Validation Workshop

DIGITAL SECTOR MASTER PLAN

DIGITAL INFRASTRUCTURE

27 January 2025

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Agenda

- Why a Roadmap?
- Situational Analysis
- Digital Pakistan 2035 Vision
- Validation of Initiatives and Projects
- Governance, Steering & MEL
- Poll !

Why a Digital Roadmap?

- IMPLEMENTATION has always been challenging in Pakistan
- An implementation instrument for Digital Pakistan Act & URAAN Pakistan
- For Pakistan Digital Authority to use for the National Master Plan
- Significantly growing but fragmented digital sector
- If harnessed well – high socio-economic value-adding opportunities
- Role sharing – *"ALL HANDS ON THE DECK"* needed

Roadmap Logic

Overarching Vision & Desired Meta Outcome(s)

	1. DIGITAL INFRASTRUCTURE	2. DIGITAL GOVERNMENT	3. DIGITAL ECONOMY	4. DIGITAL CITIZEN
WHAT?				
2035 NORTH STAR	Seamless digital connectivity for all – 1 GBPS for Fixed line and 100 MBPS for Mobile	Citizen friendly 1 click, zero paper and 10 secs government service experience	Thriving ecosystem that leverages digital platforms, data, and connectivity to stimulate exponential economic growth, job creation & FDI.	All Pakistan`s citizens enjoy equal opportunities to access, safely use and socio-economically benefit from digital transformation.
HOW?	1.1 Lowering Barriers to Connectivity 1.2 High Quality Connectivity with Fibre To The Premises 1.3. Future Proofing supply for Digi Econ and Digi Gov 1.4. Rural Inclusivity 1.5 Integrating Climate Resilience	2.1 Structural Readiness Enhancement 2.2 Digital Public Servants & Leaders Enhancement Program 2.3 Government Organizations Digital Enhancement Program 2.4 Core DPI & connectivity enhancement: national Provincial 2.5 Platformization & reuse of digital assets for efficiency	3.1 Tech policies for econ. growth 3.2. Digitizing Business transactions 3.2 Digitizing Investment & Capital 3.3 Agriculture Automation 3.4 Growing Future Industries 3.5. Tech Economy Diplomacy	4.1 Whole of Society Digi Competency 4.2 Stratified Digital Inclusion Approach 4.3 Expanding Digital Rights, Integrity & Participation 4.4. Targeted Social Innovation
WHO?	PTA, TELCOs, MOITT, USF	MOITT, PDSP, Line Ministries, Provincial TBs,	Responsible entity(ies)	MOITT, PTA, HEC, MinEDU
TO WHAT EFFECT?	• KPI#1 In top 50 of Network Readiness Index • KPI#2 70% Fibre To The Tower • KPI#3 1 GBPS FTTP download speed • KPI#4 90% Smartphone ownership	• ⬆ # of certified indivuals with INNOskills • KPI #2.2 • KPI #2.3	• KPI # 3.1 • KPI # 3.2 • KPI # 3.3	• In 2035 Pakistan among top 50 on EGDI, E-participation • 90 % pop`n with basic digital competence • 90 % pop`n using digital gov services • Scaled home grown social innovation solutions services used by (25% popn - 60 mil.)

Digital Pakistan: ADB Situational Analysis

Other Initiatives

- **URAAN Pakistan - the 5Es Framework**
  - E-Pakistan is one of the 5 Pillars
- **DNP (Digital Nation Pakistan) Act**
  - Vital legislation to construct necessary Governance structure for Digital Transformation
- **DEEP (Digital Economy Enhancement Project)**
  - To enhance Govt's capacity for digitally enabled public service delivery, focus on:
    1. Technical assistance to MoIT for Policy and Regulatory reforms to improve the digital economy, governance and service capabilities.
    2. Pakistan Business Portal to support BoI modernise Regulatory Regimes
    3. Project management

NOTHING WORKS WITHOUT THE INFRASTRUCTURE!!!

Defining Pakistan Digital Infrastructure

Digital Infrastructure refers to a national integrated technology framework of connectivity necessary to deliver digital goods, products, and services inclusively.

It enables citizens to connect and leverage technologies to accomplish the vision of a dynamic digital society, a robust digital economy and an efficient digital governance – as described in URAAN Pakistan and the Digital Nation Pakistan Act 2025.

Important: This workshop does not cover DPI, which is already covered under DEEP.

However, some initiatives given here may have some overlap withDEEP!

Digital Infrastructure Vision 2035

Seamless Digital Connectivity for all –

1 GBPS for Fixed-Line and 200 MBPS for Mobile Broadband

Workshop Objectives

- To accomplish the Vision, the Focus has to be on **Implementation**

… the Sector's Achilles Heel …

- Several Initiatives/Projects are being **proposed** for this purpose
- It is these Initiatives/Projects where we seek your valuable **Validation**
- Feel free to ask, criticise, propose changes, reject, or make new proposals
- We seek to gather insights and feedback to refine these proposals.
- We also seek to foster a collaborative dialogue among Stakeholders to align on the priorities for Pakistan's Digital Infrastructure development.

Validation

/ˌvalɪˈdeɪʃn/
Noun

1. The action of checking that something (an argument or point) is reasonable, cogent, well-grounded, sound, or correct

2. A probe whether something is legally or officially acceptable.

3. Recognition or affirmation that a person or their feelings or opinions are valid or worthwhile

How to participate in Validation

3 Ways we can Validate:

1. By asking and discussing as we go along
2. By discussing in the Session before we close
3. By Sending your valuable suggestions in writing after the Workshop – but not later than the end of this week (by 31-Jan. 2025)

DIGITAL INFRASTRUCTURE Proposed Initiatives

1. Improve Digital Infrastructure to Support Dig. Govt/Economy	1.1 Lower the Entry Barriers 1.2 Lower the Usage Barriers 1.3 Lower the Regulatory Barriers 1.4 Create PPP Framework for Digital Infrastructure
2. High-Quality Connectivity with Fibre To The Premises	2.1 Formulate Fiberisation Policy 2.2 Provide Catalytic Funding 2.3 Generate Demand
3. Future Proof Infrastructure for Digital Economy	3.1 Leverage Low Earth Orbit (LEO) Satellites 3.2 Leverage 5G-millimetre wave Technology 3.3 Data Centres and Cloud Computing for Dig. Economy
4. Inclusivity for the Rural, the Poor, and the Women	4.1 Rural Demand-side Projects 4.2 Smartphones for the Poorest of the Poor Women
5. Climate Resilience & Digital Infrastructure	5.1 Leverage Digital Infrastructure for Weather Stations 5.2 National Climate Digital Resilience Strategy

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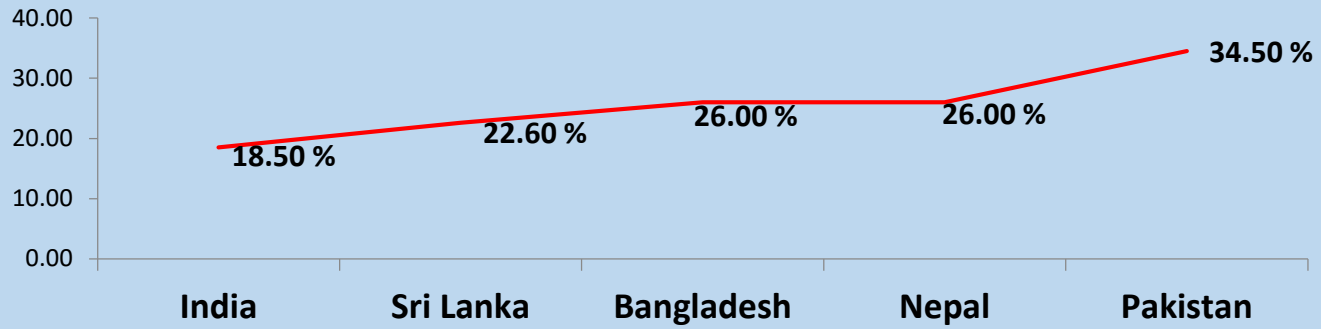
1. IMPROVE DIGITAL INFRASTRUCTURE TO SUPPORT DIGITAL GOVT & ECONOMY

1.1 Lower the ENTRY Barriers

Description	There are 2 Entry Barriers for Users of Digital Services Therefore: • Remove Input/Output stage taxes incl. 18% Sales Tax on locally assembled **Smartphones** • Make **FTTH Fixed-line CPEs** (OLTs) Free of Customs Duties
Global BPs	Many countries subsidise Smartphones (mainly for education & skills): India Kenya, Rwanda, S. Africa, Brazil, Philippines, Egypt, Indonesia, Turkey, Vietnam.
Funding	-
Responsible	MoIT / MoF / FBR

1.2 Lower the USAGE Barriers

Description	• Poorer sections of the population must be brought into the net • Remove/Reduce Usage Taxes (WHT/GST) at least 50% • Make Taxation regime predictable for investments, fix it for 10 years
Global Practices	
Funding	-
Responsible	MoIT / MoF / FBR

1.3 Lower the Regulatory Barriers

Description	• Current outdated Regulatory regime impedes investments in Digi. Infra. • Therefore, Simplify Telecom Regulatory Regime • Eg: Reduce the current number of licenses from 13+ to 3 or 4 to reduce costs, increase investments, and improve service quality
Global BPs	• Those who have done: US, UK, Australia, Singapore, S. Korea, Nigeria • India in the process - through Telecom Bill 2022
Funding	PkR 35 M ? (Int'l Consultant with relevant exp.); Govt./PTA/Donor
Responsible	MoIT / PTA

1.4 PPP Framework for Digital Infrastructure

Description	• Many PPP civil infrastructure projects in Pakistan but none of Dig. Infra. • PPP framework needed for digital infrastructure – incl: DATA CENTRES • Framework in consultation with the Private Sector
Global BPs	• India's BharatNet is one of the most significant PPP initiatives aimed at providing optic-fibre connectivity to 250,000 villages. • Many City Govts in the West that treat Optic Fibre Networks as utility, enter into PPP programs for Fibre deployment.
Funding	PkR 35 M ? (Int'l Consultant with relevant exp.); GoP/Donor
Responsible	P3A / MoIT

2. HIGH-QUALITY CONNECTIVITY WITH FIBRE TO THE PREMISES

2.1 Formulate Fiberisation Policy

Description	• Fibre infrastructure is capital-intensive with long payback time • Therefore, Fiberization Policy is needed that outlines Govt's plans, incentives, commitments (esp. RoW) & any available funding options • Must accompany an **Implementation Plan** and a **Fibre Map** to enable evidence-based policy/decision-making.
Global BPs	Almost all the developed countries, plus Brazil, South Africa, India and Saudi Arabia
Funding	PkR 35 M ? (Intl' Consultant with relevant expertise); Source: Govt / Donor
Responsible	MoIT

2.3 Generate Demand

Description	• Provincial Govts. (19.5% GST) can generate demand by asking for fibre connectivity for educational, health & local government facilities. • Fibre connectivity to the above 3 will not only provide digital services to them but also attract investments in the Fibre Infrastructure of those cities. Start with hospitals.				
Global BPs	• Brazil's *National Broadband Plan (PNBL)*; South Africa's *SA Connect*; Kenya's *Telemedicine Infrastructure Project*				
Funding	Need: Requires a detailed Study; Source: Provincial Govts				
Responsible	Provincial Health and Education Ministries				
Impact	**Schools & Hospitals**	**Year 1**	**Year 3**	**Year 5**	**Year 10**
		10%	25%	40%	100%

3. FUTURE PROOF INFRASTRUCTURE FOR DIGITAL ECONOMY

3.2 5G-millimeter Wave Technology

Description	• 5G millimetre wave technology provides high-speed internet to the premises/homes as an alternative to fibres passing every premises • Wireless 5G could be used either as a permanent or an interim solution • 5G mm-wave may be leveraged after carefully studying rollouts in other parts of the World and in consultation with Stakeholders
Global BPs	• Developed: US, S.Korea, Japan, Australia, UK, Italy, Germany, Canada • Developing: Brazil, India (Jio's "AirFiber" utilises 26 GHz for 1 GBPS)
Funding	-
Responsible	MoIT/PTA

3.3 Data Centres & Cloud Computing for DE

Description	To cater to Storage and Cloud Computing, Investments in Carrier-Neutral Data Centres are required, therefore: • Special Policy Intervention for Reliable Energy Supply at Industrial Tariffs • Customs Duty and Tax Incentives on Data Centre Equipment • Resilient - and Cheaper - International Internet Connectivity • Guaranteed robust, reliable, high-quality, interruption-free Internet!
Global BPs	Developing World (in Asia): India, Malaysia, Thailand, Indonesia, Vietnam
Funding	-
Responsible	GoP

4. INCLUSIVITY FOR THE RURAL, THE POOR, AND THE WOMEN

4.1 Rural Demand-side Projects

Description	• Unlike Voice, Broadband Proliferation needs Usage to be addressed
	• Several USF-subsidised Fibres lie unused due to lack of Demand
	• USF should be allowed to (also) subsidise:
	  • Rural Demand-side Projects
	  • Telecom Infrastructure Providers

Global BPs	• Thai USOF, Malaysian USPF, • Infrastructure Providers subsidised by Indian USOF & Indonesian BAKTI
Funding	Sources: USF / Govt (Donor?)
Responsible	MoIT/USF

5. CLIMATE RESILIENCE & DIGITAL INFRASTRUCTURE

5.2 National Climate Resilience Strategy

Description	• Pakistan is particularly vulnerable to the impacts of Climate Change • Example of 2022 Floods that effectively disconnected 1/3rd of the land • Therefore, develop a National Climate-Resilience Digital Strategy to ensure the resilience of Pakistan's critical Digital Infrastructure.
Global BPs	• ITU's Green Digital Action declaration (adopted by COP in 2024) should be used as a Guideline.
Funding	
Responsible	Ministry of Climate Change

FLAGSHIP PROJECTS

2.2 Catalytic Funding

Description	• Offer Catalytic investments to cover 50% of the Cost of Capital - to go from less than 10% Fibre House-Passes to 30% in 5 years. • Model: State Bank's TERF (*Temporary Economic Refinance Facility*), where SBP subsidised the cost of capital during COVID-19 • Govt. Revenues (even after reducing taxes) pay back subsidy in 5 years				
Global BPs	• Brazil's *National Broadband Plan (PNBL)*; South Africa's *SA Connect*;				
Funding	Need: **PkR 70 B** ($ 235 M) over 5 yrs; Possible Sources: Govt./Donor				
Responsible	MoIT / MoF				
KPIs	**% Houses Passed**	**Year 1**	**Year 3**	**Year 5**	**Year 10**
		11.5 % (4.6M)	18% (7.2M)	30% (12M)	70% (28M)

3.1 Leverage LEOs for Remote Rural Areas

Description	• LEO ISPs, can quickly serve remotest corners – permanently or temporarily until conventional connectivity becomes available • USF could cover those (very remote or very tiny) villages where MNOs hesitate to go despite the lure of subsidies.			
Global BPs	• Philippines DICT - funds *'BroadBand ng Masa'* for Starlink in rural areas • Indonesian USF (BAKTI) - trials to setup Starlink terminals/infrastructure			
Funding	500 villages over **10** yrs, PkR 3 B ($ 10M); Sources: USF / Govt./Donor			
Responsible	MoIT/USF			
KPIs	**Year 1**	**Year 3**	**Year 5**	**Year 10**
	50 villages	200 villages	500 villages	

4.2 Smartphones for the Poorest of the Poor

Description	Free (locally manufactured) Smartphones for BISP Recipients, linking disbursements to their Smartphones, offers 4 advantages: • Improves Digital Inclusivity of the **Poorest of the Poor** • Improves Digital Inclusivity of **Women** – 100% BISP are Women! • Increases the branchless bank customers & **Digital Financial Transactions** • Boost to **Local Manufacturing** - benefits the economy			
Global BPs	Smartphone subsidies given in: India, Kenya, Rwanda, S. Africa, Brazil, Philippines, Egypt, Indonesia, Turkey, Vietnam.			
Funding	10 yrs: PkR 80 B ($ 270 M) *[BISP spends over 400B/An.]*; Sources: USF/GoP/Donor			
Responsible	MoIT / USF / BISP /MoF			
KPIs/ Impact	**Year 1**	**Year 3**	**Year 5**	**Year 10**
	0.2 M	5.8 M	3.5 M	10.0 M

5.1 Leverage Digital Infrastr. for Weather Stations

Description	• Accurate localized weather data essential to address Climate Change challenges, manage natural disasters, and support agriculture • Many Regions lack Climate monitoring. • Leveraging mobile towers can enable real-time collection of localized weather data & dissemination of early warnings.
Global BPs	• Rwanda, Vietnam, India (in rural areas)
Funding	2,000 Weather Stations = PkR 7 B ($ 23 M) in 5 years; Source: Govt/Donor
Responsible	MoIT/ NDMA / Ministry of Climate Change

KPIs	**Year 1**	**Year 3**	**Year 5**	**Year 10**
	500	1000	2000	

Governance, Steering & MEL

Whichever Initiatives / Projects are selected for the National Master Plan, robust Governance, Steering and Monitoring Mechanisms must be in place to ensure:

- **buy-in of the Stakeholders**
- **effective implementation**
- **transparency**
- **accountability**

Discussion – Q&A

POLL

Initiatives and Projects	Rating
1 Lower the Entry Barriers	
2 Lower the Usage Barriers	
3 Lower the Regulatory Barriers	
4 Create PPP Framework for Digital Infrastructure	
5 Formulate Fiberisation Policy	
6 Provide Catalytic Funding	
7 Generate Demand	
8 Leverage Low Earth Orbit (LEO) Satellites	
9 Leverage 5G-millimetre wave Technology	
10 Data Centres and Cloud Computing for Dig. Economy	
11 Rural Demand-side Projects	
12 Smartphones for the Poorest of the Poor Women	
13 Leverage Digital Infrastructure for Weather Stations	
14 National Climate Digital Resilience Strategy	

Rate the 14 initiatives from
1 (least preferred) to
5 (most preferred).

THANKS…