakeholders to develop consensus on the said rules. The participants comprised representatives of the civil society, human and digital rights groups, social media platforms (technology companies), and the media, among others. Constructive inputs were received to address existing concerns. On the basis of feedback, and in the light of legal provisions and in-house discussions, the CP Rules have been revised and submitted to GoP for necessary approval.



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07

Way Forward



## Way Forward

**W**ith the continuous patronage of successive governments, PTA—along with other telecom players—has transformed Pakistan’s telecommunication sector into an advanced broadband and digital service provider, thereby contributing to overall economic growth and development. During the year under review, PTA, as a 4th Generation Regulator, continued its pursuit for development of the sector by facilitating necessary frameworks for advanced technologies (LTE advanced and 5G), OTT, IoT, license renewals, and local manufacturing of mobile handsets. To provide safe Internet experience and to protect the interests of telecom users, PTA also pursued extraordinary engagements with international platforms, and will continue to perform its duties in greater national interest.

The COVID-19 pandemic has demonstrated the critical importance of telecommunications and ICT in the continuation of businesses, governments, and education in the wake of historic lockdowns and movement restrictions. PTA feels increasingly responsible to further unleash the potential of the telecom sector through continuous endeavours to achieve betterment in the regulatory frameworks for advanced technologies, facilitate existing players and new investors, promote ease of doing business, and create new linkages of the telecom industry with the rest of the economy to enhance the dividends of digitalization.

## Supporting Digital Pakistan Initiative

The 'Digital Pakistan Vision' launched by the Prime Minister in December 2019 provides a comprehensive plan for the development of digital ecosystem in the country. To execute and facilitate the initiative, PTA is committed to working with all relevant public and private stakeholders on the vision's key strategic pillars namely, enhancing connectivity, improving the digital infrastructure, increasing digital skills, and promoting innovations. To this end, PTA aims to provide Internet access to all Pakistanis, particularly in underserved areas, through rollout obligations and facilitation for investments in the digital and broadband infrastructure. PTA has adopted a holistic approach for early launch of 5G services through measures such as timely issuance of test and trial framework, identification and availability of required spectrum, enhancement of QoS benchmarks, and local manufacturing of low-cost handset ecosystem, among others. PTA will continue its struggle towards a digitally progressive Pakistan and make the country a preferred digital market where job opportunities are available to digitally skilled young population segment.

## Spectrum Availability

In line with the Digital Pakistan initiative and Telecom Policy 2015, PTA is continuously engaging with relevant stakeholders for availability of spectrum, which is a critical resource for broadband proliferation. GoP has already constituted a committee to steer the task for adequate spectrum availability. Accordingly, PTA has geared up to hire international consultants for market valuation and auction of spectrum in 1800 MHz and 2100 MHz in Pakistan including AJK and GB. The availability of additional spectrum in 1800 MHz will also enable operators to expand their existing 4G operations and transition to advance technologies. PTA is aiming for auctions of spectrum for proliferation of LTE and VoLTE Services in FY 2021 and 5G services in FY 2023. Furthermore, it has also planned for re-farming of spectrum allocated to WLL operators, which will also make additional spectrum available for 5G services.

*“PTA is aiming for auctions of spectrum for proliferation of LTE, VoLTE, Services in FY 2021 and 5G services in FY 2023.”*

## Fiberization

Connectivity and broadband service provision through fiber is considered most reliable, secure, and best in terms of quality BB services. Generally, fixed networks provide services via fiber which are important in the wake of digital economy, high speed demand, and forthcoming 5G services. PTA is already working on expansion of fiberization across the country and has engaged with GoP for provision of incentives for local manufacturing of fiber to meet growing demand. PTA is also encouraging mobile operators to connect the backhaul infrastructure on fiber links for better throughput. The new licensing framework will also ensure that investments in the optic fiber infrastructure are encouraged; PTA will provide all possible facilitation including incentives and ease of business such as speedy and less costly provision of RoW.

## Broadband Proliferation

PTA will define doable national broadband targets along with roadmaps by engaging with relevant stakeholders. These targets will be supported by the provision of ecosystem for the expansion of LTE, VoLTE, and 5G services through fiberization, review of QoS parameters, RoW facilitation to operators, sufficient availability of spectrum resources, enhanced international connectivity for additional bandwidth, and local manufacturing of affordable handsets, among others.

## Mobile Device Manufacturing

Pakistan is one of the fastest growing mobile handset markets in the region. With a population of over 220 million and 167 million mobile subscribers, the country offers enormous opportunities for international manufacturers to establish their assembly and manufacturing units. Comprehensive Mobile Manufacturing Policy 2020, coupled with an expanding domestic market and successful launch of DIRBS, provide the required ecosystem for local manufacturing. Due to the availability of a level playing field, more than 29 companies have already established their local assembly plants, leading to production of over 17 million handsets. PTA will continue to make tireless efforts for successful implementation of the policy and facilitation of leading mobile manufacturers to take a start in Pakistan. Samsung and Huawei have already expressed their interest in Pakistan's fast-growing mobile handset market.

*“PTA has geared up to hire international consultants for market valuation and auction of spectrum in 1800 MHz and 2100 MHz in Pakistan including AJK and GB.”*

## International Rankings

Pakistan's ranking as 4<sup>th</sup> Generation Regulator by ITU is a recognition of the rapid evolution of ICT regulations in the country and a move towards collaborative regulations. Pakistan is the only country in South Asia to have achieved G4 rank. In future, PTA will continue to strive for ITU's G5 regulator status by focusing on collaborative and cross-sector regulations that leverage digital transformation for the benefit of the people of Pakistan.

PTA is also collaborating with ITU and GSMA on ICT country rankings to be more reflective of actual ICT developments taking place in the developing countries including Pakistan. In this regard, PTA has recommended inclusion of relevant indicators in the compilation of ICT rankings.

## Effective Internet Governance

While Internet provides unlimited opportunities to marginalized communities, its borderless and decentralized nature has resulted in largescale disruptive technologies, an interconnected system of autonomous platforms, and dominance of giant tech firms. Governments around the world are struggling with allied issues including cyber threats, data protection, disinformation, etc. Therefore, in line with UN recommendations, PTA has adopted a multi-stakeholder approach for IG by involving service providers, OTT players, and the civil society. PTA will also finalize CTDISR to improve the framework on cyber security. Regulatory frameworks for VoIP and OTT services in Pakistan will soon be in place. Moreover, PTA will continue to pursue initiatives and transparent engagements with stakeholders to secure the national cyber space and protect the interests of users while providing a secure and investment-friendly environment for international players.

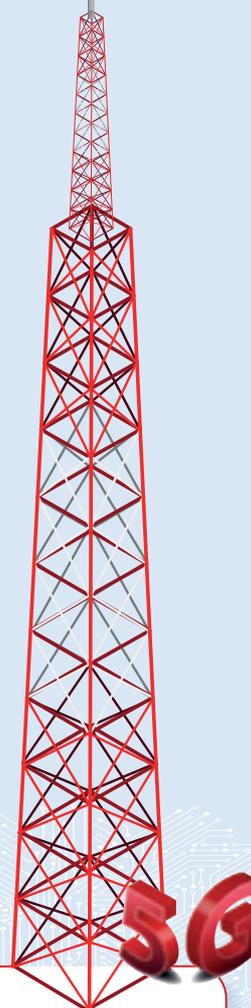
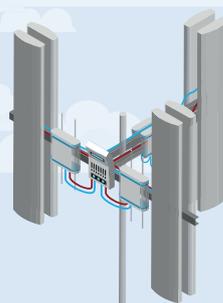
## Preparing for 5G

The demand for mobile broadband will continue to increase, leading to enhanced mobile broadband. Large contiguous bandwidth availability will be worked out and rollout for 5G will be prioritized and facilitated. For the success of 5G, multi-sectored participation at the government level and involvement of verticals will be engaged to bring a positive impact on all sectors of the economy while improving socio-economic conditions.

The foremost task with regulators is to figure out the changes required on the licensing and regulatory regime to not only permit or support but also facilitate the proliferation of new services and use cases. There should not be any regulatory or licensing barrier on the path for adoption of newer and better technologies; rather, the regulation and licensing framework should be an enabler in fostering newer technologies. The combined efforts of industry players and regulators to align various related aspects such as standards, technology, spectrum, security, and RoW will be essential for timely rollout of services.

GoP is developing a comprehensive roadmap for 5G technology readiness in the country. The roadmap will feature formulation of working groups of 5G Spectrum Management, Telecom Infrastructure Development, Telecom Regulations Review including health and safety, 5G Applications and use cases. It will also define and recommend measures to meet the national broadband targets and to involve all stakeholders in efforts to develop recommendations, identify practical use cases, and propose the way forward for key enablers and inhibitors vis-à-vis relevant 5G eco-system readiness. GoP and PTA will publish a Spectrum Master Plan and a Spectrum Rolling Strategy to enable operators to plan their investments in a more efficient manner. Together, GoP and PTA will need to create an environment that encourages creativity and innovation so that large and small businesses can explore the possibilities created by 5G.

Governments and regulators around the world are working to realize the potential of 5G services. Pakistan has already tested 5G on all CMO networks; however, its commercial launch requires sufficient amount of harmonized 5G spectrum and low-cost devices to enable fastest 5G speeds. The decisions that regulators face around 5G spectrum are complex and have a major impact on QoS and use cases that can be supported.





## Quality of Service

While introducing advance technologies in the sector, provision of best QoS remains high on PTA's agenda. PTA is making dedicated efforts to ensure that consumers get best quality services as per benchmarks set by the regulator as well as the published claims of operators against a service. Towards this commitment, PTA has acquired state-of-the-art QoS monitoring equipment to conduct dynamic surveys to maintain a continuous check on the quality of traditional voice and SMS as well as high-speed data and broadband services. Moreover, future QoS surveys will cover VoLTE and 5G services as well. In addition, PTA will enhance the minimum benchmarks of data quality through QoS regulations and additional QoS rollout obligations during the license renewal process and issuance of new license awards.





## Annexes



**PAKISTAN TELECOMMUNICATION AUTHORITY  
INCOME AND EXPENDITURE STATEMENT  
FOR THE YEAR ENDED JUNE 30, 2020**

	Note	2020 Rupees	2019 Rupees
<b>Revenue</b>	<b>21</b>	<b>134,854,507,274</b>	12,768,441,051
<b>Expenditure</b>			
General and administrative expenses	22	1,799,284,723	1,672,731,041
Provision for doubtful fee receivable	16.3	101,754,141	49,050,496
Audit fee		800,000	840,000
Financial charges	23	5,035,792	8,744
		<u>(1,906,874,656)</u>	<u>(1,722,630,281)</u>
		<b>132,947,632,618</b>	11,045,810,770
Other income	24	7,261,549,541	1,535,051,457
Provision for tax refund due from government	19	-	(5,636,596,438)
Surplus for the year before taxation		<u>140,209,182,159</u>	<u>6,944,265,789</u>
Less: Provision for taxation	25	(989,771,697)	(1,356,123,619)
Net surplus for the year transferred to due to Federal Consolidated Fund		<u><u>139,219,410,462</u></u>	<u><u>5,588,142,170</u></u>

The annexed notes 1 to 30 form an integral part of these financial statements.

\_\_\_\_\_  
CHAIRMAN

\_\_\_\_\_  
MEMBER (FINANCE)

**PAKISTAN TELECOMMUNICATION AUTHORITY  
STATEMENT OF CASH FLOWS  
FOR THE YEAR ENDED JUNE 30, 2020**

	Note	2020 Rupees	2019 Rupees
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
<b>Surplus for the year before taxation</b>		<b>140,209,182,159</b>	6,944,265,789
Adjustments for:			
Depreciation	11	60,423,129	46,609,737
Amortization of intangible asset		146,914	653,727
Depreciation on right of use asset		11,050,579	
Finance cost on lease liabilities		5,030,877	
Provision/(reversal of provision) for			
- accumulating compensated absences		1,449,744	1,477,611
- employee's gratuity scheme obligation		125,916,751	122,559,974
- pension obligation		85,695,342	102,647,343
- post retirement medical benefit		59,987,178	144,520,014
- doubtful fee receivable	16.3	101,754,141	49,050,496
Profit on bank deposits	24	(883,462,842)	(291,583,437)
Markup on NGMS license	24	(708,418,220)	(1,205,329,203)
Mark-up on license renewal	24	(5,648,388,903)	
Gain on sale of property and equipment	24	(241,828)	(20,857,594)
		<b>133,420,125,021</b>	5,894,014,457
<b>Changes in working capital</b>			
Decrease/(Increase) in current assets			
Fees receivable		(111,756,639)	(26,015,699)
Advances, deposits, prepayments and other receivable		6,300,928	4,236,676
Receivable from operators on behalf of AJK and GB Council		-	7,560,629
Increase/(decrease) in current liabilities			
Unearned revenue		-	-
Accrued and other liabilities		165,114,611	254,852,058
Payable to AJK & GB Council		233,703,728	63,725,453
		<b>293,362,628</b>	304,359,117
<b>Cash generated from operations</b>		<b>133,713,487,649</b>	6,198,373,574
Contributory provident fund payable		48,318,590	48,786,119
Receivable from operators on behalf of AJK and GB Council - net		(655,043)	6,214,438
Loans and advances		(90,790,789)	(36,321,495)
Income taxes paid		(691,985,433)	(2,005,113,131)
Pension paid		(1,449,744)	(1,477,611)
Gratuity, accumulating compensated absences and post retirement medical benefits paid		(78,568,077)	(75,626,697)
<b>Net cash generated from operating activities</b>		<b>132,898,357,153</b>	4,134,835,197
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Purchases of property and equipment		(85,194,260)	(62,199,872)
Purchases of Intangibles		(35,000)	(4,190,235)
Profit on bank deposits received		808,058,180	608,915,154
Markup on ISF of NGMS License received		1,106,812,498	1,039,396,972
Mark-up on license renewal received		3,992,624,185	-
Lease liabilities paid		(14,818,704)	-
Proceeds from sale of property and equipment		252,688	21,071,120
<b>Net cash generated from investing activities</b>		<b>5,807,699,587</b>	1,602,993,139
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Contribution to Federal Consolidated Fund (FCF):			
- Payment made to Frequency Allocation Board		(804,071,647)	(764,111,202)
- Transfers made to FCF		(132,278,336,310)	(17,377,627,628)
- Federal excise duty paid / adjusted during the year		(6,200,000,000)	-
- Balance transferred to FCF from Public account		-	(808,991,324)
Movement in Public Account		-	6,506,794,246
<b>Net cash used in financing activities</b>		<b>(139,282,407,957)</b>	(12,443,935,908)
<b>Net (decrease)/ increase in cash and cash equivalents</b>		<b>(576,351,217)</b>	(6,706,107,572)
Cash and cash equivalents at beginning of the year		4,109,005,833	10,815,113,405
<b>Cash and cash equivalents at end of the year</b>	20	<b>3,532,654,616</b>	4,109,005,833

The annexed notes 1 to 30 form an integral part of these financial statements.

CHAIRMAN

MEMBER (FINANCE)

## 2. Telecom Licenses Awarded (FY2020)

Service	Licenses Issued
Long Distance and International Services	01
Local Loop Services	02
Telecom Infrastructure Provider	02
Telecom Tower Provider	03
Class Value Added Licenses	42
Class Value Added Licenses Registration	12

## 3. Radio-based Services Licenses Awarded (FY2020)

Service	Licenses Issued
Wireless HF VHF UHF	35
Aircraft	11
Inmarsat	02

## 4. Commencement of Service Certificates Issued (FY2020)

License Type	Commencement Certificates Issued
Long Distance and International Services	02
Local Loop Services	18
Telecom Infrastructure Provider	01
Class Value Added Licenses	70

## 5. Telecom Contribution to Exchequer (PKR Billion)

Period	GST	PTA Deposits	Others	Total
2016-17	43.8	39.7	80.9	164.4
2017-18	52.8	22.3	74.0	149.1
2018-19 (R)	23.1	26.0	72.8	121.9
2019-20 (E)	41.5	141.1	95.8	278.4

(R)= Revised (E)= Estimated

## 6. GST by Major Operators (PKR Million)

CMOs	2016-17	2017-18	2018-19 (R)	2019-20 (E)
Jazz	12,670	17,189	3,277	7,415
Ufone	7,095	8,648	2,064	10,155
Zong	4,577	6,682	4,330	5,609
Telenor	7,639	9,696	1,470	5,196
Warid	1,454	-	-	-
PTCL	7,148	9,307	10,611	10,578
Total	40,583	51,522	21,752	38,953

(R)= Revised (E)= Estimated

## 7. Other Taxes by Telecom Industry (PKR Million)

	2016-17	2017-18	2018-19 (R)	2019-20 (E)
Cellular	60,801	55,196	50,238	77,615
LL	18,574	18,039	21,537	17,171
LDI	1,521	7,779	997	1,004
<b>Total</b>	<b>80,897</b>	<b>74,013</b>	<b>72,772</b>	<b>95,789</b>

## 8. FDI in Telecom (US\$ Million)

		FDI in Telecom	Total FDI	Telecom Share in Total FDI (%)
2016-17	Inflow	116.6	3,435.0	3.4
	Outflow	207.4	704.2	29.5
	Net FDI	(90.8)	2,730.8	(3.33)
2017-18	Inflow	288.5	3,794.7	7.6
	Outflow	188.40	702.7	26.8
	Net FDI	100.1	3,092.0	3.2
2018-19	Inflow	235.5	3,160.0	7.5
	Outflow	313.1	1,422.8	22.01
	Net FDI	(-77.6)	1,737.1	(-4.5)
2019-20	Inflow	763.3	3,285.8	23.2
	Outflow	140.8	724.6	19.4
	Net FDI	622.5	2,561.2	24.3

## 9. Investment by Sector (US\$ Million)

	2016-17	2017-18	2018-19 (R)	2019-20 (E)
Cellular	801.9	568.1	412.0	567.8
LDI	16.6	24.6	19.1	30.2
LL	153.2	199.9	210.9	135.5
<b>Total</b>	<b>971.7</b>	<b>792.6</b>	<b>642.0</b>	<b>733.5</b>

## 10. Investment by Major Operators (US\$ Million)

	2016-17	2017-18	2018-19 (R)	2019-20 (E)
Jazz	442.9	297.4	148.0	208.2
Ufone	153.0	112.2	90.7	130.1
Telenor	196.7	153.0	167.4	229.6
Warid	17.4	-	-	-
PTCL	135.5	76.2	206.7	135.5
<b>Total</b>	<b>810.0</b>	<b>638.7</b>	<b>612.8</b>	<b>703.3</b>

(R)= Revised (E)= Estimated

11. Cellular Mobile Subscribers				
CMOs	2016-17	2017-18	2018-19	2019-20
Jazz	52,470,638	55,469,118	59,470,721	62,808,245
Ufone	18,397,981	20,314,686	22,616,449	22,323,713
Zong	28,084,677	30,890,633	34,713,311	36,712,560
Telenor	40,804,820	43,564,216	44,221,147	45,424,353
<b>Total</b>	139,758,116	150,238,653	161,021,628	167,268,871

12. FLL and WLL Subscribers (Million)				
Subscribers	2016-17	2017-18	2018-19	2019-20
FLL	2.66	2.59	2.47	2.35
WLL	0.29	0.28	0.06	0.06
<b>Total</b>	2.95	2.87	2.53	2.41

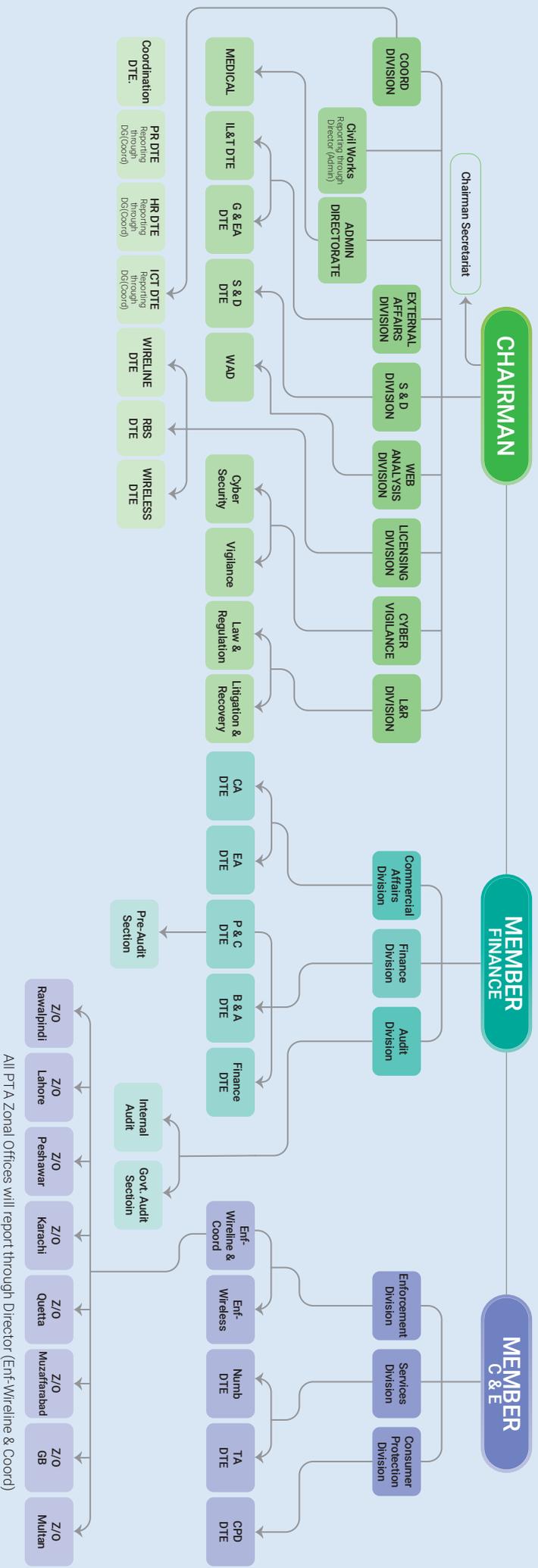
13. Cell Sites					
CMOs		2016-17	2017-18	2018-19	2019-20
Jazz	2G/Total	12,203	12,197	12,331	12,776
	3G	7,176	8,953	9,445	11,009
	4G	1,809	5,096	8,723	10,140
Ufone	2G/Total	8,675	8,806	9,064	9,313
	3G	4,988	5,781	6,761	77,35
	4G	-	-	1,215	3,397
Zong	2G/Total	9,105	10,123	11,836	12,685
	3G	7,872	9,587	11,501	12,159
	4G	7,322	9,401	11,346	12,067
Telenor	2G/Total	10,643	10,773	11,688	12,177
	3G	8,208	8,570	10,378	11,195
	4G	2,978	5,493	9,217	10,996
<b>Total</b>	2G/Total	40,626	41,899	44,919	46,950
	3G	28,244	32,891	38,085	42,098
	4G	12,109	19,990	30,501	36,600

Note: Total cell sites are represented as 2G cell sites only

## 14. Digital Financial Indicators (Calendar Year)

Indicators	2015	2016	2017	2018	2019	2020 (Jan-Sept.)
No. of Mobile Wallet (BB) Agents	301,823	359,806	405,673	425,199	437,182	461,953
No. of Active BB Agents	232,637	210,581	192,741	177,350	189,991	191,035
No. of mobile wallet accounts	15,322,171	19,964,900	37,260,215	47,164,779	46,103,017	58,137,695
Deposits as on Quarter End (PKR Million)	8,827	11,717	21,139	23,678	28,770	41,870
No. of Transactions (Thousands)	374,541	478,481	647,615	901,519	1,309,254	1,265,905
Value of Transactions (PKR Million)	1,872,451	2,169,541	2,804,008	3,668,812	4,504,780	4,716,457
Average Size of Transactions (PKR)	4,992	4,539	4,317	4,069	3,445	3,707
Average Daily Transactions	1,040,391	1,329,113	1,798,929	2,504,220	3,636,813	4,688,537
Average Deposit in Accounts	699	706	452	502	649	693
Active Accounts	6,241,579	9,799,620	19,259,427	19,785,502	24,529,731	31,162,780

Source: State Bank of Pakistan



All PTA Zonal Offices will report through Director (Enf-Wireline & Coord)







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