**PTA** | Pakistan Telecommunication Authority

# Celebrating
# 200
## Million
## Telecom Subscribers

www.pta.gov.pk

# Annual Report
# 2025

## Acknowledgment

In presenting its Annual Report 2025, the Pakistan Telecommunication Authority (PTA) profoundly appreciates the Ministry of Information Technology and Telecommunication (MoITT) for its steadfast support and guidance in advancing Pakistan's digital progress. Our close partnership with telecom operators remains central to this progress; their commitment to quality and innovation continues to ensure the provision of reliable services to the people of Pakistan. We thank them for sharing their activities and contributions to the sector. Equal appreciation is extended to our international partners, whose technical expertise and collaborative spirit have helped align Pakistan's telecom sector with global benchmarks. PTA is also deeply grateful to the people of Pakistan—your trust inspires us to achieve new milestones year after year.

The achievements highlighted in this report are a result of the unwavering dedication of the PTA team, whose tireless efforts have turned commitments into reality. The invaluable guidance of the Members of the Authority, led by Chairman PTA, Major General (R) Hafeez Ur Rehman, has been a source of inspiration throughout the preparation of this flagship report.

The report has been meticulously compiled by the Economic Affairs Directorate, led by Director General, Commercial Affairs, Aadil Umar Khalil. Contributing authors of the report included Director, Economic Affairs, Malahat Obaid; Director, Commercial Affairs, Dr. Shahbaz Nasir; Director, International Training and Liaison, Kashif Elahi Bhatti; Director, Consumer Protection, Syed Imtiaz Hussain Naqvi; Deputy Director, Economic Affairs, Altaf Ahmed Memon; Deputy Director, Admin, Abdul Rehman; Assistant Director, Strategy and Development, Farhan Khan; Assistant Director, Enforcement, Umera Asmat Rana; Assistant Director, Cyber Security, Waleed Ahmed; Assistant Director, Satellite, Azhar Ali; and Assistant Directors I, II, and III, Economic Affairs, Muhammad Riaz, Shahid Naveed, and Saad Zafar, respectively. Ayesha Ayub, Seema Rashid, and Muhammad Faizan-Ur-Rehman of the Economic Affairs Directorate played a key role in data collection, quality assurance, and provision of secretarial support.

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# Vision

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

**PTA**

# Contents

## 01

## 02

## 03

## 04

# Acronyms

| | |
|---|---|
| **ADB** | Asian Development Bank |
| **AJ&K** | Azad Jammu and Kashmir |
| **APC** | Access Promotion Contribution |
| **APNIC** | Asia-Pacific Network Information Centre |
| **APT** | Advanced Persistent Threat |
| **ARPU** | Average Revenue Per User |
| **BISP** | Benazir Income Support Programme |
| **BTS** | Base Transceiver Station |
| **BVS** | Biometric Verification System |
| **CCC** | Community-Centered Connectivity |
| **CERT** | Computer Emergency Response Team |
| **CMO** | Cellular Mobile Operator |
| **CMS** | Complaint Management System |
| **CNIC** | Computerized National Identity Card |
| **COP** | Child Online Protection |
| **CSC** | Consumer Support Center |
| **CTDISR** | Critical Telecom Data and Infrastructure Security Regulations |
| **CVAS** | Class Value-Added Services |
| **DIRBS** | Device Identification, Registration and Blocking System |
| **DDoS** | Distributed Denial-of-Service |

| | |
|---|---|
| **DNS** | Domain Name System |
| **DNSSEC** | Domain Name System Security Extensions |
| **EGDI** | E-Government Development Index |
| **FAB** | Frequency Allocation Board |
| **FLL** | Fixed Local Loop |
| **FY** | Fiscal Year |
| **GB** | Gilgit-Baltistan |
| **GDIP** | Global Digital Inclusion Partnership |
| **GSMA** | Global System for Mobile Communication Association |
| **GST** | General Sales Tax |
| **HEC** | Higher Education Commission |
| **ICANN** | Internet Corporation for Assigned Names and Numbers |
| **ICT** | Information and Communication Technology |
| **IGF** | Internet Governance Forum |
| **IMEI** | International Mobile Equipment Identity |
| **IoT** | Internet-of-Things |
| **ISP** | Internet Service Provider |
| **ITU** | International Telecommunication Union |
| **IXPs** | Internet Exchange Points |
| **KPI** | Key Performance Indicators |

| | | | |
|---|---|---|---|
| **LDI** | Long Distance and International | **PSW** | Pakistan Single Window |
| **LPWAN** | Low Power Wide Area Network | **PTA** | Pakistan Telecommunication Authority |
| **LSDS** | Lost and Stolen Device System | **PTCL** | Pakistan Telecommunication Company Limited |
| **MCMC** | Malaysian Communications and Multimedia Commission | **PWDs** | Persons with Disabilities |
| **MDM** | Mobile Device Manufacturing | **QoS** | Quality of Service |
| **MDMEP** | Mobile Device Manufacturing and Export Policy | **RBS** | Radio-Based Services |
| **MoITT** | Ministry of Information Technology and Telecommunication | **SAP** | Systems, Applications, and Products |
| **MoU** | Memorandum of Understanding | **SATRC** | South Asian Telecommunication Regulators' Council |
| **MWC** | Mobile World Congress | **SCO** | Special Communications Organization |
| **NADRA** | National Database and Registration Authority | **Tbps** | Terabits per seconds |
| **nCERT** | National Computer Emergency Response Team | **TIP** | Telecom Infrastructure Provider |
| **NCRC** | National Commission on the Rights of Child | **TTP** | Telecommunication Tower Provider |
| **NCSW** | National Commission on the Status of Women | **TWA** | Transworld Associates |
| **NETCC** | National Emergency Telecommunication Coordination Centre | **UNESCO** | United Nations Educational, Scientific and Cultural Organization |
| **nTSOC** | National Telecom Security Operations Center | **UNICEF** | United Nations International Children's Fund |
| **OASIS** | Online Application Submission and Information System | **USF** | Universal Service Fund |
| **OFC** | Opitcal Fiber Cable | **VPN** | Virtual Private Network |
| **OTP** | One-Time Password | **WHT** | Withholding Tax |
| **Pb** | Petabytes | **WLAN** | Wireless Local Area Network |
| **PCP** | Pakistan Citizen's Portal | **WLL** | Wireless Local Loop |

# The Authority

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

**Major General (R)
Hafeez Ur Rehman, HI (M), SI**
Chairman

**Mr. Muhammad Naveed**
Member—Finance

# Chairman's Message

The year 2025 marked a decisive phase in Pakistan's digital trajectory. The telecom sector expanded in scale and maintained its resilience under pressure. Guided by the Pakistan Telecommunication Authority (PTA), networks withstood natural disasters and regional tensions, cybersecurity framework matured, and preparations for next-generation connectivity accelerated. Key reforms focused on spectrum management, infrastructure expansion, consumer satisfaction, device security, and institutional modernization.

The nation celebrated landmark achievements in June 2025. Telecom subscriptions crossed 200 million; broadband subscriptions stood at 150 million; and Fiber-To-The-Home users reached 2 million—milestones that reflected sectoral growth, rising digital adoption, and a commitment to affordable and reliable connectivity. Collectively, these developments laid the foundation for a more secure, inclusive, and future-ready digital ecosystem.

During FY 2024-25, Pakistan's telecom sector set a historic record by surpassing the PKR 1 trillion revenue mark. Investments exceeded US$ 800 million, reflecting steady growth and investor confidence, while fiscal contributions rose to PKR 402 billion, reinforcing the sector's role as a key driver of the economy. These achievements illustrate the sector's stable financial performance and its growing importance in Pakistan's economic landscape.

At the same time, PTA advanced preparations for next-generation connectivity. Spectrum bands were identified, technical trials completed by all mobile operators, and auction preparations progressed, positioning Pakistan for the secure launch of 5G services. In parallel, framework for satellite broadband was developed that will extend connectivity to underserved regions, reducing geographical barriers to inclusion.

Pakistan made remarkable progress in digital inclusion, with the GSMA recognizing it as the top-performing country worldwide in narrowing the gender gap in Internet use. The mobile Internet gender gap declined sharply from 38% in 2023 to 25% in 2024, driven by a notable rise in the proportion of women using mobile Internet—from 33% in 2023 to 45% in 2024.

Consumer empowerment remained central to PTA's mandate. Campaigns on online safety, fraud prevention, and lawful SIM usage promoted responsible digital citizenship. Consumer confidence continued to strengthen, with satisfaction levels reaching 65% for complaint resolution. Total grievances declined by 13%, as PTA received and resolved 169,860 complaints under close regulatory oversight.

The floods of 2025 put PTA's emergency response capabilities to the test, highlighting its ability to maintain continuity of services during national crises. We responded by activating the National Emergency Telecom Coordination Center for real-time monitoring and coordinating with operators to ensure the provision of free calls and SMS in affected areas. Networks were rapidly restored, ensuring that even the hardest-hit communities remained connected. Similarly, during the April-May 2025 escalation with India, PTA acted decisively to safeguard digital sovereignty, maintain uninterrupted services, and counter large-scale disinformation campaigns.

Looking ahead, PTA's strategy rests on seven priorities. First, embedding innovation in regulatory practice to keep frameworks future-ready. Second, strengthening institutional capacity in skills, processes, and structures. Third, leveraging data-driven systems for regulatory excellence. Fourth, expanding cybersecurity, spectrum, and digital trade. Fifth, advancing collaborative governance with stakeholders. Sixth, prioritizing a human-centric digital future that empowers individuals, safeguards rights, and reduces socio-economic disparities. Seventh, enhancing consumer satisfaction through responsive regulation.

Guided by this vision, PTA extends deepest appreciation to its partners, including the Government of Pakistan, the Ministry of Information Technology and Telecommunication, and all stakeholders for their continued support in this journey. I am particularly impressed by the dedication of my team, whose tireless efforts have been central to our progress. Together, we are shaping not only a resilient telecom sector but also a digital future that advances opportunity, safeguards national interests, and fulfills the aspirations of our people.

**Major General (R) Hafeez Ur Rehman, HI (M), SI**
Chairman

# Executive Summary

The telecom sector consolidated its position as a strategic pillar of national growth and security in 2024-25, accelerating Pakistan's transition to a digital economy. The industry recorded unprecedented gains in coverage, capacity, and resilience, with forward-looking regulation and innovation driving progress towards a future-ready ecosystem. Subscriber growth, infrastructure expansion, and service improvements delivered notable outcomes. Nationwide network assessments confirmed compliance with Quality of Service (QoS) benchmarks and increase in data usage, reflecting affordability and growing reliance on mobile broadband.

# Celebrating
## 200 Million
## Telecom Subscribers

Over the period under review, Pakistan attained the 200-million telecom subscribers milestone, including over 150 million broadband subscriptions. Population coverage surpassed 92%, with over 60% of the population using broadband services. Connectivity was supported by six submarine cable systems, one terrestrial cable link, over 58,423 cell sites, 27,727 (Petabytes) data usage, and 32.7 million (est.) locally manufactured devices. Together with strengthened cybersecurity, improved QoS, amplified access, active stakeholder and public outreach, and the introduction of new services and licenses, these advances highlighted the sector's resilience and positioned Pakistan as a leader in digital inclusion in South Asia.

| **58,423** | **27,727 Pb** | **32.7 Million (est.)** |
|:---:|:---:|:---:|
| Total Cell Sites | Data Usage | Locally Manufactured Devices |

Despite economic challenges, the telecom industry demonstrated financial stability and resilience during Fiscal Year (FY) 2024-25. Revenues crossed the PKR 1 trillion threshold, up from PKR 957 billion the previous year. Fiscal contributions to the national exchequer increased by 20%, reaching PKR 402 billion. Cellular Mobile Operators (CMOs) remained major GST contributors at PKR 74.6 billion. Investments also strengthened, with CMOs reporting higher capital expenditure and overall sectoral investments reaching US$ 838 million. With rising revenues and a sustained shift towards broadband, the mobile Average Revenue Per User (ARPU) stood at PKR 306, maintaining a stable growth trend. These outcomes reflect the sector's capacity to generate economic value, attract investment and support fiscal stability.

## Financial Highlights

### Revenue
**PKR 1.07 Trillion**
Up from PKR 957 Billion
in FY 2023-24
**+12% Growth**

### ARPU (Mobile)
**PKR 306**
Up from PKR 270
in FY 2023-24
**+13% Growth**

### Investments
**US$ 838 Million**
Up from US$ 766 Million
in FY 2023-24
**+9% Growth**

### Contributions to National Exchequer—in Billions

| | |
|:---|---:|
| GST | 108 |
| PTA Deposits | 43 |
| Other Taxes (WHT, Income Tax, etc.) | 251 |

**PKR 402**
in Billions
**+20%**

> Pakistan's global ICT rankings improved markedly in 2024-25, with progress across multiple indices. The country advanced 14 places in the UN E-Government Development Index to enter the 'High EGDI' category and ranked among the world's top 20 in the MCI country-wise improvement.

Pakistan also earned recognition in global cybersecurity rankings, reflecting stronger resilience and regulatory governance. Equally notable were strides in digital inclusion: Pakistan led South Asia in closing the gender gap in mobile Internet use from 38% to 25%, with 45% of women—many from rural areas—now online. While gaps in rural coverage, affordability, and digital literacy persist, these strides indicate meaningful progress in advancing digital inclusion nationwide.



On the global stage, PTA pursued active stakeholder engagement through open dialogues at forums such as the Digital Nation Summit 2025, the National Broadband Network Forum 2024, and the Youth Safety Summit 2024. To strengthen the digital ecosystem, PTA also signed Memoranda of Understanding (MoUs) with the Ministry of Commerce, the Higher Education Commission (HEC), and Huawei. These partnerships demonstrated PTA's commitment to linking the academia, industry, and government in advancing national digital priorities.

During the year under review, PTA strengthened the legal foundations of the telecom sector by updating and aligning key instruments with modern requirements and the digital economy. New regulations were notified, such as the Tariff for Cellular Mobile Telecommunication Services

Regulations 2025, and the IP Whitelisting Regulations 2024, while amendments were introduced to existing frameworks including Subscriber Antecedents Verification, Type Approval Technical Standards, and Number Allocation and Administration. In parallel, PTA initiated reviews of the Telecom Consumer Protection Regulations, Mobile Number Portability Regulations, and Equipment Standards Regulations, reflecting its commitment to responsive and adaptive regulation.

> Four new submarine cable systems have been planned to enhance Pakistan's international bandwidth and redundancy.
> - AFRICA-1 (6.5 Tbps)
> - SEA ME WE-6 (6 Tbps)
> - 2AFRICA (10 Tbps)
> - Makran Gulf Gateway (2 Tbps)

PTA played a critical role in the expansion of digital connectivity by promoting innovative services and optimizing scarce telecom resources. To enhance international connectivity, four new high-capacity submarine cable systems—AFRICA-1 (6.5 Tbps), SEA ME WE-6 (6 Tbps), 2AFRICA (10 Tbps) and Makran Gulf Gateway (2 Tbps)—are being planned. Once deployed, these additions will triple Pakistan's international data transmission capacity and reduce the risk of service disruptions from cable faults. Following the successful rollout of National Roaming (NR) along the Makran Coastal Highway, need-based sites were deployed in Punjab to extend coverage and improve service continuity. To support network growth, approximately 2,646 new sites were deployed between July 2024 and June 2025, including deployments in challenging areas of Azad Jammu and Kashmir (AJ&K) and Gilgit-Baltistan (GB). With nearly 97% of the telecom infrastructure now 4G-enabled, Pakistan has moved closer to universal high-speed mobile broadband.

**97%**
of the telecom infrastructure is now 4G-enabled
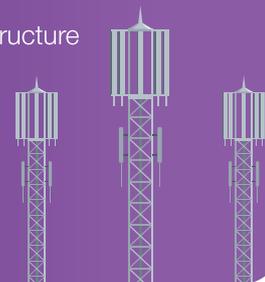
Strengthening digital trust remained central to PTA's mandate. To curb illegal SIM issuance and secure the SIM sale ecosystem, PTA combined targeted regulatory interventions with technical innovations and strict enforcement. Between July 2024 and June 2025, as many as 44 raids targeting local SIM fraud were conducted across 24 cities. These actions enhanced compliance, bolstered SIM security, and reinforced consumer protection.

Digital trust and online safety were further enhanced through decisive content regulation and platform engagement. During FY 2024-25, PTA blocked 88,035 URLs hosting unlawful content, the majority linked to decency and morality, followed by anti-state and security threats, and material deemed offensive to the glory of Islam. Regulation of hate speech and sectarian content remained a key priority.

As tensions with India escalated in April-May 2025, PTA deployed an integrated digital defense strategy combining technological surveillance, policy enforcement, and direct platform engagement. This approach disrupted hostile narratives, preserved information sovereignty, and led to the blocking of 202 hostile digital assets. PTA also directed Over-the-Top (OTT) platforms to remove Indian-origin content spreading disinformation.

During FY 2024-25, local manufacturing of mobile devices continued to expand, with over 17.6 million (est.) smartphones produced domestically. This expansion reduced dependence on imports, supported national employment, and strengthened Pakistan's position among countries with affordable mobile devices and broadband. These achievements reinforced the foundations of a competitive digital economy.

**17.6**
Million (est.) Smartphones Produced Domestically

**95%**
of Devices on Local Networks are Domestically Produced

Through the Device Identification, Registration and Blocking System (DIRBS) and the Mobile Device Manufacturing (MDM) Regulations, 95% of the devices on local networks are now domestically produced. Smartphone penetration on domestic networks increased to 68% of active International Mobile Equipment Identities (IMEIs), reflecting extensive adoption. To date, DIRBS has blocked 72 million fake or replica devices, 27 million cloned IMEIs, and 868,000 stolen phones, ensuring consumer protection and securing state revenues.

Building on these foundations, PTA's focus during 2024-25 remained on enabling the launch of high-speed wireless broadband networks. Extensive consultations were held with the Frequency Allocation Board (FAB), industry stakeholders, and international experts, leading to the formulation of recommendations for the Government of Pakistan on the upcoming spectrum auction, aimed at balancing investor confidence, national priorities, and international best practices. In parallel, and in line with the National Space Policy 2023, PTA developed a satellite licensing framework which will support broadband, mobility, and enterprise services, positioning satellite connectivity as a key pillar of Pakistan's digital future.

To enhance security and ensure uninterrupted online experience, PTA licensed nine operators for Virtual Private Network (VPN) services and launched a VPN Registration Portal. In total, 303 licenses were issued across multiple service categories, raising the nationwide total to 2,183 licenses and reinforcing the rollout of next-generation networks and services.

PTA advanced its consumer protection agenda through a mix of complaint redressal, enforcement, and awareness initiatives, safeguarding the rights of over 200 million telecom users. During FY 2024-25, as many as 169,860 complaints were lodged—an average of 466 per day—with a 99% resolution rate and a 13% year-on-year decline. Consumer satisfaction improved, particularly in Cellular Mobile Telephony (69.98%). PTA also processed 8,541 complaints via the Pakistan Citizen's Portal (PCP), with 100% resolution and 85% positive feedback.

| **169,860** | **99%** | **466** | **13%** |
|---|---|---|---|
| Complaints Lodged | Resolution | Average Complaints per day | Year-on-year decline in Cellular Complaints |

In parallel, nationwide awareness campaigns on fraud prevention, SIM compliance, and online safety reached millions of users, reinforcing consumer trust and digital resilience.

PTA also enhanced its Complaint Management System (CMS) with an Urdu-language interface, mobile accessibility, and authentication based on One-Time Password (OTP), making it more inclusive and user-friendly nationwide. The Lost and Stolen Device System (LSDS) became fully operational, enabling users to block or unblock devices within 24 hours and curbing the circulation of stolen handsets in grey markets.
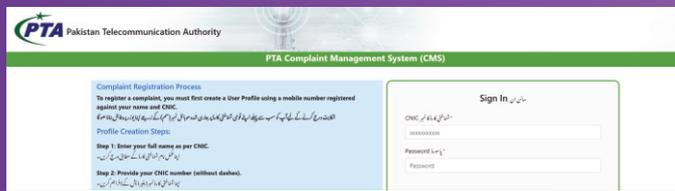


To improve consumer confidence, PTA strengthened telecom quality oversight through nationwide monitoring of cellular QoS in 73 cities, nine critical highways, and two major railway tracks, along with surveys of 122 broadband operators during FY 2024-25. Using drive tests, Operation Support System (OSS) Key Performance Indicators (KPIs), and crowd sourced analytics, PTA benchmarked Pakistan's networks against global standards, with operators largely meeting QoS thresholds. Collaboration with OpenSignal provided insights driven by Artificial Intelligence and enabled global benchmarking. Despite challenges such as limited spectrum, rising data demand, and climate disruptions, PTA's interventions improved service reliability.

Building on the Telecom Cybersecurity Strategy 2023-2028, PTA updated the Critical Telecom Data and Infrastructure Security Regulations (CTDISR) 2025 and upgraded the capacity of the national Telecom Security Operations Center (nTSOC) for enhanced monitoring and response. nTSOC monitored 8,700 threats, blocked 534 domains/Internet Protocols (IPs), monitored 439 dark web claims against Pakistan, and issued 15 advisories. It also analyzed artifacts linked to 75,000 IPs and 2,400 domains, mitigated 25 Distributed Denial-of-Service (DDoS) attacks, and blocked hostile assets during the Pakistan-India escalation. PTA also led sectoral capacity-building by organizing specialized workshops.

OPEN**SIGNAL**

In QoS, Pakistan's standing in the Global Network Experience Index rose from 110th to 107th in 2025, reflecting steady progress in connectivity and user experience.

Promoting inclusion, equity, and responsibility in the digital space remained a defining priority. Building on the Digital Gender Inclusion Strategy launched in 2024, PTA intensified efforts to close the digital gender gap and expand women's participation in the digital economy. The impact was highlighted in the Gender Gap Report of the Global Systems for Mobile Association (GSMA), which ranked Pakistan among 80 surveyed countries for maximum improvement, with the gender gap in Internet usage reduced from 38% to 25% in a single year.

## 38% → 25%

GSMA Gender Gap Report 2025 ranked Pakistan among 80 surveyed countries for maximum improvement, with maximum reduction in the gender gap in Internet usage.

Partnerships with the United Nations International Children's Emergency Fund (UNICEF), GSMA, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and TikTok supported online safety campaigns, strengthened child protection frameworks, and facilitated the blocking of harmful websites. Beyond gender and child protection, PTA promoted inclusive design standards and accessible digital services for Persons With Disabilities (PWDs), embedding equity and inclusion more firmly in the digital landscape.

Institutional modernization was another central priority. PTA advanced efficiency and transparency through the launch of the Online Automated System for Issuance of Licenses (OASIS), a fully digitized licensing and registration platform offering automated verification, secure e-payments, and faster processing. The deployment of Systems, Applications, and Products (SAP) digitized human resource, finance, and procurement functions, enhancing institutional agility.

Looking ahead, PTA remains committed to advancing Pakistan's transition to a digitally empowered knowledge economy through spectrum readiness, modernized governance, and stronger consumer empowerment. The upcoming commercial launch of 5G services is expected to unlock new frontiers for innovation, entrepreneurship, and socio-economic development. PTA's vision focuses on expanding fiberization, bridging the rural-urban connectivity divide, strengthening cybersecurity and data protection, and ensuring that digital services remain affordable and inclusive. Key initiatives such as integration of Pakistan Single Window (PSW), launch of the Device Registration App, IPv6 adoption surpassing 25%, and expansion of Internet Exchange Points (IXPs) underline PTA's resolve to build a digitally inclusive society.

Going forward, future-focused initiatives such as formulating National Disaster Telecommunication Plan, establishing a nationwide Public Warning System, and enabling Wi-Fi 6E/7E for high-capacity connectivity will serve as key drivers of Pakistan's integration into the global digital economy.

In conclusion, FY 2024-25 showcased the vitality and resilience of Pakistan's telecom and digital services' sector. Under PTA's regulatory stewardship, the telecommunication industry advanced in connectivity, affordability, service quality, consumer protection, cybersecurity, and digital inclusion. As the country prepares for the commercial launch of 5G and embraces deeper digital transformation, these achievements have laid the groundwork for a future-ready telecom ecosystem capable of driving sustainable economic growth, technological innovation, and socio-economic progress. With its consumer-first approach and commitment to modernization, inclusivity, and international collaboration, PTA is ensuring that the telecom sector remains both a pillar of national development and a cornerstone of Pakistan's digital future.

# Infographics

# Teledensity

**81%**
Total Teledensity

**100.7%**
Teledensity in AJ&K and GB

**60.6%**
Broadband Penetration

## Teledensity
Percentage—as of June

| | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Total | 81.7 | 84.6 | 81.4 | 80.5 | 81.0 |
| Mobile | 80.6 | 83.5 | 80.3 | 79.4 | 80.0 |
| Fixed | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 |

● Mobile  ● Fixed  ● Total
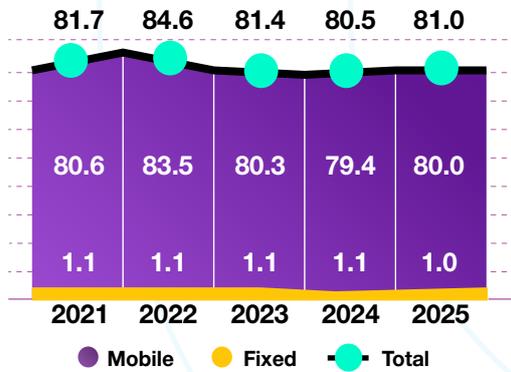
## Teledensity in AJ&K and GB
Percentage—as of June

| 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|
| 94.2 | 97.5 | 99.4 | 99.0 | 100.7 |
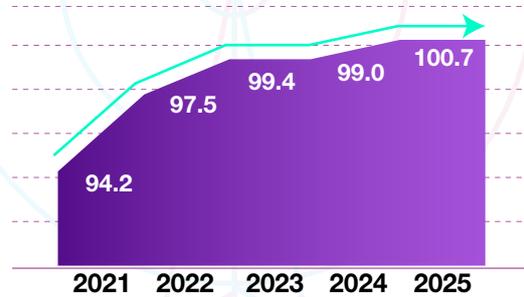
## Broadband Penetration (Mobile and Fixed Broadband)
Percentage—as of June

| Year | Mobile | Fixed | Total |
|---|---|---|---|
| 2025 | 59.1 | 1.5 | 60.6 |
| 2024 | 55.6 | 1.4 | 57.0 |
| 2023 | 52.3 | 1.3 | 53.6 |
| 2022 | 49.7 | 1.3 | 51.0 |
| 2021 | 43.7 | 1.2 | 44.9 |

Mobile  Fixed  Total
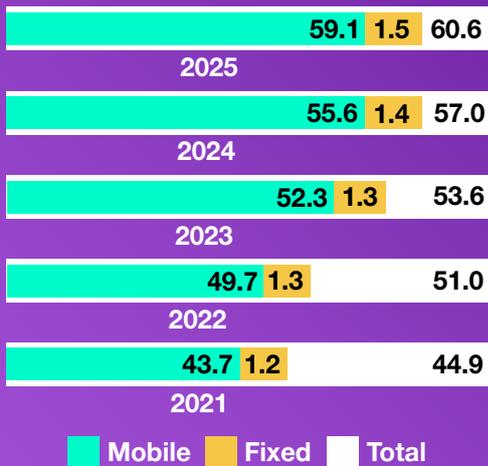
## Key Metrics

- Teledensity remained stable at 81% during 2021-2025, reflecting a mature market.

- AJ&K and GB recorded exceptionally high teledensity, ranging from 94.2% to 100.7% during 2021-2025.

- Telecom subscriptions surpassed 200 million in June 2025, marking a major milestone.

- Broadband penetration continued to be predominantly mobile-driven.

27%
19%
13%
35%

2021  2025

**Growth in Broadband Penetration 2021 → 2025**

# Subscribers

| 200.3 | 150 | 6.4 |
|-------|-----|-----|
| Telecom Subscribers (In Millions) | Broadband Subscribers (In Millions) | Mobile Cellular Subscribers AJ&K and GB (In Millions) |

## Telecom Subscribers (Mobile and Fixed)
In Millions—as of June

| Year | | Mobile | Fixed | Total |
|------|---|--------|-------|-------|
| 2025 | | 197.8 | 2.5 | 200.3 |
| 2024 | | 192.5 | 2.6 | 195.1 |
| 2023 | | 190.9 | 2.6 | 193.5 |
| 2022 | | 194.6 | 2.6 | 197.2 |
| 2021 | | 184.2 | 2.5 | 186.7 |
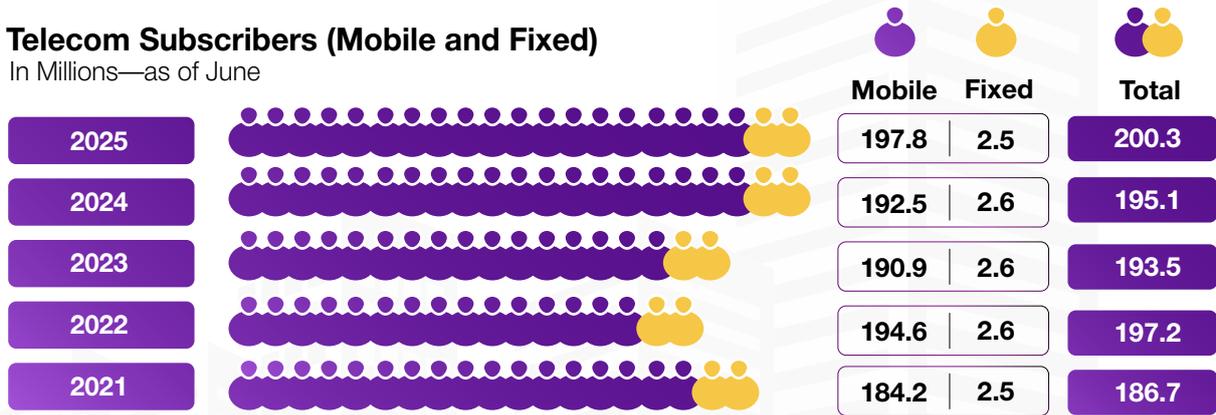
## Broadband Subscribers (Fixed and Mobile)
In Millions—as of June

■ Mobile   ■ Fixed   Σ Total

| Year | Total (Σ) | Mobile | Fixed |
|------|-----------|--------|-------|
| 2021 | Σ 103 | 100 | 3 |
| 2022 | Σ 119 | 116 | 3 |
| 2023 | Σ 127 | 124 | 3 |
| 2024 | Σ 139 | 135 | 4 |
| 2025 | Σ 150 | 146 | 4 |

## Mobile Cellular Subscribers in AJ&K And GB
In Millions—as of June

| Year | Value |
|------|-------|
| 2021 | 5.6 |
| 2022 | 5.9 |
| 2023 | 6.1 |
| 2024 | 6.2 |
| 2025 | 6.4 |

# Market Share—Subscribers and Technology

## Mobile Subscribers
Percentage—as of June
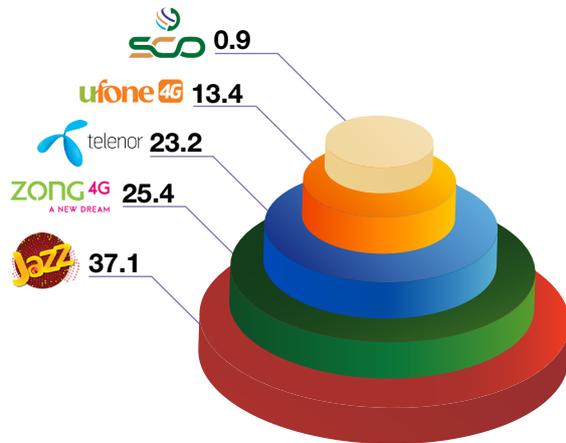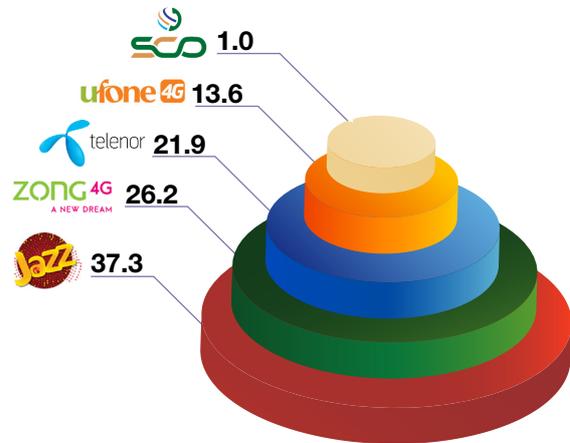
**2024**

- SCO **0.9**
- ufone 4G **13.4**
- telenor **23.2**
- ZONG 4G **25.4**
- Jazz **37.1**

**2025**

- SCO **1.0**
- ufone 4G **13.6**
- telenor **21.9**
- ZONG 4G **26.2**
- Jazz **37.3**

## Mobile Broadband Subscribers
Percentage—as of June

**2024**

- SCO **1.2**
- Jazz **37.3**
- ZONG 4G **28.7**
- telenor **19.5**
- ufone 4G **13.3**

**2025**

- SCO **1.2**
- Jazz **37.4**
- ZONG 4G **29.0**
- telenor **19.0**
- ufone 4G **13.4**
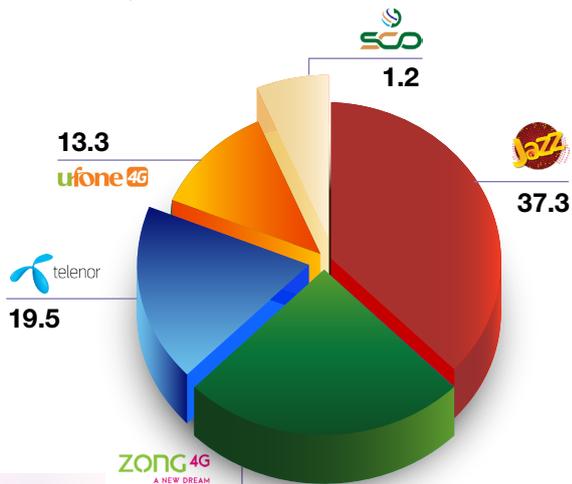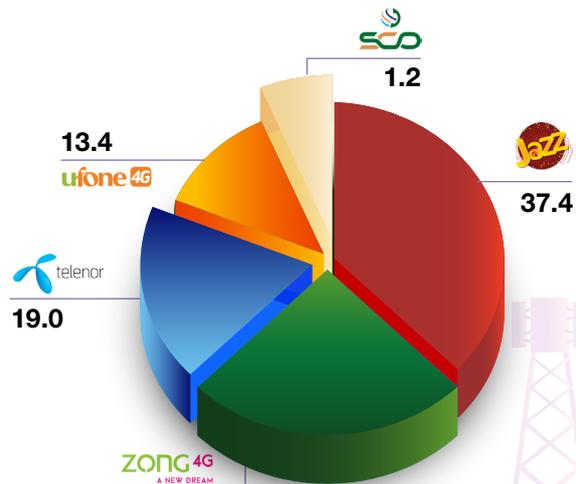
## Broadband Subscribers—Technology
Percentage—as of June

■ Mobile Broadband  ■ Fixed Broadband

| | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Fixed Broadband | 2.8 | 2.5 | 2.5 | 2.5 | 2.5 |
| Mobile Broadband | 97.2 | 97.5 | 97.5 | 97.5 | 97.5 |
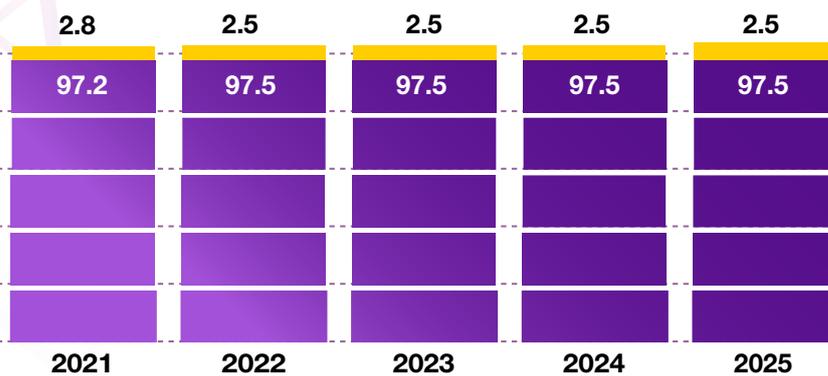
# Infrastructure/Data Usage

**58,423**
Cell Sites

**17.21** (Tbps)
Installed International Bandwidth

**27,727** (Pb)
Data Usage
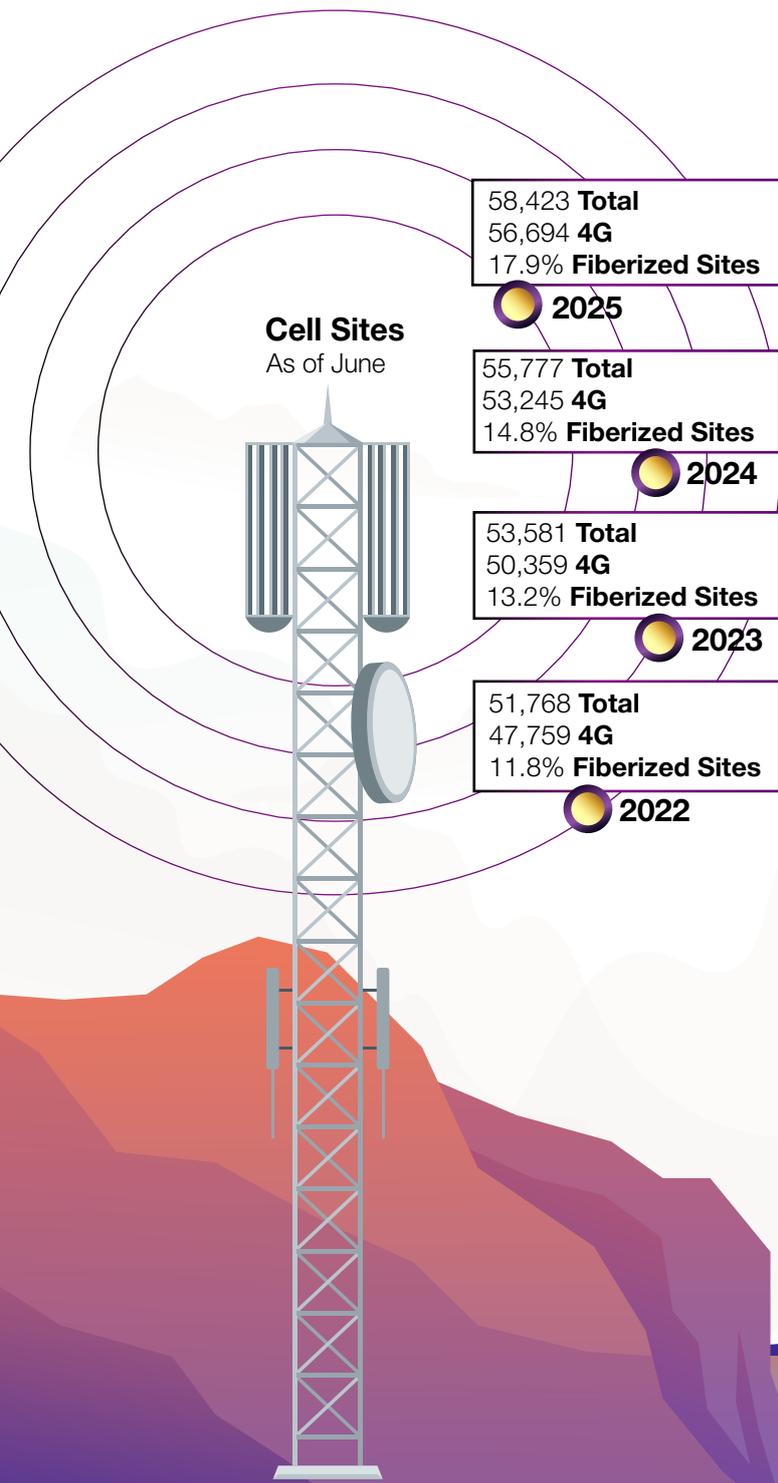
## Data Usage
Petabytes—as of June



| | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Σ | 12,572 | 16,250 | 20,235 | 25,141 | 27,727 |
| Fixed | 5,717 | 7,280 | 9,385 | 12,120 | 13,574 |
| Mobile | 6,855 | 8,970 | 10,850 | 13,021 | 14,153 |

Fixed   Mobile   Total

## Cell Sites
As of June

**58,423** Total
**56,694** 4G
**17.9%** Fiberized Sites
**2025**

**55,777** Total
**53,245** 4G
**14.8%** Fiberized Sites
**2024**

**53,581** Total
**50,359** 4G
**13.2%** Fiberized Sites
**2023**

**51,768** Total
**47,759** 4G
**11.8%** Fiberized Sites
**2022**
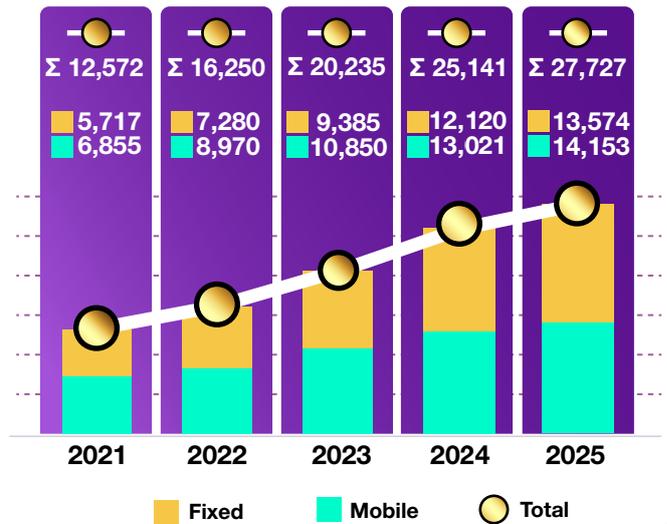
## International Bandwidth Capacity—Tbps
As of June

Installed — Σ **17.21**
Activated — Σ **13.01**

### PTCL
| | | |
|---|---|---|
| SMW4 | 1.98 | 2.58 |
| IMEWE | 1.90 | 2.76 |
| AAE1 | 3.58 | 4.77 |

### TWA
| | | |
|---|---|---|
| SMW5 | 1.7 | 1.7 |
| TWA1 | 2.6 | 2.8 |

### CYBERNET
| | | |
|---|---|---|
| PEACE | 0.8 | 1.6 |

### SCO
| | | |
|---|---|---|
| Pak-China OFC Cable | 0.45 | 1.0 |



Pakistan Telecommunication Authority / **23**
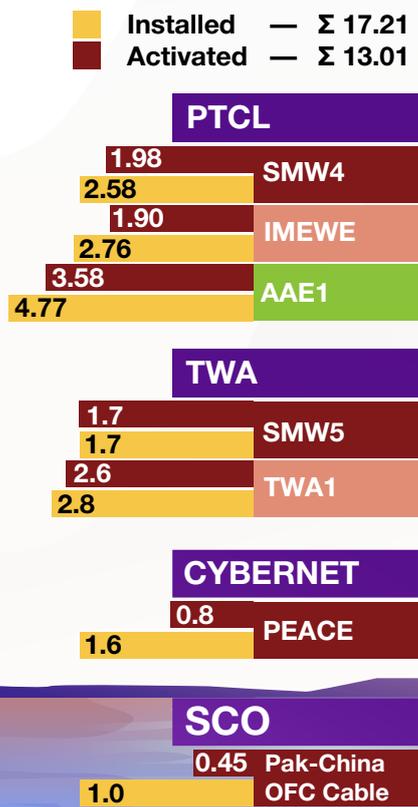
# Manufacturing of Mobile Devices

**32.7**
Locally Manufactured
Mobile Devices
in Millions

**17.6**
Locally Manufactured
Smartphones
in Millions

**68%**
Smartphones
on Local
Networks

## Mobile Devices: Locally Manufactured
In Millions

■ Smartphone   ■ 2G   ● Total

| Year | Smartphone | 2G | Total |
|------|-----------|-----|-------|
| 2021 | 14.6 | 10.0 | 24.6 |
| 2022 | 13.2 | 8.7 | 21.9 |
| 2023 | 13.0 | 8.2 | 21.2 |
| 2024 | 12.7 | 18.6 | 31.3 |
| 2025 (est.) | 17.6 | 15.1 | 32.7 |

## Active Devices on Local Network
Percentage—as of June

| Year | 2G | Smartphone |
|------|-----|-----------|
| 2021 | 48 | 52 |
| 2022 | 44 | 56 |
| 2023 | 41 | 59 |
| 2024 | 35 | 65 |
| 2025 | 32 | 68 |

■ 2G   ■ Smartphone

## Mobile Devices: Locally Assembled/Manufactured Top 10 Brands
In Millions

**January-June 25**

| Brand | Value |
|-------|-------|
| Vgo Tel | 1.6 |
| Infinix | 1.5 |
| Itel | 1.2 |
| Vivo | 1.2 |
| Redmi | 0.8 |
| Samsung | 0.7 |
| Tecno | 0.6 |
| G'Five | 0.6 |
| Nokia | 0.5 |
| QMobile | 0.5 |
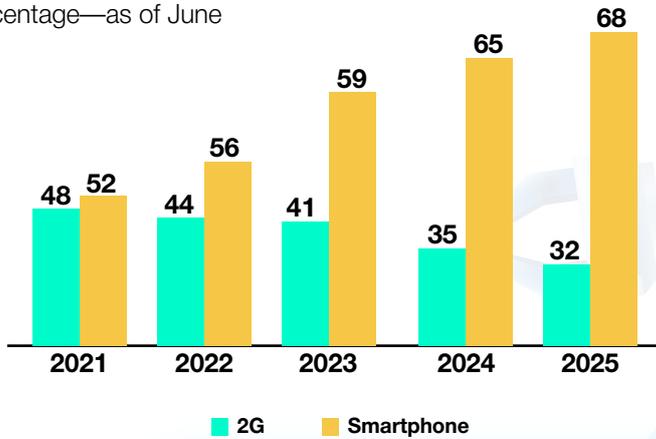
## Locally Manufactured Mobile Devices Vs. Commercial Import
In Millions

| Year | Locally Manufactured | Commercial Import |
|------|---------------------|-------------------|
| 2021 | 24.6 | 10.2 |
| 2022 | 21.9 | 1.5 |
| 2023 | 21.2 | 1.5 |
| 2024 | 31.3 | 1.7 |
| 2025 (est.) | 32.7 | 1.7 |

■ Locally Manufactured
■ Commercial Import

# Financial

## Telecom Revenues
In PKR Billions—FY

| Year | Mobile | Total |
|------|--------|-------|
| 2021 | 445 | 641 |
| 2022 | 481 | 717 |
| 2023 | 529 | 817 |
| 2024 | 614 | 957 |
| 2025 | 713 | 1,075 |

Legend: Mobile | Total

## Telecom Sector's Contribution to Exchequer
In PKR Billions—FY

| Year | Value |
|------|-------|
| 2021 | 222 |
| 2022 | 329 |
| 2023 | 341 |
| 2024 | 336 |
| 2025 | 402 |

## Telecom Investment
In US$ Millions—FY

| Year | Value |
|------|-------|
| 2021 | 1,214 |
| 2022 | 1,657 |
| 2023 | 770 |
| 2024 | 766 |
| 2025 | 838 |
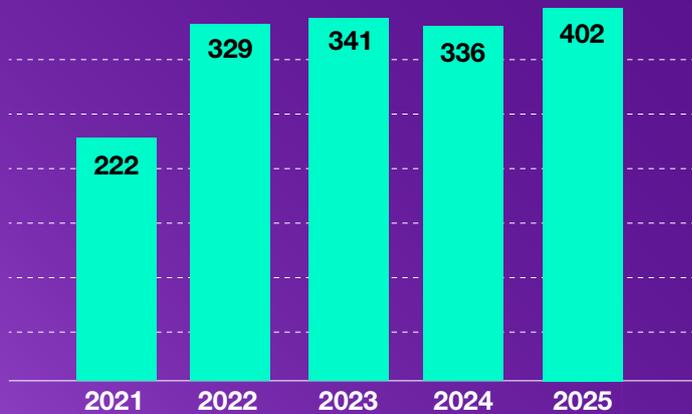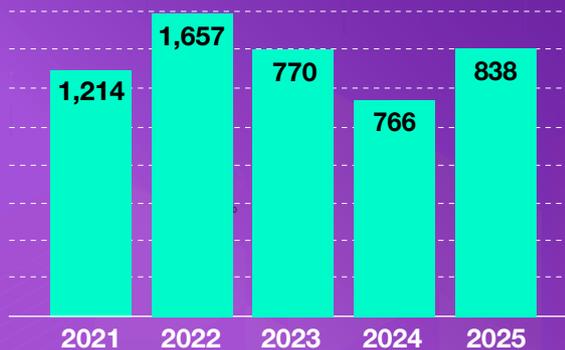
## FDI in Telecom
Inflows—In US$ Millions—FY

| Year | Value |
|------|-------|
| 2021 | 204 |
| 2022 | 175 |
| 2023 | 58 |
| 2024 | 46 |
| 2025 | 97 |

**1,075**
Telecom Revenues
in PKR Billions

**402**
Telecom Sector's
Contribution
to Exechequer
in PKR Billions

**838**
Telecom Investment
in US$ Millions

**97**
FDI-Inflow in Telecom
in US$ Millions

# ARPU & Data Pricing

## Mobile ARPU Per Month
In PKR



- 2022: 212
- 2023: 229
- 2024: 270
- 2025: 306
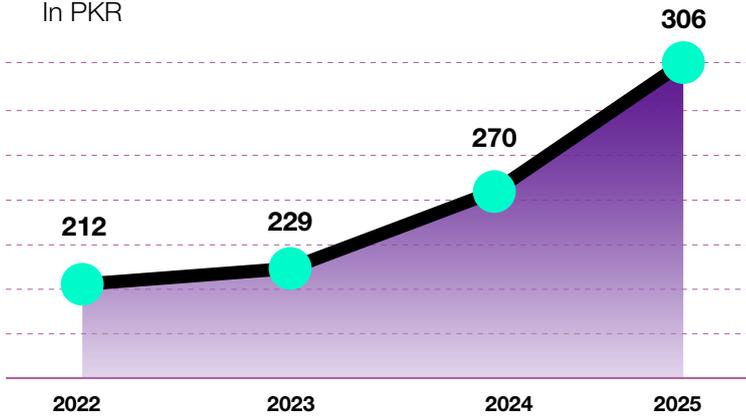
**29**
Effective Price (Revenue) Per GB in PKR

**306**
Mobile ARPU in PKR

## Effective Price (Revenue) Per GB—Mobile Broadband
In PKR

| Operator | Value |
|---|---|
| Jazz | 33.7 |
| Ufone | 28.0 |
| Telenor | 38.6 |
| Zong | 20.2 |

## Effective Price (Revenue) Per GB—Mobile Broadband
In PKR



- 2021: 29.6
- 2022: 26.9
- 2023: 25.5
- 2024: 26.6
- 2025: 29.0

# Mobile Banking & Digital Finance

## Mobile Wallet Accounts
In Millions—as of June

| Year | Value |
|------|-------|
| 2021 | 75 |
| 2022 | 89 |
| 2023 | 107 |
| 2024 | 120 |
| 2025 | 136 |

**136**
Mobile Wallet
Accounts
in Millions

**31,324**
Value of
Transactions
in PKR Billions

**6.7**
Number of
Transactions
in Millions

## M-Banking Transactions

| Year | Value of Transactions In PKR Billions | Number of Transactions In Millions |
|------|---------------------------------------|-------------------------------------|
| 2021 | 8,086 | 2.2 |
| 2022 | 10,637 | 2.7 |
| 2023 | 15,466 | 3.5 |
| 2024 | 21,238 | 4.5 |
| 2025 | 31,324 | 6.7 |
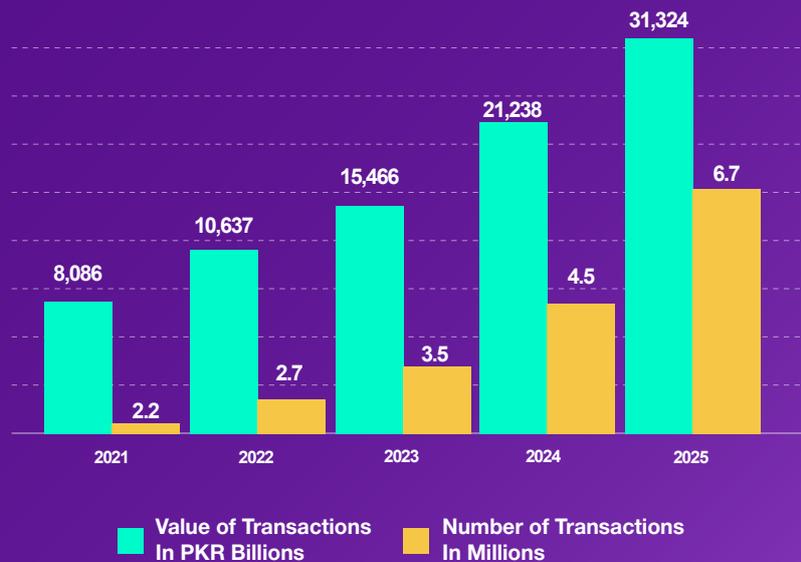
■ Value of Transactions In PKR Billions    ■ Number of Transactions In Millions

## Mobile Wallet Accounts (By Gender)
In Millions—as of June

| Year | Male | Female |
|------|------|--------|
| 2021 | 55.8 | 18.9 |
| 2022 | 63.7 | 24.8 |
| 2023 | 74.5 | 32.4 |
| 2024 | 83.7 | 36.5 |
| 2025 | 93.5 | 42.3 |

♦ Male    ♦ Female

Source: State Bank of Pakistan
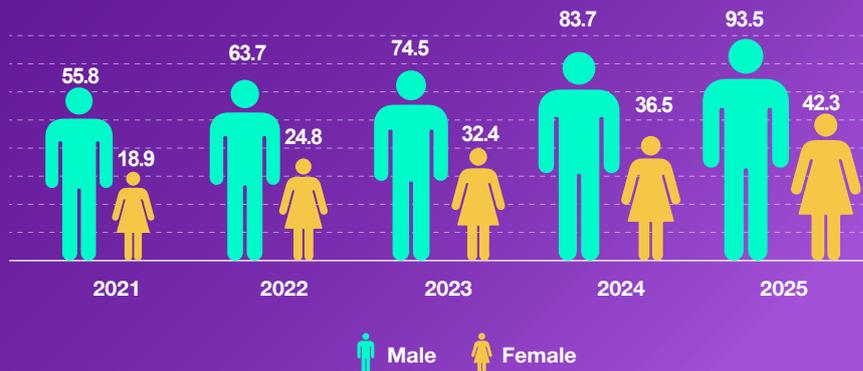
# Picture Gallery

# Picture Gallery

Prime Minister Shehbaz Sharif decorated Chairman PTA, Major General (R) Hafeez Ur Rehman, with the Sitara-e-Imtiaz at an investiture ceremony at the Aiwan-e-Sadr, Islamabad, on August 14, 2025. The national honour recognized his outstanding leadership and resolute measures in protecting Pakistan's digital infrastructure and strengthening cyber resilience during the Pakistan-India escalation of April-May 2025.



On June 19, 2025, Pakistan's telecom sector achieved a historic milsestone, surpassing 200 milion telecom subscribers, alongside 150 million broadband and 2 million Fiber-To-The-Home subscriptions. Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, joined Chairman PTA, Major General (R) Hafeez Ur Rehman, at the PTA Headquarters, where Member Finance, Mr. Muhammad Naveed, Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, PTA staff, and media representatives were also present to mark the achievement. The celebration featured a ceremonial cake-cutting, presentation of a commemorative shield to the Minister, and group photographs with women employees of PTA, and members of the press.

At a ceremony held in Islamabad on December 16, 2024, Chairman PTA, Major General (R) Hafeez Ur Rehman presented PTA's Annual Report 2024 to Chairman Senate, Syed Yousuf Raza Gillani. Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, Member Finance, Mr. Muhammad Naveed, Director General Commercial Affairs, Mr. Muhammad Arif Sarghana, and Director Commercial Affairs, Dr. Shahbaz Nasir, were also present. The report featured PTA's performance highlights during 2023-24.



Chairman PTA, Major General (R) Hafeez Ur Rehman, presented a souvenir to Chairman Senate, Syed Yousuf Raza Gillani, at the National Broadband Network (NBN) Forum in Islamabad on December 16, 2024. Attended, among others, by Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, the forum highlighted the critical importance of advancing broadband infrastructure to drive Pakistan's digital transformation.



PTA hosted a panel discussion on 'Advancing Digital Connectivity' in Islamabad on December 16, 2024. The session brought together the Chief Executive Officer of Universal Service Fund, Mr. Mudassar Naveed, Chief Operating Officer of Cybernet, Mr. Maroof Ali Shahani, Member IT and Telecom, Mr. Muhammad Jahanzeb Rahim, and CEO of DynaSys, Ali Akhtar, with PTA's Director General for Wireless Licensing, Mr. Amer Shahzad moderating. The discussion focused on the role of partnerships and strategic planning in strengthening Pakistan's digital infrastructure and expanding nationwide connectivity.

Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, Chairman PTA, Major General (R) Hafeez Ur Rehman, and industry leaders attended the Next Gen Cyber Resilience Workshop and Telecom Cyber Security Awards 2025 in Islamabad on August 12. Organized by PTA in collaboration with Huawei, the event featured keynote addresses, an expert panel discussion, and presentation of awards recognizing excellence and innovation in telecom cyber security.



Chairman PTA, Major General (R) Hafeez Ur Rehman, represented Pakistan at the GSMA Mobile World Congress 2025 in Barcelona on March 4. Speaking on the panel 'Ask the Regulator: Keeping with the New Digital Matrix,' he shared perspectives on regulatory strategies and the challenges of adapting to an evolving digital landscape. The panel also featured global telecom leaders, including Head of Public Policy at GSMA, Michaela Angonius; Executive Director, Communications Regulation Commission of Colombia, Claudia Ximena Bustamante Osorio; President of Germany's Federal Network Agency, Klaus Müller; UK Information Commissioner, John Edwards; and senior representatives from Qualcomm.

The Telecom Cybersecurity Awards 2024 were held in Islamabad on November 5, bringing together Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, Chairman PTA, Major General (R) Hafeez Ur Rehman, Member Finance, Mr. Muhammad Naveed, Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, PTA's Director General, Cyber Vigilance Division, Brigadier (R) Dr. Muhammad Mukaram Khan, senior officers, and industry leaders. The ceremony celebrated PTA's contributions to strengthening Pakistan's digital defenses and included the presentation of a commemorative shield to the Minister.



Experts from across the Asia-Pacific region gathered in Islamabad on October 21, 2024, for the SANOG 42 conference, a platform dedicated to advancing digital connectivity, cybersecurity, and regional collaboration. During the event, Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, presented a memento to SANOG Chair, Mr. Rupesh Shrestha.

A high-level roundtable on 'Digital Nations in Asia Pacific' was convened as part of the GSMA Mobile World Congress 2025 in Barcelona on March 4. Chairman PTA, Major General (R) Hafeez Ur Rehman, used the platform to advance dialogue on digital trust, cybersecurity, and strategic collaboration among digital nations across the region.



Global leaders convened in Barcelona on March 5, 2025, for the APAC-Eurasia Roundtable on 'Collaboration on Digital Connectivity: Stakeholders Dialogue.' Chairman PTA, Major General (R) Hafeez Ur Rehman, contributed to the discussions by presenting proposals to strengthen regional cooperation and advance cross-border digital connectivity.



On March 5, 2025, during the Mobile World Congress in Barcelona, Chairman PTA, Major General (R) Hafeez Ur Rehman, met with Telenor's senior management—Mr. Håkon Bruaset Kjøl, Mr. Marius Gigernes, and Mr. Arnstein Sletmoe—to discuss avenues for collaboration and future developments in the telecom sector.



At the Mobile World Congress in Barcelona on March 5, 2025, Chairman PTA, Major General (R) Hafeez Ur Rehman met with the Chief Executive Officer of Jazz, Mr. Aamir Hafeez Ibrahim, Group Chief Executive Officer of VEON Group, Mr. Kan Terzio lu, VEON Board Member, Sir Brandon Lewis CBE, VEON's Global Corporate Affairs Director, Ms. Marine Babayan, and its Group Director of Communications and Strategy, Ms. Hande Asik. The meeting focused on strategic discussions to deepen collaboration between Pakistan's telecom sector and the VEON Group at the premier international technology forum.

Chairman PTA, Major General (R) Hafeez Ur Rehman, and Executive Director of the Global Digital Inclusion Partnership, Sonia Jorge, signed a Letter of Cooperation at the GSMA Mobile World Congress 2025 in Barcelona on March 3. The agreement promotes partnerships to advance digital accessibility and inclusion in Pakistan.



PTA's Director General of the Cyber Vigilance Division, Dr. Mukaram Khan, and Director Labs, national Computer Emergency Response Team (nCERT), Mr. Altaf Ur Rehman, signed a Memorandum of Understanding at the PTA Headquarters on December 5, 2024. The agreement formalized PTA-nCERT collaboration to enhance cybersecurity cooperation and strengthen Pakistan's digital infrastructure.

PTA and Deaf Tawk formalized a historic partnership at the PTA Headquarters on January 1, 2025, aimed at empowering persons with hearing impairments. The agreement focuses on the leveraging innovative technologies and accessibility solutions to promote inclusivity and enhance access to public services for people with hearing impairments.

Representatives of PTA and Huawei Technologies Pakistan signed a Memorandum of Understanding at the PTA Headquarters on December 31, 2024, to enhance collaboration in the ICT sector, with emphasis on innovation, digital transformation, and capacity-building.



PTA and the Ministry of Commerce signed a Memorandum of Understanding at the PTA Headquarters on January 16, 2025, to collaborate on digital trade, e-commerce, and connectivity enhancements.



PTA and Nokia signed a Memorandum of Understanding at Islamabad on February 17, 2025, reaffirming their commitment to enhancing connectivity in Pakistan through a strategic partnership on cutting-edge 5G technologies.

Chairman PTA, Major General (R) Hafeez Ur Rehman, convened a strategic meeting with the Chief Executive Officer of DEMO Pakistan, Madiha Hamid, and the Regional Lead of Global Digital Inclusion Partnership, Waqas Hassan, at the PTA Headquarters on December 12, 2024. The meeting focused on implementing the US$ 1.4 million WiDEF initiative aimed at bridging Pakistan's digital gender divide through funding and digital inclusion programmes. A group photograph marked the partners' shared commitment to advancing equitable access to digital technologies.



At the GSMA Mobile World Congress 2025 in Barcelona, Chairman PTA, Major General (R) Hafeez Ur Rehman, presented a memento to the Secretary General of the International Telecommunication Union, Ms. Doreen Bogdan-Martin, following a March 5 meeting that focused on collaboration and advancements in global telecom policy and digital development.

Chairman PTA, Major General (R) Hafeez Ur Rehman, and Director of the International Telecommunication Union-Telecommunication Development Bureau, Dr. Cosmas Zavazava, joined PTA officials and staff for a group photograph following a meeting at the PTA Headquarters on April 16, 2025. The discussions explored avenues for stronger collaboration in digital development, Artificial Intelligence training, and the adoption of global best practices.



At the GSMA Mobile World Congress 2025 in Barcelona, Chairman PTA, Major General (R) Hafeez Ur Rehman, presented a memento to Secretary General of the Asia-Pacific Telecommunity, Mr. Masanori Kondo, after a March 3 meeting that focused on advancing regional cooperation in the telecom sector.



The senior leadership of Telenor Pakistan and Vape Group called on Chairman PTA, Major General (R) Hafeez Ur Rehman, at the PTA Headquarters on November 12, 2024. The meeting focused on strategic initiatives to accelerate Pakistan's digital transformation and was attended by Telenor's Board Chairman, Marius Gigernes, Chief Executive Officer, Khurrum Ashfaque, Senior Vice President, Shan Ul Haq, and Chief Financial Officer, Andreas Hogberg, and Vape Group's M&A Representative, Aamir Shah.

Chairman PTA, Major General (R) Hafeez Ur Rehman, Lead for Dangerous Organizations and Individuals Policy at Meta, Dr. Nawab Osman, along with global experts, law enforcement representatives, and staff from Meta and PTA posed for a group photograph at the conclusion of the workshop on 'Counter Terrorism in the Digital Age.' Held at the PTA Headquarters on July 8, 2025, the workshop paved the way for stronger digital safety measures and greater coordination against online extremism.



PTA concluded its first-ever Badminton League in Islamabad on May 23, 2025, with Chairman PTA, Major General (R) Hafeez Ur Rehman, presenting awards to the winners. The event featured exciting matches that celebrated sportsmanship while fostering team spirit, wellness, and camaraderie among PTA employees.

Representatives of PTA posed in front of their official stall at the Overseas Pakistanis Convention held in Islamabad from April 13-15, 2025. The stall showcased PTA's support for the Prime Minister's initiative to provide special facilitation and services for overseas Pakistanis.

Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, Chairman PTA, Major General (R) Hafeez Ur Rehman, TikTok's Head of Global Public Policy (METAPSA), Emir Gelen, and representatives from PTA, TikTok, and UNICEF participated in the Youth Safety Summit held in Islamabad on November 21, 2024. Organized by PTA and TikTok, the summit fostered collaboration between government, industry, and international organizations to promote youth online safety. The first photograph captures a stage moment at the event, while the second shows the delegation including Mr. Fahad Khan Niazi, Ms. Sidra Jalil, Mr. Ilunga Mpyana, and Mr. Sohaib Khan at the PTA Headquarters.



A five-day workshop on 'Domain Name Systems (DNS) Operations and Domain Name System Security Extensions (DNSSEC)' concluded at the PTA Headquarters on July 25, 2025, with a group photograph of Chairman PTA, Major General (R) Hafeez Ur Rehman, ICANN trainers, participants, and senior PTA officials. The workshop highlighted Pakistan's commitment to strengthening Internet security through capacity-building and specialized training on DNS operations and DNSSEC.

PTA organized a two-day Inter-Departmental Cricket League in Islamabad on April 11-12, 2025, bringing together officers and staff from across its departments. The tournament promoted teamwork, sportsmanship, and employee well-being through active participation and spirited competition.



Chairman PTA, Major General (R) Hafeez Ur Rehman, presented a memento to Commander of the Anti-Narcotics Force, Brigadier Hassan Abbas, during his visit to the PTA Headquarters on January 2, 2025. The meeting reaffirmed collaboration between PTA and the Anti-Narcotics Force in advancing shared objectives.

The Commandant of AK Centre, Brigadier Usman Ali, presented a commemorative shield to Chairman PTA, Major General (R) Hafeez Ur Rehman, during an official visit to the PTA Headquarters on February 2, 2025. The meeting focused on exploring avenues to strengthen institutional relations between the AK Centre and PTA.



Thirty-three newly promoted PTA officers participated in the Specialized Development Programme 2025 in Islamabad on February 21. Equipped with skills in leadership, communications, and advanced technologies, the officers joined Chairman PTA, Major General (R) Hafeez Ur Rehman, for a group photograph marking the occasion.



PTA's Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, joined participants of the Child Online Safety Camp 2025, organized by PTA in collaboration with UNICEF, the National Commission on the Rights of the Child, and Telenor in Islamabad on August 25, 2025. The camp equipped children with the knowledge and tools to navigate the Internet safely and recognize potential digital risks, with the National Cyber Crime Investigation Agency and the National Computer Emergency Response Team also participating.

Chairman PTA, Major General (R) Hafeez Ur Rehman, met Deputy Governor for Regulations and Competition Sector at the Communication, Space and Technology Commission, (CST), Eng. Omar Alerjraje, during the 25th Global Symposium for Regulators (GSR-25) organized by the International Telecommunication Union in Riyadh, Saudi Arabia, on August 31, 2025. Held under the theme 'Regulation for Sustainable Digital Development,' the meeting focused on areas of mutual interest to drive a transformative shift in digital regulation.



During an official visit to Norway for the 20th Internet Governance Forum 2025 (IGF-25), held from June 23-27 under the theme 'Building Governance Together,' Chairman PTA, Major General (R) Hafeez Ur Rehman, met Pakistan's Ambassador to Norway, Ms. Saadia Altaf Qazi. The engagement projected Pakistan's perspective on critical global digital policy issues and highlighted its commitment to international cooperation on Internet governance, cybercrime, and digital inclusion.



Federal Minister of IT and Telecom, Ms. Shaza Fatima Khawaja, met Chairman PTA, Major General (R) Hafeez Ur Rehman, at the PTA Headquarters on December 11, 2024, for a discussion on aligning initiatives to accelerate Pakistan's digital transformation. The meeting was also attended by Member Finance, Mr. Muhammad Naveed, and Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar.

A Tiktok delegation met Chairman PTA, Major General (R) Hafeez Ur Rehman, at the PTA Headquarters on August 5, 2025, to discuss initiatives for accelerating Pakistan's digital transformation.



Chairman PTA, Major General (R) Hafeez Ur Rehman, met with a Turkish delegation at the PTA Headquarters on August 5, 2025, for a discussion on matters of mutual interest.



A two-day workshop on 'Community-Centered Connectivity (CCC)' was held at the PTA Headquarters on September 22-23, 2025. Chairman PTA, Major General (R) Hafeez Ur Rehman, reviewed mock CCC models developed by participants and emphasized that expanding digital access and inclusion remain central to PTA's vision. He noted that CCC offers an innovative and sustainable solution to connect the unconnected.

Officials from PTA, the Malaysian Communications and Multimedia Commission, and Nokia, along with industry leaders and policymakers, participated in the four-day masterclass on '5G and Beyond: Shaping the Future of Connectivity,' held in Islamabad from February 17-20, 2025. The event opened with participants taking an oath of commitment and concluded with a group moment of camaraderie, underscoring the role of the masterclass in advancing regional collaboration on 5G deployment, spectrum management, and digital transformation.

# Regulatory Priorities | 1

# Chapter 1 | Regulatory Priorities

The global telecom industry is undergoing a profound transformation driven by innovation, convergence of digital and network technologies, and intensifying competition to deliver high-speed connectivity. Global 5G subscriptions will reach around 6.3 billion in 2030, equaling 67% of total mobile subscriptions[1]. Across the world, operators are rolling out advanced solutions such as standalone 5G networks, Internet-of-Things (IoT) ecosystems, AI-powered service platforms, and Low Earth Orbit satellite systems, all designed to meet the rising demand for speed, reliability, and seamless digital access.

Amid this global shift, Pakistan is consolidating its position as a dynamic digital economy. PTA is introducing progressive, adaptive, and market-responsive regulatory measures that promote innovation and resilience. Core priorities include future-ready policy frameworks, rigorous QoS monitoring, robust cybersecurity safeguards, and stronger collaboration with domestic and international stakeholders. Through these initiatives, PTA is emerging as a leading regulatory body in South Asia, setting benchmarks in spectrum management, digital inclusion, and consumer protection. Its proactive approach is helping to shape the region's digital trajectory and position Pakistan as a frontrunner in the evolving digital landscape.

This chapter outlines the major regulatory initiatives undertaken by PTA during FY 2024-25. These measures are reshaping the sector, driving sustainable growth, and advancing Pakistan's vision of a digitally empowered future. This year's regulatory agenda signals a decisive shift towards enabling innovation while ensuring inclusivity and consumer protection. Strategic reforms in spectrum management, infrastructure optimization, and regulatory compliance are laying the foundation of a telecom environment that is secure, resilient, and attractive to investors.

## Pakistan Hits 200 Million Subscribers

In 2025, Pakistan achieved a digital milestone by surpassing 200 million telecom subscribers, including over 150 million broadband users and more than 2 million Fiber-to-The-Home connections. The achievement marks a turning point in Pakistan's digital journey and reaffirms PTA's commitment to accessible, inclusive, and future-oriented connectivity.

Fifteen years earlier, in 2010, Pakistan crossed the 100 million mobile subscriber mark, which was again a defining moment that placed the country among the fastest-growing telecom markets in the region. At that time, Pakistan's pace of mobile adoption exceeded that of Bangladesh, which reached the 50 million subscriber milestone in 2010, and was second only to India, which, owing to its larger population, crossed 500 million subscribers the same year. This surge was fueled by PTA's forward-looking regulatory framework, effective spectrum management, and market liberalization. Proactive engagement with operators and clear policy direction enabled mass mobile penetration across urban and rural areas. This foundation set the stage for broadband expansion and the creation of a robust digital ecosystem.

To commemorate this milestone, PTA, in collaboration with CMOs including Jazz, Telenor, Ufone, Zong, and Special Communications Organization (SCO), launched a nationwide free of cost package on June 20, 2025. The offer included 2GB of data and 200 on-net voice minutes, valid for 24 hours and accessible to all users via *2200#.

To promote digital inclusion in higher education, PTA partnered with leading fixed-line operators such as the Pakistan Telecommunication Company Limited (PTCL), Nayatel, Cybernet, and Wateen, to extend free Wi-Fi hotspots and enhance the capacity of the Pakistan Educational Research Network at selected

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[1]Ericsson Mobility Report November 2024

Glimpses from a celebratory event held at the PTA Headquarters on June 19, 2025, to commemorate Pakistan's landmark achievement of surpassing 200 million telecom subscribers.

HEC universities, including women-only institutions. This six-month initiative expanded digital access for female students and supported equitable participation in the knowledge economy. Additionally, with the support of local mobile manufacturers, 200 locally assembled smartphones were distributed among female SIM holders across Pakistan, AJ&K, and GB. The recipients were selected through computerized balloting to ensure transparency. These interventions directly supported PTA's gender empowerment objectives by expanding digital access and opportunities for women across Pakistan.

This milestone represents more than a numerical achievement; it affirms PTA's regulatory foresight, stakeholder coordination, and long-term vison for digital empowerment. Through sustained policy innovation, targeted interventions, and strategic partnerships, PTA continues to bridge the digital divide and advance socio-economic progress through connectivity.

## Accelerating Pakistan's Digital Transformation

### Cyber Security Awards 2025

PTA, in collaboration with Huawei, hosted the Telecom Cyber Security Awards 2025 and Next-Gen Cyber Resilience Workshop in Islamabad on August 12, 2025. The high-level platform brought together senior government officials, industry leaders, and cybersecurity experts to exchange insights on strengthening Pakistan's digital security landscape.

The workshop examined the cybersecurity implications of 5G rollout, Low Earth Orbit satellite Internet, AI adoption, and the expanding FinTech ecosystem. The discussants emphasized proactive risk management, advanced security solutions, and coordinated preparedness across the telecom sector.



Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, and Chairman PTA, Major General (R) Hafeez Ur Rehman, alongwith industry leaders and experts, attended the Cyber Resilience Workshop and Telecom Cyber Security Awards 2025, organized by PTA and Huawei in Islamabad on August 12.

The event concluded with the Telecom Cyber Security Awards 2025 to recognize outstanding achievements in Cybersecurity Innovation, Operational Resilience, and Leadership in Cybersecurity. By celebrating excellence and promoting best practices, the awards encouraged the adoption of cutting-edge security measures for a safer digital Pakistan.

## Digital Nation Summit 2025

PTA's active participation in the Digital Nation Summit 2025, held in Islamabad on August 7, reinforced Pakistan's position as an emerging leader in the Asia-Pacific digital landscape. Organized by GSMA, the event convened national and global stakeholders to explore strategies for the acceleration of digital transformation, with a focus on unlocking Pakistan's vast untapped digital potential. Despite a mobile Internet usage gap of 25%, which is still lower than other regional countries such as Bangladesh (39%) and India (33%), Pakistan has made measurable progress; mobile broadband coverage now reaches 81% of the population, while smartphone ownership has risen to 68% (2025). These gains are supported by targeted policy interventions and continued infrastructure expansion.

The summit's four-pillar agenda comprising Trust by Design, Climate-Resilient Infrastructure, Investment Enablement, and Innovation for Inclusion, provided a strategic framework for future action. Key recommendations included sustainable spectrum pricing ahead of the planned 5G auction, rationalization of sector-specific taxes, promotion of smartphone financing schemes, scaling of digital trust frameworks, and continued alignment of policies to encourage innovation.

PTA's contributions, particularly in spectrum management and digital inclusion, underscored its central role in enabling equitable and sustainable growth. By translating these recommendations into policy, PTA is working to bridge the digital divide, foster innovation, and ensure inclusive access to the benefits of connectivity. With momentum generated through recent reforms, Pakistan is poised to move from digital promise to digital leadership within the region.

## National Broadband Network Forum 2024

The National Broadband Network Forum 2024, held in Islamabad on December 16 under the theme 'Gigabit for All,' marked a major step forward in advancing Pakistan's vision of a digitally inclusive society. Organized by PTA, in strategic partnership with Huawei, the forum served as a national platform for dialogue among policymakers, telecom operators, equipment providers, and global technology leaders. It reinforced PTA's commitment to accelerating broadband development and aligning national priorities with global trends in connectivity, innovation, and inclusive access.

The discussions centered on expediting the rollout of next-generation broadband technologies such as 5G and Fixed 5G (F5G), and encouraging investment in gigabit-capable infrastructure. Stakeholders underlined the need to optimize spectrum usage and promote infrastructure-sharing. The forum highlighted that Pakistan currently has approximately 234,752 kilometer (km) of deployed Optical Fiber Cable, including 77,851 km of long-haul and 156,901 km of metro fiber, but acknowledged that this capacity remains insufficient to meet the country's growing digital demands. The



Chairman PTA, Major General (R) Hafeez Ur Rehman, with national and international stakeholders at the GSMA Digital Nation Summit 2025, held in Islamabad on August 7.

Under the leadership of Chairman PTA Major General (R) Hafeez Ur Rehman, the National Broadband Network Forum 2024, held in Islamabad on December 16,  brought together leaders and stakeholders to advance the vision of 'Gigabit for  All', emphasizing PTA`s pivotal role in enhancing broadband penetration and bridging Pakistan`s digital divide.

participants also developed actionable recommendations calling for stronger public-private partnerships, tax rationalization, and streamlined Right-of-Way approvals to remove deployment bottlenecks. Other key themes guiding the next phase of broadband policy included service and device affordability, the enabling role of Universal Service Fund (USF) projects, and the importance of digital literacy programmes to support broadband adoption.

Moving forward, PTA will continue to translate the outcomes of the forum into policy strategies, working with stakeholders to build a connected, competitive, and digitally empowered Pakistan.

## Youth Safety Summit 2024

As part of its ongoing commitment to a safe and inclusive digital ecosystem, PTA and TikTok organized the Youth Safety Summit in Islamabad on November 21, 2024, culminating in the announcement of winners of the #DigitalHifazat Contest. The initiative focused on strengthening online safety, promoting digital literacy, and empowering Pakistan's youth to navigate the digital world responsibly.

The summit convened stakeholders from the government, academia, and child protection sectors to address the growing challenge of safeguarding young Internet users. Sessions showcased effective tools and resources such as Family Pairing, Community Guidelines, and the Youth Safety Portal designed to encourage responsible digital engagement and create safer online environments.

The #DigitalHifazat Contest invited creators to produce short videos highlighting six key themes: responsible social media usage, combating online harassment, preventing online fraud, ensuring youth safety and well-being, understanding TikTok's safety tools, and addressing misinformation. Building on the momentum of the summit, PTA plans to scale the initiative nationwide, broadening its reach and deepening its impact on digital literacy and online safety among young users.

PTA and TikTok joined hands to organize the Youth Safety Summit in Islamabad on November 21, 2024. The discussants included representatives from UNICEF, PTA and TikTok.

# Flood Response: Commitment Beyond Connectivity

Swift and coordinated measures were implemented during the devastating floods of 2025 to ensure continuity of telecom services and strengthen emergency communications. Acting under the directives of the Prime Minister and the Ministry of Information Technology and Telecommunication (MoITT), PTA led a nationwide disaster response effort, including the launch of the 911 emergency helpline.



A mobile tower submerged in floodwaters in Punjab



Recognizing the critical role of connectivity during emergencies, PTA established the National Emergency Telecommunication Coordination Centre (NETCC) for real-time network monitoring and direct coordination with CMOs. Operators were instructed to activate contingency plans, provide regular updates, and deploy backup solutions such as Cells-On-Wheels and Very Small Aperture Terminals to ensure priority communication for emergency responders and relief agencies.

Additional directives required operators to safeguard physical infrastructure, maintain backup resources such as fuel and spare parts and enable Location-Based Services for targeted alerts. Field teams operated under strict safety protocols and were required to immediately report major disruptions to NETCC and PTA's zonal offices. CMOs also broadcast flood warnings, evacuation messages, and emergency numbers in national and regional languages, ensuring that communities received timely and accessible information.

The disaster disrupted over 4,349 telecom sites nationwide, including more than 200 towers across Khyber Pakhtunkhwa (KP) districts such as Swat, Buner, and Shangla. In response, PTA facilitated rapid restoration efforts in collaboration with CMOs, civil authorities, and the armed forces. More than 85% of the affected towers in KP were restored within 48 hours, while 95% of sites were functional by early September.

To further support victims, CMOs—under PTA's direction—extended free on-net calls and SMS in flood-hit areas, ensuring even zero-balance subscribers remained connected. Despite challenging conditions, local franchises and service centers remained operational, ensuring continued access to SIM services, recharges, and complaint resolution.

PTA employees also made voluntary contributions to relief efforts, reflecting the organization's culture of empathy and solidarity with affected communities.

Through these interventions, PTA demonstrated its dual role as a regulator and a partner in national recovery, ensuring uninterrupted connectivity, strengthening emergency communication systems, and accelerating service restoration to mitigate the impact of the disaster and support affected communities.

## Pakistan's Ascent in Global ICT Rankings

Pakistan's standing in international ICT rankings showed notable progress during FY 2024-25, with improvements across digital infrastructure, innovation, cybersecurity, and network readiness. This upward trajectory reflects a digital ecosystem that is maturing steadily, supported by systemic reforms and targeted public-sector interventions.

In the Global Cybersecurity Index, Pakistan ranked among top-performing countries worldwide, signaling its growing capacity to manage cybersecurity challenges. Likewise, the country climbed 14 places in the 2024 UN EGDI to enter the 'High EGDI' category—a significant recognition of ongoing digital governance reforms.

In the 2024 GSMA Mobile Connectivity Index, Pakistan's score improved from 45.14 in 2023 to 49.15 in 2024, placing it among the top 20 countries with the highest year-on-year improvement.

This reflects measurable progress across mobile Internet connectivity, particularly against regional peers. Digital gender inclusion also emerged as a key area of leadership in South Asia; the gender gap in mobile Internet usage narrowed from 38% in 2023 to 25% in 2024, with mobile adoption among Pakistani women reaching 45%, surpassing both India (39%) and Bangladesh (26%). This shift is driven largely by increased rural uptake and targeted outreach efforts, though challenges remain in rural coverage expansion, device affordability, and digital literacy.

Together, these improvements affirm Pakistan's commitment to advancing digital infrastructure, cybersecurity, and inclusion. These gains are underpinned by strategic initiatives in infrastructure expansion, skills development, and the promotion of a digital economy with strong growth potential. While the trajectory is positive, continued investment in infrastructure, inclusive access, and institutional reforms will be critical to positioning Pakistan as a globally competitive digital economy.

### EGDI Ranking—Pakistan



| Year | Ranking |
| --- | --- |
| 2016 | 159 |
| 2018 | 148 |
| 2020 | 153 |
| 2022 | 150 |
| 2024 | 136 |
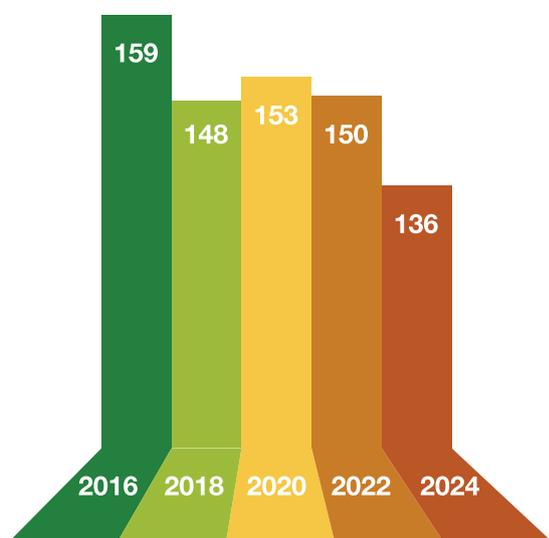
### Pakistan's Ranking in Global ICT Indices

| Index | 2022 | 2023 | 2024 | 2025 |
| --- | --- | --- | --- | --- |
| ITU ICT Development Index | 142(48.7) | 137(55.6) | — | Improving |
| GSMA Mobile Connectivity Index | 138(45.5) | 137(45.1) | 134(49.1) | Improving |
| E-Government Development Index | 150(0.4) | — | 136(0.5) | Improving |

## Advancing Next-Generation Connectivity

PTA continues to play a pivotal role in strengthening Pakistan's digital ecosystem by expanding broadband access, optimizing scarce spectrum resources, and facilitating the deployment of next-generation network infrastructure. Recognizing that robust connectivity is the foundation of a modern digital economy, PTA has concentrated its efforts on creating an enabling environment that supports sustainable growth, network resilience, and inclusive access. Through strategic measures such as network modernization and the promotion of infrastructure-sharing, PTA is enabling operators to extend coverage and improve QoS, particularly in remote and underserved regions. These initiatives also help minimize infrastructure duplication and ensure the efficient utilization of existing resources.

In parallel, PTA is streamlining regulatory frameworks to attract investment in advanced technologies, stimulate market competition, and accelerate nationwide broadband expansion. Key initiatives include expansion of submarine and terrestrial fiber links, operationalization of national roaming in underserved areas, implementation of the National Fiberization Plan, and continued rollout of mobile broadband networks across Pakistan, AJ&K, and GB.

### Submarine Cable and Terrestrial Cross-Border Connectivity Projects

During FY 2024–25, Pakistan made significant strides in expanding its international connectivity through submarine and terrestrial fiber infrastructure, a development that is crucial for increasing bandwidth capacity, improving network reliability, and positioning the country as a regional digital gateway.

Pakistan's current international connectivity relies on six submarine cable systems (SEAMEWE-4, IMEWE, AAE1, TWA1, SEAMEWE-5, and PEACE) and one terrestrial cable system (Pak-China Optical Fiber Cable). Together, the infrastructure offers a total installed capacity of 17.21 Tbps, operated by PTCL, Cybernet, Trans World Associates, and SCO.

Four new high-capacity submarine cable systems namely, AFRICA-1 (6.5 Tbps), SEAMEWE-6 (6 Tbps), 2AFRICA (10 Tbps) and Makran Gulf Gateway (2 Tbps), have been planned to enhance Pakistan's international bandwidth and redundancy. Once deployed, these additions are expected to triple the country's international data transmission capacity, significantly reducing service disruption from cable faults.

In parallel, PTA facilitated the expansion and upgradation of terrestrial cross-border fiber links with China and Afghanistan. As of FY 2024-25, a total of 20 cross-border fiber links are operational, enhancing regional transit capacity and international data traffic flow. These infrastructure developments undertaken with licensed operators are a key step towards establishing Pakistan as a regional data transit hub and strengthening the country's digital backbone.

Collectively, these projects reflect PTA's commitment to building a resilient, scalable, and future-ready connectivity ecosystem aligned with Pakistan's digital transformation goals and regional integration objectives.

### Bridging Coverage Gaps through National Roaming

In line with its mandate to increase universal connectivity and improve QoS, PTA continued to facilitate the expansion of national roaming services during FY 2024-25. National roaming enables consumers to access telecom services beyond their primary operator's coverage area by utilizing partner networks, serving as a critical solution for remote and underserved regions. PTA's regulatory oversight, policy facilitation, and coordination with CMOs played a central role in operationalizing national roaming across strategic routes and regions, addressing long-standing coverage gaps and improving consumer experience.
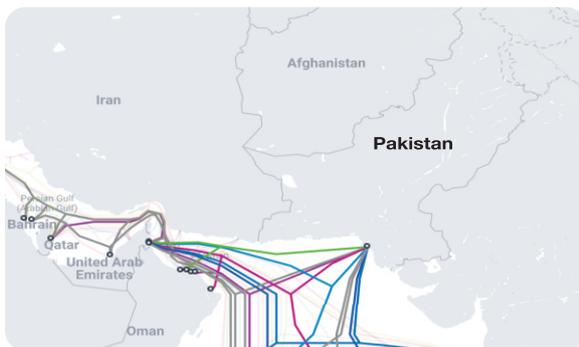
Following the successful implementation of national roaming along the Makran Coastal Highway in collaboration with Jazz and Ufone, additional initiatives were pursued during the year. Telenor Pakistan deployed national roaming at select need-based sites in Punjab to enhance its footprint and offer seamless services to its subscribers. These initiatives enabled uninterrupted voice and messaging services across operator networks, particularly in rural and low-density areas, benefiting commuters, local communities, and emergency services.

The expansion of national roaming to additional geographies, including major highways and motorways, is currently under evaluation and is expected to be implemented soon. By encouraging inter-operator collaboration and reducing infrastructure redundancy, national roaming strengthens service reliability, optimizes network investment, and advances Pakistan's digital connectivity agenda.

## Cellular Network Expansion in Pakistan, AJ&K, and GB

To support the rapid rollout and expansion of mobile networks, approximately 2,646 new BTS sites were installed between July 2024 and June 2025. Furthermore, all CMOs have commenced mobile broadband services in AJ&K and GB despite challenging terrain and harsh weather conditions. Approximately 97% of the telecom infrastructure has been upgraded with 4G data services, ensuring wider access to high-speed connectivity across the region.

Upgrades on these sites have led to 4G data enablement, fulfilling mandatory rollout obligations defined by PTA. The 2021 spectrum auction mandated enhanced coverage requirements for underserved regions. By upgrading existing networks, operators have not only met their license conditions but have also addressed a long-standing demand for reliable mobile broadband services. PTA continues to closely monitor network expansion and QoS, particularly in regions vulnerable to climate-related disruptions, while further improvements are expected as operators invest further in next-generation technologies.

Improved 4G penetration in AJ&K and GB is anticipated to support e-commerce, online education, telehealth, and digital inclusion, aligning with the government's broader agenda of bridging the digital divide.

## Advancing the National Fiberization Plan

PTA, in collaboration with MoITT, continued to advance the National Fiberization Plan, an integral component of the broader Digital Economy Enhancement Project (DEEP). This strategic initiative aims to expand Pakistan's national optical fiber network to support wider fixed broadband penetration, enable future 5G deployments, and power emerging digital applications.

Recognizing the critical role of fiber as the backbone of a digital economy, the plan emphasizes enablers such as streamlining Right-of-Way approvals, rationalizing associated costs, promoting infrastructure sharing, and attracting private sector investment. These measures aim to accelerate rollout, particularly in underserved and rural areas. The plan also prepares Pakistan's network for gigabit-level connectivity in support of future digital services such as smart cities, IoT ecosystems, and e-governance platforms.

As of mid-2025, approximately 234,752 km of fiber optic cable has been deployed, underscoring the urgency of further expansion. Through this plan, PTA reaffirms its commitment to fostering inclusive digital growth, bridging the connectivity gap, and building a resilient, future-ready broadband infrastructure across Pakistan.

## Adoption of Wi-Fi 7

PTA approved the adoption of Wi-Fi 7 technology and future Wi-Fi generations within the 6 GHz band (5925–6425 MHZ). This allocation builds on the technical parameters and limits previously defined for Wi-Fi 6E.

This strategic move positions Pakistan among the regional leaders in digital innovation, making it one of the first countries in the Asia-Pacific region to formally adopt next-generation Wi-Fi. It also aligns Pakistan with a select group of nations worldwide that are harnessing the transformative potential of this high-capacity band, reflecting the country's determination to lead in the global digital landscape.

Wi-Fi 7 delivers significantly higher data throughput, ultra-low latency, and enhanced reliability, enabling

bandwidth-intensive applications such as 8K video streaming, Augmented Reality/Virtual Reality, and industrial automation.

By embracing Wi-Fi 7, Pakistan has taken a major step towards bridging the digital divide, strengthening Internet resilience, and fostering an inclusive digital economy. Its adoption will deliver direct benefits across households, Small and Medium Enterprises, educational campuses, healthcare systems, and smart city initiatives, reducing reliance on costly in-building cellular deployments, lowering broadband delivery costs, and easing congestion in legacy spectrum bands.

## Towards a Resilient Regulatory Regime

In pursuit of a transparent, accountable, and robust regulatory environment, PTA continued to strengthen the legal foundations of Pakistan's telecom sector. During FY 2024-25, it actively reviewed and updated key legal instruments to ensure alignment with evolving technologies, international benchmarks, and stakeholder needs, while upholding its mandate to protect consumers interest and promote fair competition.

PTA undertook comprehensive legislative reforms to align the regulatory framework with evolving sectoral requirements. New regulations such as the Tariff for Cellular Mobile Telecommunication Services Regulations, 2025 and IP Whitelisting Regulations, 2024 were notified, alongside amendments to existing regulations such as Subscribers Antecedents Verification, Type Approval Technical Standards, and Number Allocation and Administration. In parallel, key instruments such as the Telecom Consumer Protection Regulations and Mobile Number Portability Regulations are under review, reflecting PTA's commitment to proactively observe and address emerging industry requirements.

### Tariff Regulations for Cellular Mobile Services

In line with its mandate to promote transparency, fair competition, and consumer rights, PTA issued the Tariff for Cellular Mobile Telecommunication Services Regulations 2025, following extensive consultations with relevant stakeholders.

The objective of these regulations is to safeguard consumer rights, ensure pricing flexibility, allow a reasonable rate of return on investment relative to operational costs, and prevent cross-subsidization when determining tariffs for licensed services. All CMOs are required to comply with these provisions.

The regulations also define the obligations of Significant Market Players (SMPs), who must obtain prior approval from PTA before introducing new packages or revising existing tariffs. In contrast, non-SMP operators retain greater flexibility in tariff-setting within the existing competitive market framework. Additionally, the regulations improve transparency for consumers using international roaming services by mandating clear communication of roaming tariffs and ensuring subscribers are not charged beyond their credit limits.

These measures reinforce PTA's continued efforts to align domestic regulatory practices with international standards, while balancing consumer protection and market innovation. They are expected to enhance affordability for consumers while encouraging operators to diversify and improve their service offerings.

### IoT LPWAN Framework

To date, PTA has issued 23 IoT Low Power wide Area Network (LPWAN) licenses; however, only five licensees are operational, and even these on a limited scale. Three licensees have deployed only test gateways, while the majority remain inactive. Key regulatory gaps such as the absence of rollout obligations, non-issuance of commencement certificates, and failure to submit Annual Audited Accounts, have delayed service deployment, undermining the framework's intended utility.

In response, PTA has proposed substantial revisions to enforce accountability and stimulate growth. The proposed changes include:

- Mandatory issuance of commencement certificates within a year of license issuance.
- Restructuring of the initial license fee to Rs. 300,000 for nationwide coverage, aligned with Class Value-Added Services (CVAS) licensing.
- Inclusion of time-bound rollout obligations tied to gateway deployment milestones.
- Compulsory submission of Annual Audited Accounts to assess financial and operational viability.
- Deactivation or termination of licenses that remain non-operational beyond six months.

These revisions are designed to deter license hoarding, accelerate deployment timelines, and

ensure spectrum and infrastructure are used for public benefit. The revised draft framework will provide a clear path for developing a scalable, accountable, and innovation-driven IoT ecosystem aligned with the Digital Pakistan vision.

## Determination on APC for USF

Access Promotion Contribution (APC) for USF is a levy imposed on incoming international call traffic and collected from Long Distance International (LDI) operators. However, the recovery of outstanding APC for USF dues from certain LDI licensees has been prolonged due to multiple court cases and restraining orders.

To resolve this issue, PTA undertook extensive legal and regulatory efforts to recover outstanding dues. Legal proceedings under Section 23 of the Pakistan Telecommunication (Re-organization) Act, 1996 were initiated, and Show Cause Notices, along with enforcement orders, were issued.

Show Cause Notices issued in 2016 were challenged before the Sindh High Court, which, in November 2024, remanded the matter to PTA for adjudication. In response, PTA devised a comprehensive hearing strategy, thoroughly reviewing case records and operator submissions to pursue recovery. Hearings were held in April-May 2025, during which all licensees were given an opportunity to present their cases. Following careful examination, PTA issued enforcement orders directing the payment of outstanding APC for USF dues. These orders were subsequently challenged by the licensees in the courts of law, and the matter remains sub-judice.

Wateen has deposited Rs. 2.05 billion its principal APC for USF outstanding dues, whereas payment of LPAF shall be subject to court decision. Consequently, Wateen's LDI license has been renewed by the Authority.

## Wireless Local Area Network Framework

Following extensive consultations with FAB and other stakeholders, PTA published the Framework for Wireless Local Area Network (WLAN), 2024. The framework provides regulatory guidance for Wi-Fi operations across the 2.4 GHz, 5 GHz and newly opened 6 GHz bands, enabling license-exempt spectrum use under defined technical conditions. With the opening of the 6 GHz band in May 2024, Pakistan became one of the first countries in the Asia-Pacific region to authorize unlicensed WLAN operations.

The framework reflects PTA's commitment to creating a robust regulatory environment that supports safe and efficient spectrum utilization. It mandates type approval for compliant WLAN equipment to ensure only certified devices are deployed and introduces a zero-fee policy for unlicensed use. These measures provide importers and local manufacturers with clear technical guidelines, facilitate market access, and enable consumers to enjoy enhanced Wi-Fi coverage and connectivity in homes, offices, and public spaces.

For consumers, the framework provides an improved wireless experience, with stronger coverage, higher speeds, and more reliable connectivity in homes, workplaces, and public spaces, thereby expanding digital access and promoting the adoption of emerging technologies.

## Revision of Spectrum Charges for Radio-Based Services

The existing radio frequency spectrum charges and annual license fees for Radio-Based Services (RBS), originally implemented in 2001, have remained unchanged for nearly 24 years, despite rising administrative costs and the increasing commercial value of spectrum-dependent services.

To address this longstanding gap, PTA undertook a comprehensive review of RBS-related fees. The revision aims to more accurately reflect the cost of spectrum management, ensure efficient resource allocation, and align fee structures with the current technological and commercial landscape. With the rapid advancement of communication technologies and the expanded use of RBS—particularly in modern IoT applications and critical communications systems—an update to the financial model had become imperative.

Following detailed consultations with industry stakeholders, RBS fee structure has been revised.

### Judicial Progress and Legal Enforcement

During the year under review, PTA actively pursued legal proceedings across various courts. A total of 161 cases related to matters such as illegal SIMs, unauthorized installation of BTS sites, and grey traffic were successfully disposed of, reflecting PTA's commitment to ensuring regulatory compliance through vigilant monitoring and effective legal follow-ups.

## Strengthening SIM Security

In line with its mandate to safeguard national security and consumer interests, PTA has adopted a multipronged, technology-driven strategy to curb illegal SIM issuance and strengthen the security of the SIM sale ecosystem.

### Curbing Fraud though Enforcement Actions

To deter fraud at the grassroots level, PTA, in coordination with the National Cyber Crime Investigation Agency, carried out joint enforcement actions against the unauthorized issuance of both local and international SIMs. Between July 2024 to June 2025, as many as 44 raids in 24 cities targeted local SIM fraud, resulting in the confiscation of over 5,300 SIMs, 99 biometric devices, and more than 250,000 digital fingerprints, along with 71 arrests. In parallel, 32 raids on illegal international SIM sales led to 46 arrests and seizure of more than 8,000 SIMs. PTA also blocked 83 websites involved in unauthorized SIM sales, disrupting online fraud channels.

In support of these enforcement measures, PTA carried out large-scale SIM blocking to cleanse invalid records from telecom databases. Over 891,000 dormant SIMs were recycled or blocked; more than 3.2 million SIMs issued against deceased individuals were deactivated; 69,000 SIMs issued against cancelled or impounded CNICs were disabled; and 783,000 SIMs linked with expired CNICs were removed from operations. To curb illegal usage by repatriated foreign nationals, over

### Technical Interventions to Curb Illegal SIM Issuance

- Three Factor authentication (3FA) of SIM seller
- Enforcement of franchise-level SIM stock binding
- Geo-fencing of BVS devices within 100-meter radius
- Enablement of Live Finger Detection (LFD) feature
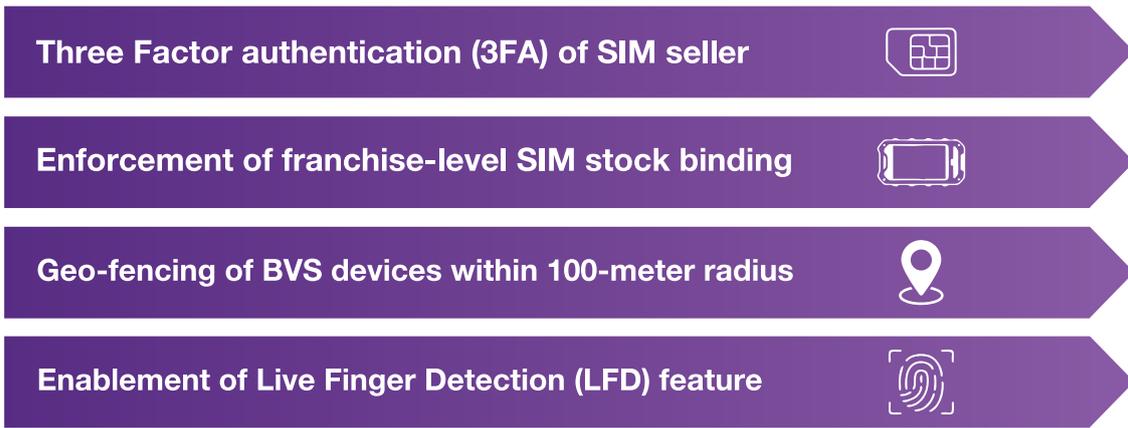
### Blocking & Actions Against Illegal SIM Sales (FY 2024-2025)

1. **891,000** Dormant SIMs
2. **3.2 Million** SIMs of Deceased
3. **69,000** SIMs on Cancelled CNICs
4. **783,000** on Expired CNICs
5. **179,000** SIMs of Repatriated Foreign Nationals

| | Raids | Arrests | SIMs Confiscated |
|---|---|---|---|
| Int. SIMs | 32 | 46 | 8,000 |
| Local SIMs | 44 | 71 | 5,300 |

■ Local SIMs  ■ Int. SIMs
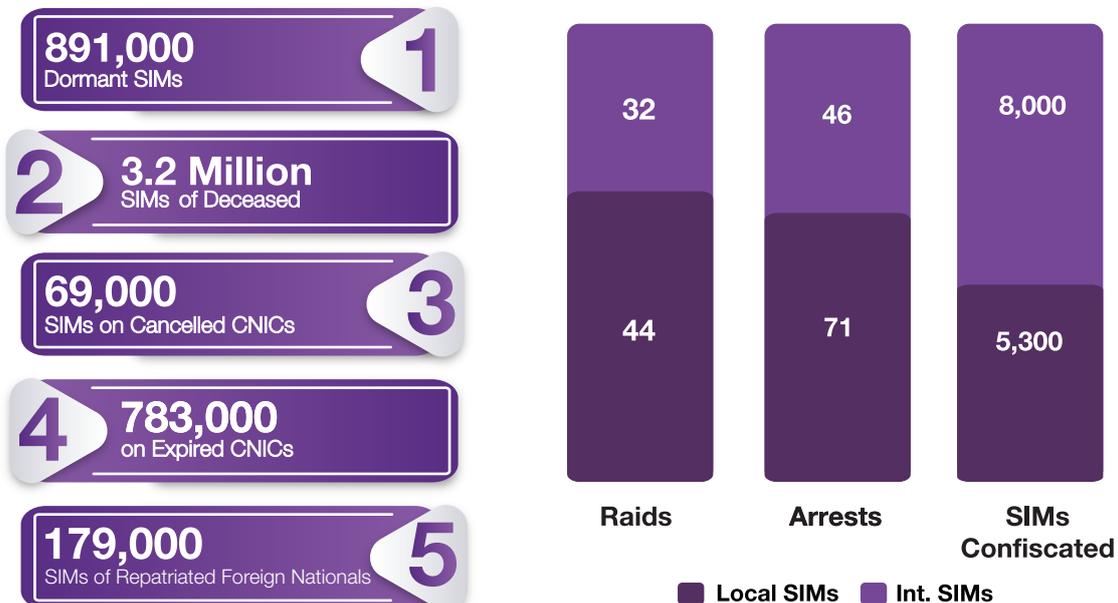
179,000 SIMs registered against Afghan PoR/ACC cardholders were also blocked. Collectively, these actions closed critical loopholes, reduced avenues for misuse, and strengthened the integrity of the national SIM ecosystem.

## Enforcing Technical Safeguards at Point of Sale

To reinforce accountability at point of sale, PTA rolled out a series of industry-wide technical upgrades. Three-Factor Authentication (3FA) was mandated, requiring sellers to authenticate through login/password, OTP, and biometric verification every three hours. To curb SIM stock manipulation, franchise-level SIM stock binding was enforced, ensuring that allocated inventories remain tied to specific outlets. Additionally, the geo-fencing of Biometric Verification System (BVS) devices within a 100-meter radius of approved sale locations was implemented, restricting unauthorized mobility and ensuring SIM sales occur only at registered points.

In a significant step forward, the Live Finger Detection feature was enhanced across all BVS devices used by CMOs, eliminating the use of fake fingerprints. To further curb misuse, each device can now be accessed only by two authenticated owners, ensuring tighter control at the point of sale.

To protect the 9.3 million beneficiaries of the Benazir Income Support Programme (BISP) from fraudulent activations, PTA implemented safeguards by restricting their SIM issuance exclusively to authorized Customer Service Centers and registered franchises.

## Unlawful Online Content Management

Under Section 37(1) of the Prevention of Electronic Crimes Act (PECA) 2016, PTA is empowered to remove, block, or direct the removal of online content in the interest of the glory of Islam, the integrity, security, or defense of Pakistan, public

| Breakdown of Blocked URLs-by Category (FY 2024-25) | |
|---|---|
| Category | Blocked |
| Decency and Morality | 38,214 |
| Against Security & Defence of Pakistan | 31,313 |
| Against Glory of Islam | 7,608 |
| Sectarian/Hate Speech | 6,269 |
| Defamatory/Impersonation | 2,498 |
| Miscellaneous | 1,765 |
| Contempt of Court | 353 |
| Proxy | 15 |
| Total | 88,035 |

order, decency or morality, contempt of court, or to prevent the commission or incitement of an offense under PECA.

To implement this mandate in line with PECA and the Removal and Blocking of Unlawful Online Content (Procedure, Oversight and Safeguard) Rules, 2021, PTA established a structured Standard Operating Procedure for the registration of complaints from both stakeholder organizations and the general public.
During FY 2024-25, PTA blocked 88,035 URLs for hosting unlawful content. Most of the blocked URLs pertained to content categorized under decency and morality, followed by anti-state/security threats, and content against the glory of Islam. Hate speech and sectarian material also remained a notable area of regulatory action.

## Capacity-Building for Online Content Moderation

PTA, in collaboration with Meta, organized a workshop on 'Counter Terrorism in the Digital Age' at the PTA Headquarters in Islamabad on July 8, 2025. The event brought together policy experts from major digital platforms, senior government representatives, and officials from Law Enforcement Agencies. The workshop offered a strategic forum

| Breakdown of Blocked URLs-by Platform (FY 2024-25) | |
|---|---|
| Platform | Blocked |
| TikTok | 35,002 |
| Facebook | 25,482 |
| Instagram | 13,242 |
| YouTube | 8,586 |
| Others/Misc | 2,281 |
| Twitter | 2,103 |
| Likee | 991 |
| SnackVideo | 345 |
| Dailymotion | 03 |
| Total | 88,035 |



PTA strongly encourages users to report unlawful online content.

Report links to PTA at:

https://complaint.pta.gov.pk/RegisterComplaint.aspx

OR

PTA CMS mobile app

PTA Pakistan Telecommunication Authority
www.pta.gov.pk

for discussions on evolving global policies, technologies, and coordinated frameworks to counter terrorism-related online content.

Key focus areas included the development of effective content moderation strategies, robust complaint-handling processes, and efficient escalation mechanisms for high-risk, time-sensitive cases. An interactive Q&A session enabled stakeholders to engage directly with Meta's policy specialists, fostering in-depth discussions on the deployment of emerging digital tools, AI-driven detection systems, and localized



Chairman PTA, Major General (R) Hafeez Ur Rehman, and Lead for Dangerous Organizations and Individuals (DOI) Policy at Meta, Dr. Nawab Osman, posed with representatives from PTA and Meta, at the close of a high-level workshop on 'Counter Terrorism in the Digital Age,' at the PTA Headquarters on July 8, 2025.

response mechanisms. The initiative is part of the broader framework to enhance national digital security, protect citizens from harmful content, and position Pakistan as a proactive member of the global digital community.

## Safeguarding the Digital Space amid Pak-India Conflict

As tensions between Pakistan and India escalated in May 2025, PTA safeguarded the country's digital domain against cross-border information warfare. Recognizing the influence of digital platforms on public sentiment and national morale, PTA ensured round-the-clock surveillance of cyberspace to monitor, detect, and neutralize unlawful and harmful content targeting Pakistan.

Special attention was paid to the detection and blocking of disinformation campaigns, propaganda narratives, and fake news propagated by Indian entities via online news outlets, mainstream Indian media, and social media platforms. As a result, PTA adopted an approach via cross-institutional coordination and geo-fenced 202 digital assets, effectively restricting access within Pakistan. These included 127 Indian YouTube channels, 32 websites, 9 Facebook pages, and 34 TikTok URLs. Among the blocked sources were high-profile outlets such as India Today and Zee News, both of which were found disseminating anti-Pakistan content.

The measures extended beyond news and social media. Recognizing the influence of Over-The-Top streaming platforms in shaping public opinion through entertainment, PTA directed leading providers such as Tapmad, Tamasha, Myco, Big Baat, and Begin Watch, to remove Indian-origin content. All platforms complied, ensuring that the prohibited material was fully withdrawn from offerings in Pakistan.

This integrated digital defense strategy—combining technological surveillance, policy enforcement, and direct platform engagement—effectively disrupted hostile narratives and safeguarded Pakistan's information sovereignty. The response showcased PTA's institutional agility and reaffirmed its role in supporting national security during times of crisis.

Prime Minister Shehbaz Sharif conferred the Sitara-e-Imtiaz on Chairman PTA, Major General (R) Hafeez Ur Rehman, on August 14, 2025, in acknowledgement of his leadership in safeguarding Pakistan's digital infrastructure during the April-May 2025 escalation.

## Strengthening the Device Manufacturing Ecosystem

PTA has played a transformative role in strengthening the MDM ecosystem through DIRBS. This landmark achievement has effectively curbed the influx of, counterfeit and non-compliant devices, while enhancing consumer protection, formalizing the

mobile device market, and bolstering government revenues.

Building on DIRBS, the MDM Regulations, 2021, enabled the localization of device assembly and manufacturing in Pakistan. Since then, the ecosystem has expanded significantly. By 2025, over 95% of all mobile devices used on Pakistani networks were locally manufactured; these included 68% of all smartphones, reflecting a massive shift towards import substitution and industrial self-reliance. To date, 36 manufacturing authorizations have been issued to domestic and international players, including globally recognized brands such as Samsung, Xiaomi,Oppo and Vivo. Pakistan is now firmly on the path to self-reliance in the mobile device hardware domain. Fiscal contributions have also been enhanced, with over PKR 83 billion collected through individual-category mobile device registrations since 2019.

At the same time, PTA maintained rigorous enforcement through DIRBS to ensure consumer protection and system integrity. To date, as many as 868,000 lost or stolen devices were blocked, 72 million fake or replica devices were identified and blocked on cellular networks, including 27 million duplicated or cloned IMEIs.

These milestones reflect Pakistan's evolution into a secure, transparent, and self-sustaining digital ecosystem. The strengthened local manufacturing base not only contributes to economic resilience but also positions the country as a potential player in the regional mobile phone value chain.

## Cross-Sectoral Collaborations

### MoU with the Ministry of Commerce

PTA and the Ministry of Commerce signed a landmark MoU at the PTA Headquarters on January 16, 2025, to foster cooperation in shaping a resilient digital ecosystem and promoting trade through technological innovation.

The MoU outlines strategic areas of collaboration, including e-commerce, cybersecurity, and cloud computing, with a strong emphasis on knowledge exchange, institutional capacity-building, and the creation of a competitive environment for businesses and consumers alike, positioning the country for inclusive economic growth and societal progress. A key priority under the agreement is to promote cross-border trade, enhancing business efficiency and competitiveness.

### MoU with the Higher Education Commission

PTA and HEC signed a crucial MoU to enhance collaboration in joint research and development, ICT curriculum development, academia-industry linkages, capacity-building, and the responsible use of social media in higher education. The partnership symbolizes a shared commitment to harness technology for advancing education, research, and innovation across Pakistan's academic landscape.



PTA and the Higher Education Commission signed a Memorandum of Understanding in Islamabad on December 9, 2024, to enhance collaboration in joint research and development activities, among other areas. Chairman HEC, Dr. Mukhtar Ahmed, Chairman PTA, Major General (R) Hafeez Ur Rehman, and Executive Director of HEC, Dr. Zia Ul Qayyum, were also present on the occasion.



Chairman PTA, Major General (R) Hafeez Ur Rehman, presented a commemorative shield to Secretary Commerce, Mr. Jawad Paul, on January 16, 2025, after PTA and the Ministry of Commerce signed a Memorandum of Understanding to drive advancements in digital trade, e-commerce, and connectivity.

Under the MoU, both organizations will work together to curb the misuse of social media among youth, addressing issues such as disinformation, hate speech, and societal unrest. The collaboration also seeks to equip students with the tools, knowledge, and awareness needed for the constructive use of social media and Internet technologies. Additionally, HEC and PTA agreed to create synergies to address connectivity challenges, improve access to digital learning resources, and enhance the overall quality of higher education delivery.

## MoU with NCERT

On December 5, 2024, PTA and the National Computer Emergency Response Team (NCERT) signed a landmark MoU to enhance cooperation in cybersecurity and safeguard Pakistan's digital infrastructure. The signing ceremony, held at the PTA Headquarters, formalized joint efforts to strengthen national resilience against cyber threats.

Chairman PTA, Major General (R) Hafeez Ur Rehman, emphasized the importance of collaboration in securing communications networks amid evolving threats, while the Director General of NCERT, Dr. Haider Abbas, stressed the need for a unified national response to growing cyber risks.



PTA's Director General of the Cyber Vigilance Division, Dr. Mukaram Khan, and Director Labs, national Computer Emergency Response Team (nCERT), Mr. Altaf Ur Rehman, signed a Memorandum of Understanding at the PTA Headquarters on December 5, 2024. The agreement formalized PTA-nCERT collaboration to enhance cybersecurity cooperation and strengthen Pakistan's digital infrastructure.

## Enhancing Efficiency through Digitalization

PTA continues to digitize its internal processes to improve regulatory efficiency, reduce procedural delays, and promote ease of doing business across the telecom sector. By modernizing operations, it fosters greater agility, transparency, and responsiveness in regulatory service delivery.

The introduction of automated systems, online portals, and centralized data platforms such as the Single Sign-On system, which streamlines access to PTA's internal digital services through a unified login, and integrated e-payment mechanisms, has accelerated key functions, including compliance monitoring, licensing, and data-driven decision-making. These digital tools have enhanced operational efficiency by streamlining workflows, minimizing human error, and enabling real-time oversight across operations. The ongoing digital transition allows PTA to respond swiftly to evolving sectoral demands while strengthening public trust through improved service delivery.

To enhance transparency, efficiency, and ease of doing business in the licensing regime, PTA launched OASIS on August 14, 2024. This end-to-end digital platform streamlines the telecom licensing process by enabling applicants to submit, track, and finalize their applications online without the need for physical submission of applications.

OASIS is fully integrated with the National Database and Registration Authority (NADRA) for CNIC authentication, the Securities and Exchange Commission of Pakistan for company verification, and the National Bank of Pakistan for secure fee processing, ensuring seamless and real-time validation at every stage. Biometric verification is also available through NADRA's e-Sahulat network.

Developed in collaboration with key national institutions, the platform reflects the government's commitment to ease of doing business. By reducing paperwork, minimizing delays, and ensuring transparency, OASIS not only enhances user experience but also strengthens regulatory oversight and operational efficiency, while positioning Pakistan's telecom sector as modern, accessible, business-friendly, and aligned with global best practices.

## Driving Efficiency through SAP

As part of its digital transformation journey, PTA implemented the SAP Enterprise Resource Planning system across key departments.

The transition began with the Human Resource Directorate automating key tasks such as employee records, payroll, loan management, and performance evaluation. Following this successful deployment, SAP was subsequently extended to procurement, finance, inventory, and administration, creating a fully integrated digital ecosystem within PTA.

By adopting SAP, PTA has standardized processes, eliminated manual inefficiencies, and enabled real-time information flow across departments. The

system strengthens decision-making, improves internal controls, and ensures compliance with audit and regulatory requirements. PTA's implementation of SAP sets a new benchmark for public sector entities in Pakistan, ensuring the organization remains responsive, transparent, data-driven, and aligned with global best practices.

## Engagement with Parliamentary and Oversight Institutions

PTA maintained active engagement with both Houses of Parliament and their respective Standing Committees during the year under review. Responses were provided on a wide range of parliamentary business, including starred and un-starred questions, calling attention notices, and resolutions. These engagements primarily addressed issues related to service quality, mobile coverage gaps, blocking of unlawful and blasphemous content, and enforcement measures against cybercrime and fake social media accounts.

During 2024-25, PTA participated in 31 Standing Committee meetings of the Senate and National Assembly, delivered 77 briefings to relevant ministers, and responded to 95 parliamentary questions. In total, 279 formal engagements were undertaken across parliamentary forums, reflecting a commitment to timely, fact-based responses and active participation in the national policy discourse on telecom and digital regulation.

Beyond parliamentary matters, PTA actively engaged with key oversight and accountability institutions. Under the Right of Access to Information Act, it submitted responses in 22 cases and attended 25 hearings before the Pakistan Information Commission.

These engagements demonstrate a continued commitment to transparency, good governance, and regulatory integrity, benchmarked against global best practices in telecom regulation.
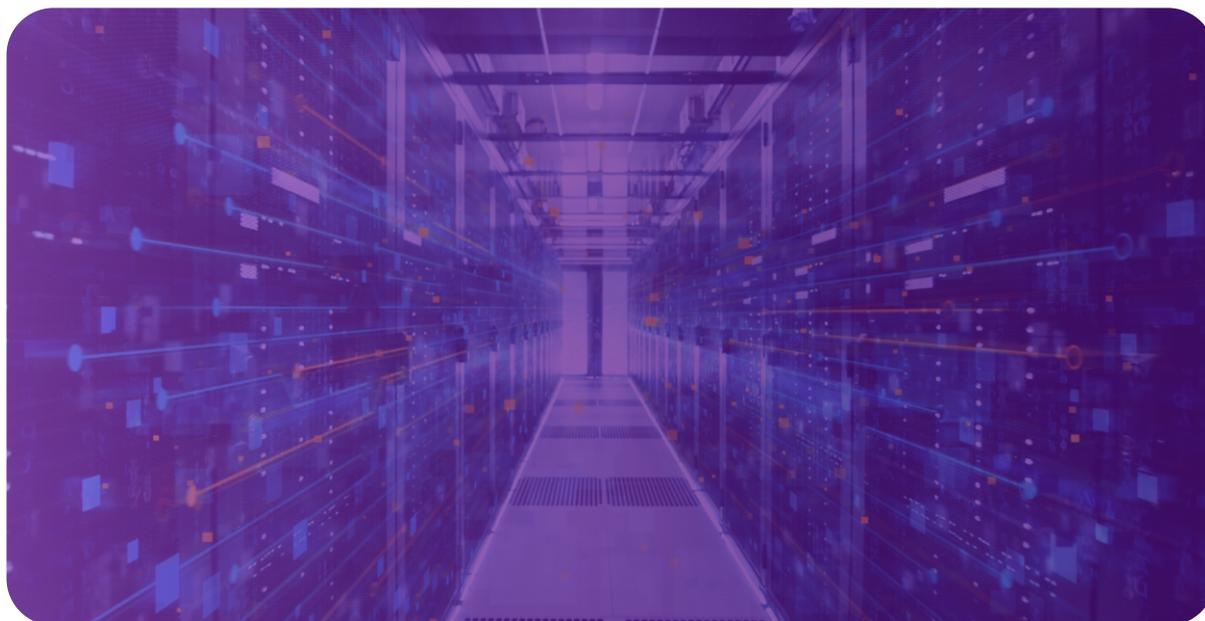


The initiatives undertaken during the year demonstrate PTA's steady progress in consolidating Pakistan's digital foundations. Regulatory reforms, infrastructure expansion, cybersecurity readiness, and collaborative engagements reflect a balanced approach to sectoral growth and public interest. These measures have enhanced transparency, improved service reliability, and strengthened consumer protection while aligning Pakistan's telecom environment with global benchmarks. Looking ahead, PTA remains committed to ensuring equitable access, maintaining trust in digital systems, and supporting the country's broader socio-economic objectives. Together, these efforts lay the groundwork for a resilient and future-ready telecom sector that continues to serve the nation effectively.

# Telecom Licensing | 2

# Chapter 2 | Telecom Licensing

PTA continues to strengthen its role as a forward-looking regulator by introducing advanced technologies, modern services, and state-of-the art telecom infrastructure. Central to this effort is the licensing regime, which has evolved in step with global advancements to foster fair competition, promote inclusive digital development, and safeguard consumer interests.

In FY 2024-25, PTA's focus expanded beyond traditional licensing to prioritize 5G readiness, broadband expansion in underserved regions through satellite connectivity, and secure, uninterrupted Internet access through VPN licensing. Collectively, these measures demonstrate PTA's resolve to deliver a modern, future-ready licensing regime that underpins the country's digital transformation and positions Pakistan to thrive in an era of advanced connectivity.

## Status of Licenses Issued

As many as 2,183 licenses have so far been issued across ICT and telecom domains. In FY 2024-25 alone, 303 licenses, including 112 renewals and 191 new awards, were finalized, underscoring service continuity and sectoral diversification.

The Local Loop (LL) category led with 57 new licenses and 50 renewals, followed by the Private Radio Network category wherein 58 new licenses were granted along with 28 renewals, while the CVAS category recorded 45 new licenses. New authorizations were granted in emerging domains such as IoT-LPWAN (7 licenses), alongside awards for Telecom Infrastructure Providers and Telecommunication Tower Providers.

## Renewal of LDI Licenses

The process for the renewal of LDI licenses issued in 2004-06 was one of PTA's major activities during the year. After the fulfillment of all necessary requirements, four LDI licenses—LINKdotNET, Orient Express, ADG LDI, and Telenor LDI—were renewed in 2024. At the same time, several LDI licensees filed court cases regarding the non-payment of outstanding dues, including Annual Regulatory Dues, contributions related to APC for

| Licenses Issued (FY 2024-25) | | | |
|---|---|---|---|
| S.No | License Type | Renewed | Newly Awarded |
| 1. | Long Distance International | 04 | - |
| 2. | Local Loop | 50 | 57 |
| 3. | Class Value-Added Services | 02 | 45 |
| 4. | Telecom Infrastructure Provider | - | 01 |
| 5. | Telecommunication Tower Provider | - | 01 |
| 6. | Private Radio Network | 28 | 58 |
| 7. | Mobile Station (Aircraft/Ship) | 11 | 15 |
| 8. | Amateur Wireless Radio | 17 | 07 |
| 9. | IoT Low Power Wide Area Network | - | 07 |
| **Total** | | **112** | **191** |

| Total No. of Licenses/Registrations (Pakistan, AJ&K, and GB) | | |
|---|---|---|
| S.No | License Type | Issued |
| 1. | Cellular/Mobile | 05 |
| 2. | Long Distance International | 36 |
| 3. | Fixed Local Loop | 374 |
| 4. | Telecommunication Infrastructure Provider | 25 |
| 5. | Telecommunication Tower Provider | 22 |
| 6. | Wireless (HF/UHF/VHF/Amateur, IoT LPWAN, etc.) | 1,151 |
| 7. | Class Value Added Services | 534 |
| 8. | Local Mobile Manufacturer (Authorizations) | 36 |
| **Total** | | **2,183** |

USF, and matters linked to license renewals. In November 2024, the Sindh High Court referred the case back to PTA for a decision on renewal applications, directing the Authority not to take any coercive action until a final decision was made.

PTA continued to actively engage with all stakeholders, including MoITT and LDI licensees, to achieve an amicable resolution. Multiple consultative sessions were held, and after providing an opportunity of hearing, six renewal applications were decided in July 2025. The decisions required licensees to clear all outstanding dues, ensure network rollout compliance, and submit the renewal fee within a month prior to signing of licenses.

All six licensees challenged the renewal orders in the Sindh High Court and Islamabad High Court, which granted stay orders. Additionally, the renewal applications of two LDI licenses remain pending.

## 5G Spectrum Auction Preparation

A favourable environment for 5G requires spectrum planning, infrastructure preparedness, robust policy frameworks, and consumer awareness. Pakistan's path towards 5G adoption is advancing through coordinated efforts between the government, PTA, Frequency Allocation Board (FAB), and MoITT, alongside the active participation of CMOs,

vendors, and academia, as reflected in the graphic illustration below.

For the upcoming spectrum auction, FAB has approved an additional 606 MHz of spectrum across 700 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2600 MHz, and 3500 MHz bands—more than double the currently allocated 274 MHz. All CMOs have already conducted successful 5G trials in major cities such as Islamabad, Karachi, and Lahore, demonstrating ultra-fast speeds, low latency, and support for advanced applications.

To oversee spectrum release, the government constituted an advisory committee chaired by the Federal Minister for Finance, with representation from MoITT, Ministry of Law and Justice, Ministry of Industries and Production, PTA, FAB, and other stakeholders. PTA also engaged an international consultant—the National Economic Research Associates (NERA)—to conduct a comprehensive market assessment, consult industry stakeholders, and propose strategies for spectrum valuation, affordability, and sustainable competition. NERA's recommendations draw on lessons from past auctions and international best practices, and emphasize innovation in healthcare, education, agriculture, smart cities, and digital governance, while ensuring fiscal sustainability and attracting foreign investment. The market assessment study

**Progress on 5G Spectrum Auction**

| Spectrum Allocation Completed **1** | 5G Trails Completed **2** | 5G Advisory Committee Established **3** | Hiring of Consultant Completed **4** | Spectrum Auction Strategy Completed **5** | Policy Directive In Progress **6** |
|---|---|---|---|---|---|

also includes modelling for 5G launch and implementation, along with viable monetization models tailored to Pakistan's market dynamics.

The preparatory work for spectrum release is complete, and policy directions from the government are expected shortly. Once received, PTA will publish the Information Memorandum, conduct the auction, and issue licenses, paving the way for the commercial launch of 5G.

A phased rollout strategy will be followed to ensure that the transformative benefits of 5G are delivered nationwide in a balanced, inclusive, and sustainable manner. The initial deployment will focus on major urban centers where data demand is highest and where network readiness and commercial viability provide the strongest foundation. These cities will serve as pilot zones for smart city solutions, digital health, e-education, and immersive entertainment experiences. Subsequent phases will extend coverage to secondary cities and industrial hubs before reaching semi-urban and rural communities.

Despite steady progress, multiple challenges remain. The deployment of 5G requires capital-intensive upgrades such as small cells, advanced antennas, and fiber backhaul. Operators face long timelines for



PTA engaged the National Economic Research Associates Inc. as its consultant for 5G spectrum auction in Pakistan. As part of ongoing efforts for a transparent and mutually beneficial process, a stakeholder consultation was organized in Islamabad on November 29, 2024, with government and commercial organizations, telecom operators, and vendors in attendance.

return on investment, making government incentives and public-private partnerships critical to supporting rollout. Spectrum-related litigation also creates regulatory uncertainty and can delay the timely availability of bands. Financial sustainability also remains a key concern, as does the need for proactive outreach to counter health-related misconceptions and to inform the public about the tangible benefits of 5G, including enhanced connectivity and support for emerging technologies.

To accelerate readiness, the government has prioritized nationwide fiberization. Policies such as waiving Right-of-Way charges are facilitating rapid fiber deployment, ensuring affordable backhaul for next-generation networks. By aligning with international standards and maintaining strong industry-government coordination, Pakistan is positioning itself to leverage 5G as a platform for innovation, socio-economic growth, and global competitiveness.

## Licensing of Satellite Services for National Development

Space-based systems are now central to socio-economic development, supporting communications, disaster response, education, agriculture, healthcare, and environmental monitoring. Recognizing their strategic value, the government introduced the National Space Policy in December 2023, followed by the Pakistan Space Activities Rules in February 2024 to guide the peaceful, sustainable, and self-reliant use of satellite technology.

Aligned with this vision, PTA has assumed a lead regulatory role in the satellite communications sector. A comprehensive licensing regime is being developed to facilitate satellite-enabled services, with a focus on satellite-enabled fixed broadband for underserved regions, enterprise backhaul, and data connectivity. To ensure inclusivity, PTA engaged over 30 stakeholders, including government entities, operators, and global service providers. Based on this feedback, a draft Fixed Satellite Services license for satellite-based telecom services is under review.

In parallel, PTA has established mechanisms for the collection, and analysis of satellite service data to support evidence-based policymaking and track market trends. Through these coordinated efforts, satellite communications is being positioned as a cornerstone of Pakistan's digital future—expanding broadband access, improving service delivery, and integrating the country into the global space economy.

**Licensing Categories for Satellite Services**

**Fixed Satellite Services (FSS)**
Broadband, internet, and backhaul connectivity

**Mobile Satellite Services**
Seamless mobile satellite communication across remote regions

**Aeronautical and Maritime Broadband**
Authorizations for Earth Stations in Motion supporting aircraft and vessels

## Licensing VPN Services under Class License Regime

PTA has initiated the licensing of VPN service providers under the Class License for the Provision of Data Services in Pakistan. Currently, nine companies are authorized to offer VPN services in the country. The detailed application process, eligibility criteria, and a list of licensed operators are available on PTA's official website.

## Registration of VPN Services

To facilitate individuals and organizations requiring secure remote connectivity, PTA has launched a dedicated VPN Registration Portal. This initiative supports digital inclusion, strengthens Pakistan's freelance economy, and ensures lawful use of Internet-based services.

The portal enables software houses, call centers, banks, embassies, and freelancers to register VPNs online via PTA's website. The registration process requires basic details such as CNIC, company credentials, IP address, and VPN specifications. Freelancers can apply under a designated category with proof of ongoing work such as project-related emails or employer letters. If required, a fixed IP address can be obtained from any licensed Internet Service Provider (ISP).

The registration process is free of charge, with approvals typically granted within 8-10 working hours of submission. Since its launch, over 30,000 entities and freelancers have successfully registered their VPNs through this platform. The initiative not only facilitates secure and reliable remote work but also strengthens Pakistan's IT and freelance sectors while upholding responsible digital governance.

## IP Whitelisting for Safer VoIP Services

To strengthen network security, combat grey telephony, and ensure lawful use of Voice over Internet Protocol, PTA introduced the IP Whitelisting Regulations, 2024. These regulations apply to all licensees and their subscribers, requiring registration of IPv4 or IPv6 addresses via PTA's dedicated portal (ipregistration.pta.gov.pk).

Eligible applicants include LDI operators, LL operators, CMOs, PSEB-registered call centers, and other authorized entities. The process requires online submission, licensee verification, and supporting documentation. The first four IP addresses per organization are exempt from fees while additional addresses incur a one-time charge of Rs. 500 each, making compliance affordable and accessible.

Whitelisted IPs remain valid until license expiry for telecom operators; before PSEB registration expires for call centers; and for two years from the date of approval for other applicants. Applications are typically processed within 2-3 working days, with provisional approvals granted, pending monthly formal authorization. Unverified or non-compliant requests are rejected to ensure that only legitimate IP addresses are permitted for VoIP services. The regime is expected to significantly reduce the misuse of VoIP channels, protect revenues, and enhance cybersecurity resilience.

## Sunset of Legacy Networks
### 3G Sunset

In line with global practices, Pakistan is phasing out 3G networks to optimize radio spectrum resources and advance the adoption of next-generation broadband. The transition from 3G to 4G, and now towards 5G, is essential to meeting growing data demand, improving spectral efficiency, and supporting latency-sensitive, high-throughput applications.

Pakistan Mobile Communications Limited (PMCL-Jazz) became the first operator to complete the nationwide decommissioning of its 3G network in compliance with the Standard Operating Procedures for the sunset of 3G services. Ufone has completed the first two phases and begun the third, reinforcing Pakistan's readiness to align with global benchmarks in mobile broadband evolution.

## Offloading Wireless Local Loop Services

The WLL regime, which historically operated in the 450 MHz, 1900 MHz, and 3.5 GHz bands to deliver regional fixed wireless services, has formally expired in accordance with license terms. This has freed up the high-value 3.5 GHz band—globally recognized for International Mobile Telecommunications—which is now earmarked for Pakistan's upcoming 5G spectrum auction.

Following the expiry, PTA has allowed former WLL operators to continue their services as FLL operators. This approach ensures service continuity, while maintaining spectrum efficiency and supports Pakistan's transition towards future-ready digital infrastructure.

**3G Services Sunset**
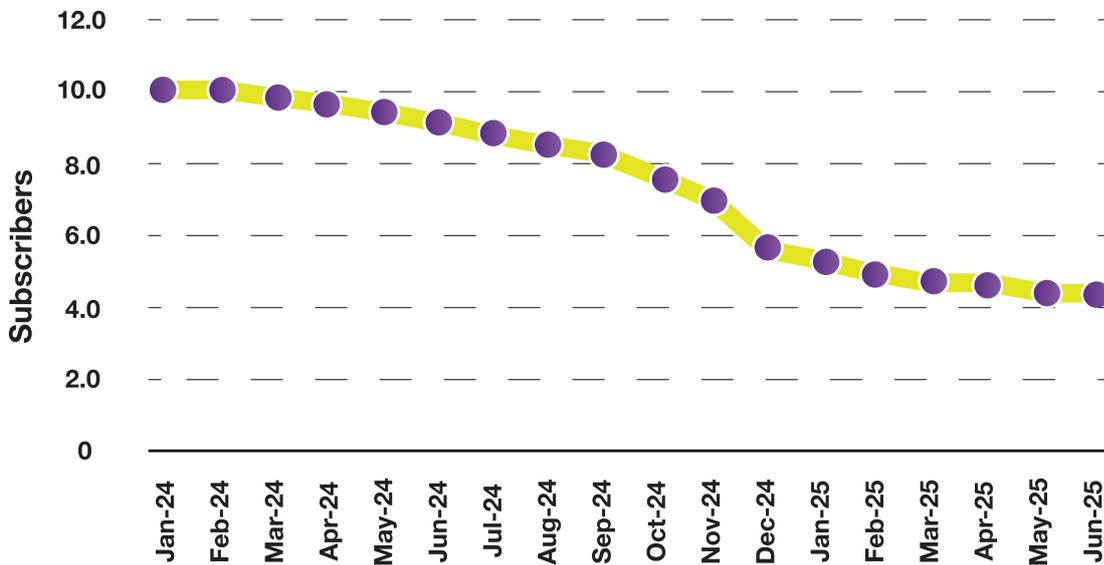


Through these spectrum reforms and legacy network sunsets, PTA is advancing a licensing and regulatory framework that supports 5G readiness, broadband expansion, and secure digital platforms. These measures safeguard consumer interests, enable sustainable sectoral growth, and align Pakistan's telecom industry with global best practices so that the country can fully harness the socio-economic benefits of advanced connectivity.

# Consumer Safeguard and Public Outreach | 3

# Chapter 3 | Consumer Safeguard and Public Outreach

PTA remains fully committed to ensuring telecom consumers enjoy fair treatment, reliable services, and a transparent marketplace. Its consumer protection mandate extends far beyond resolving individual complaints, encompassing proactive safeguards against unsolicited marketing, fraud, spam, privacy violations, and data misuse. With the rapid growth of mobile technologies, broadband, and digital platforms, these risks continue to evolve, demanding adaptive and forward-looking regulatory responses to ensure that the rights of over 200 million consumer base remain protected.

To deliver on this mandate, PTA employs a multi-pronged approach that combines regulatory frameworks, awareness campaigns, and advanced technical systems. Flagship initiatives such as DIRBS, the LSDS, and CMS provide both preventive safeguards and enforcement tools.

Following this approach, notable improvements in complaint volumes were recorded in Cellular Mobile Telephony (-13.97%) and Basic Telephony services (-17.75%), reflecting a stronger operator performance under close monitoring. Consumer satisfaction also showed a marked upward trend. Satisfaction with Cellular Mobile Telephony saw an improvement from 63.52% in FY 2023-24 to 69.98% in FY 2024-25. These outcomes reaffirm PTA's ongoing commitment to responsive service delivery and greater consumer trust.

> PTA's consumer-first approach delivered tangible gains during FY 2024-25. Total complaints declined by 13% year-on-year, while resolution rates consistently exceeded 99%, highlighting both the efficiency of complaint-handling systems and the effectiveness of regulatory oversight.

## Complaint Management System as a Consumer Gateway

CMS serves as the central hub for complaint registration and resolution, and is accessible through a web portal, Android and iOS applications, a toll-free helpline (0800-55055), and postal services. Beyond redressal, the system is used to analyze complaint trends, identify systemic service gaps, and drive corrective measures with operators, thereby ensuring that individual redress translates into sector-wide improvements. It provides a direct, user-friendly interface that connects consumers with the regulator.

## Complainant Profile Integration

To enhance effectiveness, usability, and integrity, PTA undertook a comprehensive CMS review in 2025. The review identified persistent misuse of the platform, including filing of complaints against fake or unidentified sources, which often implicated unrelated subscribers. To address these issues, PTA introduced user profiling and authentication mechanisms, including:

- CNIC and contact number verification of the complainant via the Pakistan Mobile Database for fraudulent communication cases.
- One-Time-Password based authentication to confirm complainant identity prior to submission.

The above measures significantly reduced false entries, improved data integrity, and expedited complaint resolution. Complainants can also benefit from a newly developed grievance redressal log that streamlines access to cases, provides status updates, and maintains a resolution history. Together, these enhancements have strengthened transparency, consumer trust, and system efficiency, solidifying CMS as a cornerstone of PTA's consumer protection framework.

**Grievance Redressal Log**



History of Complaint Launched → Real-time Status Updates → Complaint Resolution Feedback

## Expanding CMS Access through Urdu Language Portal

To make complaint redressal more inclusive, PTA launched an Urdu version of the CMS web portal and mobile application. This upgrade empowers a wider segment of the population, particularly users whose first choice of language is Urdu, to lodge and track complaints with ease. By bridging a key language barrier, the system promotes broader participation in consumer protection and reinforces public trust in digital governance.
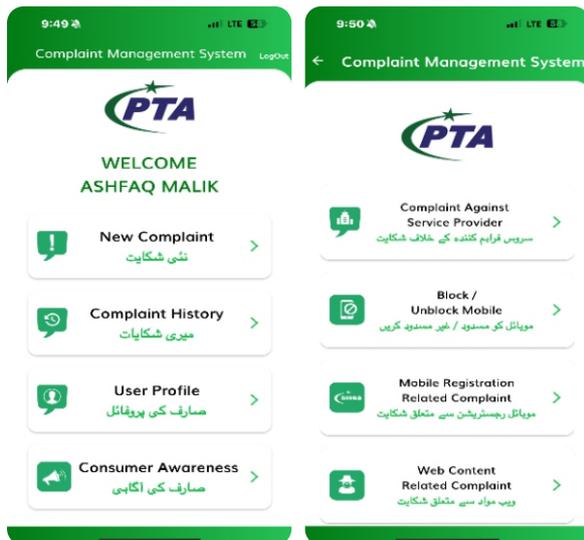


## User Manual for CMS Web Portal and App

To further assist consumers, PTA developed a comprehensive User Manual for the CMS web portal and mobile application. The guide provides step-by-step instructions to help users submit complaints, track progress, and review resolution updates with ease.

These features ensure that all consumers, regardless of technical proficiency, can access, understand, and utilize CMS. The initiative reflects a commitment to consumer empowerment through simplified access, digital literacy, and user-friendly support tools.

### Features of the User Manual

- Step-by-step illustrated instructions for easy navigation.
- Frequently Asked Questions (FAQs) addressing common issues.
- Clear guidance on complaint tracking and follow-ups after submission.
- A 'How to Register a Complaint' video guide, also available on the official PTA website, providing a visual walkthrough of the process.

## Trends in Consumer Complaints and Resolution

During FY 2024-25, a total of 169,860 complaints were lodged with PTA, averaging 14,155 per month and 466 per day. PTA achieved a resolution rate of 99%, reflecting strong service responsiveness and effective consumer support. Most complaints were related to Cellular Mobile Telephony, ISPs, Fixed Line Telephony, and WLL, reaffirming the robustness of PTA's grievance redressal systems and regulatory monitoring.

As expected, mobile services accounted for nearly 95% of all complaints, reflecting their dominant role in Pakistan's telecom landscape. Working closely with operators, PTA categorized complaints by service type and provider, addressing them through targeted regulatory and legal mechanisms.
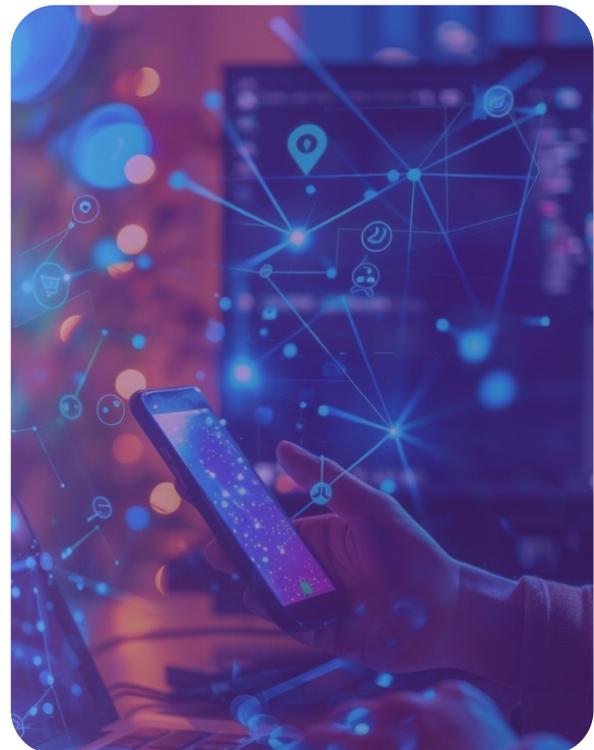
**Key Insights from Consumer Complaint Data**

- **High resolution efficiency:** Resolution rates remained consistently above 99% across all categories, with Wireless Telephony achieving the highest (100%).

- **Variation in satisfaction:** Consumer satisfaction was strongest for Zong (73.81%), but lower for ISPs, with CyberNet at 40%.

- **Mobile sector performance:** Among CMOs, Jazz handled the highest number of complaints (64,846), with a resolution rate of 99.99%.

- **ISPs remain a challenge:** Despite high resolution rates, satisfaction scores for Internet services lagged (53.28%), highlighting ongoing consumer concerns with service quality.

# Complaint Redressal via Pakistan Citizen's Portal

During FY 2024-25, PTA handled 8,541 consumer complaints lodged through PCP, achieving a 100% resolution rate and receiving 85% positive feedback from complainants. These outcomes reflect the efficiency of PTA's complaint-handling processes and its strong consumer-centric approach.

Ever since the portal's launch in November 2018, a dedicated team within the Consumer Protection Division has ensured that telecom-related complaints are escalated promptly and resolved instantly in close coordination with relevant operators. PTA consistently ranks among the highest in consumer satisfaction across all government organizations under the Cabinet Division, reflecting its commitment to responsive and transparent service delivery.

| Consumer Complaints—By Service Type | | | | |
|---|---|---|---|---|
| **Service Type** | **2023-24** | | **2024-25** | |
| | **Total Complaints** | **Satisfaction (%)** | **Total Complaints** | **Satisfaction (%)** |
| Cellular Mobile Telephony | 185,233 | 63.5 | 162,955 | 69.9 |
| Internet Services | 4,473 | 56.6 | 5,137 | 53.2 |
| Basic Telephony (Fixed Line) | 1,721 | 57.5 | 1,463 | 57.2 |
| Wireless Telephony (WLL) | 120 | 50.0 | 305 | 77.7 |
| **Total** | **191,547** | **56.9** | **169,860** | **64.5** |

| Consumer Complaints—By Service Provider | | | | |
|---|---|---|---|---|
| **Service Provider** | **2023-24** | | **2024-25** | |
| | **No. of Complaints** | **Satisfaction (%)** | **No. of Complaints** | **Satisfaction (%)** |
| Jazz (Mobilink/Warid) | 77,959 | 69.6 | 64,846 | 69.6 |
| Zong | 53,725 | 59.6 | 44,714 | 73.8 |
| Telenor | 31,773 | 61.1 | 32,567 | 67.1 |
| Ufone | 21,566 | 60.1 | 20,732 | 67.4 |
| PTCL | 4,159 | 58.7 | 4,592 | 55.5 |
| CyberNet | 527 | 61.9 | 660 | 40.0 |
| SCO | 282 | 36.6 | 418 | 51.8 |
| Others | 1,556 | 58.2 | 1,331 | 60.7 |
| **Total** | **189,991** | **58.2** | **169,860** | **60.7** |

| Status of Complaints Received through PCP (2024-25) | |
|---|---|
| Complaints Received | 8,541 |
| Complaints Resolved | 8,541 |
| Resolution (%) | 100 |
| Positive Feedback/Satisfaction (%) | 85 |

## Automated Blocking of Lost and Stolen Devices

LSDS remained a critical tool for consumer protection in FY 2024-25, safeguarding users against the misuse of lost or stolen mobile devices. During the year, PTA processed 25,779 requests for IMEI blocking and unblocking, all of which were submitted through CMS.

Launched in April 2021 and integrated with DIRBS, LSDS enables IMEI blocking or unblocking within 24 hours of verification, ensuring fast and secure facilitation. The system has evolved as an essential pillar of digital safety by deterring device theft and protecting consumer interests.

A category-wise breakdown of complaints is illustrated in the Table below.

| Blocking and Unblocking Statistics (2024-25) | | |
|---|---|---|
| Complaint Category | No. of Complaints | Resolution (%) |
| Lost/Stolen/Theft Mobile Blocking Request | 23,851 | 100 |
| Lost/Stolen/Theft Mobile Unblocking Request | 1,928 | 100 |

## Fraud Management Module for IMEIs, MSISDNs, and CNICs Blocking

The Fraud Management Module was used as an essential tool to curb fraudulent telecom activities and safeguard consumers. Operating under the Protection from Spam, Unsolicited, Fraudulent and Obnoxious Communication Regulations, 2020, this system applies a data-driven enforcement framework to deter misuse and uphold market integrity. During FY 2024-25, the module was employed to block mobile handsets through IMEIs; suspend or block mobile numbers (MSISDNs) linked to fraud; blacklist CNICs of repeat offenders; and issue formal warnings to subscribers engaged in suspicious activity.

The scale of enforcement in FY 2024-25 is reflected in the Table below.

| Action against Fraudulent Activities (2024-25) | |
|---|---|
| Category of Action | Numbers Blocked/Flagged |
| Mobile Numbers Blocked | 1,875 |
| IMEIs Blocked | 1,604 |
| CNICs Blacklisted | 69 |
| Warnings Issued to Subscribers | 6,014 |

Launched in February 2021, the module has since evolved into a mature, widely used framework that complements other flagship consumer protection systems such as DIRBS and LSDS. Its integration has strengthened the national capability to deter telecom fraud, protect consumers, and reinforce trust in the digital ecosystem.

## One-Window Consumer Support Facility

The Consumer Support Center (CSC) remained a centralized support platform for telecom users during FY 2024-25, providing end-to-end assistance through its toll-free helpline (0800-55055). Consumers accessed the center for a wide range of issues, including telecom services, DIRBS, device blocking, unlawful content, and related facilities. Between July 2024 and June 2025, CSC handled 512,163 calls-an average of 42,680 per month.

Established in February 2020, CSC complements PTA's broader complaint management and consumer protection systems. The center operates daily from 9 AM to 9 PM and is seen as a trusted one-window facility to address consumer concerns in an efficient manner.

## Call Center KPI Survey

To monitor and benchmark customer service quality, PTA issued the Call Center Customer Service Performance KPIs Report for the first quarter of 2025. The report assessed telecom operators' performance against licensed KPIs, with a focus on helpline accessibility, complaint resolution timelines, and billing-related queries. This initiative reflects a strong commitment to transparency and accountability in service delivery and provides an industry benchmark for measuring improvements over time. The report is accessible on the PTA website.

**Month-wise Call Trend at PTA Consumer Support Center**
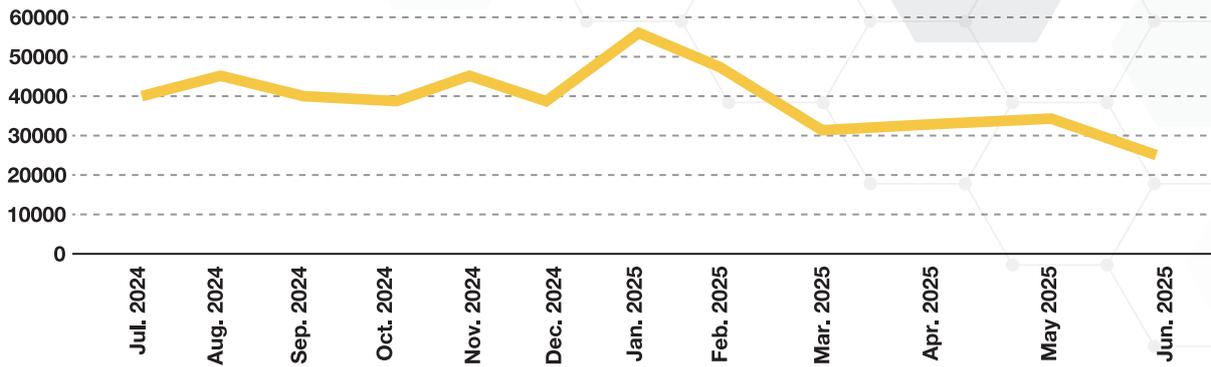
## Promoting Digital Awareness Among Telecom Consumers

PTA constantly strives to secure online spaces and establish a digitally responsible society. A central priority is to ensure that telecom consumers remain informed of the latest initiatives, protected against online fraud, resilient to disinformation and misinformation, and equipped to safeguard their digital footprint while making informed decisions in the digital space.

Recognizing the power of modern digital platforms, PTA has rolled out a comprehensive communications strategy for awareness creation, stakeholder engagement, and transparent dissemination of information. This approach combines a strong presence across social media, partnerships with media houses, collaboration with academia, and content dissemination in national and regional languages. By using a mix of communication tools such as press releases, SMS alerts, infographics, videos, and active online interaction, PTA enhances public awareness, amplifies regulatory initiatives, and strengthens consumer confidence in Pakistan's telecom ecosystem.

In FY 2024-25, PTA structured its campaigns around five core themes:

- Digital Security and Fraud Prevention
- SIMs, Devices, and Registration Compliance
- Regulatory Clarifications and VPN Registration
- Digital Safety and Online Protection
- Responsible Digital Citizenship

This thematic approach ensured sharper messaging and made public outreach more accessible and impactful, particularly for underserved communities across provinces, AJ&K, and GB.

### Impact of Awareness Creation through PTA Social Media Handles-Views (in Millions)

| | |
|---|---|
| Unlawful Online Content | 9.12 |
| Avoid Blocking of SIMs | 0.41 |
| Fraud/Banking, Courier, Whatsapp Scam | 0.04 |
| Cloned/Duplicate device (DIRBS & 120-day Registration) | 3.15 |
| FBR Taxes | 0.05 |
| Foreign SIM Sales & Purchase | 0.03 |
| Phishing Scams (Regional Languages) | 0.39 |
| VPN Registration | 0.15 |
| #DigitalHifazatContest | 2.00 |
| Child Online Protection | 0.79 |
| Deep-fake, Fake News & Disinformation | 0.15 |
| Cybersecurity Awareness Week | 0.24 |

Fraudulent schemes, including online banking scams, courier-related frauds, phishing websites, deceptive WhatsApp messages, and other digital swindles pose significant risks to users, often resulting in financial loss, identity theft, and exploitation of public trust.

PTA launched targeted campaigns in Urdu, English, and regional languages to guide the public on identifying, reporting, and protecting themselves against such scams. Best practices such as avoiding disclosure of personal or financial details online and verifying the authenticity of digital communications before responding were emphasized. A total of 21 campaigns were undertaken on Digital Security and Fraud Prevention, which collectively amassed 10.8 million views.

PTA's campaigns prioritized the importance of SIM ownership compliance, urging citizens to avoid using SIMs issued against cancelled, expired, or deceased individuals' CNICs due to risks of fraud and identity theft. The public was repeatedly reminded that mobile SIMs must be registered against users' own valid CNIC.

Parallel awareness efforts targeted counterfeit or duplicate devices under DIRBS, alongside promotion of the 120-day temporary device registration facility for overseas Pakistanis. These campaigns garnered 9.1 million views, educating users on the benefits of genuine, type-approved devices. PTA also raised awareness on the unlawful sale and purchase of foreign SIMs and their misuse in activities threatening national security and user privacy. Penalties for non-compliance were highlighted and guidance offered on legitimate avenues for SIM acquisition and registration. These posts exceeded 0.035 million active interactions, reflecting public responsiveness to compliance messaging.

## Clearing Misconceptions, Building Trust

A widespread misconception associating PTA with the collection of mobile taxes was addressed through campaigns clarifying that taxation falls strictly under the Federal Board of Revenue (FBR), with PTA's mandate being limited to device registration via DIRBS. These efforts reduced grievances, directed citizens towards the correct authority, and promoted regulatory transparency.

In parallel, campaigns on VPNs educated citizens about the risks of unauthorized VPN use, often exploited for scams and cybercrimes. PTA highlighted the benefits of registering VPNs with licensed providers and provided practical guidance for safe, secure, and lawful VPN use.

## Digital Safety and Online Protection

Consumer protection was prioritized by running campaigns on the consequences of propagating unlawful content, including blasphemy, hate speech, and material threatening social harmony. These campaigns, which generated 0.42 million

views, promoted responsible digital conduct, and encouraged citizens to report violations.

Additional efforts focused on child online protection, digital literacy, and awareness of deepfakes and manipulated media, particularly to counter risks of disinformation and malicious online activities. These initiatives reached underserved areas nationwide, reinforcing digital safety as a shared national responsibility.

## Responsible Digital Citizenship

Recognizing that every online activity leaves a traceable digital footprint, PTA rolled out campaigns encouraging responsible digital behaviour. Guidance emphasized protecting personal data, avoiding oversharing, and exercising caution against unsolicited telemarketing, with campaigns promoting authenticity, accountability, and informed participation in digital spaces.

## Public Engagement

Beyond structured campaigns, PTA remained highly responsive to public queries and concerns. During the period under review, over 5,000 complaints and queries were received through direct social media messaging covering issues such as mobile registration (DIRBS), fraudulent calls and SMS, service quality, billing disputes, and scam alerts. This proactive engagement reinforced public trust by ensuring timely complaint resolution and enhancing transparency in the regulatory process.

### Impact

Together, PTA's digital awareness campaigns in FY 2024-25 reached millions of telecom users nationwide through multi-platform engagement in Urdu and regional languages. Targeted initiatives on fraud prevention, device and SIM compliance, VPN registration, online safety, and responsible digital behaviour achieved over 9 million views on select campaigns, with strong interaction levels across social media platforms. More than 5,000 direct consumer queries were addressed through social media channels, strengthening PTA's responsiveness and public trust. By combining awareness creation with real-time engagement and regulatory clarifications, PTA has reinforced its role as a trusted guardian of consumer interests and a key driver of Pakistan's digital resilience.

گمشدہ،چوری شدہ،چھینے گئے موبائل فون بلاک کرائیں !

• آن لائن کمپلینٹ فارم
(https://complaint.pta.gov.pk/RegisterComplaint.aspx)
• پی ٹی اے سی ایم ایس موبائل ایپ (اینڈرائیڈ/آئی اوایس)

پی ٹی اے کا اختیار صرف موبائل فون بلاک کرنے کی حد تک محدود ہے۔ چوری شدہ فون کی تلاش/ٹریکنگ کے لئے،مقامی پولیس سے رابطہ کیا جا سکتا ہے۔



اپنے انگوٹھے/انگلی کے نشانات فراہم کرتے ہوئے انتہائی محتاط رہیں۔

جعلسازوں کا ٹارگٹ بنیادی طور پر سادہ لوح افراد اور خواتین ہیں جن کو فری سم کارڈ یا امدادی سکیم کا دھوکہ دیکر ان سے انکے فنگر پرنٹس حاصل کرلیتے ہیں۔

دھوکہ دہی کے ذریعے حاصل کردہ سمیں سنگین قسم کے جرائم میں استعمال کی جاسکتی ہیں۔

**ALERT!**

احتیاط کریں اور دوسروں کو بھی اس فراڈ/جعلسازی سے متعلق آگاہ کریں۔



# PTA Launches Temporary Mobile Registration Facility

All Overseas Pakistanis & Foreign Nationals visiting Pakistan can now register their personal mobile phone for up to 120 days (from date of arrival) on each visit without payment of duties and taxes.

**PTA** Pakistan Telecommunication Authority
www.pta.gov.pk



مخصوص برانڈ/ادارہ کی طرف سے موصول ہونے والے ٹیلی مارکیٹنگ/تشہیری پیغامات (ایس ایم ایس) کو بلاک کریں

unsub ٹائپ کریں اور مخصوص برانڈ کے لیے مختص کردہ شارٹ کوڈ پر بھیجیں۔

شارٹ کوڈ برانڈ کی جانب سے موصول ہونے والے تشہیری ایس ایم ایس کے نیچے موجود ہوگا۔
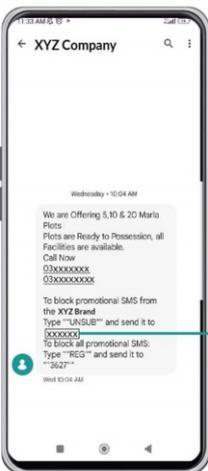
شارٹ کوڈ



# ان چاہے اور نا پسندیدہ ایس ایم ایس اور کالز کی روک تھام!

ٹیلی مارکیٹنگ ایس ایم ایس بلاک کرنے کے لیے اپنا موبائل نمبر"ڈونٹ کال رجسٹر (ڈی این سی آر)" میں درج کریں۔ اندراج کیلئے 'reg' ٹائپ کریں اورا سے 3627 پر ایس ایم ایس کریں۔

ان چاہے اور نا پسندیدہ پیغامات بلاک کرنے کے لیے پیغام بھیجنے والے کا فون نمبر ٹائپ کریں، وقفہ دیں، وصول شدہ پیغام ٹائپ کریں اورا سے 9000 پر ایس ایم ایس کریں۔

نامناسب اور نا معلوم کالز اور ایس ایم ایس کو بلاک کرنے کے لیے جاز اور یوفون کے صارفین 420#* ڈائل کریں۔ زونگ اور ٹیلی نار کے صارفین 420 ڈائل کرکے رپورٹ/بلاک کر سکتے ہیں۔

Building on the gains of FY 2024-25, PTA will continue to place consumer protection at the heart of its regulatory agenda. Sustained reductions in complaint volumes, consistently high-resolution rates, and a marked decline in enforcement actions highlight the effectiveness of current strategies. Yet, with digital risks advancing at pace, continued vigilance and innovation will be vital to sustaining progress.

Looking ahead, PTA will revise and update regulations in line with emerging market dynamics; strengthen QoS monitoring to ensure reliability and fairness; expand awareness campaigns to empower users against fraud, spam, and privacy violations; deploy stronger safeguards to combat digital fraud and misuse; enhance grievance redressal mechanisms with faster, more accessible resolution; and introduce multilingual solutions to make complaint systems inclusive for all consumer segments.

These priorities will help maintain a secure, transparent, and consumer-centric telecom environment that will reinforce public trust and safeguard the rights of every telecom user in Pakistan. Greater collaboration with industry stakeholders will remain central to the realization of this vision.

# Quality of Service Oversight | 4

# Chapter 4 | Quality of Service Oversight

Widespread reliance on ICT services has made high performance telecommunications indispensable for Pakistan's digital society. Reliable connectivity, consistent service quality, and enhanced user experience are essential for building public trust in digital services and platforms.

To uphold these standards, PTA has developed a comprehensive QoS monitoring and enforcement framework anchored in license conditions and QoS regulations for cellular mobile and fixed broadband services. This framework ensures that quality is assessed through robust field monitoring, data-driven evaluations, and consumer feedback. It also guarantees that user concerns are addressed, service providers are held accountable for their commitments, and consumers have access to dependable telecom services.

## Quality of Cellular Network Service

To ensure that consumers receive reliable and high-quality cellular services, PTA continuously evaluates operator performance under the Cellular Mobile Network QoS Regulations, 2021, and license conditions. The monitoring process follows a three-pronged approach:

- Drive tests conducted on the ground to measure real call and data performance.
- Analysis of operator-reported KPIs to verify compliance with regulatory benchmarks.
- Crowdsourced user data that reflects the actual experience of subscribers.

This integrated model provides a comprehensive picture of network performance, enabling PTA to identify gaps, benchmark performance, and enforce corrective measures where QoS falls short.

## Drive Testing

Drive testing, a globally recognized method for the assessment of network performance from a consumer-centric perspective, is an integral part of PTA's QoS evaluation. Using advanced monitoring tools deployed across its 12 regional offices, PTA measures call quality, data speeds, and coverage on 2G, 3G, and 4G networks. These tests follow international standards such as TR 103 559 by the European Telecommunications Standards Institute, ensuring that the experience of Pakistani consumers is benchmarked against global standards.

Drive tests replicate the actual experiences of mobile subscribers by simulating everyday activities such as calling, browsing, and app usage
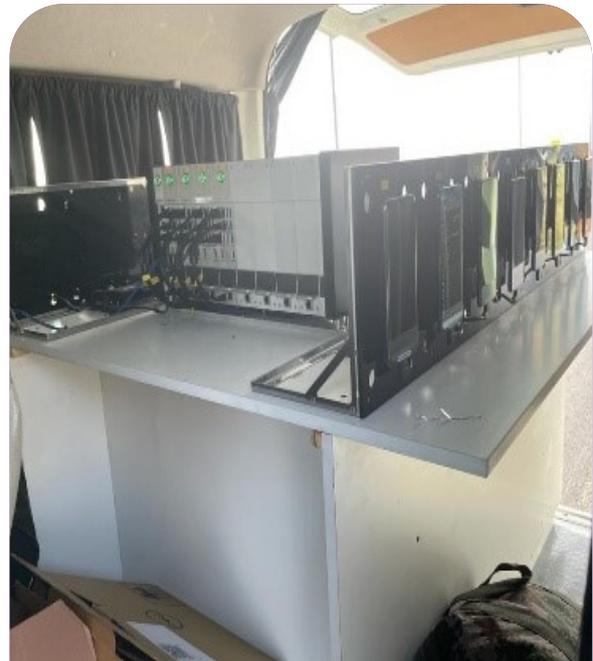


An inside view of PTA's Quality of Service monitoring vehicle.

During the drive test, performance is assessed across four service areas: voice, data, SMS, and coverage.

- Voice quality is assessed through Call Completion Rate to measure call continuity, Call Setup Success Rate to monitor connection reliability, and Mean Opinion Score to evaluate voice clarity.

- Data services are quantified through download and upload data throughputs to measure connectivity speed, latency to assess network responsiveness, and webpage loading time to check browsing performance.

- Coverage quality is evaluated using Reference Signal Received Power for 4G, which indicates signal strength, and confidence level metrics to assess signal reliability across the survey areas.

- SMS performance is tested by sending and receiving messages and measuring the time taken for their successful delivery.

Survey routes are carefully selected based on consumer complaint trends, population density, and their strategic or commercial importance, with business hubs and highways prioritized for assessment. Using an advanced analytics platform, survey results are analyzed to identify coverage gaps and shared with operators for corrective action. Findings are also published on the PTA website to promote transparency and enable competitive benchmarking. Follow-up re-verification surveys of CMOs are conducted to ensure com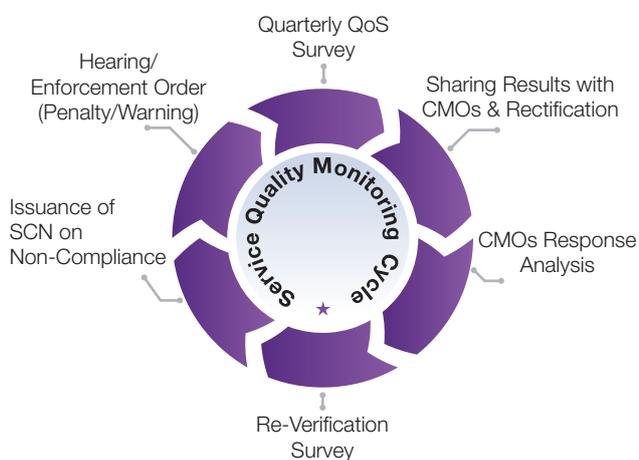pliance with PTA's directives, while persistent non-compliance results in legal action through Show Cause Notices or warning letters.



Between July 2024 and June 2025, PTA conducted extensive surveys across 73 cities, nine motorways and highways, and two critical inter-city railway tracks, ensuring broad coverage across both urban and rural regions. For transparency and consumer awareness, PTA issues the results of all quarterly QoS surveys on its official website

| Cellular QoS Surveys Conducted (2024-25) | | | |
|---|---|---|---|
| Quarter | Count of Surveys | | |
| | Cities | Roads | Railway Tracks |
| 2nd Quarter 2025 | 19 | - | 01 |
| 1st Quarter 2025 | 19 | 09 | 01 |
| 4th Quarter 2024 | 17 | - | - |
| 3rd Quarter 2024 | 18 | - | - |
| Total | 73 | 09 | 02 |

## Analysis of OSS KPIs

While drive tests capture how services perform on specific routes, Operations Support Systems (OSS) KPIs provide a nationwide perspective on mobile network performance through data collected directly from operators. These indicators track key service quality parameters such as call success rates, call drop frequency, and Internet session stability, enabling PTA to assess overall network reliability across the country. By comparing OSS data with drive test results, PTA can identify long-term trends and recurring issues more accurately, allowing operators to resolve problems proactively before they impact consumer experience.

## Crowdsourcing

Crowdsourcing is an important approach for the assessment of real-world mobile network performance by capturing feedback directly from user devices. This method reflects both indoor and outdoor usage, providing a comprehensive picture of the quality that consumers experience. Crowdsourcing offers large-scale data collection at lower costs compared to manual drive tests. Since the data originates directly from consumers, it captures genuine usage conditions rather than simulated scenarios, strengthening the credibility of quality assessments. Regulators such as the Federal Communications Commission in the United States and Ofcom in the United Kingdom also employ crowdsourcing alongside traditional monitoring to ensure that theses assessments reflect daily usage patterns.

Sample coverage map from a crowdsource platform.

**OPENSIGNAL**

PTA has gained access to OpenSignal, a global analytics firm, to utilize AI-driven insights from millions of data points. This initiative enhances its ability to benchmark Pakistan's network performance against international standards and track near real-time service quality.

## Quality of Fixed-Line Network Service

PTA also monitors service quality in the fixed broadband sector, which is vital for households, businesses, and Pakistan's broader digital economy. These surveys are performed under the Fixed Broadband Quality of Service Regulations, 2022, to evaluate whether providers are meeting benchmarks for Internet speed, connection stability, and customer support. The assessments cover parameters such as network availability, browsing, Latency, Jitter and download speeds, and complaint resolution, ensuring that consumers receive the quality they are promised.

### Network-End Surveys

Recognizing the significance of fixed broadband, PTA continues to improve broadband service quality as a key imperative for Pakistan's digital growth. Network-end surveys of FLL and CVAS licensees are conducted to measure network availability, local and international routing paths (latency), jitter, and bandwidth utilization, along with non-technical parameters when required, ensuring that networks are neither overloaded nor congested. The efficiency of local and international routing is also evaluated to optimize user experience. The objective is to ensure that advertised services, particularly high-speed Internet, align with actual performance. Broadband Service Providers (BSPs) are selected for surveys based on the following factors:

- Network capacity.

- Number of domestic and corporate users.

- Volume and nature of complaints received through various platforms.

Between July 2024 and June 2025, PTA conducted surveys of 122 operators across 65 cities, highlighting its commitment to nationwide service oversight. BSPs found non-compliant are formally notified, along with a copy of detailed metrics highlighting their deficiencies. They are required to submit their respective compliance reports within a stipulated timeframe.

| Fixed Line Surveys Conducted (July 2024–June 2025) ||
|---|---|
| **Quarter** | **Operators and Surveyed Cities** |
| 2nd Quarter 2025 | 45 operators in 21 cities |
| 1st Quarter 2025 | 46 operators in 17 cities |
| 4th Quarter 2024 | 15 operators in 11 cities |
| 3rd Quarter 2024 | 16 operators in 15 cities |

## NOC-based Testing and User-End Surveys

Recognizing the shift from network-based QoS to consumer-focused Quality of Experience, PTA is developing a user-friendly application that will enable broadband performance testing. The results will feed into PTA's quarterly reports, empowering consumers with visibility into network performance while incentivizing operators to consistently improve their service quality. The in-house developed application will initially be used for NOC testing to automate processes and parameter testing, thereby reducing time and increasing efficiency. In the next phase, it will be integrated into a web-based platform hosted on PTA's official website.

## Factors Influencing Service Quality

The quality of telecom services in Pakistan is shaped by a mix of structural, technical, and environmental challenges. Network coverage continues to expand, with nearly 58,423 mobile sites now operational across five cellular networks, serving urban, rural, and remote regions, including AJ&K and GB. However, deploying infrastructure in hard-to-reach mountainous areas in KP, Balochistan, AJ&K, and GB remains difficult due to rugged terrain and adverse weather conditions.

At the same time, surging data demand has placed additional pressure on existing networks. Despite limited spectrum auctions in recent years, mobile operators continue to operate largely within the spectrum allocated in 2013, when the subscriber base was nearly half of today's level (127.7 million in 2013 vs. 197.5 million in 2025). Pakistan currently operates with just 274 MHz of spectrum, which is the lowest in the region. This shortfall directly impacts call quality, Internet speed, and overall service reliability. The planned auction of additional spectrum, once policy directives are issued by the government, will be crucial to alleviating capacity constraints and improving user experience.

Energy shortages further undermine service reliability. Frequent power outages disrupt site operations despite the deployment of backup generators and batteries, with rural areas particularly vulnerable due to unstable electricity supply.

Service quality is also affected by the backhaul infrastructure that connects mobile towers to the core network. While fiber optic connections deliver the most reliable performance, limited availability means many sites still rely on microwave or satellite links, which are comparatively slower and less consistent.

Finally, climate-related disruptions add another layer of complexity. Heavy rains, floods, landslides, and snowfall frequently damage network equipment, causing service outages, particularly in northern and mountainous regions, where restoration is both costly and challenging.

## Interventions and Impact

PTA employs a wide range of regulatory interventions to improve telecom quality and protect consumer interests. Regular nationwide surveys, both planned and complaint-driven, are conducted to measure on-ground operator performance. Non-compliance is shared with operators for immediate rectification, with persistent failures triggering enforcement action.

PTA also enforces license obligations that require operators to expand coverage and upgrade network infrastructure, resulting in measurable improvements in reach and reliability. Consumer protection is prioritized through the CMS, which provides accessible channels, including a toll-free helpline, an online portal, and a mobile app for timely resolution of user grievances.

PTA also works with USF to extend telecom and broadband access to underserved areas, helping connect communities in remote parts of the country. While USF is not yet being applied in AJ&K and GB, PTA has advised the respective governments to put in place mechanisms to ensure these regions also benefit from future projects.

These interventions are delivering measurable results, as validated by independent benchmarking. Opensignal's Mobile Network Experience Reports show strong improvements in Pakistan's 4G availability, download speeds, and overall user experience between February 2021[1] and February 2025[2]. The country's ranking on the Global Network Experience Index[3] improved from 110th in the fourth quarter of 2024 to 107th in the second quarter of 2025, reflecting steady progress.

PTA has strengthened trust in telecom services by virtue of persistent monitoring, enforcement, and consumer facilitation. As digital demand grows, PTA will expand its use of modern monitoring tools, independent benchmarking, and consumer feedback to ensure that every user in Pakistan enjoys reliable, high-quality connectivity.

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[1] https://www.opensignal.com/reports/2021/02/pakistan/mobile-network-experience
[2] https://www.opensignal.com/reports/2025/02/pakistan/mobile-network-experience
[3] https://www.opensignal.com/global-network-excellence-index
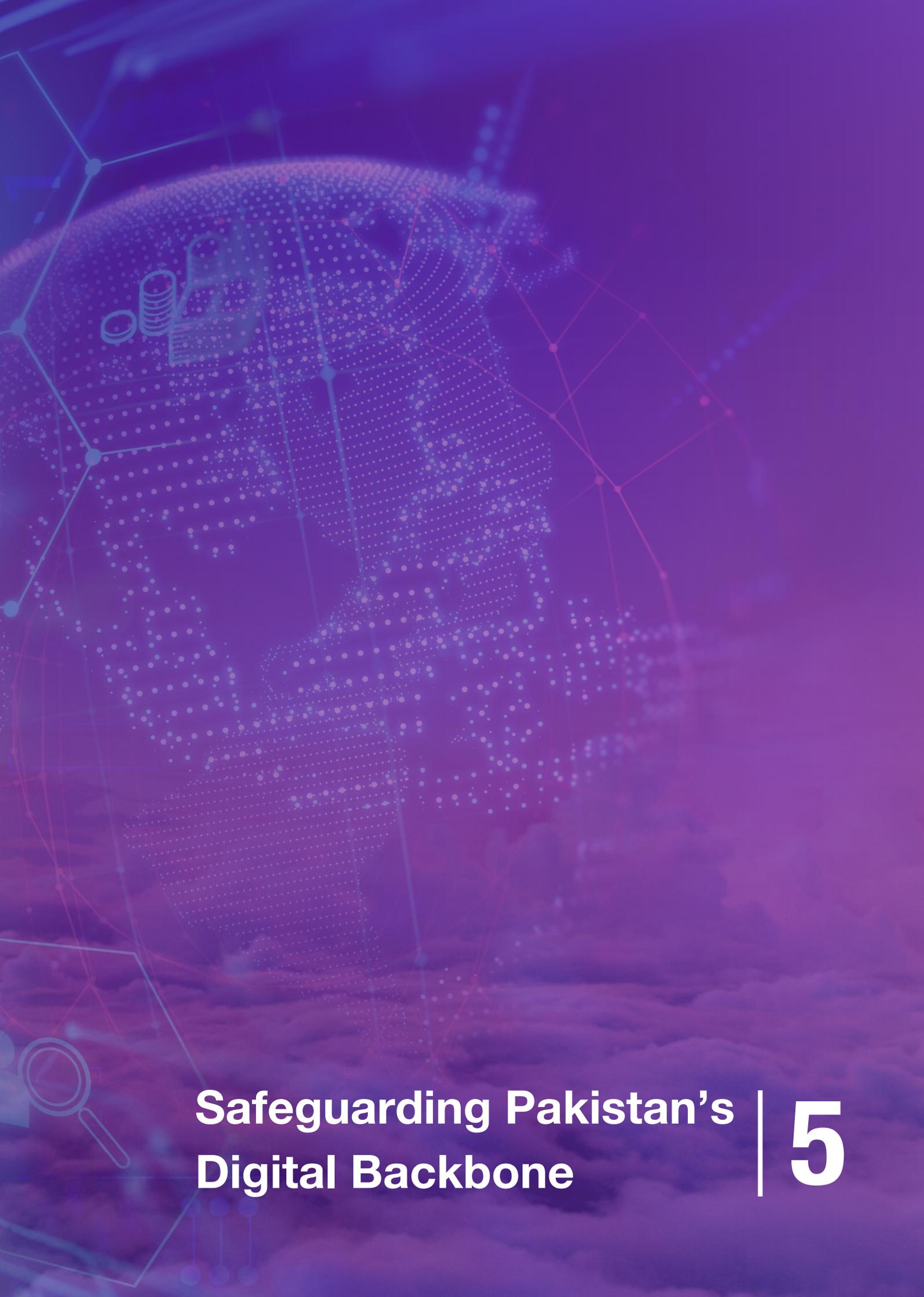
# Safeguarding Pakistan's Digital Backbone

# Chapter 5 | Safeguarding Pakistan's Digital Backbone

PTA is continuously working to safeguard Pakistan's digital infrastructure against evolving cyber threats. All its initiatives are guided by the National Cyber Security Strategy 2023–28 and are fully aligned with National Cyber Security Policy 2021 and the International Telecommunication Union's (ITU's) five pillars of cybersecurity: Legal, Technical, Organizational, Capacity-Building, and Cooperation.

PTA also serves as the sector's strategic cybersecurity regulator by developing frameworks, enforcing compliance, and coordinating defenses. This involves close coordination with telecom operators, the national Telecom Computer Emergency Response Team (nTCERT), security agencies, and international partners to protect networks, user data, and critical systems.

During FY 2024-25, PTA revised CTDISR 2025 to close scope gaps, strengthen compliance, and align the sector with international standards and emerging trends. To reinforce cyber resilience, all telecom operators got their infrastructure's 3rd party cybersecurity audit from PTA's registered audit firms. It was followed by PTA's cybersecurity regulatory audit of 35 selected licensees, followed by performance-based validation and rankings. Proactive monitoring and incident response were strengthened through the integration of 36 licensees with nTSOC, enabling real-time threat detection and reporting. This was complemented by non-intrusive risk reconnaissance and vulnerability scanning of telecom operators' public websites/interfaces to benchmark and improve the external security posture by regularly mitigating the identified vulnerabilities.

PTA is continuously engaged in building capacity through collaborations with APNIC, NCERT, Huawei, Nokia, and the MCMC via technical workshops and training, and promoted sector-wide engagement by organizing a Cybersecurity Awareness Week to share technical knowledge, best practices, and proactive defense.

## Regulatory Enhancements: CTDISR 2025

In 2025, PTA comprehensively revised CTDISR to ensure the telecom sector's resilience against rapidly evolving cyber risks. The updated framework consolidates redundant controls, lends further clarity to provisions, and introduces new requirements covering cloud security, insider threat management, data privacy, and business continuity planning.

The revision was prompted by rapid adoption of AI, ML, IoT, and cloud, which expanded the cyber attack surface. Rising threats like AI-driven phishing, ransomware, and supply chain attacks, along with audit feedback and industry input, highlighted the need for more adaptive and globally aligned regulations.

CTDISR 2025 is closely aligned with leading international frameworks such as ISO/IEC 27001:2022, NIST CSF 2.0, and ITU-T standards, ensuring consistency in risk management, incident response, and data protection. This alignment strengthens national resilience while building global trust and enabling cross-border collaboration.

By modernizing CTDISR, PTA has provided Pakistan's telecom sector with a forward-looking regulatory framework capable of countering sophisticated threats and ensuring a secure, reliable, and innovation-ready digital ecosystem.

## Cyber Security Audit

During FY 2024-25, PTA conducted cybersecurity regulatory audits of 35 licensees across the country under CTDISR, marking the most comprehensive coverage since the framework's inception. The

## Regulatory Enhancements



**CTDISR 2025**
- 87 Regulations
- 365 Controls
- 393 Sub-Controls
- Key Enhancements
  - Merged Redundant Controls
  - Expanded Controls
  - Addition of New Sections
    - Asset Management
    - Risk Management
    - Incident Management
    - Data Protection
    - Cloud Security
    - Regulatory Compliance
    - HR Controls
    - Data Localization
    - Access Control
    - Insider Threat Detection
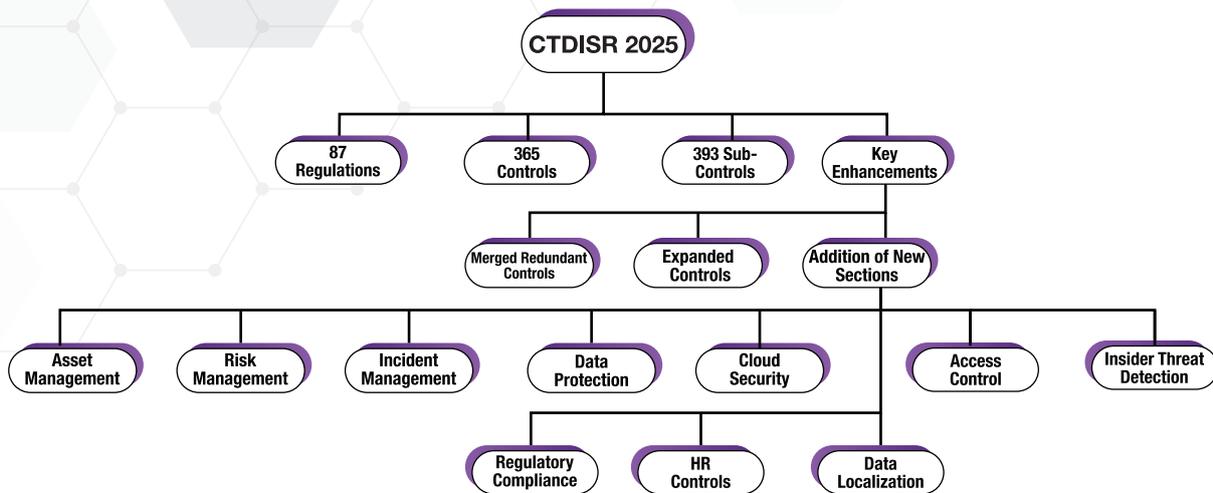
audits spanned across state-run operators, telecom licensees, and emerging service providers, underscoring PTA's recognition of interconnected digital risks and its commitment to uniform resilience across the sector.

| Cyber Security Regulatory Audits of Telecom Operators (2023-2025) | | | | |
|---|---|---|---|---|
| | Islamabad | Lahore | Karachi | Total |
| 2022-23 | 8 | 2 | 3 | 13 |
| 2023-24 | 11 | 6 | 4 | 21 |
| 2024-25 | 16 | 9 | 10 | 35 |

Audit results reflects strong sectoral performance in several domains, with Breach of Conditions, Confidentiality of Information, and Inspection attaining full compliance at 100%. Overall, the findings indicate a solid compliance baseline while emphasizing the need for focused interventions to strengthen weaker domains. This enforcement reflects a regulatory model built on continuous improvement, proactive risk management, and enhanced capacity-building.

### Average Compliance Scores of Major Domains—CTDISR (2024)



| Domain | Score |
|---|---|
| Backup | 88.6 |
| Breach of Conditions | 100.0 |
| Confidentiality of Info | 100.0 |
| Consumer Edu & Awareness | 100.0 |
| CS Continuity Management | 91.7 |
| CS Incident Management | 93.3 |
| CS Reviews | 93.8 |
| CTI Management | 65.2 |
| Cybersecurity Framework | 76.6 |
| Data Protection | 76.4 |
| Directions of Authority | 100.0 |
| Inspection | 100.0 |
| Malware Protection | 61.1 |
| Monitoring | 71.9 |
| Physical Security | 76.9 |
| Reporting Req | 95.8 |
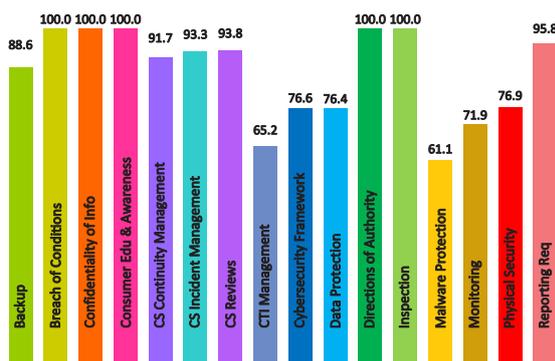
# National Telecom Cybersecurity Ranking

The National Telecom Cybersecurity Ranking serves as a key instrument for highlighting implementation levels and maturity observed during cybersecurity regulatory audits. It also incentivizes continuous improvement in cybersecurity governance across Pakistan's telecom sector.

## Ranking Criteria

For FY 2024-25, PTA refined its national telecom cybersecurity ranking methodology to capture sectoral realities and address evolving technological risks. The revised criteria introduced additional performance indicators and weightages across key

### National Telecom Cybersecurity Ranking Methodology



- **65%** CTDISR Regulatory Audit Score (65 percent)
- **10%** Performance in Non-Intrusive Scanning of Public Infrastructure (10 percent; annual average)
- **10%** Threat Intelligence Sharing with nTSOC (10 percent)
- **5%** Performance in nTCERT (5 percent)
- **5%** IXP Participation (5 percent)
- **5%** DNSSEC Validation Score (5 percent; annual average on APNIC website)
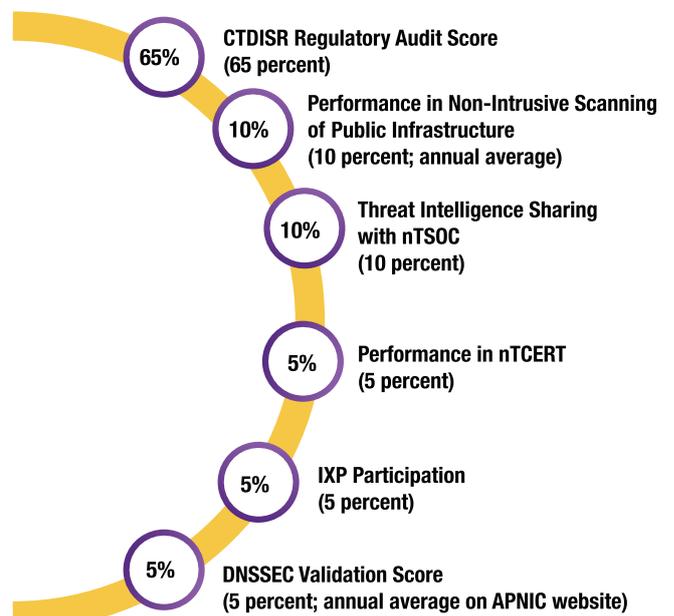
domains, enabling more accurate and forward-looking assessments of licensee resilience.

The following category-wise ranking presents the relative positioning of top two licensees based on performance against the defined criteria within their respective categories.

**National Telecom Cybersecurity Ranking Top Performers**

| Ranking | Category I | Category II |
|---------|-----------|-------------|
| 1. | Telenor | Multinet |
| 2. | CMPak | Nayatel |

## National Telecom Security Operations Center

During July 2024 to June 2025, nTSOC monitored, investigated, and escalated 8,700 threats and alerts in collaboration with telecom operators and ISPs, enabling targeted mitigation and detailed incident reporting to relevant stakeholders. In addition, the dark web surveillance programme identified and shared hundreds of leaked credentials linked to public sector entities, telecom users, and enterprise infrastructure, ensuring prompt remediation by affected stakeholders.

These outcomes reflect nTSOC's growing maturity as Pakistan's telecom cybersecurity hub, providing real-time threat monitoring, proactive alerting, and tactical response in collaboration with national and international partners. In a year of heightened regional turbulence and increasingly sophisticated adversaries, nTSOC reinforced its role as a cornerstone of Pakistan's telecom cyber defense.

## Sector-Specific Attacks

During FY 2024-25, cyberattacks in Pakistan were marked more by sector-specific targeting rather than indiscriminate activity. nTSOC telemetry and intelligence reporting showed adversaries prioritizing high-value sectors for their strategic, operational, or symbolic significance:

- Government institutions remained prime targets for espionage, with Advanced Persistent Threat (APT) groups such as Socks5 Systemz and Sloppy Lemming deploying malware for phishing, spyware, and domain spoofing to infiltrate sensitive public entities.

- Telecom operators faced persistent disruption and credential-theft attempts from both nation-state and criminal actors through DDoS, credential stuffing, and exploitation of outdated infrastructure.

- Academic institutions, constrained by weaker cybersecurity maturity were subjected to opportunistic and ideological attacks, including ransomware, phishing, and politically motivated website defacements.

- Law enforcement and judiciary portals were also targeted by hacktivist groups aiming to erode public trust through judicial data leaks, website defacements, and disinformation campaigns.

This trend underscores the evolving motivations and tactical precision of threat actors in Pakistan's cyber landscape, and highlights the need for tailored, sector-specific defense strategies to mitigate future risks.

### nTSOC Operational Statistics

| Category | Value |
|----------|-------|
| Cyber Threat Advisories via CERT | 230 |
| SOC Investigations | 290 |
| nTSOC Alerts Escalated | 3022 |
| WMS SIEM Monitoring for National Threats | 729 |
| Darkweb Monitoring of Telcos and Govt. Sector | 4676 |
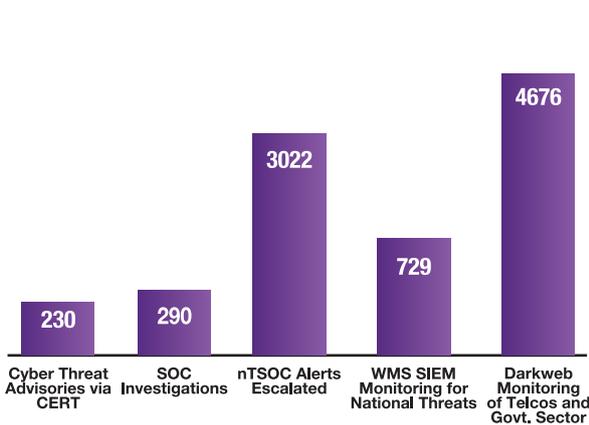
Source: nTSOC, CTM360.

### Top Targeted Sectors

| Sector | Value |
|--------|-------|
| Government and Adminsitration | 529 |
| Finance | 355 |
| Technologies | 338 |
| Defence | 175 |
| Manufacturing | 169 |
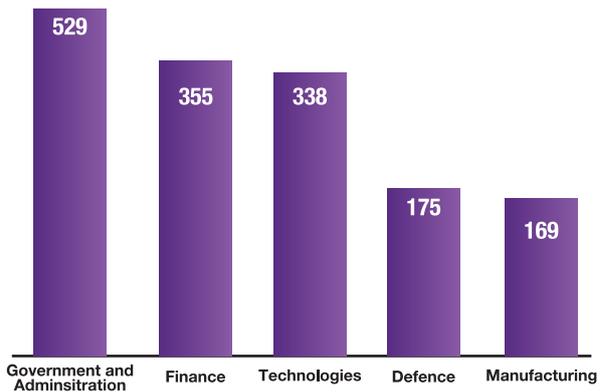
## Advanced Persistent Threat Actor Attribution

In FY 2024-25, Pakistan's cybersecurity landscape was shaped by persistent targeting from sophisticated nation-state and ideologically motivated adversaries. These APT groups sought to compromise strategic institutions, disrupt services, and infiltrate sensitive data tied to national security and foreign policy.

Drawing on attribution intelligence from nTSOC investigations, SOC Radar, and international partners, the following APT groups were most active against Pakistan's digital infrastructure.

### APT Groups Targeting Pakistan (2024-2025)
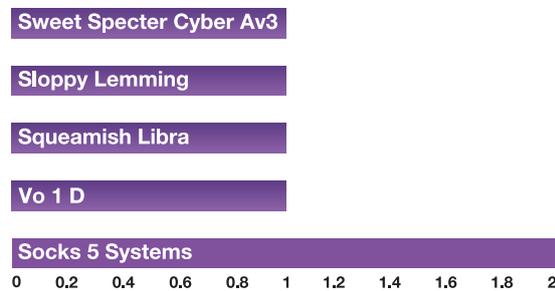


### Top Attack Techniques
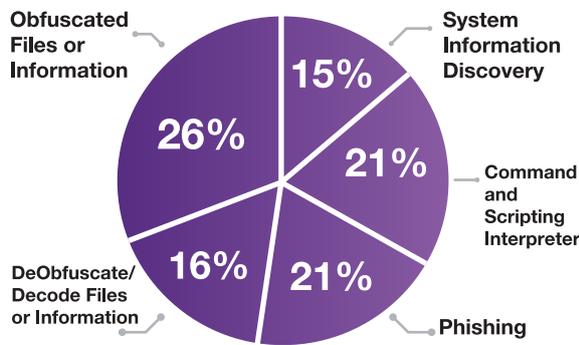


## April-May 2025 Cyber Escalation

The Pahalgam incident on April 22, 2025, triggered one of the most significant waves of coordinated cyber operations against Pakistan in recent years. Within hours, multi-vector attacks struck critical sectors, including the telecom infrastructure, public institutions, and digital service providers. These campaigns combined DDoS, phishing, credential-theft attempts, and symbolic defacements, amplifying both operational and psychological impact.

The telecom sector bore the brunt, facing repeated DDoS attempts and phishing lures disguised as wartime updates. Public services were targeted with phishing emails carrying malicious payloads masked as policy directives, while dark web forums surged with Pakistan-related breach claims and misinformation. Hacktivist groups simultaneously defaced government and academic portals, maneuvering record leaks to erode public trust.

In response, nTSOC transitioned into an emergency coordination mode, serving as the national hub for incident reporting, validation, and mitigation. Recognizing the scale of the crisis, MoITT activated a Cyber Control Room, enabling real-time, high-priority incident handling in collaboration with PTA, nTCERT, and the armed forces' cyber commands. This joint structure ensured rapid counter measures, deployment of threat advisories, and takedown requests.

| Operational Metrics and Incident Volume during April-May 2025 Escalation | |
|---|---|
| Category | Volume/Details |
| Cyber incident claims monitored | 131 (35 public sector, 75 private, 2 telecom) |
| Dark web claims monitored | 439 against Pakistan (104 in this period) |
| Advisories issued | 15 critical (DDoS, phishing, APT, malware) |
| Threat artifacts analyzed | ~75,000 IPs, ~2,400 domains |
| Blocked IPs/domains | 534 (300+ during escalation period) |
| DDoS attacks mitigated | 25 (1 minute to 1 hour duration) |

This escalation set a new operational benchmark in Pakistan's cyber defense, reinforcing the value of preemptive dark web monitoring, real-time coordination, and proactive alerting. It also highlighted the need for institutionalized crisis protocols, sector-specific incident response playbooks, and enhanced surveillance capabilities. With over 100 unique claims in less than a month, the April-May escalation demonstrated how cyber incidents now unfold in lockstep with regional geopolitical developments.

## Non-Intrusive Network Scanning

To harden the security of the national telecom infrastructure, PTA implemented fortnightly, non-intrusive vulnerability scans of all publicly accessible websites/interfaces of its licensees. Using AI-enabled tools, PTA evaluates these sites against all known vulnerabilities such as software patching, application security, encryption, DNS/email configurations, system reputation, and hosting practices etc. Findings are shared with operators for remediation within seven days, with regulatory

action in case of repeated non-compliance. This has greatly enhanced the cybersecurity posture of the telecom sector.

## Cybersecurity Risk Scores

Regular vulnerability scans conducted throughout 2024-25 indicated improved sector-wide resilience, with the average risk score rising from 8.4 in 2024 to 8.8 in June 2025. This improvement reflects stronger patching, detection, and remediation practices across the industry.

However, with regular scans and continuous compliance reports, all these vulnerabilities were bridged effectively.

## Capacity-Building and Cyber Security Awareness

### PTA-APNIC Workshops on Cybersecurity Incident Response and CERT

PTA, in collaboration with APNIC, organized specialized workshops on 'Cybersecurity Incident

**Industry-wide Average Risk Scan Score (2024-25)**

| Licensee | Score |
|---|---|
| GERRY'S IT | 5.6 |
| COMSATS IS | 6.3 |
| FARIYA | 6.5 |
| BRAIN TELECOM | 7.8 |
| REDTONE | 7.9 |
| WORLD CALL TELECOM LIMITED | 8.0 |
| PTCL | 8.3 |
| TAPMAD | 8.7 |
| CONNECT COMMUNICATIONS | 8.6 |
| SCO | 8.6 |
| TRANSWORLD | 8.6 |
| JAZZ | 8.8 |
| ORIENT EXPRESS LDI | 8.8 |
| PMDK | 8.9 |
| WATEEN TELECOM | 9.1 |
| KK NETWORKS | 9.1 |
| NAYATEL | 9.0 |
| TELENOR | 9.4 |
| EVAMP & SAANGA | 9.4 |
| CYBER INTERNET SERVICE | 9.4 |
| TPL TRAKKER | 9.5 |
| UFONE | 9.5 |
| NTC | 9.7 |
| MULTINET | 9.8 |
| ZONG | 9.9 |
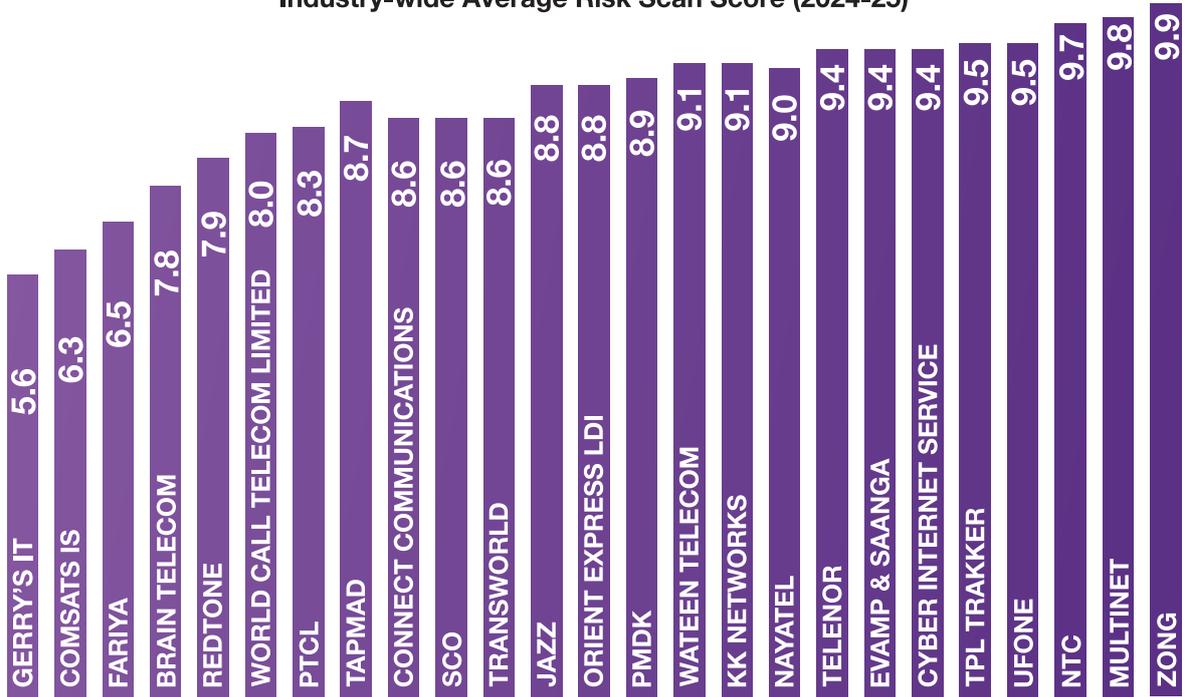
## Domain-Wise Security Posture

The evaluation highlighted three categories of performance across licensees:

- **Strong Domains:** Breach prevention, DNS security, and system hosting demonstrated robust controls, reflecting sound operational practices.

- **Moderate-Risk Domains:** Gaps persist in software patching, email security, and network filtering, requiring consistent hygiene and monitoring.

- **High-Risk Domains:** Application security, web encryption, and system reputation remain the weakest areas, leaving operators vulnerable to insecure development practices, outdated encryption, and compromised assets.

Response and CERT' in Lahore from July 29-31, 2024, and in Islamabad from August 1-3, 2024, to strengthen national cyber response capabilities.

Led by APNIC's senior Internet security specialist and supported by the Punjab Information Technology Board in Lahore, the sessions combined theoretical knowledge with practical training on CERT operations, incident handling, and forensic investigation.

## Cybersecurity Awareness Week

From December 9-15, 2024, PTA observed Cybersecurity Awareness Week as part of its drive to raise awareness around issues such as digital safety, data privacy, and Pakistan's legal framework for addressing cybercrimes. Activities included expert-led panels, webinars, capacity-building workshops, and tailored information sessions on online security best practices, personal and institutional data

Director General, Cyber Vigilance, Dr. Muhammad Mukaram, addressed an awareness workshop on 'Cyber Security' at the PTA Headquarters on December 11, 2024. The workshop raised awareness around issues such as digital safety, data privacy, and Pakistan's legal framework to address cybercrimes.

protection, legal implications of cyber offenses, and preventive strategies against threats such as phishing, malware, and social engineering.

## Training on IXPs and RPKI

In collaboration with the Punjab Information Technology Board, APNIC, and the Internet Society (ISOC), PTA organized a series of capacity-building activities in Lahore from April 14-16, 2025. These included a three-day training on IXPs and a one-day workshop on 'Resource Public Key Infrastructure (RPKI)'. Led by international experts, the sessions featured hands-on labs, routing simulations, configuration exercises, and practical training on Route Origin Validation and Route Origin Authorizations.



PTA's future cybersecurity agenda aims to strengthen regulations, enhance resilience, and build sectoral capacity. Major planned initiatives include the National Telecom Cybersecurity Framework 2025, 5G Security Guidelines, CTDISR Re-Validation Audit, and automation of nTSOC/nCERT with Zero Trust solutions. Resilience efforts cover regular vulnerability testing, upgrades to CERT platforms, and improving DNSSEC and Risk Recon scores.

# Advancing an Inclusive Digital Future | 6

# Chapter 6 | Advancing an Inclusive Digital Future

PTA has been advancing digital inclusion through targeted initiatives that address systemic gaps in access, safety, and participation. These efforts focus on bridging the digital gender divide, empowering PWDs and promoting child and youth online protection, all of which are critical to building an inclusive ecosystem.

Working in collaboration with industry stakeholders, civil society and international organizations, comprehensive strategies, guidelines, and frameworks have been designed to translate policy into impact. These initiatives go beyond connectivity by directly improving the socio-economic participation of beneficiaries, including women, youth, children, PWDs, and marginalized communities.

By integrating global best practices with localized solutions, PTA ensures that these interventions not only effectively close digital gaps but also align with national development priorities such as education, employment, financial inclusion, and social protection.

## Gender Inclusion in Digital Spaces

Digital gender inclusion is central to equitable socio-economic development. In 2025, ITU amplified its efforts through the ITU160 Gender Champions Initiative, the Gender Equality and Mainstreaming Policy, and the EQUALS Global Partnership—all of which emphasized embedding gender perspectives into ICT strategies worldwide.

Pakistan made historic progress in this space, recording the world's largest annual reduction in mobile Internet gender gap in 2024. As highlighted in the GSMA Mobile Gender Gap Report 2025, the gap narrowed from 38% to 25%. Women's mobile Internet adoption rose from just 10% in 2017 to 45% in 2024, bringing 8 million more women online in a single year, largely driven by rural uptake. This milestone reflects the remarkable impact of PTA's Digital Gender Inclusion Strategy and multi-stakeholder partnerships, positioning Pakistan as a global leader in equitable digital empowerment.

**Mobile Internet Adoption in Pakistan, (2017-2024)**

Percentage of Total adult population
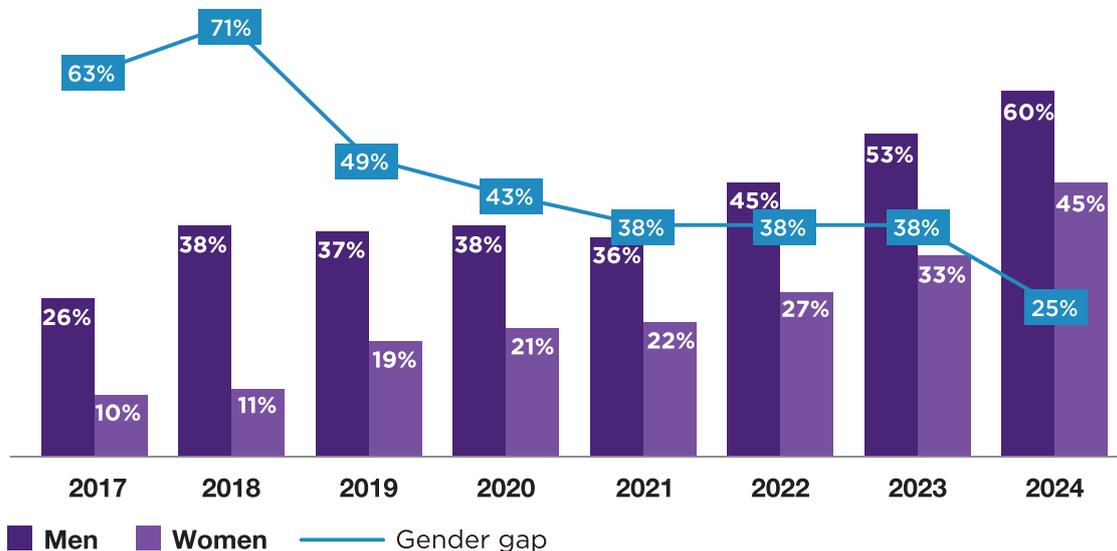


Source: GSMA—The Mobile Gender Gap Report 2025

Yet challenges persist. The Global Connected Resilience Report 2025[1] notes that millions, particularly women, rural populations, and low-income households, remain unconnected or under-connected. Critical barriers include:

- Literacy and digital skills deficits that prevent meaningful participation.

- Device ownership disparity, with 35%of female users relying on borrowed devices versus 6% of men-severely limiting private and consistent usage.

- Handset affordability and socio-cultural barriers such as family approval, both of which constrain adoption.



## Top reported barriers to mobile internet adoption and use

Percentage of Total adult population

**KEY**

| Unaware of mobile internet | Aware of mobile internet but does not use it | Uses mobile internet |
|---|---|---|

Top self-reported barrier to mobile internet adoption or use

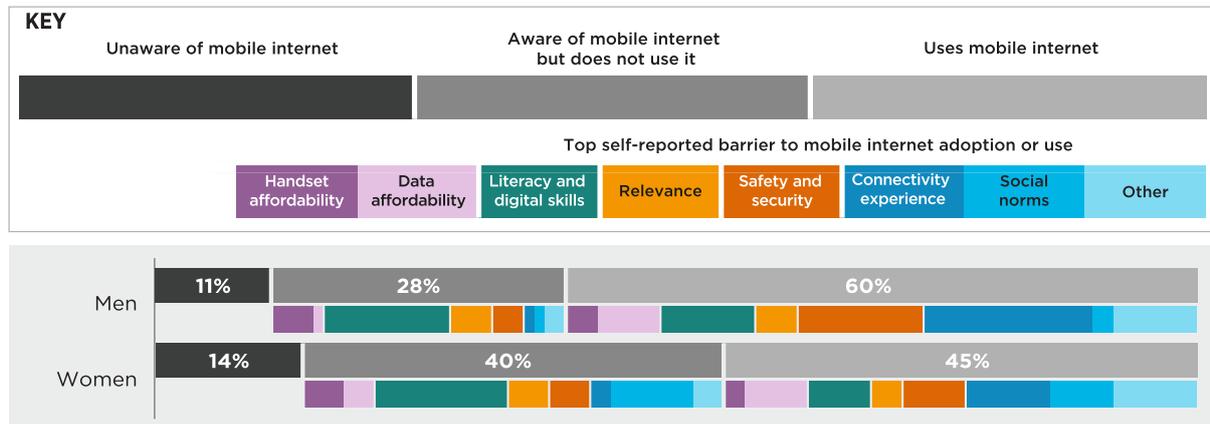| Handset affordability | Data affordability | Literacy and digital skills | Relevance | Safety and security | Connectivity experience | Social norms | Other |
|---|---|---|---|---|---|---|---|

| | Unaware | Aware but does not use | Uses mobile internet |
|---|---|---|---|
| Men | 11% | 28% | 60% |
| Women | 14% | 40% | 45% |

Source: GSMA - The Mobile Gender Gap Report 2025

The economic implications of closing this divide are substantial. GSMA estimates suggest that eliminating the gender gap in mobile Internet adoption could add US$ 1.3 trillion to GDP across low- and middle-income countries by 2030, with Pakistan's mobile industry alone potentially generating an additional US$ 4 billion in revenue.

## Comparative Performance Indicators

Pakistan's comparative progress in narrowing the gender gap is evident across key digital inclusion indicators. Awareness of mobile Internet has nearly equalized, with the gap shrinking to just 3%, reflecting women's growing recognition of digital opportunities. Usage has also advanced significantly as more women turn to mobile Internet for education, livelihoods, and social participation. Social media usage reflects similar momentum: the gender gap dropped by 3%, with stronger female presence on platforms like YouTube (30% gap) and Instagram (42% gap), though disparities remain higher on Facebook (67%) and TikTok (56%). Progress is also visible in financial inclusion, where the branchless banking gap has narrowed by 2%, pointing to gradual but steady improvements in women's access to digital financial services.

Building on ITU's multi-stakeholder model and GSMA's Connected Women programme, PTA is committed to further advancing gender-inclusive policies and regulatory reforms that ensure women can adopt and safely use mobile Internet. By strengthening partnerships, addressing affordability and literacy barriers, and scaling targeted programmes, PTA aims to close the digital gender divide and anchor equitable digital growth in Pakistan.

[1]The Global Connected Resilience Report 2025

| Mobile Broadband Subscribers and Branchless Accounts | | | | | | |
|---|---|---|---|---|---|---|
| | MBB Subscribers* (In Millions) | | | Branchless Banking Accounts** (In Millions) | | |
| Year | Male | Female | Total | Male | Female | Total |
| 2020-21 | 79.0 | 21.0 | 100.0 | 55.8 | 18.9 | 74.7 |
| 2021-22 | 87.9 | 26.4 | 114.3 | 63.7 | 24.8 | 88.5 |
| 2022-23 | 93.1 | 29.8 | 122.9 | 74.5 | 32.4 | 106.9 |
| 2023-24 | 100.0 | 33.0 | 133.0 | 83.7 | 36.5 | 120.2 |
| 2024-25 | 109.9 | 36.2 | 146.1 | 93.5 | 42.3 | 135.8 |

*Male/female CNIC-based subscriptions (No. of active SIMs). Mostly, females in Pakistan use mobile services subscribed or registered on the CNICs of their male family members. As such, female subscriptions are downward-biased.
*SCO MBB figures are included in 2025 only.
Source: *Pakistan Telecommunication Authority **State Bank of Pakistan

| Share of Social Media Users (March 2025) | | | | |
|---|---|---|---|---|
| Social Media | Total Users (In Millions) | Male (Percentage) | Female (Percentage) | Gender Gap (Percentage) |
| *Facebook | 63.6 | 76 | 24 | 67 |
| **YouTube | 55.9 | 60 | 40 | 30 |
| **TikTok | 66.9 | 71 | 29 | 56 |
| **Instagram | 18.8 | 65 | 35 | 42 |

Source: *Napolean cat; **Data Reportal
Gender gap is calculated as [(Male user/male pop—Female user/female pop)]/ (Male user/male pop).

## Digital Gender Gaps

| | Mobile Internet Awareness* | Mobile Ownership* | Mobile Internet Users* | Social Media Usage** | Branchless Banking*** |
|---|---|---|---|---|---|
| 2022 | 5% | 36% | 38% | 63% | 55% |
| 2024 | 2% | 38% | 38% | 59% | 54% |
| 2025 | 3% | 37% | 25% | 56% | 52% |

Source: *GSMA **Data Reportal ***Based on State Bank of Pakistan Data

## Engagement with International Forums

PTA actively engaged with national and international forums to advance gender-responsive digital inclusion and promote equitable access to ICT services for women across Pakistan. Through strategic partnerships, Pakistan's experience was highlighted as a case study in global dialogues on digital inclusion, strengthening its role as a credible voice in shaping gender-responsive ICT policies.

At the Internet Governance Forum (IGF) 2024, Pakistan's Digital Gender Inclusion Strategy was presented in a dedicated session on 'Gender Prioritization through Responsible Digital Governance.' The strategy was also featured in the IGF Policy Network on Meaningful Access report as a successful case study, underlining Pakistan's approach to addressing structural barriers to women's connectivity. During IGF 2025, PTA deepened its partnerships by signing a Letter of Cooperation with the Global Digital Inclusion Partnership (GDIP). This agreement committed both organizations to advancing inclusive digital ecosystems through gender-responsive policies and equitable access.



Chairman PTA, Major General (R) Hafeez Ur Rehman, and Executive Director of the Global Digital Inclusion Partnership, Ms. Onica N. Makwakwa, met on June 24, 2025, to exchange views on advancing digital inclusion globally. The meeting was held in Norway on the sidelines of the Internet Governance Forum 2025.

PTA held a bilateral meeting with the Head of Digital Inclusion, GSMA Connected Women, on the sidelines of IGF 2025. The meeting focused on reducing the mobile gender gap and accelerating digital and financial inclusion for women in low- and middle-income countries through mobile Internet and mobile money services.

Discussions also covered strengthening collaboration in areas such as mobile broadband penetration, spectrum policy, digital inclusion, and innovation in the telecom sector. GSMA commended PTA's proactive regulatory approach and reiterated support for Pakistan's digital transformation agenda.



Chairman PTA, Major General (R) Hafeez Ur Rehman, met with the Head of Digital Inclusion GSMA leadership, Ms. Claire Sibthorpe, on the sidelines of the Internet Governance Forum 2025 in Norway. The meeting was held on June 24, 2025, and featured a discussion on digital inclusion and telecom sector innovation.

At the GSMA Digital Nation Summit 2025, PTA joined high-level discussions on digital equality, infrastructure resilience, and innovation-driven inclusion. Drawing on GSMA's Digital Gender Gap Report 2025, PTA shared targeted actions developed in collaboration with operators and stakeholders to address usage gaps and help women adopt and safely use mobile Internet.

Through these engagements, PTA has positioned Pakistan as an active contributor to global policy debates, while aligning international best practices with domestic priorities. PTA's participation reflects the importance of multi-stakeholder partnerships and evidence-based strategies in driving equitable digital transformation.



A panel discussion on 'Connecting the Unconnected' was organized as part of the GSMA Digital Nation Summit 2025 held in Islamabad on August 7, 2025.

## Steering Committee on Digital Gender Inclusion

The second meeting of the Steering Committee on Digital Gender Inclusion, chaired by the Federal Minister for IT and Telecom on July 3, 2025, reviewed implementation progress on Pakistan's Digital Gender Inclusion Strategy. Serving as secretariat, PTA presented updates across the six working groups—Access, Affordability, Inclusion, Data and Research, Safety, and Security, highlighting completed actions, in-progress deliverables, and ongoing challenges.

The meeting brought together representatives from GDIP, GSMA, HEC, ISOC, Jazz, Lahore University of Management Sciences, National Commission on Human Rights, National Commission on the Status of Women (NCSW), Pakistan Bureau of Statistics, PTA, UNESCO, and the Ministry of Education. Key outcomes included an agreement to launch a consolidated national awareness campaign in collaboration with PEMRA, the Ministry of Information and Broadcasting, and major social media platforms; expand stakeholder engagement to BISP, Digital Cooperation Organization, and Ignite; and constitute a Technical Advisory Committee comprising Association for Progressive Communication, GDIP, Jazz, and the Pakistan Alliance for Girls Education (PAGE) to coordinate working group outputs. The Ministry reaffirmed that future digital initiatives will be gender-responsive, with a focus on funding programmes that improve women's access and affordability.

Steering Committee meetings held in 2024 and 2025 endorsed the Terms of Reference, a Monitoring and Evaluation framework, and pilot initiatives for four districts. These were further reinforced by workshops, policy dialogues, and training programmes, marking tangible progress in closing Pakistan's mobile Internet usage gap and ensuring women's meaningful participation in the digital economy.

## Working with NCSW

NCSW has been a key partner in PTA's digital gender inclusion initiative, with joint efforts advancing two priority tracks: nationwide behaviour change campaigns to address socio-cultural barriers, and the development of women-centered digital content to promote skills, safety, and participation.



Facilitated by the Global Digital Inclusion Partnership, a meeting of the Working Group on Digital Inclusion under the Digital Gender Inclusion in ICTs Strategy was held the National Commission on the Status of Women (NCSW) Headquarters in Islamabad on August 6, 2025. The meeting was chaired by Chairperson NCSW, Ms. Ume-Laila Azhar.



Minister for IT and Telecom, Ms. Shaza Fatima Khawaja, chaired the Steering Committee meeting on PTA's Digital Gender Inclusion in ICTs Strategy at the Ministry of Information Technology and Telecommunication on July 3, 2025. Chairman PTA, Major General (R) Hafeez Ur Rehman, also attended the meeting, along with other stakeholders.

# Community-Centered Connectivity Workshop

PTA, in partnership with ISOC and GDIP, organized a two-day workshop on 'Community-Centered Connectivity (CCC).' The workshop was carried out as an implementation activity of the Access Working Group of the Digital Gender Inclusion Strategy, and was attended by representatives from MoITT, PTA, FAB, USF, National Rural Support Programme, Sindh Rural Support Programme, and Community Development Foundation, along with telecom operators.

The workshop extensively covered the concept of CCC, highlighting it as an approach where connectivity solutions are created for, with, and by communities rather than imposed externally. Overall, the workshop reinforced CCC's role in advancing inclusive broadband access, social empowerment, and local economic development.

By centering solutions around community knowledge, ownership, and priorities, CCC represents a transformative approach to achieving sustainable and meaningful connectivity for Pakistan's underserved populations. Based on the training content and tools, workshop participants developed four CCC solution models tailored for Pakistan, designed to be built, operated, and sustained by local communities.

At the conclusion of the workshop, a decision was made to establish four community centers, one in each province of Pakistan, with ISOC providing dedicated support for their establishment and development under the patronage of PTA. This initiative aligns with PTA's commitment to digital inclusion and connectivity empowerment, embodying a shared vision to deliver accessible, community-driven solutions to bridge the digital divide across the country.



Chairman PTA, Major General (R) Hafeez Ur Rehman, posed with participants of a workshop on 'Community-Centered Connectivity' in Islamabad on September 22-23, 2025. The workshop drew participation from the Global Digital Inclusion Partnership, The Internet Society, Ministry of IT and Telecommunication, PTA, Frequency Allocation Board, Universal Service Fund, National Rural Support Programme, Sindh Rural Support Programme, and Community Development Foundation, along with telecom operators.



Chairman PTA, Major General (R) Hafeez Ur Rehman, presented a commemorative shield to Regional Lead for Asia, Global Digital Inclusion Partnership (GDIP), Mr. Waqas Hasssan, at the close of a workshop on 'Community-Centered Connectivity,' organized by PTA, GDIP, and Internet Society (ISOC). The workshop was held at the PTA Headquarters on September 22-23, 2025. Senior Director, Connectivity Infrastructure, ISOC, Mr. Naveed Haq, and PTA's Director General, Wireless Licensing, Mr. Amer Shahzad, were also present on the occasion.

## Stakeholder-Led Digital Inclusion Initiatives

Digital inclusion requires collective action. In FY 2024-25, multiple stakeholders, including CMOs, launched targeted initiatives to expand access, build digital skills, and improve safety for marginalized groups, particularly women and youth. These efforts integrated awareness campaigns, literacy training, financial empowerment, and entrepreneurship support.

Among CMOs, PTCL and Ufone advanced women's economic and digital inclusion through innovative programmes like #MaaTheDigitalExpert campaign, which trained mothers in digital safety skills, reaching 14 million people and resulting in over 12,000 downloads of a Digital Safety Booklet.

In partnership with the Pakistan Poverty Alleviation Fund, PTCL launched the Ba-Ikhtiar programme, training 100 women in digital and entrepreneurial skills. Participants received smartphones, Internet access, UPaisa wallets, and e-commerce training, enabling 79 women to successfully establish online stores. Top performers showcased their products at GITEX, UAE, and Lok Mela, Islamabad, while mentorship continues under PTCL's Razakaar Programme.

Jazz continued its focus on in-person campaigns to educate women and rural populations on the benefits of mobile Internet. The operator expanded its grassroots campaign, 'Mera Goan Live,' which involves community theater and digital skills training, to educate rural families on the benefits of mobile Internet.

Telenor scaled its 'Kushaal Aangan' Interactive Voice Response (IVR) service, which educates rural women on livestock management and health, to include digital skills training and a dedicated women's call center, increasing its female user base from 0.7 million to 1.9 million in just nine months.

Other stakeholder, including The Inclusion Lab, PAGE, and DEMO also contributed with novel initiatives. The Inclusion Lab organized gender-responsive workshops on digital safety, mobile wallets, and micro-entrepreneurship, training over 425 participants (315 women) in Kohat and Sialkot. More than 125 participants opened digital or commercial bank accounts. A localized training manual and research report were also developed for long-term community impact and knowledge sharing.

As the only Asian recipient of the WiDEF fund, DEMO secured over US$ 1 million from USAID and the Bill & Melinda Gates Foundation to address Pakistan's gender digital divide. Its two-year



Chairman PTA, presented a memento to the Executive Director of the Pakistan Alliance for Girls Education (PAGE), Fajer Rabia Pasha, who visited the PTA Headquarters on May 13, 2025, to discuss initiatives for taking the digital gender inclusion agenda forward. The Development Officer of PAGE, Maleeha Zaidi, and PTA's Director General, Wireless Licensing, Amer Shahzad, were also present.



A view of participants of the 'Mera Gaon Live' awareness campaign on digital gender inclusion. Organized by Jazz, the campaign targeted the country's rural areas in a bid to educate rural women on the transformational benefits of mobile technology.

programme aims to empower 10,000 women in government colleges with digital skills, deploy an online safety chatbot for 52 million WhatsApp users, and run an advocacy campaign targeting 8 million social media users.

## Public Awareness and Media Engagement

PTA further advanced its digital gender inclusion agenda by raising awareness around special observations such as the International Women's Day, Girls in ICT Day, and PTA's Cybersecurity Week. To promote autonomy, security, and digital identity, these campaigns encouraged women to register and use SIMs in their own names, while also emphasizing safe Internet use. By linking digital access to economic resilience and social empowerment, these initiatives reinforced women's role as active participants in Pakistan's digital society.

## Digital Inclusion of Persons with Disabilities

PTA continued to advance digital inclusion for PWDs by embedding accessibility into regulation, service design, and public outreach. A landmark initiative taken in 2025 was the signing of a crucial MoU with DeafTawk, leading to the introduction of DeafTawk Plus—an online sign language interpretation service for hearing impaired individuals visiting the PTA offices.

Building on this milestone, PTA is planning to integrate AI-driven text-to-sign and speech-to-sign solutions across its platforms, supported by regular accessibility audits. These measures address the communication challenges faced by over 10 million hearing impaired individuals in Pakistan, reinforcing the resolve to empower marginalized communities and embed inclusivity into public service delivery.



PTA and DeafTawk forged a historic partnership in Islamabad on January 1, 2025, to empower persons with hearing impairments by equipping them with cutting-edge accessibility solutions, marking a new era of inclusivity in public services.

PTA has also directed telecom operators to align digital touchpoints such as websites, apps, and online portals with internationally recognized Web Content Accessibility Guidelines (WCAG 2.1 AA), making digital services user-friendly for PWDs. Complementing this regulatory framework, PTA partnered with the State Bank of Pakistan to promote digital financial inclusion by enabling accessible ATMs, inclusive bank websites, customer support centers, and mobile banking apps. With technical input from Pathfinder Solutions and DeafTawk, this initiative has been recognized as a milestone in extending financial participation for PWDs.

Further progress was achieved through Ignite's launch of the Bilingual Urdu Screen Reader project, now in its development phase. This project has been designed to enhance digital participation and enable PWDs to enjoy independent access to online content.

Moreover, through a GSMA-funded partnership with ConnectHear, Ufone 4G enabled free data access for real-time sign language interpretation and AI-driven climate alerts through the ConnectHear app, which benefitted over 10 million people with hearing impairments in Pakistan.

Zong, in collaboration with the Network of Organizations Working with People with Disabilities, conducted an awareness session on workplace inclusion under the NOWInclusive Tour on May 16, 2025. The session sought to enhance understanding of the challenges that PWDs face and emphasized the critical role of empathy, accessibility, and ally-ship within organizational settings.



Zong, in collaboration with the Network of Organizations Working for People with Disabilities, organized an awareness session on 'Workplace Inclusion' under the NOWinclusive Tour. The session was held in Islamabad on May 16, 2025.

## Child Online Protection Initiatives

Child online protection is a growing global priority, as the opportunities of the digital world are accompanied by risks such as harmful content, cyberbullying, and privacy breaches. Internationally, UN protection programmes, EU guidelines, and initiatives such as the Children Online Protection Lab emphasize safer platforms, privacy safeguards, and stronger regulatory frameworks.

In line with these global trends, PTA advanced child online protection in 2025 through nationwide awareness campaigns, capacity-building programmes, and child safety summits. These initiatives targeted children, parents, and educators, equipping them with knowledge and tools needed for safer online engagement. PTA worked closely with UNICEF, the National Commission on the Rights of the Child (NCRC), Telenor, TikTok, GSMA,

Meta, and other partners to mitigate online risks and build a safe digital ecosystem for Pakistan's youth.

## Global Partnerships and Collaborations

Recognizing PTA's leadership in this space, ITU included PTA in the 21st and 22nd meetings of its Council Working Group on Child Online Protection (COP) in 2024 and 2025, where PTA presented key initiatives co-developed with partners including UNICEF, TikTok, GSMA, and Meta. The Chair commended PTA's private sector engagement model as a best practice example. PTA also contributed Urdu-translated COP resources, reinforcing linguistic accessibility, with ITU offering support for wider dissemination. A comprehensive report on PTA's COP initiatives is available on the ITU website.

## Child Online Safety Camp

On August 25, 2025, PTA, in partnership with UNICEF, NCRC, and Telenor, organized a Child Online Safety Camp for over 50 children from NCRC's Child Advisory Panel, the Pakistan Girl Guides Association, and religious minority communities.

The camp equipped children with practical skills to navigate the digital world safely amid increasing Internet access. Interactive sessions taught children how to protect themselves from online exploitation, grooming, and cyberbullying, as well as how to report incidents of online abuse. The initiative exemplified PTA's role in promoting digital literacy and strengthening multi-stakeholder collaboration with the government, civil society, and private sector.

## Employee Training

On November 4-5, 2024, PTA, together with UNICEF, Telenor, and global tech platforms including Microsoft, Google, Meta, TikTok, and Tencent, hosted a three-day workshop on COP for PTA employees. With a parent-focused approach, the workshops shared practical tools and strategies to safeguard children's digital activities, covering AI's impact on child safety, safe gaming, and risks from the dark web.



Participants of a two-day workshop on 'Child Online Protection,' organized by PTA for its employees at the PTA Headquarters on November 4-5, 2025.

Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, engaged with students at the Child Online Safety Camp held in Islamabad on August 25, 2025. He apprised them of the importance of young users having the knowledge to navigate the digital space safely.

## Industry-Led Initiatives by Operators

Telecom operators in Pakistan complemented PTA's efforts with their own child safety programmes:

- **Ufone:** Ufone launched the SecureTeen Project, which offered a parental control solution enabling filtering and blocking of inappropriate content; monitoring of calls, messages, and social media; and setting of screentime boundaries.

- **Telenor:** Telenor trained 20,000 adolescents and caregivers directly; reached over 750,000 individuals through awareness campaigns; and collaborated with schools, civil society, and local governments to maximize outreach and sustainability. Telenor also partnered with UNICEF and international researchers on the 'Disrupting Harm' study on Online Child Sexual Exploitation and Abuse (OCSEA). which will inform Pakistan's National Child Protection Strategy in 2026. Multilingual content aimed at promoting cyber hygiene and safe digital practices across diverse communities was also developed. Telenor significantly advanced digital safety and inclusion for young people, particularly in underserved areas such as AJ&K and GB.

- **Zong:** Zong launched the SecureTeen app, which offers a comprehensive parental control toolkit that includes app blocking, web filtering, and real-time location tracking, providing parents with comprehensive tools to ensure children's digital safety.

## Awareness Creation Across Diverse Platforms

PTA leveraged the electronic media as a strategic pillar of its outreach activities, ensuring that regulatory priorities and consumer-centric messages reach a broad and diverse audience.

In FY 2024-25, PTA collaborated with both public and private channels, FM Radio networks, and online media portals to roll out targeted awareness campaigns in Urdu and regional languages. As part of these efforts, PTA representatives frequently appeared on national television to raise awareness of digital challenges and share practical solutions. During the discussions, PTA outlined its regulatory framework for restricting access to such material and highlighted ongoing measures for creating safe digital spaces. The discussion also emphasized the importance of digital awareness, positive parenting, and collaborative responsibility in protecting children from online harm.

Addressing the growing challenge of cyberbullying, PTA raised public awareness by conducting nationwide campaigns, collaborating with law enforcement agencies, and coordinating with social media platforms to remove harmful content. PTA continues to advocate for a unified national strategy to provide stronger protections and support mechanisms for victims, particularly women and children.

By utilizing mainstream media, PTA continues to raise countrywide awareness, extend its reach to diverse audiences, and reinforce its role as a trusted source of guidance in the digital ecosystem.

PTA leveraged the electronic media for its outreach activities by participating in PTV programmes 'Ibtida' and 'Rising Sun' on November 16 and 14, 2024, respectively. The programmes offered a chance to raise public awareness on Child Online Protection, digital safety, and online harassment.

## Developing Tools for Digital Safety

To strengthen online safety for children and youth, PTA, in collaboration with UNICEF and other global partners, has developed a suite of parental guides and digital safety tools to help families manage online access. These resources include content filtering software, monitoring options, and awareness materials, supported by partnerships with platforms such as YouTube Kids and TikTok to promote parental controls and age-appropriate settings. By equipping parents with accessible tools and guidance, PTA seeks to build safer digital environments at the household level, while promoting responsible online habits among children.



By engaging with your child and setting parental controls,

PTA's special initiatives reflect its resolve to make Pakistan's digital transformation inclusive, equitable, and secure. By advancing gender-focused strategies, empowering PWDs, promoting child and youth online protection, and strengthening public awareness on emerging digital threats, PTA is not only bridging connectivity gaps but also reshaping the way citizens engage with technology.

Looking ahead, PTA recognizes that challenges of affordability, rural connectivity, and digital literacy persist. Addressing these will require sustained reforms, targeted investments, and gender and disability-sensitive policies. Yet the trajectory is clear: inclusive growth, equitable participation, and resilient infrastructure will remain at the core of PTA's digital agenda.

# Connectivity Beyond Borders | 7

# Chapter 7 | Connectivity Beyond Borders

Acknowledging that digital development is inherently global, Pakistan has aligned its telecom and ICT services improvement strategy with a strong emphasis on international cooperation. During FY 2024-25, PTA actively engaged with global and regional partners, including regulators, development agencies, technology leaders, and private sector innovators, to shape the global digital agenda.

Through high-level bilateral meetings, participation in multilateral forums, and targeted capacity-building initiatives, PTA advanced Pakistan's priorities of expanding connectivity, preparing for 5G, enhancing cybersecurity, and promoting digital inclusion. From leading policy dialogues at the South Asian Telecommunication Regulators' Council (SATRC) and representing Pakistan at the Mobile World Congress (MWC), to consolidating cooperation with ITU, the Asia-Pacific Telecommunity, and the Malaysian Computer Emergency Response Team (MyCERT), PTA consistently demonstrated Pakistan's commitment to inclusive connectivity, secure digital infrastructure, and innovation-driven growth.

## Masterclass on 5G and Beyond : MCMC Collaboration

A regulatory masterclass on '5G and Beyond: Shaping the Future of Connectivity' was held in Islamabad on February 17, 2025. Organized in collaboration with Nokia and Malaysian Communications and Multimedia Commission (MCMC), the event marked a milestone in Pakistan-Malaysia digital cooperation, bringing together over 60 industry leaders, policymakers, and academics.



Chairman PTA, Major General (R) Hafeez Ur Rehman, Minister for Planning and Development, Mr. Ahsan Iqbal, and representatives of the Malaysian Communications and Multimedia Commission, posed for a memorable photograph at the 5G Regulatory Masterclass held in Islamabad from February 17-20, 2025.



PTA officials, representatives of the Malaysian Communications and Multimedia Commission, industry leaders, and policymakers attended the 'Regulatory Masterclass: 5G and Beyond,' held in Islamabad from January 17-20, 2025. The panel focused on digital transformation, innovation, and cross-border collaboration in next-generation connectivity.

The sessions explored the transformative potential of 5G and highlighted its role in enabling cross-border digital initiatives and advancing Pakistan's long-term socioeconomic and technological development. Speakers underscored that 5G is not just a connectivity upgrade but a gateway to innovation and industrial empowerment. The masterclass combined technical briefings, panel discussions, and knowledge-sharing activities, thereby laying the groundwork for continued collaboration in emerging technologies.

## GSMA Mobile World Congress 2025

Pakistan took centerstage at MWC 2025 held from March 3-6 in Barcelona, where Chairman PTA led a high-level panel discussion titled 'Ask the Regulator: Keeping with the New Digital Matrix.'



Chairman PTA, Major General (R) Hafeez Ur Rehman, represented Pakistan at the GSMA Mobile World Congress 2025 in Barcelona on March 4.

The session highlighted Pakistan's focus on policy adaptability, cross-sector collaboration, and innovation-driven governance to support emerging technologies. Discussions centered on 5G, AI, IoT, and cybersecurity, with an emphasis on aligning technological advancement with data security, consumer protection, and digital inclusion. Pakistan's balanced regulatory approach was presented as a model for shaping future-ready digital ecosystems.

Recognized as the world's leading forum for digital innovation and connectivity, MWC brings together regulators and technology pioneers to shape the future of access, inclusion, and digital transformation. By actively contributing to the platform, PTA strengthened Pakistan's role in international policy dialogues and advanced the vision of a sustainable digital economy.

## Bilateral Engagements with ITU, APT, and VEON Leadership

Pakistan reaffirmed its commitment to constructive engagement during high-level meetings held between Chairman PTA and the leadership of ITU, APT, and VEON Group on the sidelines of MWC 2025 in Barcelona.

In the meeting with ITU Secretary General, Ms. Doreen Bogdan-Martin, Pakistan shared key regulatory reforms, its digital transformation agenda, and efforts to expand connectivity in line with global best practices. PTA also acknowledged ITU's recognition of Pakistan as a G5 Regulator, a milestone reflecting steady progress in the regulatory sphere. Both sides agreed to enhance cooperation for sustainable and inclusive digital growth.

Discussions with APT Secretary General, Mr. Masanori Kondo, focused on enhancing regional collaboration in connectivity, regulatory harmonization, and emerging technologies. Mr. Kondo commended PTA's proactive approach and reaffirmed APT's commitment to knowledge exchange and capacity-building, highlighting the shared objective of a digitally connected and forward-looking Asia-Pacific region.

In a separate meeting, Chairman PTA, Major General (R) Hafeez Ur Rehman, engaged with the Group Chief Executive Officer of VEON Group, Kaan Terzioglu, and a Member of the Board of Directors. The meeting explored avenues for expanding connectivity, advancing digital financial services, accelerating network growth, and harnessing emerging technologies in Pakistan. Highlighting the country's readiness for 5G deployment, PTA encouraged VEON to actively participate in the upcoming 5G spectrum auction.

## Visit of ITU Telecom Development Bureau Team

Pakistan's digital progress and priorities came into focus when the Director of ITU's Telecommunication Development Bureau (BDT), Dr. Cosmas Luckyson Zavazava, visited the PTA Headquarters in Islamabad on April 16, 2025. Discussions highlighted reforms, ongoing initiatives, and Pakistan's goals for digital growth in line with global best practices.

During the meeting, ITU pledged its support in policy making, regulatory development, emergency communications, and disaster response. Dr. Zavazava also shared ITU's plan to roll out specialized AI training programmes, starting with master trainers who will cascade knowledge and skills across the sector.

## Visit to Telenor Headquarters in Norway

As part of its international outreach during IGF, a PTA delegation visited the Telenor Group's Headquarters in Norway. The delegation held high-level meetings with the Group Chief Financial Officer and the Group Head of External Relations, People and Strategy, focusing on the telecom sector's role in building secure, digital infrastructure. The visit also featured an immersive demonstration of 5G and AI applications in healthcare, mobility, and smart city solutions, underscoring their transformative potential for socio-economic development. A dedicated session on spectrum allocation best practices in Nordic countries provided valuable insights into efficient spectrum management models and sustainable policy frameworks.



On June 25, 2025, Chairman PTA, Major General (R) Hafeez Ur Rehman, met the leadership of Telenor Group Headquarters in Norway to discuss strengthening of partnerships with a focus on innovation and regulatory alignment in the telecom sector.

## United Nations Internet Governance Forum

PTA actively participated in IGF 2024 and IGF 2025. In the 19th IGF held in Riyadh, Saudi Arabia, from December 15-19, 2024, PTA aligned Pakistan's digital agenda with evolving frameworks such as the Global Digital Compact and the WSIS+20 review process. Led by Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, PTA's engagement focused on spectrum policy, digital inclusion, user protection, cybersecurity, and innovation-led growth, ensuring Pakistan's voice was integrated into global dialogue. By drawing on international best practices and multistakeholder experiences, Pakistan advanced its commitment to strengthening the digital regulatory environment and shaping inclusive Internet governance.



At IGF 2025, held in Lillestrom, Norway, from June 23-27, 2025, Pakistan was represented by a PTA delegation led by Chairman PTA, Major General (Retired) Hafeez Ur Rehman. The delegation engaged in high-level dialogues to strengthen global cooperation on digital development and inclusion. A key bilateral meeting with the IGF Secretariat focused on the evolving Internet governance landscape, including progress on the Pakistan IGF and opportunities for joint digital policy initiatives.

PTA also contributed to a high-level session on digital development and gender inclusion, emphasizing Pakistan's efforts to bridge the digital divide. Chairman PTA highlighted national initiatives to promote equitable access and empower underserved communities.

Through these engagements, PTA reinforced its role as a regional leader in digital transformation, reflecting Pakistan's dedication to shaping an inclusive, future-ready digital ecosystem.

## Leading Regional Policy Dialogues under SATRC

Continuing its role as Chair of the Working Group on Policy, Regulation and Services, Pakistan played an active role in shaping regional policy dialogue under SATRC during 2024-25. Under SATRC's Action Plan (SAP) IX, PTA is leading three work items and co-leading one, focused on key priorities such as 5G readiness, efficient spectrum pricing in SATRC member states, and the development of smart cities and societies. Established as a collaborative platform for South Asian regulators, SATRC addresses shared challenges including spectrum management, telecom standardization, and development strategies among its nine member countries: Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan, and Sri Lanka.

To ensure Pakistan's effective representation in this prestigious forum, PTA officials actively participated in SATRC meetings, working groups, and capacity-building workshops held across South Asia. Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, who also chairs the Working Group on Policy, Regulation and Services, represented Pakistan at the 25th SATRC meeting in New Delhi from November 11-13, 2024. During the meeting, the chairmen of the Telecom Regulatory Authority of India and PTA were elected Chair and Vice Chair respectively, of SATRC.

To facilitate the exchange of insights, experiences, and best practices, and to identify shared challenges, opportunities, and strategies related to

work items under the SATRC Working Group on Spectrum for SAP IX, PTA officials also attended a dedicated workshop held in Goa from January 21-23, 2025.

Through sustained leadership and active engagement, Pakistan continued to reinforce its role as a key contributor to regional digital policy, steering dialogues on telecom frameworks, regulatory harmonization, and service development to advance South Asia's digital agenda.

The SATRC Workshop on Policy, Regulation and Services was held in Dhaka, Bangladesh, from April 28-30, 2025, under the chairmanship of Member Compliance and Enforcement, Dr. Khawar Siddique



PTA's Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, represented Pakistan at the 25th meeting of the South Asian Telecommunication Regulators' Council, held in New Delhi, India, from November 13-15, 2024.



Participants of the SATRC Workshop on Spectrum, held in Goa, India, from January 21-23, 2025, posed for a memorable photograph at the conclusion of the event.

**Overview of SATRC Action Plan IX**

**SATRC Action Plan IX 2024-25**

Chaired by Pakistan

**WG Policy, Regulation & Services**

**Work Item 03** — Enhancing E-Waste Management Regulations for Sustainable Development — Pakistan (Lead)

**Work Item 06** — Smart cities and societies, experience and cases studies in SATRC countries in deploying IoT, Big Data and similar technologies

Chaired by India

**WG Spectrum**

**Work Item 05** — Backhaul Infrastructure Readiness and Requirements for 5G Deployment in SATRC Countries — Pakistan (Co-Lead)

**Work Item 06** — Efficient valuation and pricing of spectrum in SATRC countries

PTA's Member Compliance and Enforcement, Dr. Khawar Siddique Khokhar, addressed the South Asian Telecommunication Regulators' Council (SATRC) Workshop on 'Policy, Regulation and Services,' held in Dhaka, Bangladesh, from April 28-30, 2025.



PTA presented a comprehensive report at the SATRC Working Group on Spectrum meeting held in Maldives from August 12-14, 2025. The report outlined the infrastructure needs and regulatory measures essential for effective 5G rollout, with a focus on fiber expansion, wireless backhaul spectrum, and enabling frameworks for broadband growth



Glimpses from the Asia-Pacific Regional Workshop on 'Satellite Services, National Regulatory Frameworks and Partnership,' held at Ulaanbaatar, Mongolia, from October 1-2, 2024. Organized by the International Telecommunication Union, the workshop played a key role in strengthening partnerships to promote the development of satellite communications. PTA's Director, Standard and Conformance Assurance Directorate, Mr. Abbas Khan, also addressed the workshop.

Khokhar. The workshop enabled sharing of insights and experiences vis-à-vis emerging challenges and opportunities, while outlining next steps for work items under the SATRC Working Group on Policy, Regulation and Services for SAP IX.

PTA presented a comprehensive report at the SATRC Working Group on Spectrum meeting held in Maldives from August 12-14, 2025. The report outlined the infrastructure needs and regulatory measures essential for effective 5G rollout, with a focus on fiber expansion, wireless backhaul spectrum, and enabling frameworks for broadband growth.

## Regional Workshop on Satellite Connectivity

PTA represented Pakistan at the regional workshop on 'Satellite Connectivity,' held in Ulaanbaatar, Mongolia, from October 1-2, 2024. The delegation showcased Pakistan's space programme, telecom policies, and regulatory framework, highlighting key national initiatives in the satellite sector. PTA also presented practical applications of satellite technology such as extending broadband connectivity to rural Balochistan, GB, and other underserved regions, as well as its use in backhauling, disaster response, navigation, and the delivery of digital solutions in e-education and e-health.

## 2024 Global Summit of WeProtect Global Alliance

PTA participated in the 2024 Global Summit of the WeProtect Global Alliance, co-hosted by the



Glimpse from the WeProtect Global Summit organized by the WeProtect Global Alliance and the Ministry of Interior, UAE. Held in Abu Dhabi on December 5, 2024, the summit explored ways to create a world where children are safeguarded from online exploitation and abuse. PTA's Assistant Director, Web Analysis Division, Mr. Hamza Ahmad Sial, represented Pakistan.

Ministry of Interior of the United Arab Emirates in Abu Dhabi from December 4-5, 2024. The summit focused on strategies to respond to evolving technologies and build safer digital environments for children. A key outcome was the Abu Dhabi Call to Action, a shared commitment urging governments, industry, and civil society to strengthen cooperation, embed safety-by-design principles, and amplify the voices of children and survivors in global digital policy.

## Visit to TikTok Transparency and Accountability Centre

A PTA delegation visited TikTok's Transparency and Accountability Centre in Singapore from December 4-5, 2024.  The visit provided regulators, experts, and policymakers with firsthand insights into TikTok's content moderation processes, algorithmic systems, data security measures, and privacy safeguards. It also helped PTA strengthen its oversight capacity, improve its understanding of platform governance, and promote user safety through more transparent digital practices.



PTA's Director General, Law and Regulation, Mr. Muhammad Khurram Siddiqui, Director, Web Analysis Division, Mr. Muhammad Farooq, Director Vigilance, Mr. Muhammad Taimur Arshad, and Assistant Director, Mr. Hamza Ahmad Sial, at the TikTok Transparency and Accountability Center in Singapore. The visit took place from October 17-20, 2024.

## ITU Masterclass on Inclusive Broadcasting Development

PTA joined the ITU pre-summit masterclass on 'Inclusive and Resilient Broadcasting Development,' which brought together stakeholders from across Asia and the Pacific, including national broadcasters, disaster management authorities, ICT industry representatives, academia, and telecom regulators. Pakistan reaffirmed the importance of integrating broadcasting, ICT, and telecom networks into national disaster risk reduction strategies to ensure inclusive and reliable communications for public safety.



Glimpses from the ITU pre-summit masterclass on 'Inclusive and Resilient Broadcasting Development,' held in Kuala Lumpur, Malaysia, from September 1-4, 2024. Organized by the ITU, the capacity-building initiative enabled sharing of best practices for the development of inclusive, accessible, and resilient broadcasting ecosystems.

## ITU Workshop on Universal and Meaningful Connectivity

Partnering with the National Broadcasting and Telecommunications Commission of Thailand, ITU organized a subregional workshop on 'Promoting and Measuring Universal and Meaningful Connectivity (UMC)' from December 16-18, 2024. The workshop facilitated knowledge exchange and collaboration on advancing UMC across the region.



Participants of the subregional workshop for Asia on 'Promoting and Measuring Universal and Meaningful Connectivity' posed for a memorable photograph. Organized by the ITU, in collaboration with the National Broadcasting and Telecommunications Commission of Thailand, the workshop was held in Bangkok from December 16-18, 2024, with PTA's Director, Enforcement Wireless-I, Mr. Shoaib Ahmed, representing Pakistan.

## Asia-Pacific Digital Transformation Forum 2025

Member Finance, Mr. Muhammad Naveed, represented PTA at the Asia-Pacific Digital Transformation Forum 2025, co-organized by the Asian Development Bank (ADB) and the Ministry of Finance of Japan. Held at the ADB Headquarters in Manila from June 24-28, 2025, the forum brought together over 440 participants, including policymakers, private sector leaders, and

development partners to explore how emerging economies in Asia and the Pacific can harness digital innovation for inclusive and sustainable development.

A key highlight was the Google-ADB Solutions Challenge 2025, which invited developers to design AI-driven solutions for sectors such as agriculture, transport, education, disaster response, and healthcare.



PTA's Member Finance, Mr. Muhammad Naveed, attended the Asia-Pacific Digital Transformation Forum 2025, held in Manila, the Philippines, from June 24-28, 2024. PTA's engagement contributed to shaping a shared vision for inclusive, secure, and innovation-driven digital development

## MyCERT Headquarters, Malaysia

A PTA delegation visited the MyCERT Headquarters in Malaysia on February 27, 2025. Discussions focused on enhancing incident response coordination, improving threat intelligence sharing, and advancing joint technical measures to counter digital threats. Both sides emphasized the importance of proactive information exchange, technical collaboration, and capacity-building initiatives to protect critical infrastructure and improve regional cyber resilience.

## MoU with Huawei Pakistan

PTA and Huawei Pakistan signed an MoU in Islamabad on December 31, 2024, to enhance cooperation in the IT and telecom sectors. The agreement focuses on capacity-building, technology innovation, cybersecurity, and digital inclusion. Both organizations will collaborate to advance 5G, AI, and IoT, while promoting secure digital infrastructure and reducing the digital divide.

The collaboration represents a significant milestone in Pakistan's digital transformation, enabling robust infrastructure development and fostering innovation-driven sustainable growth. Huawei Pakistan reaffirmed its commitment to supporting the country's digital ecosystem and strengthening its technological capabilities. This alliance aligns with Pakistan's vision of

a digitally empowered economy that drives technological excellence and promotes equitable access to IT services nationwide.



Representatives of PTA and Huawei Technologies Pakistan signed a Memorandum of Understanding at the PTA Headquarters on December 31, 2024, to enhance collaboration in the ICT sector, with emphasis on innovation, digital transformation, and capacity-building.

As global cooperation in the digital sector continues to expand, PTA remains committed to strengthening its international role through constructive partnerships and alignment with recognized global practices. The experience gained from recent engagements will guide future efforts towards improving connectivity, ensuring reliable services, and addressing emerging challenges with a coordinated approach. This forward-looking strategy will help position Pakistan to meet the demands of an evolving digital landscape with confidence and consistency.
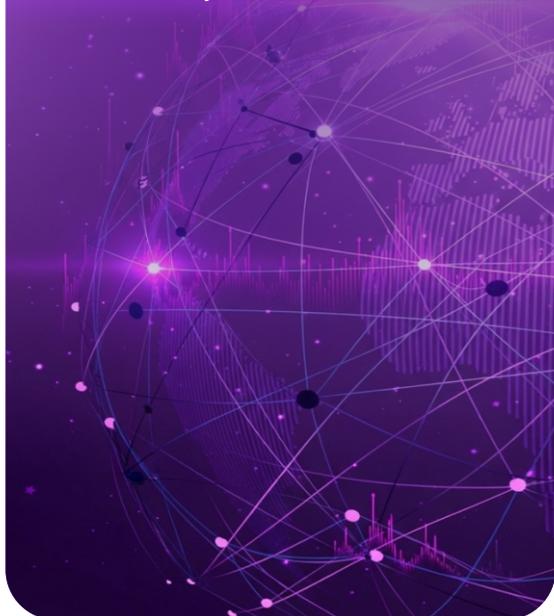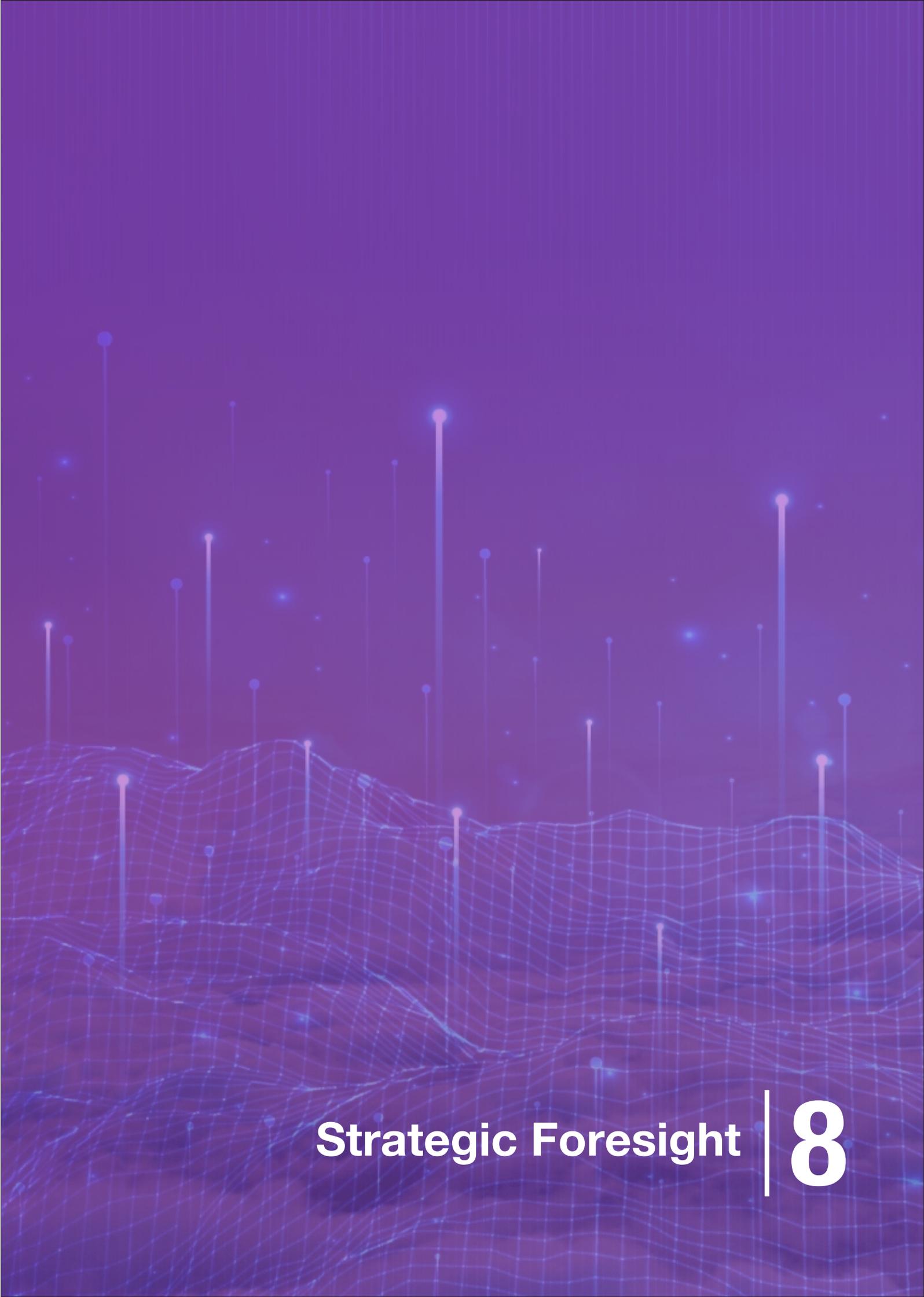
# Strategic Foresight | 8

# Chapter 8 | Strategic Foresight

The momentum of Pakistan's digital transformation makes it imperative for PTA to act as a forward-looking regulator committed to innovation, resilience, and equitable access. Strategic foresight remained central to this approach in FY 2024-25, driving notable advances in spectrum regulation, network modernization, policy reform, digital governance, and consumer protection. By aligning its priorities with the government's digital agenda and the country's broader goals of economic recovery, digital trade, and sustainability, PTA reinforced its role as an enabler of socio-economic growth, digital inclusion, affordability, gender equality and competitiveness in an increasingly dynamic digital society.

Infrastructure-focused regulatory reforms will remain pivotal in the coming years. These reforms aim to provide investment predictability and regulatory certainty, which are critical to attracting both Foreign Direct Investment (FDI) and domestic capital into the telecom sector. Complementary priorities include strengthening cybersecurity readiness, improving emergency communications, and expanding national roaming, all of which are essential to building a resilient and responsive ecosystem. Initiatives such as the integration of PSW and the launch of citizen-facing tools like the Device Registration App and Online Licensing Portal highlight PTA's commitment to automation, transparency, and consumer empowerment.

Shift in Global technology trends present both opportunities and responsibilities. PTA is preparing for the upcoming 5G spectrum auction and its subsequent rollout. At the same time, it is developing future-ready licensing frameworks such as those for Fixed and Mobile Satellite Services, and aligning national standards with international benchmarks on interoperability, performance, and security. These efforts dovetail with Pakistan's broader digital transformation, particularly the growing convergence of telecom and fintech. This synergy will unlock inclusive services and expand digital financial integration. The rapid adoption of mobile wallets through Asan Mobile Accounts (AMA) and digital payment platforms such as Easypaisa and JazzCash is driving financial inclusion across urban and rural communities. Strategic collaborations, both domestic and international, will remain central to policy development, ensuring regulatory inclusivity and global relevance.

With a clear focus on future-readiness, PTA envisions a telecom sector that not only delivers on today's expectations but also remains agile in adapting to future disruptions and innovations. The path forward rests on regulation that is transparent, technology-neutral, and user-centric, empowering businesses, connecting underserved communities, and safeguarding the rights of every digital citizen in Pakistan.

To give effect to this vision, PTA will conduct the 5G spectrum auction, accelerate IPv6 adoption, and expand IXPs to strengthen the digital infrastructure. Cybersecurity will be enhanced through the National Telecom Cybersecurity Framework, upgraded nTSOC capabilities, and an automated CTDISR Audit Portal. PTA will also operationalize the Mobile Virtual Network Operators Framework and Satellite Broadband. . It will modernize the device ecosystem through local testing labs, integration with PSW, and consumer-facing mobile applications under the Mobile Device Manufacturing and Export Policy (MDMEP) 2025-28. The National Disaster Telecommunication Plan will be implemented with nationwide public warning systems and IoT-based flood monitoring. Digital safety will be reinforced through partnerships with global social media platforms, child protection initiatives, and anti-disinformation frameworks. Finally, number management will be modernized through

revised number allocation regulations and updated charges.

Collectively, these initiatives will position Pakistan's telecom sector as resilient, inclusive, secure, and globally competitive.

## Accelerating the Transition to 5G

Recognizing the transformative potential of 5G as a catalyst for connectivity, innovation, and digital transformation across healthcare, education, industry, and smart infrastructure, PTA continues to lead national efforts for its structured rollout as per international best practices. The government has reaffirmed its commitment to launch commercial 5G services, with the Advisory Committee on 5G holding six high-level meetings to review progress, and address challenges, engage with the telecom sector and GSMA and assess recommendations from international consultant, NERA.

Formal policy directions by the government are anticipated to initiate the spectrum release process, followed by spectrum auction and subsequent grant of 5G licenses, paving the way for commercial deployment. In parallel, PTA is aligning regulatory enablers, strengthening backhaul readiness, and engaging stakeholders across the ecosystem to support inclusive adoption.

These coordinated efforts will lay the foundation for a robust 5G ecosystem that will unlock economic potential, transform service delivery, and position Pakistan as a regional leader in next-generation telecommunications.

## Strengthening Pakistan`s Cybersecurity Regime

As Pakistan's digital landscape grows increasingly complex, PTA is shaping a forward-looking cybersecurity regime to safeguard the telecom infrastructure and digital users. At the core of this effort is the National Telecom Cybersecurity Framework, aligned with CTDISR 2025, which complement the regulations and assist the telecom sector in implementing controls more efficiently and achieving compliance more effectively.

Complementing this framework, PTA is developing 5G-specific security guidelines to ensure the secure deployment of next-generation networks from the outset. PTA is also modernizing its operational capabilities by upgrading nTSOC with advanced platforms such as CTM360 and Zero Trust Network Access, enabling real-time threat detection, mitigation, and resilience.

To strengthen oversight, an automated CTDISR Audit Portal is being launched to streamline compliance monitoring and performance evaluation. Capacity-building remains a core priority, with specialized training sessions, certifications, and awareness programmes designed to expand sector-wide cybersecurity expertise.

Looking ahead, PTA will deepen partnerships with global cybersecurity leaders to position Pakistan as a digitally secure, regionally competitive, and globally aligned telecom market. These initiatives reaffirm PTA's commitment to security-by-design regulation, user data protection, and a resilient digital future.

# Modernizing the Device Ecosystem: From Compliance to Convenience

The modernization of Pakistan's device ecosystem, which includes the entire chain of device manufacturing, testing, certification, import management, and consumer use, is underway through reforms that balance regulatory compliance with user convenience. Key initiatives include the establishment of standard testing laboratories, full digitalization of type approval processes, integration with PSW, and the launch of consumer-focused mobile applications. Collectively, these measures will improve transparency, efficiency, and trust while supporting local manufacturing and building a secure, future-ready device market.

PTA's strategy spans four dimensions:

- **Innovation and development:** Promoting research, local manufacturing, and the adoption of advanced technologies to meet global standards.
- **Regulatory modernization:** Keeping policies adaptive, transparent, and aligned with international best practices.
- **Enabling environment:** Facilitating and incentivizing manufacturers to expand local production and investment.
- **Consumer empowerment:** Ensuring access to safe, reliable, and certified devices to enhance public trust in the digital ecosystem.

This holistic strategy ensures Pakistan's device ecosystem is not only compliant but also innovation-ready, consumer-friendly, and globally competitive.

## Strategy for Device Ecosystem



- Innovation & Development
- Consumer Empowerment
- Enabling Environment for Manufacturer
- Regulatory Modernization
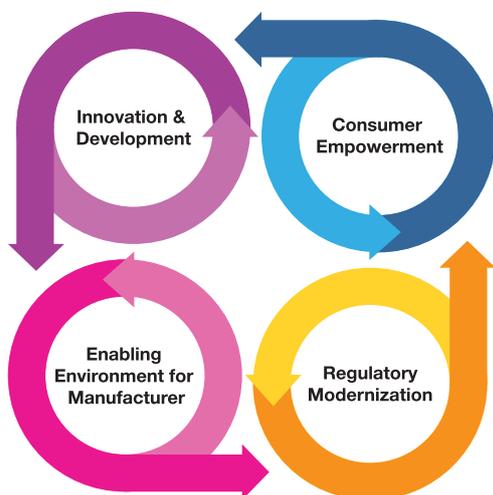
## Standard Testing Laboratories and Procedures

The establishment and accreditation of local device testing laboratories is being prioritized to streamline type approval, reduce reliance on foreign facilities, and enhance national self-reliance. These labs will also support research and development, academia-industry linkages, and export certification, enhancing Pakistan's global ICT competitiveness.

## Digitalization of Type Approval Applications

PTA is in the process of digitalizing the Type Approval System, enabling manufacturers and importers to submit applications, track progress, and receive approvals online through a user friendly portal. This automation will minimize delays, enhances transparency, and accelerates the introduction of new technologies consistent with Pakistan's e-governance agenda.

## Integration with Pakistan Single Window

The Type Approval System is being integrated with PSW to enable real-time exchange of Certificates of Conformity at customs clearance. This step will minimize manual intervention, expedite procedures, and strengthen ease of doing business. It will also support paperless trade, transparency, and compliance with global trade facilitation standards.

## Device Registration Mobile App

To improve consumer accessibility, PTA has launched a Device Registration Subsystem (DRS) mobile app, which allows users to register devices, check compliance, and access past applications directly from their phones. Integrated with DIRBS, the app reduces processing time and enhances transparency, reinforcing PTA's consumer-focused digital transformation.

## Framework for Local Manufacturing under MDMEP 2025-28

Aligned with the upcoming MDMEP, PTA is developing a regulatory framework to expand local manufacturing beyond mobile phones to include POS machines, vehicle tracking systems, laptops, and other ICT devices. The framework sets clear standards for safety, quality, and competitiveness, fostering industrial growth and reducing import dependency.

## Advancing Internet Resilience through Infrastructure Expansion

PTA is formulating a comprehensive strategy for Internet Resilience, now in advanced drafting stages and expected to roll out next year. The plan focuses on building reliable and redundant infrastructure at international gateways and across domestic networks, optimizing routing paths, and reinforcing critical Internet architecture covering Domain Name System (DNS), IXPs, Content Delivery Networks, and Network Time Protocol systems.

PTA is also accelerating Pakistan's IPv6 transition, currently at ~25% adoption, driven largely by major platforms such as Facebook. Engagements with other global players, including TikTok, aim to expand adoption and promote uniform uptake. PTA has supported the expansion of IXPs in major cities, facilitated inter-operator fiber-sharing, and led stakeholder consultations on the draft Local Peering and Internet Exchange Points (LPIXP) Regulations 2025, to reduce network latency and improve interconnectivity.

To promote inclusivity, PTA is enforcing WCAG 2.1 AA web accessibility standards for telecom services, particularly those targeting PWDs. Future enforcement will integrate accessibility into broader QoS benchmarks, ensuring universal access to digital platforms.

Collectively, these measures reflect PTA's vision for a robust, inclusive, and secure Internet infrastructure that meets rising data demands and ensures equitable participation in Pakistan's digital future.

## Building an IoT-Ready Future

To accelerate Pakistan's digital transformation, PTA has licensed LPWAN dedicated to IoT applications. This initiative enables the deployment of next-generation technologies for smart cities, industrial automation, environmental monitoring, precision agriculture, smart logistics, and energy management.

By regulating dedicated IoT spectrum allocations, PTA ensures secure, scalable, and interference-free connectivity, positioning Pakistan as an innovation-driven player in the global digital economy. To date, 23 licenses have been issued, reflecting strong interest from local and international stakeholders.

To maintain regulatory responsiveness, PTA conducted field surveys and inspections of licensees, leading to targeted proposals for improved efficiency and sustainable deployment. A consultation paper on the Framework for Short Range Devices and Terrestrial IoT has also been published to seek industry feedback, reinforcing PTA's consultative, data-driven, regulatory approach.

## Promoting Emergency Telecommunications

Recognizing the critical role of telecom networks in disaster response, PTA has drafted the National Disaster Telecommunication Plan through extensive stakeholder consultations and processed to MoITT for approval. This plan will serve as the foundation for the upcoming Pakistan Emergency Telecommunication Services Regulations, which will be shared for public feedback prior to finalization.

Drawing on lessons from recent floods, the plan focuses on three core areas:

- Integration with the National Disaster Management Authority and the Provincial Disaster Management Authorities to enable a coordinated national response.

- Rollout of a nationwide Public Warning System using Cell Broadcast technology to deliver earthquake and flood alerts.

- Deployment of IoT-based telemetry solutions for real-time flood and rainfall monitoring.

These measures will significantly strengthen Pakistan's disaster preparedness and ensure timely, targeted alerts during emergencies.

## Strengthening Digital Safety through Social Media Engagement

In a hyper-connected world where online platforms can both empower and harm, PTA is working with global platforms to strengthen digital safety and resilience against the misuse of digital spaces, particularly in countering terrorism, violent extremism, and disinformation.

In a significant move, PTA hosted a high-level workshop on 'Counter Terrorism in the Digital Age' in Islamabad on July 9, 2025. Organized in collaboration with Meta, the event brought together experts from Facebook, Instagram, and WhatsApp, providing a direct platform for engagement on combating online threats while protecting user rights and platform integrity.

Building on this momentum, PTA is expanding outreach with other global platforms to gain deeper its understanding of their community guidelines, content moderation processes, and enforcement mechanisms. Complementing initiatives include advancing COP, developing frameworks to counter disinformation, and promoting digital literacy to build user resilience.

Through a partnership-driven approach, PTA is aligning national efforts with global best practices to ensure that Pakistan's digital ecosystem remains safe, responsible, and globally relevant.

## Modernizing Number Management and Allocation

PTA is modernizing the governance of numbering resources to ensure efficiency, transparency, and readiness for future demands. A comprehensive review of the Number Allocation and Administration Regulations is underway, alongside revisions to Mobile Number Portability Guidelines and Regulations to streamline procedures and resolve operational bottlenecks. In addition, numbering charges have been increased by 100% to strengthen oversight and generate revenue for future sectoral development. These reforms modernize resource management while reinforcing Pakistan's preparedness for emergency telecommunications.

### From Access to Opportunity

As digital technologies reshape economies and societies, PTA remains committed to staying ahead of the curve—not just as a regulator, but as an enabler of national progress. The strategic directions outlined in this chapter reaffirm its commitment to building a secure, inclusive, and innovation-driven telecom ecosystem that underpins Pakistan's broader digital and economic transformation.

PTA will continue to prioritize collaboration, agility, and foresight in its regulatory approach. The focus extends to expanding broadband access to underserved areas, preparing for future spectrum demands, strengthening cyber resilience, and advancing digital inclusion. PTA also remains committed to building an ecosystem which prioritizes gender inclusion and enables a safe digital environment for children.

Each initiative is guided by a single objective: ensuring that connectivity translates into opportunity and empowerment for every business, every community, and every citizen of Pakistan.
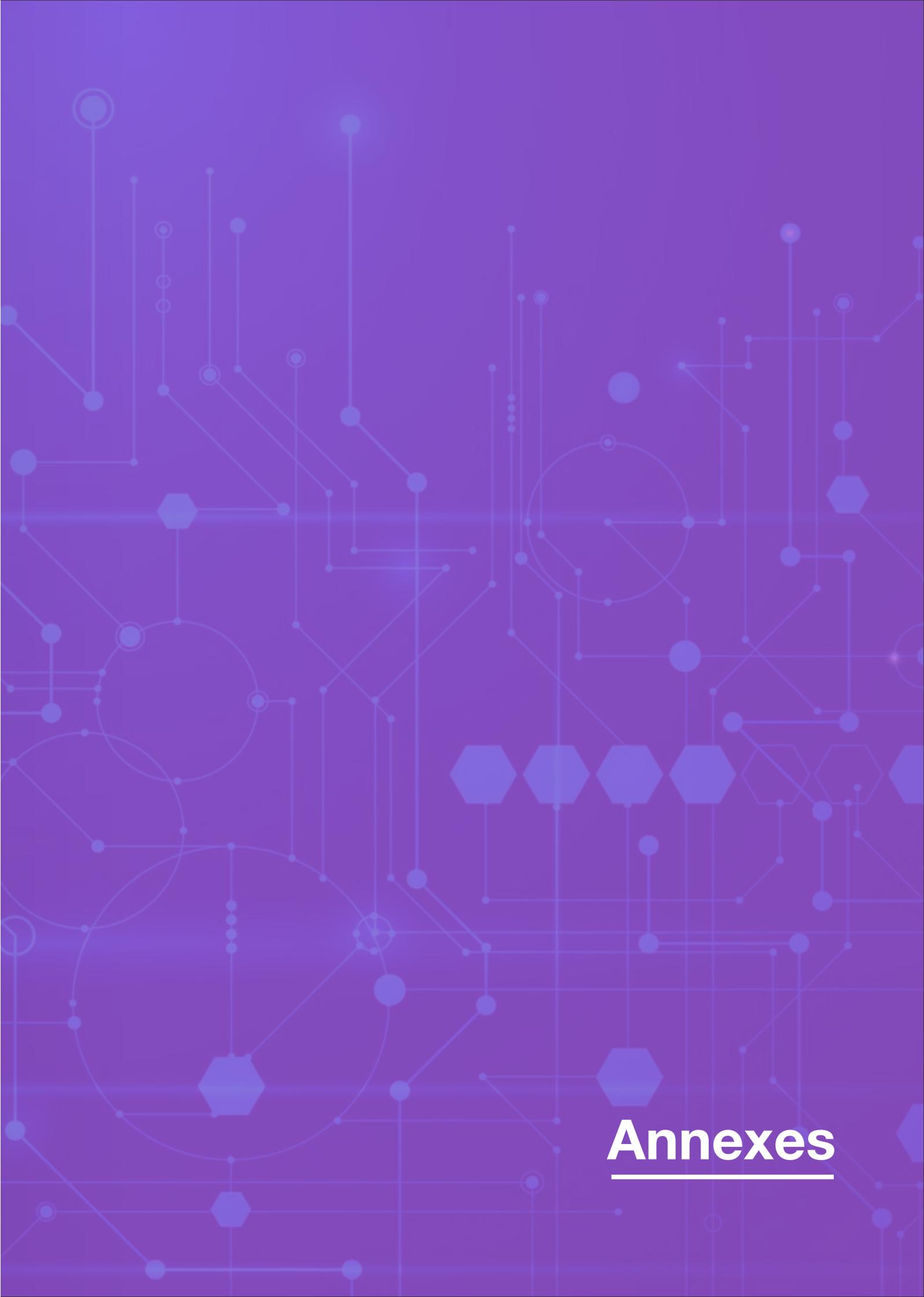
# Annexes

# PAKISTAN TELECOMMUNICATION AUTHORITY
## STATEMENT OF FINANCIAL POSITION
### AS AT 30 JUNE 2025

| | Note | 2025 Rupees | 2024 Rupees |
|---|---|---|---|
| **FUNDS AND LIABILITIES** | | | |
| **FUNDS** | | | |
| Federal consolidated fund | 3 | 6,961,260,116 | 8,057,120,568 |
| Pakistan Telecommunication Authority fund | 4 | 5,430,183,093 | 4,735,069,300 |
| | | 12,391,443,209 | 12,792,189,868 |
| **LIABILITIES** | | | |
| **NON-CURRENT LIABILITIES** | | | |
| Staff retirement benefits | 5 | 5,069,611,684 | 4,194,649,729 |
| Payable to Competition Commission of Pakistan | 6 | 179,384,819 | 327,815,218 |
| | | 5,248,996,503 | 4,522,464,947 |
| **CURRENT LIABILITIES** | | | |
| Unearned income | 7 | 1,183,702,400 | 1,183,702,400 |
| Payable to AJ&K Government and GB Council | 8 | 3,276,183,324 | 2,292,618,993 |
| Current portion of payable to Competition Commission of Pakistan | | 401,432,544 | 331,191,685 |
| Accrued and other liabilities | 9 | 1,315,121,059 | 531,149,772 |
| Income tax payable | 18 | 383,441,715 | 410,277,416 |
| | | 6,559,881,042 | 4,748,940,266 |
| **TOTAL LIABILITIES** | | 11,808,877,545 | 9,271,405,213 |
| **CONTINGENCIES AND COMMITMENTS** | 10 | - | - |
| **TOTAL FUNDS AND LIABILITIES** | | 24,200,320,754 | 22,063,595,081 |

| | Note | 2025 Rupees | 2024 Rupees |
|---|---|---|---|
| **ASSETS** | | | |
| **NON-CURRENT ASSETS** | | | |
| Property and equipment | 11 | 683,602,648 | 682,061,722 |
| Intangibles | 12 | 37,006,830 | 41,234,646 |
| Long-term loans and advances | 13 | 1,072,361,909 | 671,130,002 |
| Deferred income tax asset | 14 | - | - |
| | | 1,792,971,387 | 1,394,426,370 |
| **CURRENT ASSETS** | | | |
| Fee receivable | 15 | 175,608,660 | 61,866,327 |
| Receivable from operators on behalf of AJ&K Government and GB Council - net | 16 | 16,938,049 | 48,081,939 |
| Advances and other receivables | 17 | 6,296,034,792 | 7,562,453,264 |
| Tax refunds due from Government | 18 | 3,883,574,923 | 3,782,328,251 |
| Bank balances | 19 | 12,035,192,943 | 9,214,438,930 |
| | | 22,407,349,367 | 20,669,168,711 |
| **TOTAL ASSETS** | | 24,200,320,754 | 22,063,595,081 |

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

_____
CHAIRMAN

_____
MEMBER (FINANCE)

# PAKISTAN TELECOMMUNICATION AUTHORITY
## INCOME AND EXPENDITURE STATEMENT
## FOR THE YEAR ENDED 30 JUNE 2025

|  | Note | 2025 Rupees | 2024 Rupees |
|---|---|---|---|
| **Income** | 20 | 34,556,924,461 | 49,415,000,889 |
| **Expenditures** |  |  |  |
| General and administrative expenses | 21 | 4,814,369,859 | 3,760,025,967 |
| Allowance for expected credit losses | 15.3 | 2,335,426 | 183,649,771 |
| Finance cost - bank charges |  | 190,567 | 18,554 |
|  |  | (4,816,895,852) | (3,943,694,292) |
|  |  | 29,740,028,609 | 45,471,306,597 |
| Other income | 22 | 932,382,253 | 1,356,880,766 |
| Surplus before taxation |  | 30,672,410,862 | 46,828,187,363 |
| Taxation | 23 | (140,656,917) | (49,736,284) |
| Surplus after taxation |  | 30,531,753,945 | 46,778,451,079 |

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

_____
**CHAIRMAN**

_____
**MEMBER (FINANCE)**

**PAKISTAN TELECOMMUNICATION AUTHORITY**

STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 30 JUNE 2025

| | Note | 2025 Rupees | 2024 Rupees |
|---|---|---|---|
| **CASH FLOWS FROM OPERATING ACTIVITIES** | | | |
| Surplus before taxation | | 30,672,410,862 | 46,828,187,363 |
| **Adjustments for non-cash charges and other items:** | | | |
| Depreciation - property and equipment | 11 | 182,537,019 | 156,803,949 |
| Amortization of intangibles | 12 | 10,925,020 | 8,508,096 |
| Provision for: | | | |
| - contributory provident fund payable | 5 | 120,263,131 | 102,216,937 |
| - accumulating compensated absences | 5.3 | 87,566,240 | 30,639,270 |
| - employee's gratuity scheme obligation | 5.3 | 391,425,323 | 344,505,886 |
| - pension obligation | 5.3 | 3,262,015 | 2,586,388 |
| - post retirement medical benefit | 5.3 | 274,157,259 | 195,124,961 |
| - contribution to Competition Commission of Pakistan | 6 | 395,839,591 | 271,739,700 |
| Allowance for expected credit losses | 15.3 | 2,335,426 | 183,649,771 |
| Profit on bank deposits | 22 | (883,785,777) | (1,302,414,901) |
| Mark-up on license renewal | 20 | (5,805,203,618) | (7,717,623,981) |
| Gain on sale of property and equipment | 22 | (3,174,220) | (13,911,245) |
| | | 25,448,558,271 | 39,090,012,194 |
| **Working capital changes:** | | | |
| **(Increase) / decrease in current assets:** | | | |
| Fees receivable | | (116,077,759) | (75,675,559) |
| Receivable from operators on behalf of AJ&K Government and GB Council - net | | 31,143,890 | 9,116,889 |
| Advances, prepayments and other receivables | | 5,185,437 | (60,706) |
| | | (79,748,432) | (66,619,376) |
| **Increase / (decrease) in current liabilities** | | | |
| Accrued and other liabilities | | 783,971,287 | (120,290,986) |
| Payable to AJ&K Government and GB Council | | 1,230,294,244 | (5,985,192,548) |
| | | 2,014,265,531 | (6,105,483,534) |
| **Cash generated from operations** | | 27,383,075,370 | 32,917,909,284 |
| Increase in loans and advances | | (558,905,562) | (108,409,458) |
| Income tax paid | | (515,469,203) | (749,865,987) |
| Payment made to Competition Commission of Pakistan | 6 | (474,029,131) | (345,664,292) |
| Staff retirement benefits paid | 5.1 | (267,231,546) | (177,689,615) |
| | | (1,815,635,442) | (1,381,629,352) |
| **Net cash generated from operating activities** | | 25,567,439,928 | 31,536,279,932 |
| **CASH FLOWS FROM INVESTING ACTIVITIES** | | | |
| Capital expenditure on property and equipment | 11 | (184,896,247) | (77,909,870) |
| Proceeds from sale of property and equipment | | 3,992,522 | 14,017,616 |
| Capital expenditure on intangibles | 12 | (6,697,204) | (15,905,618) |
| Profit on bank deposits received | | 1,238,953,431 | 1,237,903,053 |
| Advance for purchase of land | 17 | - | (141,236,527) |
| Mark-up on license renewal received | | 6,868,942,654 | 3,633,025,547 |
| **Net cash from investing activities** | | 7,920,295,156 | 4,649,894,201 |
| **CASH FLOWS FROM FINANCING ACTIVITIES** | | | |
| Payment made to Frequency Allocation Board | | (2,235,286,646) | (1,515,042,047) |
| Payments to GoP FCF account | | (28,431,694,425) | (41,492,783,231) |
| **Net cash used in financing activities** | | (30,666,981,071) | (43,007,825,278) |
| **Net increase / (decrease) in cash and cash equivalents** | | 2,820,754,013 | (6,821,651,145) |
| **Cash and cash equivalents at beginning of the year** | | 9,214,438,930 | 16,036,090,075 |
| **Cash and cash equivalents at end of the year** | 19 | 12,035,192,943 | 9,214,438,930 |

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

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**CHAIRMAN**

_____
**MEMBER (FINANCE)**

## Annex 2: Telecom Industry's Contribution to National Exchequer
(In PKR Billions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 (P) |
|---|---|---|---|---|---|
| GST | 65 | 71 | 87 | 101 | 108 |
| PTA Deposits | 45 | 113 | 99 | 54 | 43 |
| Others | 112 | 145 | 155 | 181 | 251 |
| **Total** | **222** | **329** | **341** | **336** | **402** |

Note: Figures for FY 2024-25 are provisional; all other figures are updated.
Telecom contributions comprise PTA deposits, GST, WHT, and other taxes.
P: Provisional
R: Revised

## Annex 3: GST by Telecom Industry
(In PKR Millions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 (P) |
|---|---|---|---|---|---|
| CMO | 44,529 | 48,210 | 56,289 | 68,228 | 74,573 |
| LL/CVAS | 14,794 | 16,963 | 19,694 | 24,092 | 24,182 |
| LDI | 1,506 | 1,524 | 6,576 | 2,327 | 2,109 |
| TIP/TTP | 3,896 | 4,091 | 4,455 | 6,386 | 7,321 |
| **Total** | **64,724** | **70,788** | **87,014** | **101,032** | **108,185** |

Note: All figures are updated.
P: Provisional
R: Revised

## Annex 4: Other Taxes by Telecom Industry
(In PKR Millions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 (P) |
|---|---|---|---|---|---|
| CMO | 97,666 | 126,160 | 120,112 | 147,458 | 231,152 |
| LL/CVAS | 5,192 | 7,546 | 15,937 | 10,267 | 9,432 |
| LDI | 3,771 | 4,427 | 7,708 | 9,708 | 6,590 |
| TIP/TTP | 5,537 | 6,637 | 11,218 | 13,491 | 4,116 |
| **Total** | **112,166** | **144,770** | **154,975** | **180,923** | **251,289** |

Note: Other taxes include WHT, Income Tax, etc.
All figures are updated.
P: Provisional
R: Revised

## Annex 5: Telecom Investment
(In US$ Millions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 (P) |
|---|---|---|---|---|---|
| CMO | 808 | 1,175 | 396 | 431 | 555 |
| LL/CVAS | 267 | 318 | 224 | 266 | 236 |
| LDI | 31 | 24 | 17 | 13 | 14 |
| TTP/TIP | 108 | 140 | 133 | 56 | 33 |
| **Total** | **1,214** | **1,657** | **770** | **766** | **838** |

P: Provisional
R: Revised

## Annex 6: FDI in Telecom
(In US$ Millions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 (P) |
|---|---|---|---|---|---|
| Inflow | 204 | 175 | 58 | 46 | 97 |
| Outflow | 168 | 198 | 280 | 90 | 228 |
| Net FDI | 36 | (23) | (222) | (44) | (131) |

Source: State Bank of Pakistan.
P: Provisional

## Annex 7: Telecom Revenues
(In PKR Millions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 (P) |
|---|---|---|---|---|---|
| CMO | 445,120 | 480,662 | 529,127 | 614,084 | 712,509 |
| FLL | 93,781 | 103,692 | 118,770 | 128,193 | 133,924 |
| CVAS | 18,613 | 25,823 | 28,572 | 34,177 | 36,143 |
| LDI | 41,610 | 50,542 | 65,670 | 87,079 | 91,697 |
| TIP/TTP | 41,702 | 56,024 | 74,652 | 93,506 | 100,637 |
| **Total** | **640,826** | **716,743** | **816,791** | **957,039** | **1,074,910** |

Note: All figures are updated.
P: Provisional
R: Revised

## Annex 8: Mobile Operators' Revenues
(In PKR Millions)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 (P) |
|---|---|---|---|---|---|
| Jazz | 183,079 | 205,869 | 224,887 | 265,531 | 294,642 |
| Ufone | 55,040 | 57,048 | 66,473 | 85,550 | 104,791 |
| Zong | 103,843 | 111,870 | 127,137 | 147,218 | 183,809 |
| Telenor | 100,521 | 103,073 | 108,375 | 113,529 | 127,012 |
| SCO | 2,637 | 2,802 | 2,255 | 2,255* | 2,255* |
| **Total** | **445,120** | **480,662** | **529,127** | **614,084** | **712,509** |

Note: All figures are updated. *As of FY 2022-23.
P: Provisional
R: Revised

## Annex 9: Mobile ARPU Per Month
(In PKR)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 (R) | 2024-25 |
|---|---|---|---|---|---|
| Jazz | 226 | 234 | 254 | 312 | 339 |
| Ufone | 199 | 207 | 233 | 281 | 331 |
| Zong | 221 | 214 | 232 | 258 | 303 |
| Telenor | 174 | 173 | 187 | 210 | 242 |
| **Total** | **207** | **212** | **229** | **270** | **306** |

Note: All figures are updated.

## Annex 10: Mobile Subscribers
(As of June)

|  | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Jazz | 69,792,924 | 75,466,451 | 71,334,141 | 71,363,495 | 73,839,867 |
| Ufone | 23,118,277 | 23,282,996 | 24,503,956 | 25,837,203 | 26,858,916 |
| Zong | 40,498,899 | 44,193,661 | 46,512,493 | 48,890,982 | 51,884,333 |
| Telenor | 49,279,306 | 49,978,275 | 46,921,677 | 44,629,312 | 43,283,858 |
| SCO | 1,560,493 | 1,658,986 | 1,676,367 | 1,817,186 | 1,937,255 |
| **Total** | **184,249,899** | **194,580,369** | **190,948,634** | **192,538,178** | **197,804,229** |

## Annex 11: Telecom Subscribers
(As of June)

|  | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Mobile | 184,249,899 | 194,580,369 | 190,948,634 | 192,538,178 | 197,804,229 |
| Fixed | 2,544,150 | 2,586,329 | 2,578,268 | 2,584,881 | 2,557,601 |
| **Total** | **186,794,049** | **197,166,998** | **193,526,902** | **195,123,059** | **200,361,830** |

## Annex 12: Mobile Subscribers in AJ&K and GB
(As of June)

|  | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Jazz | 487,723 | 464,775 | 635,654 | 378,803 | 355,697 |
| Ufone | 182,050 | 203,658 | 234,733 | 301,189 | 327,548 |
| Zong | 1,042,597 | 1,149,271 | 1,205,043 | 1,286,962 | 1,405,502 |
| Telenor | 2,341,149 | 2,407,633 | 2,342,467 | 2,366,954 | 2,349,329 |
| SCO | 1,560,493 | 1,658,986 | 1,676,367 | 1,817,186 | 1,937,255 |
| **Total** | **5,614,012** | **5,884,323** | **6,094,264** | **6,151,094** | **6,375,331** |

## Annex 13: Mobile Broadband Subscribers
(As of June)

|  | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Jazz | 38,458,078 | 43,996,189 | 46,831,350 | 50,336,582 | 54,552,540 |
| Ufone | 10,534,021 | 12,929,805 | 15,466,230 | 17,891,330 | 19,619,789 |
| Zong | 27,518,921 | 32,104,031 | 35,018,827 | 38,649,645 | 42,402,756 |
| Telenor | 22,263,536 | 25,373,339 | 25,700,317 | 26,268,861 | 27,682,123 |
| SCO | 1,078,351 | 1,397,491 | 1,479,193 | 1,642,442 | 1,791,608 |
| **Total** | **99,852,907** | **115,750,855** | **124,495,917** | **134,788,860** | **146,048,816** |

## Annex 14: Broadband Subscribers
As of June (In Millions)

|  | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Mobile BB | 99.85 | 115.75 | 124.39 | 134.79 | 146.05 |
| FBB | 2.85 | 3.01 | 3.19 | 3.51 | 3.76 |
| **Total** | **102.70** | **118.76** | **127.58** | **138.30** | **149.81** |

## Annex 15: Cell Sites
(As of June)

|  | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| 4G | 40,749 | 47,759 | 50,359 | 53,245 | 56,694 |
| **Total** | **48,091** | **51,768** | **53,581** | **55,777** | **58,423** |

Note: All figures are updated.

## Annex 16: Data Usage
(Petabytes)

|  | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Jazz | 2,327 | 3,084 | 3,687 | 4,502 | 5,039 |
| Ufone | 265 | 483 | 1,012 | 1,554 | 1,756 |
| Zong | 2,979 | 3,647 | 4,163 | 4,742 | 5,018 |
| Telenor | 1,253 | 1,710 | 1,939 | 2,159 | 2,250 |
| SCO | 31 | 46 | 49 | 64 | 90 |
| **Mobile** | **6,855** | **8,970** | **10,850** | **13,021** | **14,153** |
| **Fixed** | **5,717** | **7,280** | **9,385** | **12,120** | **13,574** |
| **Total** | **12,572** | **16,250** | **20,235** | **25,141** | **27,727** |

Note: Fixed data usage is estimated.

## Annex 17: Digital Financial Indicators

| Indicators | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Mobile Wallet (BB) Agents | 534,460 | 637,231 | 630,033 | 666,682 | 731,814 |
| Active BB Agents | 246,280 | 333,925 | 280,495 | 278,080 | 271,080 |
| Mobile Wallet Accounts | 74,620,637 | 88,549,274 | 106,892,208 | 120,246,119 | 135,876,186 |
| Active Accounts | 45,887,496 | 43,282,879 | 47,300,180 | 60,956,910 | 62,129,260 |
| Deposits (In PKR Millions) | 55,259 | 78,272 | 109,955 | 138,942 | 216,447 |
| Transactions (In Thousands) | 2,233,117 | 2,725,287 | 3,483,105 | 4,500,681 | 6,713,123 |
| Value of Transactions (In PKR Millions) | 8,086,149 | 10,637,320 | 15,466,335 | 21,237,633 | 31,324,595 |
| Average Size of Transactions (In PKR) | 3,653 | 3,896 | 4,643 | 4,712 | 4,670 |
| Average Daily Transactions | 6,203,103 | 7,570,239 | 9,675,328 | 12,501,890 | 18,647,564 |

Source: State Bank of Pakistan.

# Organogram

## Chairman

- **HR & Coordination**
  - Coordination
  - Human Resource
  - Medical
- **Law & Regulation**
  - Law
  - Regulation
  - Litigation
- **IR & Government Affairs**
  - Communication
  - International Training & Liaison
  - Government & External Affairs
- **Adminstration**
  - Admin
  - Civil Works
  - Procurement
- **Wireline Licensing**
  - Wireline
  - Numbering
- **Wireless Licensing**
  - Wireless
  - Radio-Based Services
  - Satellite
  - Vigilance
- **Cyber Vigilance**
  - Cyber Security

## Member Compliance & Enforcement

- **Web Analysis**
  - Web Analysis
- **Strategy & Development**
  - Strategy & Development
- **ICT**
  - ICT
- **Regulatory Comp & Operations**
  - Regulatory Comp & Operations
- **STACA**
  - SCA
  - Type Approval
- **Enforcement**
  - Enf-Wireline
  - Enf-Wireless-I
  - Enf-Wireless-II

### Enforcement Zonal Offices
- Abbottabad Zonal Office
- Karachi Zonal Office
- Gwadar Zonal Office
- Faisalabad Zonal Office
- Gilgit-Baltistan Zonal Office
- Rawalpindi Zonal Office
- Peshawar Zonal Office
- Lahore Zonal Office
- Muzaffarabad Zonal Office
- Multan Zonal Office
- Sukkur Zonal Office
- Quetta Zonal Office

## Member Finance

- **Consumer Protection**
  - Consumer Protection
- **Audit**
  - Audit
- **Commercial Affairs**
  - Commercial Affairs
- **Economic Affairs**
  - Finance
- **Finance**
  - Finance
  - Budget & Accounts
  - Payroll & Cash

# PTA's National Footprint

**PTA Headquarters**
Sector F-5/1, Islamabad,
Pakistan, 44000.
📞 +92-51-9225329-30-31
Consumer Support Centre,
Toll-Free Helpline: 0800-55055

**Zonal Office, Karachi**
Wireless Compound, opposite JPMC,
Rafiqui Shaheed Road, Karachi, 75530.
📞 +92-21-35680101
✉ karachi@pta.gov.pk

**Zonal Office, Lahore**
165 Abid Majeed Road,
Lahore Cantt.
📞 +92-42-36665022
✉ ptalahore@pta.gov.pk

**Zonal Office, Peshawar**
Plot No. 11, Sector A-3, Phase-V,
Hayatabad, Peshawar.
📞 +92-91-9217279
✉ peshawar@pta.gov.pk

**Zonal Office, Quetta**
Samungli Road, behind FIA Building,
Quetta.
📞 +92-81-2829476
✉ quetta@pta.gov.pk

**Zonal Office, Rawalpindi**
Kashmir Road, adjacent to PTCL Cantt
Exchange, Saddar, Rawalpindi.
📞 +92-51-5766402
✉ rawalpindi@pta.gov.pk

**Zonal Office, Abbottabad**
House No. 226, Capt. Amir Shaheed Road,
Sikandarabad, Abbottabad.
📞 +92-992-339666
✉ abbottabad@pta.gov.pk

**Zonal Office, Faisalabad**
House No. D-272, Khawaja Islam Road,
Peoples Colony No.1, Faisalabad.
📞 +92-41-8530092
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**Zonal Office, Multan**
House No. 61-A, Main Street Sabzazar,
Bosan Road, Multan.
📞 +92-61-2121100
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**Zonal Office, Sukkur**
Bungalow No. A-146, Sindhi Cooperative
Housing Society, Airport Road, Sukkur.
📞 +92-71-9311154
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**Zonal Office, Gwadar**
House No. BH-3, Phase-I, New Town,
Gwadar.
📞 +92-86-4410181
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**Zonal Office, Muzaffarabad**
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Muzaffarabad.
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**Zonal Office, Gilgit-Baltistan**
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📞 +92-5811-922415
✉ gilgit@pta.gov.pk