
Digital
Khyber Pakhtunkhwa
KHYBER PAKHTUNKHWA
INFORMATION
TECHNOLOGY
BOARD
KPITB

Executive Summary

Khyber Pakhtunkhwa (KP) is embarking on a bold journey to become Pakistan's leading digital province by 2030, driven by a citizen-centric vision that integrates innovation, inclusivity, and excellence in governance. Building upon its pioneering legacy under the Khyber Pakhtunkhwa Good Governance Strategy 2019, the province has unveiled the Digital KP 2030 Strategy—a comprehensive and structured roadmap aimed at transforming public service delivery, strengthening accountability mechanisms, catalyzing economic growth, and bridging digital divides across society.

With a robust digital ecosystem already in place—including a state-of-the-art Tier-3 Government Data Center, over 300 government digital assets, 80+ IT enterprises, and a skilled talent pool producing more than 8,000 IT graduates annually—KP is well-positioned to lead Pakistan's digital revolution. Groundbreaking initiatives like DASTAK (a unified public service delivery platform), Paymir (the province's digital payment gateway), and AI-powered governance tools have already demonstrated KP's capacity to enhance transparency, efficiency, and citizen engagement at scale.

The Digital KP Strategy is anchored in six strategic pillars, 24 sub-pillars, and over 650 targeted interventions, aligned with nine transformative visions. These visions represent a cohesive framework to propel KP toward a digitally inclusive, sustainable, and economically vibrant future. Central to this framework is the DIGIT 2030 Implementation Model—Digitize, Include, Grow, Innovate, Trust—that guides the systematic execution and sequencing of interventions across departments and sectors.

At the core is the vision of Digital-First Governance, which seeks to establish paperless, end-to-end digital systems, integrated platforms like DASTAK 2.0, KhyberPass e-Identity Framework and implementaion of zero-trust cybersecurity frameworks. This is complemented by Seamless Citizen-Centric Public Service Delivery, ensuring accessible and inclusive services for all citizens through simplifed interfaces, AI-powered multilingual chatbots, mobile citizen facilitation centers, and voice-enabled tools like Voice2Gov. To bridge the digital divide, Inclusive Digital Access for All focuses on universal connectivity, subsidized IT services, and digital literacy programs for citizens, especially women, youth, and marginalized communities.

A Future-Ready Workforce is being cultivated through specialized institutions such as School/center of AI, Cybersecurity, and Digital Games, in partnership with global technology leaders, with a goal of achieving youth employability in tech sectors by 2030. The vision of a Women-Led Digital Revolution emphasizes digital gender equity, targeting women trained in AI, freelancing, and entrepreneurship, with IT Park spaces reserved for women-led startups and innovation labs.

To drive economic transformation, KP aims to build a Cashless & FinTech-Driven Economy by scaling platforms like Paymir, digitizing all government revenue streams, and fostering FinTech innovation. In parallel, AI-Driven Smart Governance will integrate AI-powered local language models, IoT-based infrastructure monitoring, and digital twin technologies to optimize planning, and data-driven decision-making. KP's commitment to a Sustainable & Climate-Resilient Digital Economy includes launching a digital carbon credit registry, promoting solar-powered ICT infrastructure, and embedding climate-smart practices into the digital economy.

Lastly, the vision of Open, Accountable, and Citizen-Centric Governance aims to build public trust through real-time budget trackers, AI-audited grievance redressal systems, and open government data APIs marketplace, ensuring full transparency and civic oversight.

To realize these ambitions, the strategy proposes a strong three-tier institutional arrangement: the KP Digital Council (Apex Strategic Oversight Body) for policy direction and political ownership; a Digital Transformation Unit (DTU) at KPITB as the technical backbone aligned with strategic pillars; and Departmental e-Governance Units and Forums to lead on-ground implementation. These are reinforced by critical cross-cutting enablers such as the KP Enterprise Architecture, Integration Framework, Open API Governance Layer, e-Governance Councils, and Outsourcing Strategies to streamline digital service delivery and scale innovation.

The strategy envisions measurable impact by 2030, including 90% reduction in manual government processes, 70% digital transaction adoption, digitally trained youth in the emerging technologies, women's participation in tech sectors, and a signifcant reduction in digital carbon footprint. Sequenced thoughtfully, the roadmap begins with foundational governance reforms, progresses through inclusion and capacity-building, accelerates economic innovation, and culminates in trust-based, transparent digital governance.

By embracing this strategy, Khyber Pakhtunkhwa is not only laying the foundation for a resilient digital future but also positioning itself as a global model for ethical, inclusive, and sustainable digital transformation—where technology becomes a powerful enabler of equity, empowerment, and prosperity for every citizen.

This Digital Strategy is structured in three main parts:

• Part 1 – Guiding Principles and Value Proposition: Overview of KP's Government approach to digital transformation.
• Part 2 – Setting the Course: Vision, objectives, and outcomes towards which KP will continue evolving over the next five years.
• Part 3 – Strategy Implementation Approach and Measuring Results: High-level approach to implementing the strategy.

Our vision for Khyber Pakhtunkhwa is to lead a digital revolution that transforms governance, empowers our youth with future-ready skills, and unlocks unprecedented economic opportunities. By leveraging innovation and technology, we are creating a transparent, inclusive, and prosperous province where every citizen has the tools to succeed in a dynamic, interconnected world."

Sohail Afridi

Chief Minister, Khyber Pakhtunkhwa

Under the Vision of Cashless Khyber Pakhtunkhwa

"Digital governance, a robust digital economy, and a future-ready workforce are the pillars of sustainable progress. By harnessing the power of emerging technologies, we aim to revolutionize public service delivery, drive industrial innovation, and empower our youth with the skills to lead in a competitive global market. Our vision is to uplift industries, foster economic resilience, and position Khyber Pakhtunkhwa as a leader in technological transformation and inclusive growth."

Shahab Ali Shah

Chief Secretary, Khyber Pakhtunkhwa

Part 1:
Guiding Principles and Value Proposition

Vision

Transform Khyber Pakhtunkhwa into a globally recognized hub for digital innovation, efficiency, and citizen-centric governance through the establishment of a sustainable and inclusive digital ecosystem by 2030.

Mission

Accelerate equitable socio-economic growth by leveraging digital technologies, fostering innovation, and ensuring secure, accessible, and sustainable digital services through Digital Public Goods for inclusive and citizen-centric governance.

Guiding Principles

Inclusivity:

Ensure no citizen is left behind, prioritizing marginalized communities for equal access to digital services and opportunities.

Digital Public Goods:

Promote open, interoperable, and reusable digital infrastructure to drive innovation, accessibility, and equitable technology adoption.

Innovation:

Foster experimentation and agility through sandboxes, emerging technologies, and public-private partnerships.

Transparency:

Uphold open data policies, ethical AI governance, and digital rights protection to build trust and accountability.

Collaboration:

Co-create scalable and impactful solutions with citizens, academia, industry, and global partners for sustainable digital transformation.

Sustainability:

Align digital growth with climate action, resource efficiency, and eco-friendly technology adoption to ensure long-term resilience.

Adaptability:

Continuously refine strategies, policies, and digital frameworks based on real-time feedback and evolving global trends.

Objectives

- Ensure **seamless** and **efficient government services** through technology-driven solutions.
- Build **digital skills** and **competencies** for youth and professionals.
- Strengthen **cybersecurity** frameworks to **safeguard** public and private sector digital assets.
- Implement a **cashless economy** to improve **financial inclusion** and economic transparency.
- Utilize **AI, Big Data**, and automation to **improve** decision-making and efficiency.
- Bridge the **digital divide** by expanding broadband **access** and digital literacy.
- Establish **green initiatives** to promote environmental sustainability.
- Foster a thriving technology **entrepreneurship environment**.
- Institutionalize a **Whole-of-Government** Approach through an enabling **legal framework** to ensure policy coherence, **shared infrastructure**, and collaborative **service delivery**.

Value Proposition

Citizen-Centric Digital Governance – Ensuring seamless public service access through integrated digital platforms, enhancing transparency and efficiency, and expanding secure digital identity solutions (Khyber Pass – Digital Identity Mechanism).

Economic Growth and Digital Empowerment – Accelerating fintech and digital payments (Paymir), supporting startups and SMEs, and developing a skilled digital workforce through IT education and training programs.

Smart Infrastructure and Connectivity – Expanding broadband access, establishing secure, interoperable platforms (Digital Khyber Stack), and enhancing cybersecurity and data protection to ensure a resilient digital ecosystem.

AI-Driven Innovation and Future Technologies – Integrating AI and big data into governance for predictive analytics, enabling evidence-based policymaking, and fostering emerging technology adoption for modernization.

Sustainability and Inclusive Development – Aligning digital initiatives with Sustainable Development Goals (SDGs), implementing climate-tech solutions (Carbon Emission Reduction Registry), and promoting financial and digital inclusion for equitable access to services.

DIGITAL FOR Khyber Pakhtunkhwa

We define Digital as

Digital' for Khyber Pakhtunkhwa is not just about technology—it is a strategy to drive governance excellence, economic prosperity, and citizen empowerment through innovation and inclusivity.

Part 2:

Setting the Course

Strategic Goals and Thematic Future Pathway

Digitally Native Khyber Pakhunkhwa

At the heart of the Digital KP 2030 Strategy lies a bold and integrated framework of nine interconnected visions that together define the province's digital future. These visions are not isolated goals but a unified transformation agenda designed to reimagine governance, empower citizens, drive inclusive economic growth, and embed ethical innovation at every level of society. Together, they lay the foundation for a Digitally Native Khyber Pakhtunkhwa—a province where technology is not just an enabler but a core ethos driving public service excellence, equity, sustainability, and citizen empowerment. From creating paperless, digital-first governance systems to ensuring seamless service access for every citizen, building a future-ready workforce, empowering women through digital inclusion, promoting a thriving FinTech ecosystem, leveraging AI and smart technologies for better governance, and championing environmental sustainability and transparency, each vision is a vital pillar in realizing an agile, inclusive, and future-forward digital society by 2030.

9 Strategic Goals

Goal 1:
Digital-First Governance - Government 2.0

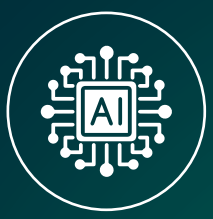
Goal 2:
Seamless Citizen-Centric Public Service Delivery - Services at Your Fingertips

Goal 3:
Inclusive Digital Access for All - No One Left Offline

Goal 4:
Future-Ready Workforce - Next-Gen Talent

Goal 5:
Women-Led Digital Revolution

Goal 6:
Cashless and FinTech-Driven Economy - Cash Out, Tech In



Goal 7:
AI-Driven Smart Governance - AI Runs the Show

Goal 8:
Sustainable & Climate-Resilient Digital Economy - Green Tech Rising

Goal 9:
Open, Accountable, and Citizen-Centric Governance - Trust You Can See

Goal 1:

Digital-First Governance - Government 2.0

Goal 1: Digital-First Governance - Government 2.0

Outcome: A fully digitized, interoperable, and citizen-centric government that eliminates administrative inefficiencies and ensures seamless service delivery across all departments.

A fully digitized, paperless government where all administrative processes (file approvals, procurement, HR processes) are automated via AI-driven platforms, eliminating manual interventions. Departments operate on interconnected digital systems with real-time data sharing, enabling seamless collaboration. Citizens and businesses access services through DASTAK 2.0, a unified portal integrated with Khyber Pass Digital ID, ensuring secure, one-click authentication. Cybersecurity is reinforced through Zero-Trust Architecture, with 100% compliance to provincial data protection framework/guidlines.

Strategic Actions:

- Mandate AI-driven digital workflows via e-File systems, digital signatures, and automated approval chains (Gov360 Paperless Office Ecosystem).
- Integrate all services into DASTAK 2.0, a unified citizen/business portal with API-driven interoperability and single sign-on using Khyber Pass Digital ID.
- Enforce Zero-Trust Architecture and Cybersecurity Law, including RED Cyber Team penetration testing and GovSOC (Security Operations Center) for real-time threat monitoring.
- Implement Government-as-a-Platform (GaaP) to standardize reusable digital components (eID, ePayments, eKYC) across departments using GovStack Architecture.
- Establish a Government Process Innovation Lab to eliminate redundancies and streamline service flows.

Goal 2:

Seamless Citizen-Centric Public Servic Delivery - Services at Your Fingertips

Goal 2: Seamless Citizen-Centric Public Service Delivery - Services at Your Fingertips

Outcome: Accessible, efficient, and equitable government services for all citizens. Every citizen, regardless of location or literacy level, accesses government services (e.g., licenses, subsidies etc) via AI-powered multilingual service delivery platforms (Urdu, Pashto, English) - DASTAK. Rural and marginalized communities benefit from Voice2Gov voice assistants and mobile centers, ensuring no one is excluded. Citizen feedback loops, powered by sentiment analysis tools, enable continuous service refinement. A significant satisfaction rate reflects equitable, transparent, and swift service delivery.

Strategic Actions:

- Universalize DASTAK Portal with 100% digitized services (licenses, subsidies, feedback) and Voice2Gov integration for low-literacy citizens.
- Deploy AI-powered multilingual chatbots (Urdu, Pashto, English) and AI Virtual Assistants for real-time assistance.
- Launch Mobile Citizen Facilitation Centers (CFCs) / Government Franchise models to serve remote areas and Women/Minority-Friendly Service Desks.
- Implement Citizen Participatory Governance/ Feedback model via digital platforms for budget planning, policy feedback and improvement in public service delivery.
- Integrate AI-Based Sentiment Analysis to refine services based on citizen perception.

Goal 3:
Inclusive Digital Access for All – No One Left Offline

Goal 3: Inclusive Digital Access for All - No One Left Offline

Outcome: Universal access to affordable connectivity, devices/IT Services, and digital literacy.

Universal access to high-speed broadband in urban and rural areas, with free Wi-Fi zones in public spaces (schools, hospitals, markets). Citizens — including women, persons with disabilities, rural communities, and students from schools and universities — reached through digital awareness campaigns via web portals, service delivery platforms, and social media. Affordable devices/IT services and assistive technologies (text-to-speech, gesture-based UI) bridge the digital divide, enabling active participation in the digital economy.

Strategic Actions:

- Expand province-wide fiber optic networks and free Wi-Fi zones in public spaces.
- Launch subsidized device programs for women, students, and rural communities, paired with AI-Driven Digital Literacy Bootcamps.
- Implement ICT Accessibility Tools: Voice navigation, text-to-speech, and gesture-based UI for persons with disabilities.
- Establish Digital Community Centers (Digital Connects) in underserved regions for e-learning and freelancing.

Goal 4:
Future-Ready Workforce - Next-Gen Talent

Goal 4: Future-Ready Workforce - Next-Gen Talent

Outcome: Globally competitive talent pool in AI, cybersecurity, and emerging tech.
A globally competitive workforce where youth secure jobs in AI, cybersecurity, and Emerging technologies sectors. Schools of AI and Cybersecurity produce certified professionals trained in cutting-edge labs with GPU-based supercomputing facility. Government officials leverage AI-driven decision-making tools, with partnerships with leading technology gaints to ensure alignment with global standards. Startups incubated in Divisional Innovation Centers (Drushal) solve local and global challenges, positioning KP as a hub for tech talent.

Strategic Actions:

- Establish Schools/centers of AI, Cybersecurity, and Digital Games with GPU-based Data Centers for advanced research and computation.

- Upskill government officials via AI Upskilling Programs and Global Certifications (International IT certifications).

- Launch AI Grand Challenges and Tech Fellowships to solve governance and climate resilience issues.

- Partner with universities for Emerging Tech Curriculum Integration (AI, IoT, metaverse).

Goal 5:
Women-Led Digital Revolution

Goal 5: Women-Led Digital Revolution

Outcome: Gender-inclusive digital growth and leadership. Women lead tech jobs and IT startups, supported by Bootcamps, remote work hubs, and micro-loans. Digital parks reserve spaces for women-led ventures, fostering innovations in fintech, healthtech, and edtech. A Women Tech Think Tank advises on policies, ensuring gender equity in AI governance and digital skills programs.

Strategic Actions:

- Train women in AI, coding, and freelancing through Mother-Daughter/woman-specfic Digital Bootcamps and Women-in-Tech Scholarships.
- Reserve a specfic IT Park spaces for women-led startups and create Women-Inclusive Innovation Labs.
- Launch Microfinancing for Women Entrepreneurs and Remote Work Hubs to support home-based businesses.
- Establish Women Tech Think Tanks to advise on digital policies.

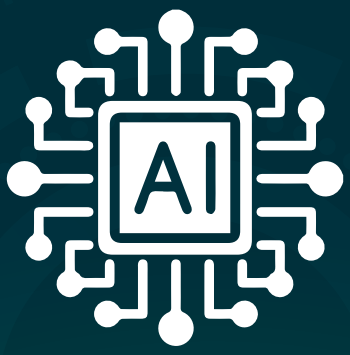
Goal 6:
Cashless & FinTech-Driven Economy - Cash Out, Tech In

Goal 6: Cashless & FinTech-Driven Economy - Cash Out, Tech In

Outcome: A thriving digital economy with seamless financial inclusion.
A cashless ecosystem where transactions will process through Paymir platform, integrated with biometric authentication. SMEs adopt AI-driven invoicing and digital credit systems, reducing fraud. Farmers and artisans access microloans through QR-code payment networks. Financial inclusion reaches to households, driving economic growth.

Strategic Actions:

- Scale Paymir Digital Wallet, integrating QR Code Payments and Biometric Authentication.
- Mandate digital revenue collection via AI-Driven Fraud Detection and Real-Time Payment Dashboards.
- Launch FinTech Regulatory Sandboxes.
- Promote Digital Financial Literacy in schools and SMEs.



Goal 7:
AI-Driven Smart Governance – AI Runs the Show

Goal 7: AI-Driven Smart Governance - AI Runs the Show

Outcome: Proactive, data-driven decision-making and automated governance.
AI and IoT optimize urban life, smart traffic systems reduce congestion, digital twin cities simulate effective planning, and KP Local Language Model (LLM) drafts policies in Urdu/Pashto. Ethical AI frameworks ensure fairness in welfare distribution, while AI Ethics Impact Assessments audit public algorithms.

Strategic Actions:

- Deploy KP Local Language Model (LLM) for policy analysis in Urdu/Pashto and AI-Powered Predictive Analytics for planning and data-driven decision-making.
- Implement IoT-Based Smart Traffic Systems and Digital Twin Cities.
- Integrate AI Ethics Framework to ensure bias-free algorithms in welfare distribution, social protection programs, and policing.
- Establish AI Governance Policy and Provincial AI Regulatory Unit for compliance.

Goal 8:
Sustainable & Climate-Resilient Digital Economy - Green Tech Rising

Goal 8: Sustainable & Climate-Resilient Digital Economy - Green Tech Rising

Outcome: Green growth powered by tech innovation. A carbon-neutral digital economy where reduction in emissions is achieved through green data centers, and solar-powered IT hubs. SMEs adopt circular economy models, while the Carbon Credit Registry monetizes emission reductions. Citizens track sustainability metrics via real-time dashboards, and government transactions shift to cashless systems.

Strategic Actions:

- Establish green-certified data centers and solar-powered IT infrastructure.
- Launch KP Carbon Credit Registry to monetize emission reductions.
- Deploy AI dashboards to monitor GHG emissions and sustainability metrics.
- Promote circular economy practices among SMEs and green digital procurement.
- Ensure cashless government transactions via Paymir.
- Support climate-tech startups in renewable energy and smart agriculture.
- Integrate green skills in education and digital literacy programs.
- Adopt carbon-neutral protocols for government operations and events.

Goal 9:

Open, Accountable, and Citizen-Centric Governance - Trust You Can See

Goal 9: Open, Accountable, and Citizen-Centric Governance - Trust You Can See

Outcome: Transparent governance with real-time citizen oversight. Complete transparency, citizens monitor real-time budget expenditures, access non-sensitive datasets via open data portal & public APIs, and report issues through AI-audited grievance portals. A Public Trust Index measures government credibility, while Citizen-Controlled Consent Management empowers users to manage data privacy. KP's Open Data Portal fuels civic tech innovations.

Strategic Actions:

- Establish a Real-Time Budget Tracker for public access to government expenditures.
- Expand KP Open Data Portal to provide non-sensitive datasets and public APIs.
- Deploy AI-audited grievance redressal systems for accountability in service delivery.
- Introduce a Public Trust Index to measure government credibility and responsiveness.
- Implement Citizen-Controlled Consent Management for personal data privacy and security.
- Promote civic tech innovation through open government data access.
- Strengthen AI-powered policy analysis and multilingual governance tools (Urdu/Pashto)

Part 3:
Strategy Implementation Approach and Measuring Results:
High-level Approach to Implementing the Strategy

DIGIT 2030 Framework:

Building a Future-Ready Khyber Pakhtunkhwa

The Digital KP 2030 strategy follows a carefully structured sequencing logic to ensure sustainable, inclusive, and impactful transformation across all sectors. The journey begins with Foundational Governance (Visions 1–2), focusing on digitizing government operations and service delivery systems to create a robust digital backbone. Once this foundation is in place, the strategy moves to Inclusion & Capacity (Visions 3–5), ensuring equitable access to connectivity, digital skills, and opportunities for all—especially marginalized groups, youth, and women—so no one is left behind in the digital shift. Building on this inclusive base, the strategy accelerates Economic Growth (Visions 6–8) by enabling a FinTech-driven economy, fostering AI-powered smart governance, and promoting green digital ecosystems. Finally, the strategy culminates in Trust & Transparency (Vision 9) by institutionalizing open data, ethical AI, and citizen-centric accountability mechanisms—ensuring public confidence in digital governance and closing the loop on transformative change.

Guiding Principles

- Inclusivity
- Digital Public Goods
- Innovation
- Transparency
- Collaboration
- Sustainability
- Adaptability

Strategic Goals

- Digital-First Governance
- Seamless Public Service Delivery
- Inclusive Digital Access for All
- Future-Ready Workforce
- Women-Led Digital Revolution
- Cashless & FinTech-Driven Economy
- AI-Driven Smart Governance
- Sustainable & Climate-Resilient Digital Economy
- Open, Accountable, & Citizen-Centric Governance

Strategic Pillars

- Digital Transformation
- Digital Inclusion & Skills Development
- Digital Economy, Business, and Innovation
- Digital Governance Society, and Rights
- Digital Sustainability

Framework

Digitize → Include → Grow → Innovate → Trust

Metrics

- KPI's
- Dashboard
- 360° Feedback
- Quantitative Assessment

DIGIT 2030 Framework: Building a Future-Ready Khyber Pakhtunkhwa

The DIGIT 2030 Framework is Khyber Pakhtunkhwa's bold and future-ready implementation architecture/framework. It serves not only as a vision but also as an actionable roadmap, aligning the province's nine goals with clearly defined strategic pillars, sub-pillars, and targeted interventions. Anchored in five interconnected pillars—Digitize, Include, Grow, Innovate, Trust—DIGIT 2030 forms the execution spine of the KP Digital Transformation Strategy. Each pillar is mapped directly to clusters of strategic visions and enables a sequenced, measurable, and scalable implementation pathway. By 2030, KP envisions a governance ecosystem where technology empowers every citizen, fuels innovation-driven economic resilience, and fosters transparent, accountable institutions. The five pillars of the architecture/framework includes:

1. Digitize Core Systems

This pillar lays the digital foundation for a smart, paperless, and agile government. It aligns with Goal 1 (Digital-First Governance) and Goal 2 (Seamless Citizen-Centric Service Delivery) through transitioning to paperless workflows and integrating public services into the unified DASTAK 2.0 portal. Secure cloud infrastructure (GovCloud-KP) and zero-trust cybersecurity frameworks ensure data protection. The goal is to create a seamless, interoperable government ecosystem where citizens and businesses access services swiftly and securely.

2. Include & Empower

Focusing on equity and digital access, this pillar operationalizes Goal 3 (Inclusive Digital Access), Goal 4 (Future-Ready Workforce), and Goal 5 (Women-Led Digital Revolution). This pillar ensures no citizen is left behind in the digital revolution. Initiatives like universal access to technology, subsidized devices/ICT services for rural households, and Voice2Gov—a voice-based service for low-literacy populations—bridge the digital divide. Women-led programs, such as Digital Bootcamps and reserved IT Park spaces, empower women to lead in tech. Concurrently, AI-driven literacy programs aware citizens with essential digital skills, fostering a society where everyone can thrive in the digital economy.

3. Grow the Digital Economy

This pillar drives KP's economic digitalization and entrepreneurship, rooted in Goal 6 (Cashless & FinTech-Driven Economy) and elements of Goal 8 (Sustainable Economy). Scaling the Paymir to accelerates cashless transactions, and FinTech sandboxes. Support for startups in sectors like AgriTech and HealthTech, alongside training for SMEs in digital economy models. By prioritizing green tech and renewable energy, the framework ensures economic growth aligns with environmental stewardship.

4. Innovate Sustainably

Aligning with Goal 7 (AI-Driven Smart Governance) and Goal 8 (Climate-Resilient Digital Economy), this pillar embeds sustainability into technological innovation. Innovation here is tied to sustainability, leveraging emerging technologies to address urban and environmental challenges. Smart/safe cities deploy ICT/IoT sensors for traffic management, urban planning and AI-driven water conservation, while digital twins simulate planning and data-driven decision making. The KP Local Language Model (LLM) enables policy-making in regional languages, ensuring inclusivity. Climate-tech startups focus on solar energy and precision agriculture, embedding sustainability into KP's innovation DNA.

5. Trust Through Transparency

This pillar consolidates Goal 9 (Open, Accountable Governance) by institutionalizing transparency, digital rights, and ethical governance: The final pillar builds public confidence through openness and accountability. The KP Open Data Portal publishes all non-sensitive government data, while the Real-Time Budget Tracker allows citizens to monitor expenditures. Ethical AI frameworks, including bias audits and Citizen-Controlled Consent Management, ensure technology serves fairly. A Public Trust Index measures governance credibility, reinforcing KP's commitment to transparency and ethical practices.

DIGIT Framework

Digitize > Include > Grow > Innovate > Trust

The DIGIT 2030 Framework comprises 794 strategic interventions distributed across its five foundational pillars. The Digitize pillar leads with 468 interventions, forming the technological backbone of KP's digital-first vision. Include follows with 100 targeted initiatives, ensuring equitable access and empowerment. The Grow pillar supports 86 interventions focused on digital economy and entrepreneurship, while Innovate and Trust comprise 69 and 71 interventions respectively, driving sustainability and reinforcing transparency. This data-driven breakdown showcases KP's comprehensive and actionable commitment to digital transformation.

DIGIT Framework	No of Interventions
Digitize	468
Grow	86
Include	100
Innovate	69
Trust	71

Mapping Vision to Pillars

DIGIT Theme	Vision	Mapped Pillar (P)
Digitize	Digital-First Governance	P1: Digital Transformation
Digitize	Seamless Citizen-Centric Service Delivery	P1: Digital Transformation
Include	Inclusive Digital Access for All	P2: Digital Inclusion & Skills Development
Include	Future-Ready Workforce	P2: Digital Inclusion & Skills Development
Include	Women-Led Digital Revolution	P2: Digital Inclusion & Skills Development
Grow	Cashless & FinTech-Driven Economy	P3: Digital Economy, Business & Innovation
Digitize	AI-Driven Smart Governance	P1: Digital Transformation
Innovate	Sustainable & Climate-Resilient Economy	P5: Digital Sustainability
Trust	Open, Accountable Governance	P4: Digital Governance, Society & Rights P6: Digital Trust & Responsibility

Strategic Pillars

Digital Transformation

Digital Inclusion & Skills Development

Digital Economy, Business, and Innovation

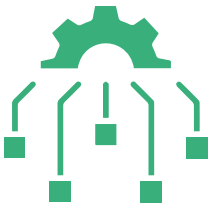
Digital Governance Society, and Rights

Digital Sustainability

Strategic Pillars

The Digital Transformation Architecture of Khyber Pakhtunkhwa is a bold execution blueprint aligned with the province's nine strategic visions, and operationalized through the DIGIT 2030 Framework—Digitize, Include, Grow, Innovate, Trust. Each component of this framework is represented by six strategic pillars and twenty-eight sub-pillars, serving as the foundation for an inclusive, citizen-centric, and innovation-led digital ecosystem. Each pillar translates strategic vision into actionable interventions, ensuring phased implementation, cross-sectoral coordination, and measurable impact. Together, they form an integrated ecosystem to transform KP into a digitally native province by 2030.

The following section provides a detailed overview of each strategic pillar and its corresponding focus areas.



Digital Transformation

Objective: This pillar focuses on integrating cutting-edge technologies to modernize governance, improve service delivery, and enhance digital public infrastructure. It emphasizes AI-driven automation, secure digital identity frameworks, and seamless e-Government platforms, enabling efficient, transparent, and citizen-centric governance.

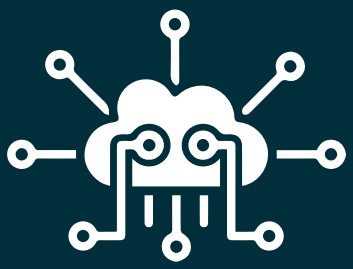
The followings are the sub-pillars ;

- AI & Emerging Technologies
- e-Government & Smart Services
- Digital Identity & Inclusion - Digital Public Infrastructure (DPI)
- Cloud-First & Edge Computing
- Digital Twin & Smart Cities
- Open Government & Data-Driven Policymaking

Strategic Pillars Digital Tranformation

AI & Emerging Technologies

e-Government & Smart Services

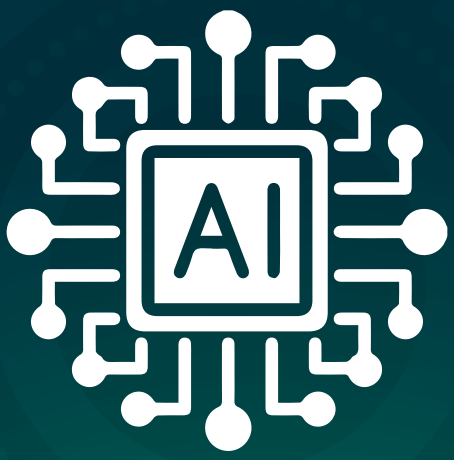


Cloud-First & Edge Computing

Digital Twin & Smart Cities

Digital Identity & Inclusion Digital Public Infrastructure (DPI)

Open Government & Data-Driven Policymaking



AI & Emerging Technologies

AI & Emerging Technologies

Objective: This leverages Artificial Intelligence (AI), Big Data, Internet of Things (IoT), and emerging techologies to optimize governance, automate public services, and enable predictive decision-making.

AI Governance & Regulatory Framework

Objective: Establish ethical AI policies, legal frameworks, and institutional mechanisms to regulate AI adoption across public sector services.

Interventions:

- AI Governance Policy – Establishing guidelines for AI deployment in governance, ensuring transparency, fairness, and accountability.
- Provincial AI Regulatory Unit – A dedicated body to monitor AI implementation, compliance, and policy enforcement in public and private sector.
- Ethical AI Adoption Strategy – A legal framework for responsible AI use, ensuring non-bias, data privacy, and security in AI-driven solutions.
- AI Research & Innovation Fund – A funding mechanism to support AI-based startups, research projects, Civic Innovation, use of Ai in public sector, and academic institutions for AI-driven solutions in governance and innovation.

AI-Powered Governance & Service Delivery

Objective: Enhance government efficiency, optimize decision-making, and automate public service delivery using AI-powered technologies.

Interventions:

- AI-Driven Governance – Implementing AI in government for process automation, data-driven policymaking, and predictive analytics.
- Khyber Pakhtunkhwa Local & Regional Large Language Model (LLM) – Developing an AI model for local languages.
- KP GovGPT (Khyber Pakhtunkhwa Government GPT) – A domain-specific, fine-tuned Large Language Model (LLM) trained on KP's governance data, citizen services, policies, rules/regulations/acts/frameworks, and administrative processes. It will power next-generation AI applications such as smart policymaking assistants, conversational government interfaces, automated document generation, and real-time analytics tools.
- Developing KP-Specific LLM – Customizing AI language models to cater to regional dialects and governance needs.

- AI Bots for Information & Service Delivery – Deploying AI-driven virtual assistants for real-time citizen support and service requests.
- AI Virtual Assistant for Grievances & Feedbacks – Automating complaint resolution through AI-powered grievance redressal systems.
- Multilingual AI Chatbots (Urdu, Pashto, and English) – Ensuring inclusive access to government services through AI-powered chatbots.
- AI-Powered Policy Translation & Analysis – AI-driven language processing to facilitate policy translation and multilingual legal documentation.
- Open-Source LLM for AI Research – Making AI-driven language models publicly available for academic and research institutions in KP.
- AI Chatbots in Public Service Portals – Integrating AI assistants in government service portals for efficient citizen interactions.

AI-Driven Decision-Making & Predictive Analytics

Objective: Utilize AI and big data analytics for evidence-based policymaking, budget planning, and real-time governance monitoring.

Interventions:

- Big Data & Predictive Analytics for Smart Governance – Using AI models to analyze large datasets and auditing service delivery for optimizing public services.
- AI-Based Predictive Policy Modeling – AI-driven analytics to improve policymaking and future-proof governance strategies based on the data collected from various platforms/open data.
- AI-Powered Citizen Engagement Platforms – AI-powered dashboards and data-driven feedback mechanisms for citizen participation and feedback in governance.
- AI-Driven Budget Allocation Models – AI-based financial planning tools to optimize budget utilization, track expenditures and recommend plans for allocations.
- AI-Driven Posting/Transfers – AI-based Posting/Transfer of Government Employees based on merit, qualification and experience fitness.
- AI-Based Public Satisfaction Surveys/Public Perception – AI-generated surveys/perception to measure citizen satisfaction and identify gaps in service delivery.
- Sentiment Analysis for Policy Impact Assessment – AI-driven tools to analyze social sentiment, public opinion, and policy effectiveness via social media channels.
- AI-Based Social Media Monitoring – AI-powered sentiment tracking and misinformation detection to enhance governance credibility, and build better narrative of the Government.
- AI-Based Fraud Detection in Public Complaints – Machine learning models to detect fraudulent complaints, enabling citizen credibility index and prevent misuse of public grievance systems.
- Real-Time AI Dashboards for Governance – AI-powered visualization tools to track KPIs and government performance metrics in real-time.

AI & IoT for Smart Infrastructure & Urban Development

Objective: Enhance smart city management, disaster resilience, environmental monitoring, and urban planning through AI and IoT integration.

Interventions:

- IoT-Based Smart Solutions – Deploying IoT sensors and AI analytics for real-time infrastructure, strategic assets monitoring and governance.
- IoT-Based Smart Traffic Systems – AI-powered traffic management solutions to reduce congestion and optimize urban mobility.
- IoT Air Quality & Water Management Sensors – AI-enabled environmental monitoring systems for air pollution control and water resource management.
- IoT-Based Disaster Risk Management – AI-driven predictive analytics for flood forecasting, and emergency response planning.
- IoT in Agriculture & Climate Monitoring – AI-powered IoT tools for precision farming, smart irrigation, and climate forecasting.
- AI-Based Predictive Urban Planning – AI-driven geospatial analytics for optimized city planning and infrastructure development.
- Big Data for Disaster Preparedness – AI-enabled data models for disaster risk assessment, resource planning, and emergency response.

AI Education & Workforce Development

Objective: Develop an AI-ready workforce by integrating AI education, upskilling programs, and AI literacy into academic and professional training.

Interventions:

- School of AI - Center of excellence for AI research, platforms, education, innovation, and policy development.
- AI Certification Programs – Offering undergraduate, postgraduate, and diploma/courses/bootcamps in AI, machine learning, and data science.
- AI Upskilling for Government Officials – Training policymakers and civil servants in AI-driven governance models, AI governance, and Ethical use of AI.
- AI for Women & Digital Inclusion – Special AI training programs for women and underrepresented communities.
- AI for School Curriculum Integration – Introducing AI modules in KP's education system from secondary level onwards.
- AI Incubator & Startup Acceleration Program – Supporting AI-based startups and tech entrepreneurs.
- AI Grand Challenges & Hackathons – Encouraging AI-based solutions for governance, fintech, and climate resilience.
- Partnerships with Universities & Global AI Institutes – Collaboration with Google, OpenAI, and leading AI research labs.

Implmentation Plan

Workstream 1: Governance & Regulatory Frameworks

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
AI Governance Policy	Q4 2025	KPITB + Law Department	Draft policy with stakeholder consultations	Transparent AI deployment framework	Approved policy document	Policy adoption
Provincial AI Regulatory Unit	Q3 2026–Q1 2027	KP Digital Council, KPITB	Hire experts, define compliance protocols	Oversight of public/private AI projects	Functional regulatory unit	Compliance audits
Ethical AI Adoption Strategy	Q3- 2026	KPITB + KPITB Ethics Committee	Legal drafting, bias-testing guidelines	Trustworthy AI systems	Legal framework document	0 bias incidents reported by 2027
AI Research & Innovation Fund	Q4 2026–Q4 2030	Finance Dept + KPITB	Allocate budget, launch grant portal	Boosted AI startups/research	Fund disbursed to 20+ startups	YoY growth in AI startups

Workstream 2: AI & IoT Applications in Public Services

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
AI-Driven Governance	Q4 2026–Q4 2030	All Departments	Automate workflows (e.g., approvals)	40% faster service delivery	automated processes	30% reduction in processing time
KP-Specific LLM Development	Q3 2026–Q4 2030	KPITB + Academia + Departments	Partner with Open AI Models, collect local datasets	Pashto/Urdu & Reglional Languages language AI models	Deployed LLM for governance	90% accuracy in local language processing
AI Chatbots & Virtual Assistants	Q1 2026–Q2 2029	KPITB + All Departments	Integrate with Dastak portal	24/7 citizen support	Multilingual chatbots in 5 sectors	60% citizen satisfaction rate
Predictive Analytics & Decision Tools	Q2 2026–Q4 2028	All Departments Planning & Development, Finance Dept, CS and CM Office	Build real-time dashboards	Data-driven policymaking	15 predictive models	20% improvement in policy outcomes
IoT Solutions (Traffic, Environment, Disaster Mgmt)	Q3 2027–Q4 2030	Transport/Agriculture Dept	Install sensors, link to GovCloud	Smart infrastructure	IoT devices deployed	Reduction in traffic congestion

Workstream 3: Education, Workforce Development & Innovation

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
30. School of AI	Q3 2026–Q4 2030	KPITB	Curriculum design, faculty hiring	Center of excellence	Operational campus in Peshawar	1,000+ graduates by 2030
AI Education & Upskilling	Q1 2026–Q4 2030	Universities/Colleges + KPITB	Launch certification programs	10,000+ skilled professionals	50+ certified courses	Increase in the Employability rate
AI Incubator & Hackathons	Q3 2026–Ongoing	KPITB + Private Sector	Funding, mentorship, events	Thriving AI startup ecosystem	100+ startups supported	investment raised
Global AI Partnerships	Q1 2026–Ongoing	KPITB + Private Sector	Strategic partnership with AI companies / Organizations	Access to cutting-edge R&D	5+ joint projects	Tech transfer rate

e-Government & Smart Services

e-Government & Smart Services

The e-Government & Smart Services pillar envisions a fully digital, citizen-centric, and accessible government where people can access services online rather than waiting in queues. With this, the government aims to enhance efficiency, transparency, and inclusivity while ensuring that public services are user-friendly, responsive, and seamlessly integrated across departments & attached formations.

Digital Public Service Delivery & Governance Framework

Objective: Develop a policy-driven, technology-enabled governance system for seamless citizen engagement and service delivery.

Interventions:

- Standardized Digital Service Framework – developing a policy for digital governance, automation, and integration in service delivery.
- Comprehensive Public Service Delivery Catalog - developing a structured and transparent catalog of all government services to standardize workflows, optimize processes, and ensure accessibility to the citizen.
- DASTAK for Citizens – Seamless Public Service Delivery - A single- portal for all e-services, licensing, applications, registration, and feedback.
- DASTAK for Businesses – Ease of Doing Business - Digitize business registrations, licensing, and compliance processes - A fully digital business registration portal
- Voice-Government (Voice2Gov) - Integrate voice-based service requests for citizens with low digital literacy, through call centre, audio messages etc.
- Unified Service Access Guide – Ensuring citizens and businesses understand service availability, requirements, fee, and application processes through a central portal embaded in Dastak platform.
-
- Re-Engineering of Public Services - Optimize public service delivery by reducing unnecessary steps, adding automation, and improving ease of access.
- Public Service Tracking & Two-Way Interaction –Public service tracking and automated response systems for real-time citizen updates. Short code based SMS tracking/Mobile App based notifications.
- Data-Driven Public Service Monitoring – AI-based dashboards for performance tracking, service quality analysis, and efficiency measurement.
- Integrated Citizen Helpline – One Helpline for All Services & Feedback - Establish a unified helpline where citizens can access all government services information, complaints, inquiries and feedback under a single universal number.

e-Government & Smart Services

Digital Public Service Delivery & Governance Framework

Citizen Facilitation & Service Delivery Centers One-Window Service Hubs

Public Outreach & Right to Information

Regulatory Measures & AI-Powered Compliance

Citizen Feedback & Participatory Governance

Digital Inclusion, Good Citizen Programs & Accessibility

Citizen Facilitation & Service Delivery Centers – One-Window Service Hubs

Objective: Provide physical and digital access points to streamline citizen and business interactions with the government.

Interventions:

- Citizen Facilitation Centers (CFCs) (Dastak Walkin/Express)– Establishing one-window service centers for public services and business facilitation.
- Government Franchise Model – Public-Driven Citizen Facilitation Centers (CFCs) Franchising government services to local entrepreneurs.
- Financial Inclusion Through Localized Service Centers – Enabling rural and semi-urban populations to access essential government services within their communities.
- KPBOT - Multilingual AI Chatbots (Urdu, Pashto, English) – AI-driven virtual assistants to provide real-time assistance for citizens.
- AI-Based Sentiment Analysis for Service Enhancement – Analyzing citizen feedback to identify service improvement areas and policy refinements.
- Mobile & Satellite CFCs for Remote Areas – Deploying mobile facilitation centers to serve underserved and remote communities.
- Women & Minority-Friendly Service Centers – Establishing dedicated service desks for women, differently-abled individuals, and marginalized communities.

Citizen Feedback & Participatory Governance

Objective: Strengthen citizen engagement and trust in government through automated feedback loops, participatory budgeting, and open governance initiatives.

Interventions:

- AI-Based Citizen Feedback Model – Implementing automated feedback collection and analysis systems to measure service quality/performance of the government.
- Citizen Perception & Sentiment Analysis – AI-powered social media monitoring and media management to counter misinformation and enhance the KP Government's image as a Brand of Good Governance.
- Sentiment-Driven Service Rating Mechanism – Allowing citizens to rate public services with AI-driven analysis to identify inefficiencies and recommend improvements.
- Citizen Participatory Governance (Citizen Voice Initiative) – Enabling citizen-driven budget planning and policy recommendations through digital platforms.
- Predictive Analytics for Public Satisfaction – Using big data to predict trends in citizen satisfaction and take preemptive actions for better service delivery.
- Public Trust Index – Developing an AI-based governance credibility index to assess government reputation and responsiveness.
- Real-Time Misinformation Detection & Counter-Narratives – Deploying AI to detect fake news, counter disinformation campaigns, and build trust through fact-based communication.
- Crowdsourced Decision-Making for Local Development thorugh Governance + initivite – Allowing citizens to provide input on infrastructure projects, governance policies, and service enhancements.
- Gamification of Citizen Feedback – Reward-based engagement models to incentivize citizen participation in governance and feedback sharing.

Public Outreach & Right to Information

Objective: Ensure transparency, accessibility, and proactive citizen engagement by leveraging digital technologies, AI-driven outreach, and real-time access to government information.

Interventions:

- Public Outreach & Digital Governance Awareness – AI-powered automated citizen engagement campaigns through social media
- Automated Citizen Engagement Campaigns – AI-powered targeted awareness initiatives via SMS, social media, chatbots, and IVR calls to educate citizens on government programs and rights.
- Multilingual Digital Awareness Platforms – Public service announcements in Urdu, Pashto, and English (other regional languages) using AI-generated voiceovers and content translation tools.
- Virtual Town Halls & Digital Community Forums – Establishing online interactive sessions for citizens to directly engage with government officials and seek clarifications.
- Online RTI Request & Processing System – A centralized, AI-integrated RTI portal where citizens can submit, track, and receive responses on information requests.
- Proactive Disclosure Mechanism – A public-facing digital repository for government data, policy decisions, and department performance reports.
- Public Data API for Developers & Researchers – Open-access data-sharing mechanisms for civic tech innovations, academic research, and policy analysis.
- Open Budget & Fiscal Tracking Dashboards – AI-driven open governance dashboards for budget and expenditure transparency.
- Real-Time Public Expenditure Monitoring – AI-powered budget visualization dashboards displaying government allocations, expenditures, and project performance.
- Integration with DASTAK & Government Citizen Helpline – Providing one-click RTI requests and budget insights via the DASTAK platform and a unified government helpline.

Regulatory Measures & AI-Powered Compliance

Objective: Strengthen regulatory governance by leveraging digital platforms, AI-driven compliance monitoring, and smart city enforcement systems to ensure efficient urban management, environmental sustainability, and infrastructure regulation.

Interventions:

- Smart Governance & Anti-Encroachment System – AI-driven monitoring of illegal constructions and land encroachments.
- Real-Time Illegal Encroachment Detection – AI-powered drone surveillance and satellite imagery analysis to identify unauthorized constructions, land encroachments, and illegal settlements.
- AI-Based Monitoring for Clean & Green KP – Automated environmental compliance, waste management tracking, and cleanliness monitoring.
- Smart Waste Management System – AI-driven waste collection scheduling and route optimization.
- Satellite & Drone-Based Deforestation Monitoring – AI-integrated analysis of forest coverage, illegal logging, and afforestation efforts.
- Carbon Footprint Tracking & Green Energy Adoption Monitoring – AI-driven analytics for monitoring carbon emissions and development of Carbon Credit Portal
- AI-Driven Water Resource Management – Automated tracking of water reservoirs, pipeline leakages, and efficient water distribution models.
- Traffic & Road Infrastructure Compliance – AI-powered detection of illegal billboards, speed breakers, and traffic management violations.
- Smart Traffic Violation Detection System – AI-powered IP Camera and drone-based surveillance to detect traffic violations, wrong-way driving, and over-speeding.
- Automated Digital Fine Issuance – AI-based e-Challan system for instant traffic and regulatory fines, integrated with digital payment platforms Paymir for seamless transactions.
- Digital Construction & Building Permit Compliance System – AI-driven automated building approval and inspection processes.
- Smart Citizen Alerts & Advisory System (via Dastak platform) – AI-driven real-time traffic updates, air quality advisories, and disaster alerts to empower citizens with actionable insights.

Digital Inclusion, Good Citizen Programs & Accessibility

Objective: Ensure equitable access to digital services for persons with disabilities, underserved communities, and marginalized groups, while promoting citizen responsibility and digital empowerment.

Interventions:

- ICT Accessibility (Assistive Technologies for Persons with Disabilities) – Implementing voice navigation, text-to-speech, and adaptive UI features for public services.
- Multilingual Digital Services – Providing AI-powered translation services to cater to diverse linguistic groups.
- Adaptive UI & Gesture-Based Navigation – Developing customizable user interfaces, high-contrast modes, and gesture-controlled interactions for people with disabilities.
- AI-Based Digital Literacy Initiatives – Upskilling citizens with digital literacy programs to enhance service adoption, special program for people with special needs.
- Good Citizen Program – Engaging citizens in Green/Clean KP, anti-corruption initiatives, and price monitoring.
- Sign Language Interpretation & AI Speech Recognition – AI-powered real-time sign language translation tools for citizens with hearing impairments.
- Accessible Digital Public Service Centers – Ensuring wheelchair-friendly digital services and dedicated counters at Citizen Facilitation Centers (CFCs).

Workstream 1: Foundational Digital Governance Framework

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Standardized Digital Service Framework	Q3 2025	KPITB + All Departments	Policy drafting, stakeholder workshops	Unified digital governance standards	Approved policy document	Department compliance by 2026
Public Service Delivery Catalog	Q3 2025–Q1 2026	All Departments	Mapping of services and prioritization	Transparent service workflows	Online service catalog	Services Mapped and prioritized
DASTAK Portals (Citizens & Businesses)	Q3 2025–Q4 2026	KPITB + Industries Dept, BOI, Chamber of Commerce	Develop integrated portal with AI chatbots	Single-window service access	Registered users	Reduction in service time
Re-Engineering of Public Services	Q3 2025–Q4 2027	All Departments	Automate redundant steps	Faster processing	Re-engineered services	Cost reduction

Workstream 2: Citizen-Centric Service Delivery

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Voice2Gov Integration	Q1 2026–Q2 2027	KPITB + Local Govt	Deploy voice-enabled IVR	Inclusive access for low-literacy citizens	voice queries resolved	Query resolution rate
Citizen Facilitation Centers (CFCs)	Q3 2025–Q4 2030	All Departments + KPITB	Establish 30 + CFCs	Major population coverage	30 CFC established	Rural service uptake
Women/Minority-Friendly CFCs	Q1 2026–Q4 2027	Social Welfare Dept + KPITB	Train staff, design accessible layouts	Equitable service access	Dedicated service desks	Achieving ease in the accessibility
Participatory Governance Tools	Q3 2026–Q4 2028	Planning Dept + Finance + KPITB	Launch digital platforms for citizen input	citizen proposals and feedbacks	Crowdsourced projects	proposals implemented

Workstream 3: Public Outreach & Transparency

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
AI-Driven Outreach Campaigns	Q3 2025–Q4 2026	KPITB + Information Dept	Develop multilingual content (Urdu/Pashto)	Citizen awareness	Campaign reach to masses	Increase in service adoption
RTI Digital System	Q3 2025–Q2 2027	RTI Commission + KPITB	Build RTI portal for query handling	Transparent governance	Improve response time	RTI requests resolved as per RTI act.
Open Budget Dashboards	Q3 2026–Q4 2027	Finance Dept + KPITB	Integrate real-time expenditure data	Public fiscal accountability	interactive dashboards	Citizen engagement rate

Workstream 4: Smart Urban & Environmental Governance

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Anti-Encroachment Systems	Q2 2026–Q4 2028	Local Govt + KPITB	Deploy drones monitoring	Reduction in illegal constructions	Encroachments flagged	Enforcement rate
Smart Waste & Forest Management	Q3 2026–Q4 2029	Environment Dept + KPITB	Install IoT sensors in forests/cities	Waste reduction	Smart solutions deployed	Forest cover increase
AI Traffic Management	Q1 2027–Q4 2028	Transport Dept + KPITB	Install AI cameras + e-Challan system	Decrease in traffic violations	Smart cameras	Accident reduction

Workstream 5: Digital Inclusion & Accessibility

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Assistive Technologies	Q3 2025–Q4 2026	Social Welfare Dept + KPITB	Develop voice/gesture interfaces	Accessible digital services	Users supported Accessibility	Compliance with WCAG 2.1
Digital Literacy Programs	Q3 2025–Ongoing	EnSE Dept + HED + KPITB	Train students	digital skills development	Workshops	Female participation
Accessible Service Centers	Q3 2025–Q4 2027	KPITB + District Administration	Retrofit CFCs with ramps/kiosks	Inclusive service access	Accessible CFC centers	Accessible Service area

Digital Identity & Inclusion – Digital Public Infrastructure (DPI)

Digital Identity & Inclusion – Digital Public Infrastructure (DPI)

Ensure secure, interoperable, and API-driven digital frameworks for identity verification, financial inclusion, and seamless access to public services in Khyber Pakhtunkhwa. By leveraging Khyber Pass – Digital Identity Mechanism aims to streamline e-Government services, enhance digital transactions, and protect citizen data through a robust cybersecurity framework.

Interventions:

- Khyber Pass – Digital Identity Mechanism – A province-wide digital ID system for citizens, businesses, and public services/government services.
- Single Digital ID for All Services – A secure, inclusive, and citizen-centric digital identity platform linked to CNIC and biometric verification.
- Electronic & Biometric Authentication – Integration with NADRA biometrics, facial recognition, and liveness checks to prevent identity fraud/developing province own verification mechanisms (biometerics, facial etc)
- Document Locker for Secure Document Storage – Citizens can store and verify birth certificates, educational records, tax documents, and property records digitally.
- Centralized Data Hub for Government Services – Real-time citizen information for departments such as Health, Education, Transport, and Finance, improving decision-making and efficiency.
- Digital Wallets for Citizens & Businesses – Cashless transactions, services payments, and disbursements through integrated digital wallets.
- QR Code & Contactless Payments – Expanding digital payment options for government fees, public transport, and commercial transactions.
- AI-Based Welfare Distribution System – Automating Zakat, pensions, healthcare benefits, and social protection payments through Khyber Pass-linked digital wallets.
- Subsidy & Grant Disbursement via Digital Identity – Government aid and subsidies can be automatically allocated to eligible citizens without manual processing.
- Digital Health & Vaccination Records – Citizens can store and verify medical history, vaccination status, and social healthcare benefits digitally.
- Digital Identity-as-a-Service (IDaaS) – Providing a plug-and-play identity verification system for government and enterprise applications.

- API Marketplace for Digital Identity (Public & Private Sector Access) - Enable secure, controlled, and standardized access to digital identity verification through an API marketplace for government departments, financial institutions, and private sector entities.
- Biometric & Mobile-Based Authentication – Multi-factor authentication to enhance security in public and financial services.
- Digital Wallets & E-Payments – Enabling secure, cashless transactions through Paymir – Digital Payment Platform.
- Digital Inclusion for Underserved Communities – Ensuring rural areas, women, and persons with disabilities have access to digital identity and financial services.
- Data Protection & Privacy Framework – Establishing a provincial cybersecurity framework to safeguard digital identities.
- Provincial Data Protection & Cybersecurity Law – Establishing legal safeguards for digital identity, financial transactions, and data privacy.
- Chief Minister's Master Dashboard – AI-powered real-time insights on government services, welfare disbursements, financial transactions, seamless integration of data of all sectors/departments/formations.
- Inter-Departmental Data Interoperability – Secure one-click access to health, education, taxation, and law enforcement data (other departments) for seamless governance.
- Predictive Analytics for Policy Making – AI-driven insights to forecast service demands, detect inefficiencies, and optimize governance workflows.
- Citizen-Controlled Digital Access – Enabling users to manage their personal data, set privacy preferences, and control access permissions.
- Gamification for Digital Identity Adoption – Encouraging citizens to transition to digital services through incentives, rewards, and loyalty programs.

Implementation Plan

Workstream 1: Digital Identity Framework

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Khyber Pass Digital ID	Q3 2025–Q4 2030	KPITB + All Departments	Integrate biometrics with CNIC + Services	Citizen Onboarded	Khyber Pass issued	eID adoption by 2027
Digi-Locker	Q2 2026–Q4 2026	KPITB	Secure cloud storage for documents	Documents stored	Documents Management for Citizen	Citizen usage
API Marketplace	Q2 2026–Q4 2027	KPITB + Private Sector	Develop plug-and-play ID verification	Integrated services	API calls/day	Govt & private sector adoption
Citizen-Controlled Access & Gamification	Q2 2026–Q4 2027	KPITB	User privacy controls, reward systems	increase in ID adoption	Gamified app launched	Improving awareness

Workstream 2: Financial Inclusion & Digital Transactions

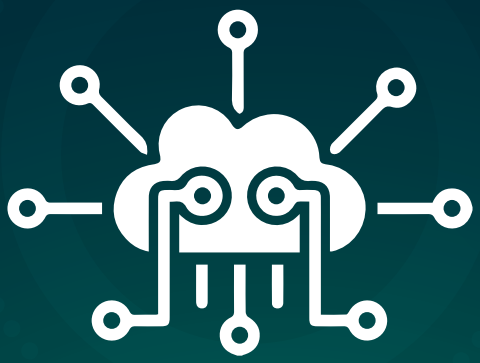
Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Digital Wallets & QR Payments	Q4 2026–Q4 2028	Finance Dept + KPITB	Launch Paymir wallet, deploy QR codes	Transactions/month	QR terminals	Cashless adoption
Paymir Integration	Q3 2025–Q2 2026	KPITB	Partner with banks/telecoms	Seamless G2P/P2G payments	integrated banks/1Link	Transaction success rate

Workstream 3: Data Protection

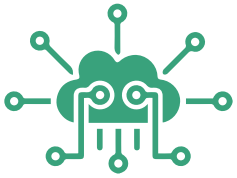
Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Data Protection Framework	Q3 2026–Q4 2027	KPITB + ST&IT	Draft and enact data protection Framework	Legal compliance framework	Framework for data protection	Departmental adherence

Workstream 4: Interoperability & Governance Analytics

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Centralized Data Hub	Q4 2025 – Q4 2027	KPITB + All Depts	Integrate health, education, tax data	Real-time governance	linked departments	Data accuracy
CM Dashboard & Predictive Analytics	Q1 2026 – Q4 2027	KPITB	AI-driven insights for policymaking	Faster decision-making	Operational dashboard	Predictive models



Cloud-First & Edge Computing



Cloud-First & Edge Computing

Objective: To implement a Cloud-First Strategy in compliance with the Khyber Pakhtunkhwa Cloud-First Policy and the National Cloud Policy, enabling scalable, secure, and cost-effective digital infrastructure for government operations.

Interventions

- GovCloud-KP (Provincial Cloud Infrastructure) – Secure, Government-Owned Cloud – A centralized cloud for hosting government applications, citizen data, and public digital services.
- Hybrid Cloud-Based Digital Services – Migration of education, healthcare, and financial systems to cloud platforms.
- Integration with National Cloud Policy & Compliance Standards – Ensuring secure cloud adoption aligned with federal regulations and ISO/NIST frameworks.
- GovCloud Service-Level Agreements (SLAs) with leading partners – Defining cloud service performance benchmarks, uptime guarantees, and disaster recovery policies.
- Public & Private Cloud Integration – Enabling hybrid cloud models to facilitate secure data sharing between government and private enterprises.
- GovCloud-Enabled AI & Big Data Platforms – Hosting data-driven governance applications, predictive analytics, and e-Government solutions.
- Cybersecurity & Zero-Trust Architecture – Implementing continuous threat detection, data encryption, and identity management in cloud services.
- Automated Incident Response & Cyber Resilience – AI-driven security analytics to prevent cloud breaches, ransomware attacks, and data loss.
- Multi-Region Data Backup & Disaster Recovery Framework – Deploying geo-redundant storage solutions to ensure data protection.
- Cloud Acquisition Office Under KPITB – Managing/assisting procurement, compliance, and optimization of cloud services for public sector entities.
- Capacity Building & Cloud Workforce Training – Developing a cloud-skilled workforce through specialized certification programs.
- Public-Private Partnerships (PPP) for Cloud Innovation – Encouraging local and international investment in cloud services to boost digital transformation.
- Secure API Gateway for Cloud Services – Enabling secure API access to government cloud services for fintech, startups, and enterprises.

- E-Government API Hub – Providing real-time service integration for land records, taxation, healthcare, and education platforms.
- Establishment of a GPU-Based Data Center - Establish high-performance computing infrastructure to support LLMs, AI models, 3D simulations, and ML workloads.
- Edge Computing for Public Sector - Enable decentralized data processing for smart cities, traffic systems, IoT sensors, and e-Governance at the edge.
- Establishment of Digital DMZ (Demilitarized Zone) for classified information and servcies - Establishing a secure intermediary network layer to protect internal government systems by preventing unauthorized access, enabling secure web services, and strengthening perimeter defense through controlled access segmentation.

Implementation Plans

Workstream 1: Cloud Infrastructure & Governance

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
GovCloud-KP	Q1 2026–Q4 2027	KPITB + KP Data Center, ST&IT	Procure servers, deploy private cloud	Centralized hosting	Operational GovCloud	99.9% uptime SLA
Hybrid Cloud Migration	Q2 2026–Q4 2027	All Departments	Migrate legacy systems	cost savings	Hybrid cloud services	Workload migration
Public-Private Cloud Integration	Q3 2025–Q2 2027	KPITB + CSPs	Establish secure data gateways	Seamless data sharing	Integrated private clouds	Data interoperability

Workstream 2: Security, Compliance & Resilience

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Zero-Trust & Incident Response	Q4 2025–Q4 2026	KPITB+ CERC	Deploy MFA, AI threat detection	Reduced breach risk	SOC operational	<1 security incident/year
Multi-Region Backup	Q3 2026–Q1 2028	KPITB + KP Data Center	Geo-redundant storage in 3 regions	99.99% data availability	Disaster recovery plan	RTO <1 hour
GovCloud SLAs	Q1 2026–Q2 2027	KPITB + KP Data Center	Define uptime, response times	Clear accountability	Signed SLAs	100% SLA adherence

Workstream 3: Capacity Building & Innovation

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
CSP Pre-Accreditation	Q1 2026–Q3 2027	KPITB	Vendor assessment framework	Trusted CSP ecosystem	Accredited CSPs	Vendor compliance
Cloud Workforce Training	Q4 2025–Ongoing	KPITB + Universities	Certify professionals	Skilled cloud workforce	Certification courses	Job placement rate
Cloud Acquisition Office	Q1 2026–Q2 2027	KPITB	Streamline procurement processes	Efficient cloud spending	Operational office	Procurement cost reduction

Workstream 4: Edge Computing & Real-Time Integration

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
GovCloud AI/Big Data Hosting	Q2 2026–Q4 2027	KPITB + KP Data Center	Migrate AI models to cloud	Faster predictive analytics	AI services hosted	Faster processing
API Gateway & E-Gov Hub	Q2 2026–Q4 2026	KPITB	Develop APIs for land, health, tax data	Seamless service integration	APIs published	API calls/month

Digital Twin & Smart Cities

Digital Twin & Smart Cities

Objective : To establish smart, AI-powered, and predictive urban planning through Digital Twin technology, enabling data-driven decision-making, sustainable resource management, and real-time monitoring. Integrate GIS, AI, IoT, predictive analytics, and metaverse applications to enhance urban infrastructure, security, energy efficiency, environmental sustainability, and cultural preservation in Khyber Pakhtunkhwa.

Interventions:

- GIS-Based Smart City Planning & Development – AI-driven urban expansion forecasting, infrastructure mapping, and public facility optimization.
- Digital Mapping of Government Buildings & Facilities – Creating GIS-linked digital blueprints for real-time monitoring, maintenance, and infrastructure planning/inspections.
- Geo-Tagged Public Service Facility Management – Real-time tracking of hospitals, schools, emergency services, and public utility facilities to improve efficiency.
- Integrated GIS Dashboard for Decision-Making – AI-powered visual analytics platform providing real-time data insights on infrastructure status, land use, and service accessibility.
- Drone & Satellite Imagery for Urban Monitoring – AI-integrated high-resolution satellite data and UAV imagery for land management, city expansion, and security surveillance.
- 3D Urban Modeling for Smart Governance – Developing AI-powered digital twins of Peshawar and other major divisional headquarters/historic buildings to support real-time decision-making.
- Predictive Growth Modeling & Smart Zoning – AI-driven simulations for forecasting population growth, infrastructure expansion, and commercial zoning.
- Mega City Digital Replication (Divisional HQs) – Digitally replicating public parks, road networks, transport hubs, and water distribution systems for improved management.
- GIS-Integrated Crime Mapping & Policing Analytics – AI-driven spatial analytics for crime trend analysis, resource deployment, and predictive policing.
- Facial Recognition & Smart Surveillance Networks – AI-powered real-time crime monitoring using connected CCTV/IP Camera/Mobile feeds and GIS mapping.
- AI-Enabled Smart Crime Reporting – Integrating digital crime reporting systems with predictive analytics for law enforcement response planning.
- GIS-Based Emergency Response & Disaster Management – AI-powered simulations for rescue operations, fire incidents, and natural disaster response coordination.

Implementation Plan

Workstream 1: Urban Planning & Digital Twins

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
GIS-Based Smart City Planning	Q3 2026–Q4 2028	P&D Department, KPITB	GIS software, train staff	Faster planning cycles	GIS urban expansion model	Reduction in planning time
Digital Mapping of Govt Buildings	Q2 2026–Q4 2028	All Departments + KPITB	Drone surveys, blueprint digitization	Real-time facility monitoring	Digital blueprints	Faster maintenance resolution
Mega City Digital Replication	Q2 2026–Q4 2029	Local Government, Planning & Development	Scale 3D models to divisional HQs	Improved infrastructure mgmt	City replicas	Cost savings in projects

Workstream 2: Public Safety & Surveillance

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
GIS Crime Mapping	Q1 2026–Q4 20269	Police, Home	Integrate crime data with GIS	Crime reduction	Crime hotspot dashboard	Fewer incidents
Facial Recognition Surveillance	Q2 2026–Q4 2027	Home Dept + KPITB, Police	Install AI cameras	Real-time crime detection	Surveillance network	Detection accuracy
AI Crime Reporting	Q3 2026–Q4 2028	KPITB	Develop online reporting portal	Faster response times	Digital reporting system	Accuracy in reporting

Workstream 3: Emergency Management & Response

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
GIS Emergency Response	Q1 2026–Q4 2028	Relief Department + PDMA, P&DD	Model flood/fire scenarios	Faster rescue ops	Disaster response plan	Reduction in response time

Workstream 4: Infrastructure Monitoring & Management

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Geo-Tagged Facility Mgmt	Q2 2026–Q4 2020	Health/Education Depts	Install Smart sensors in facilities	efficiency gain	Real-time tracking system	Facility coverage
Integrated GIS Dashboard	Q3 2026–Q4 2029	P&D GIS Hub	Aggregate data from departments	Centralized decision-making	Operational dashboard	GIS-based Planner adoption
Drone/Satellite Monitoring	Q1 2026–Q4 2027	P&D GIS Hub	Acquire high-res imagery	Updated land-use maps	AI-processed imagery	Classification accuracy

Metaverse & Immersive Experience

Metaverse & Immersive Experience

Objective : To establish the KP Metaverse Platform, a VR/AR-powered ecosystem that enables immersive digital experiences across education, tourism, urban planning, and smart governance.

Interventions

KP Metaverse Platform – A Digital Twin of the Province

- 3D Digital Replication of Cities, Historical Sites & Government Infrastructure – Creating an immersive metaverse environment of Peshawar, Mardan, Swat, Abbottabad, and other major cities.
- Virtual Public Services & Governance (Khuli Khachri in Metaverse) – Enabling citizens to access government services, file complaints, pay taxes, and attend virtual town hall meetings (with Chief Minister/Chief Secretary/Head of Departments) in the metaverse. (Establishment of Office metaverse)
- KP VR/AR-Based Learning Platform for Schools & Colleges - Metaverse Classrooms for STEM & Practical Learning – AI-powered virtual reality (VR) learning environments for science, engineering, medicine, and social sciences.
- Immersive Physics, Chemistry & Biology Labs – Allowing students to perform virtual experiments, chemical simulations, and biological dissections in a risk-free VR environment.
- AI-Enhanced Virtual Field Trips & Historical Exploration – Bringing ancient civilizations, space science, and human anatomy to life using augmented reality (AR).
- VR-Based Career & Skills Development – AI-driven job training simulations for technical trades, emergency response, and specialized professions.
- E-Library & Digital Book Repository in Metaverse – Establishing a virtual knowledge hub where students can access educational content, books, and lectures
- Digital Twin of Archaeological & Religious Tourism Sites - 3D Mapping of Historic Sites & Museums – Developing digital replicas of Takht-i-Bahi, Bala Hisar Fort, and other UNESCO heritage sites.
- VR-Based Religious Tourism & Pilgrimage Simulations – Creating immersive virtual tours for Buddhist, Hindu, Sikh, and Islamic religious heritage sites.
- Historical Reenactments – Using machine learning to reconstruct and animate historical events and civilizations for tourism and education.
- Virtual Art Galleries & Cultural Events in the Metaverse – Hosting interactive exhibitions, music festivals, and digital storytelling experiences.

- Smart Law Enforcement & Security Training in the Metaverse - VR-Based Police & Police Training Simulations – AI-driven real-time combat drills, tactical operations, and hostage rescue scenarios for law enforcement and special forces.
- Digital Economy in KP Metaverse – Secure, smart contract-based transactions for buying, selling, and leasing digital assets (local products) and real-world properties.
- Digital Twin for Urban Development & Predictive City Management - Smart City Planning & Infrastructure Visualization – AI-powered digital twins for traffic, public transportation, and utility management.
- Predictive AI for Emergency Response & Crisis Management – Simulating earthquake, flood, and fire response strategies in the metaverse.
- AI-Powered Crowd Management & Public Safety Planning – Simulating public events, rallies, and security protocols for large gatherings.
- API-Enabled KP Metaverse Marketplace for Public & Private Sector - Public-Private Collaboration for AI & Metaverse Innovation – Encouraging startups, researchers, and enterprises to develop metaverse applications for governance, education, and commerce.
- NFT Marketplace for Digital Arts, Cultural Assets & Virtual Properties – Enabling artists, museums, and content creators to monetize digital assets securely.

Implementation Plans

Workstream 1: Metaverse Infrastructure Development

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
3D City Replication	Q4 2026–Q4 2028	P&D, Urban Policy Unit, Local Government	Partner with 3D modeling firms	Immersive virtual cities	Metaverse environments	Active Participation of Citizen
Digital Twin for Urban Mgmt	Q4 2026–Q4 2029	P&D, Urban Policy Unit, Local Government	Integrate GIS/IoT with metaverse	Predictive city planning	AI-driven urban twin	Faster decision-making
IoT-Enabled Monitoring	Q4 2026–Q4 2028	Local Govt + KPITB	Deploy 10K+ sensors	Real-time data integration	IoT-metaverse dashboard	Data accuracy

Workstream 2: Education & Skills Development

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
VR/AR Learning Platforms	Q1 2026–Q4 2029	KPITB	Equip 500 schools with VR kits	Enhanced STEM engagement	Student enrolled	20% improvement in test scores
Immersive Labs	Q2 2026–Q4 2029	Colleges (HED), Technical (Industries) + KPIT	Develop virtual labs for sciences	Cost-effective experimentation	Virtual experiments	Teacher adoption
VR Career Training	Q3 2026–Q4 2029	KPITB	Partner with industries (e.g., Siemens)	Job-ready workforce	Trained professionals	Employment rate

Workstream 3: Tourism & Cultural Preservation

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Heritage Site Digital Twins	Q1 2026–Q4 2028	Tourism Dept + Archaeology Dept	3D scan UNESCO sites	Virtual tourism boost	Heritage replicas	Virtual visits/year
VR Religious Tourism	Q2 2026–Q4 2028	Tourism Dept + Archaeology Dept	Create pilgrimage simulations	Cultural preservation	VR pilgrimage modules	User satisfaction
Virtual Cultural Events	Q3 2026–Q4 2028	Culture Dept	Host metaverse festivals	Global cultural reach	Digital events	Virtual Attendees

Workstream 4: Public Services & Governance

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Virtual Public Services	Q1 2026–Q4 2028	KPITB	Develop metaverse service portal	24/7 citizen access	Services online	Adoption rate
VR Law Enforcement Training	Q2 2026–Q4 2028	Police Dept	Simulate hostage rescues, riots	Improved officer readiness	Trained personnel	Faster response times
Emergency Simulations	Q3 2026–Q4 2029	Relief Department + PDMA	Model flood/fire scenarios in metaverse	Enhanced crisis response	AI-driven drills	Reduction in casualties

Workstream 5: Digital Economy & Marketplace

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
NFT Marketplace	Q2 2027–Q4 2030	Culture Dept + Artists + KPITB	Mint KP cultural assets (upon policy approval from Federal Govt)	Revenue from digital art	NFTs listed	NFT sales

Open Government & Data-Driven Policymaking

Open Government & Data-Driven Policymaking

Objective : To implement an Open Government and Data-Driven Policymaking Framework in alignment with the KP Open Government Strategy 2022, ensuring transparency, citizen participation, evidence-based policymaking, and digital governance.

Interventions:

- Unified Open Data Ecosystem – A centralized, machine-readable, and API-enabled platform hosting public datasets across sectors (health, education, transport, finance, environment).
- Provincial Open Data Portal – To enhance and upgrade the existing KP Government Open Data Portal into a centralized, AI-powered, and interoperable open data ecosystem.
- Automated Data Publishing & Governance Dashboards –To ensure real-time updates, metadata tagging, and machine-readable open data formats (to be integrated with Government Resource Planning (GRP) Platform)
- RTI & Open Data Integration – Linking KP's Open Data Portal with the Right to Information (RTI) platform.
- Evidence-Based Policymaking & Predictive Analytics – AI-driven policy modeling, risk forecasting, and economic impact assessment.
- Sector-Specific Data Insights (Health, Education, Economy, Public Finance) – AI-powered dashboards to track economic trends, healthcare efficiency, and development projects.
- AI-Powered Policy Dashboards – Data-driven decision-making in economic planning, healthcare, and education based on the OpenData/Linked Data
- Public Spending & Infrastructure Transparency Hub – Real-time dashboards tracking government contracts, project funding, and infrastructure development progress.
- Departmental Scorecards & Citizen Satisfaction Index – AI-based performance dashboards ranking government agencies based on service effectiveness.
- Civic Tech & Open Data Hackathons – Engaging youth, startups, and civic tech innovators in building data-driven applications for governance solutions.
- Public Outreach on Open Data & Citizen Rights – AI-enhanced awareness campaigns on digital transparency, access to public data, and informed civic engagement.

- Open API Hub for Public & Private Sector Integration – Providing secure API access to government open data for startups, research institutions, and businesses.
- E-Governance Transparency Initiatives – Digital tracking of government contracts, procurement, and development projects.

Implementation Plan

Workstream 1: Data Infrastructure & Integration

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Unified Open Data Ecosystem	Q1 2026–Q4 2027	KPITB, PMRU	Develop centralized platform with APIs	Centralized access to public data	Operational platform	Datasets available
Provincial Open Data Portal	Q2 2026–Q4 2028	KPITB, PMRU	Integrate AI tools, enhance UX	User-friendly data access	Upgraded portal	Monthly users
Automated Data Publishing	Q3 2026–Q4 2028	All Departments	Deploy AI for metadata tagging	Real-time data updates	GRP integration	90% automated updates
RTI-Open Data Integration	Q1 2026–Q2 2028	Law Dept + KPITB	Link RTI requests to datasets	Transparent governance	Unified portal	95% RTI resolution rate

Workstream 2: Analytics & Decision-Making

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Evidence-Based Policymaking	Q2 2026–Q4 2027	Planning Dept + PMRU	Develop AI models for policy simulation	Faster policy formulation	Predictive models	Model accuracy
Sector-Specific Insights	Q3 2026–Q4 2026	Health/Education/Finance Depts/ All Depts/KPITB	Build sectoral dashboards	Data-driven sector management	Interactive dashboards	Departmental adoption
Financial & Policy Dashboards	Q3 2026–Q4 2027	Finance Dept + KPITB	Integrate real-time budget tracking	Fiscal transparency	AI dashboards	Data accuracy
Public Spending Hub	Q2 2026–Q4 2028	Finance, KPPRA	Track contracts/projects	Reduced corruption	Transparent hub	Contract visibility

Workstream 3: Transparency & Accountability

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Departmental Scorecards	Q1 2026–Q4 2028	All Departments	AI ranking of service effectiveness	Improved agency performance	Quarterly scorecards	YoY service improvement
Civic Tech Hackathons	Q3 2026–Ongoing	KPITB + Startups	Host annual open-data competitions	Innovative governance solutions	Prototypes	Solutions implemented
Public Outreach Campaigns	Q2 2026–Q4 2028	Information Department + KPITB	AI-driven multilingual campaigns	Citizen awareness	Campaign reach	Increase in portal traffic
E-Governance Transparency	Q1 2026–Q4 2027	KPITB	Digitize procurement workflows	Transparent processes	Digital audit trails	Procurement tracking

Digital Inclusion & Skills Development

This pillar focuses on bridging the digital divide, ensuring universal connectivity, and empowering citizens with future-ready digital skills. Promoting equitable access to technology, inclusive digital policies, and specialized workforce training, aims to enable all segments of society—women, youth, differently-abled individuals, and underserved communities—to actively participate in the digital economy.

Through broadband expansion, financial inclusion, AI-driven learning platforms, and emerging technology certifications, this pillar fosters a digitally literate, globally competitive workforce. By integrating public-private partnerships, university linkages, and startup incubation programs, it accelerates economic growth, innovation, and entrepreneurial success in Khyber Pakhtunkhwa.

Strategic Pillars: Digital Inclusion & Skills Development

Universal Access to Technology, Connectivity & Accessibility

Bridging the Digital Divide

Digital Skills & Workforce Development

Universal Access to Technology, Connectivity & Accessibility

Universal Access to Technology, Connectivity & Accessibility

Objective : To expand digital connectivity, provide universal access to technology, and enhance digital inclusivity for marginalized communities.

Interventions:

- Province-Wide Fiber Optic Expansion – Nationwide deployment of fiber-optic networks, and high-speed broadband in urban and rural areas.
- Fiberization of Civil Secretariat & Government Departments – Upgrading all government offices with high-speed fiber connectivity for seamless digital operations.
- Public Digital Access Centers & Free Wi-Fi Zones – Setting up public Wi-Fi hotspots in universities, libraries, hospitals, and urban centers for citizen access to digital services.
- Affordable Digital Devices Initiative – Subsidizing laptops, tablets, and smartphones for students, women, and rural communities through different programs
- Digital Device Financing Program – Enabling installment-based digital device purchasing through microfinance institutions.
- Digital Right of Way (ROW) Policy Implemntaton– Streamlining permissions for fiber deployment, telecom expansion, and digital infrastructure development.
- Fair Use of Internet Policy for Government Departments – Regulating official internet consumption, cybersecurity, and digital efficiency in public sector offices.
- Bring Your Own Device (BYOD) Policy for Government Offices – Enabling secure usage of personal devices in workplaces through access control and data protection mechanisms.
- GovNet – Secure Internet for Government Departments – Establishing a dedicated, high-security government network to prevent cyber threats and unauthorized data access.

Workstream 1: Infrastructure Expansion & Connectivity

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Province-Wide Fiber Optic Expansion	Q3 2026–Q4 2028	KPITB + All Dept	Partner with ISPs, lay fiber cables	Broadband coverage	Fiber network	Rural connectivity improved
Fiberization of Govt Offices	Q2 2026–Q4 2026	KPITB + ST&IT + KP Data Center	Upgrade govt offices with fiber	Seamless digital governance	High-speed connectivity	Govt offices connected
Digital ROW Policy	Q3 2026–Q2 2028	Local Govt + KPITB + Works Dept	Streamline permits for infrastructure	Faster deployment	Approved ROW framework	Reduction in approval time

Workstream 2: Public Access & Affordability

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Public Wi-Fi Zones	Q2 2026–Q4 2029	Local Govt + KPITB + Education + Health	Install hotspots in public spaces	Free internet access	Monthly users	80% hotspot uptime
Affordable Devices Initiative	Q1 2026–Q4 2029	ST&IT	Subsidize tablets/laptops for students	Device cost reduction	Devices distributed	60% female beneficiaries

Workstream 3: Inclusive Services

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Multilingual AI Services	Q4 2026–Q4 2029	KPITB	Deploy Urdu/Pashto translation tools	Inclusive digital access	AI-powered language support	Translation accuracy
Assistive Technologies	Q1 2026–Q4 2029	KPITB	Develop voice navigation, text-to-speech	Accessibility for PWDs	Users accessibility supported	WCAG compliance

Workstream 4: Government Connectivity & Security

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Fair Use Internet Policy	Q1 2026–Q2 2029	ST&IT	Regulate bandwidth usage	Efficient resource allocation	Approved policy	Bandwidth savings
BYOD Policy	Q3 2026–Q4 2029	ST&IT	Enable secure personal device usage	Flexible workplace access	Policy implementation	Employee compliance
GovNet Secure Network	Q2 2026–Q4 2029	KPITB + Cybersecurity Unit + Data Center	Deploy encrypted govt network	Zero data breaches	Operational secure network	Threat detection

Bridging the Digital Divide

Bridging the Digital Divide

Objective : To promote inclusive participation in the digital economy by integrating gender, disability, and economic-friendly policies in governance, education, and finance.

Women & Youth Empowerment in Digital Economy

Objective: To foster digital inclusion, entrepreneurship, and economic empowerment by equipping women and youth with digital skills, leadership training, and access to financial resources.

Interventions

- She Leads KP Initiative – A women leadership and digital entrepreneurship program providing mentorship, funding, and networking for female-led startups and companies.
- Women in Tech Programs – Implementing scholarships, boot camps, and mentorship opportunities for women in AI, cybersecurity, software development, creative art, digital games and animations.
- Women Work-From-Home Initiative – Establishing remote work platforms, co-working spaces, and freelancing hubs to support women entrepreneurs.
- Women-Inclusive Innovation Spaces – Creating dedicated co-working spaces, innovation labs, and incubation centers for female-led startups and digital professionals.
- Mother-Daughter Digital Boot Camps – Organizing AI, coding, and digital marketing workshops where mothers and daughters learn and collaborate.
- Women in STEM Pairing Program – Matching mothers interested in tech with their daughters in STEM education to encourage joint exploration of emerging technologies.
- Freelancing & Remote Work Training – Teaching mothers and daughters how to monetize digital skills through freelancing, content creation, and online business models.
- E-Commerce & Home-Based Businesses – Enabling joint business ventures in online selling, digital art, and small-scale e-commerce using platforms like Daraz, Etsy, and Amazon.

- Microfinancing & Digital Credit for Women Entrepreneurs – Providing financial support, digital loans, and grants to women-led family businesses.
- Generational Digital Upskilling – Offering basic to advanced training in digital literacy, freelancing, and e-commerce to enable mothers and daughters to start digital businesses together.
- Women-Led Tech Think Tanks – Establishing policy advisory groups where women tech leaders contribute to shaping digital policies and strategies.
- Collaboration with incubation centers, industry chambers, and universities to drive women-centric digital transformation initiatives.
- Implementing a Train-the-Trainer model, where trained professionals mentor and empower other women in emerging technologies and digital business.
- Encouraging Youth Participation in STEM – Expanding coding boot camps, digital leadership programs, and AI-driven skill development courses for young innovators.

Digital Inclusion in Higher Education & Schooling

Objective: To ensure equitable access to digital education, strengthen industry-academia collaboration, modernize curricula with emerging technologies, and expand digital literacy from elementary schools to universities.

Interventions

- Strengthening University-Industry Linkages – Facilitating collaboration between universities, IT industries, and research organizations to align curricula with market demands and industry needs.
- Establishing MoUs/Strategic Partnership with Universities & Research Centers – Creating long-term collaboration frameworks between academia and industry for digital R&D and policy innovation.
- Public-Private Partnership for Digital Skills Growth – Encouraging tech firms to invest in workforce development, digital education, and research collaborations.
- Modernizing Curricula with Emerging Technologies – Introducing AI, FinTech, Cybersecurity, and Data Science as core subjects in higher education.
- University Innovation & Research Collaboration – Establishing joint research programs between academia and the private sector to promote commercialization of R&D.
- AI & Digital Policy Research Hubs – Funding digital policy research centers to work on data governance, digital economy frameworks, and regulatory technology.

- Establishing AI & Computing Research Labs – Equipping universities with AI-driven computing resources, digital twin infrastructure, and IoT research labs.
- Cloud & Supercomputing Facilities for Research – Providing universities and Colleges access to cloud computing and supercomputing resources for digital experiments.
- Startup Incubation in Universities – Embedding startup culture within academic institutions by providing mentorship, funding, and industry exposure.
- Digital Learning & Smart Classrooms for Schools - Early Age Digital Literacy Program – Introducing coding, robotics, and digital safety lessons at the elementary school level.
- School Connectivity & Digital Learning Hubs – Equipping primary and secondary schools with internet access, digital libraries, and interactive learning environments.
- EdTech Platforms for Remote & Rural Schools – Launching government-backed e-learning platforms to ensure continued education for out-of-school children.
- Gamified Learning & VR/AR-Based Education – Integrating virtual reality (VR), augmented reality (AR), and gamification in school curricula to enhance engagement and retention.
- Out-of-School Digital Learning Centers – Establishing Digital Community Centers that provide free access to e-learning, coding boot camps, and online certification programs for school dropouts.
- Establishing Digital Community Centers – Providing public access to online learning resources, digital skills training, and freelancing workshops.
- Makerspaces for Digital Innovation – Setting up innovation labs in community centers to enable hands-on experience with AI, robotics, and 3D printing.
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Promoting Digital Technologies for Business Modernization

Objective : To accelerate the digital transformation of MSMEs, local businesses, and startups by providing policy incentives, digital infrastructure, and technological support, ensuring increased competitiveness, market expansion, and financial sustainability in e-commerce, tourism, agriculture, and fintech sectors.

Interventions

- Policy Incentives & Tax Breaks for Digital Adoption – Introducing financial incentives, tax relief, and subsidies for small businesses adopting e-commerce, cloud computing, and AI-driven solutions (through STZA)
- Local Business Digital Toolkit – Developing ready-to-use digital solutions (e.g., invoicing systems, online booking platforms, and CRM tools) for small businesses.
- AI-Driven Business Advisory Platform – Deploying an AI-powered assistant to provide market analysis, pricing strategies, and business growth recommendations to MSMEs.
- Digital Literacy & E-Business Training for Entrepreneurs – Organizing workshops and masterclasses to train local business owners, artisans, and traders in online selling, digital branding, and customer engagement.
- E-Commerce Enablement Program – Assisting brick-and-mortar businesses in launching online stores through e-marketplace onboarding, digital catalog creation, and integrated payment systems.
- Local Business Online Marketplace – Developing a regional e-commerce platform to promote small businesses, traditional crafts, and local products.
- Fintech-Driven Payment Solutions for Small Businesses – Expanding QR code payments, mobile banking, and AI-based credit scoring to simplify transactions for MSMEs.
- Developing AI-powered chatbots for personalized tourist recommendations- Integrating smart ticketing, digital guides, and immersive VR/AR experiences for historical sites and national parks.
- Establishing tourism e-marketplaces for hotels, local tour operators, and cultural experiences.

Workstream 1: Women Empowerment in Tech

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
She Leads KP Initiative	Q3 2026–Q4 2027	Women Development Dept + KPITB	Mentorship, funding for female-led startups	Women-led startups	Incubation hubs	Startup survival rate
Women in Tech Programs	Q2 2026–Q4 2028	KPITB + Universities + Colleges	Scholarships, bootcamps in AI/cybersecurity	Skilled women workforce	Certified women	Job placement
Women-Inclusive Innovation Spaces	Q3 2026–Q4 2028	KPITB + Private Sector	Establish co-working labs	Collaborative ecosystems	Innovation labs	Female occupancy
Mother-Daughter Digital Upskilling	Q1 2026–Q4 2028	Social Welfare Dept + EnSe + HED	Joint workshops in coding, e-commerce	Intergenerational digital literacy	Families trained	New businesses launched

Workstream 2: Education & Academia

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Youth STEM Participation	Q12026–Q4 2028	Education Dept + KPITB	Coding bootcamps, AI courses	Youth skilled	Certified programs	Employability
Modernized Curricula & Research	Q2 2026–Q4 2028	Universities + KPITB + IT Industry	Introduce AI/FinTech courses	Industry-aligned graduates	Updated curricula	Industry satisfaction
Digital Learning in Schools	Q3 2026–Q4 2029	Education Dept + KPITB	VR/AR labs, gamified learning	Students engaged	Smart classrooms	Improved test scores
Community Learning Centers	Q1 2026–Q4 2029	Local Govt + KPITB	Makerspaces, online certification	Upskilling for dropouts	Centers operational	Certifications issued

Workstream 3: SME & Local Business Support

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Policy Incentives & Toolkits	Q1 2026 –Q4 2028	Finance + Industries + KPITB	Digital toolkits for SMEs	SME digitization	Toolkits distributed	Revenue growth
AI Business Advisory & Training	Q2 2026 –Q4 2028	KPITB + Chamber of Commerce + Industries	AI-driven market analysis	Optimized business models	SMEs trained	Profit increase
E-Commerce Enablement	Q3 2026– Q4 2028	KPITB + Industries + Commerce	Onboard SMEs to online platforms	Expanded market reach	Regional e-marketplace	Increase in annual sales

Workstream 4: Tourism Digitization

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
AI Tourism Tools & E-Marketplaces	Q1 2026– Q4 2028	Tourism Dept + KPITB	Develop VR guides, booking platforms	Tourism revenue growth	Digital bookings	Tourist satisfaction

Digital Skills & Workforce Development

Digital Skills & Workforce Development

Objective : To develop a globally competitive workforce equipped with AI, cybersecurity, fintech, digital business expertise, and emerging technologies by expanding professional training, certification programs, and real-world industry exposure.

Skill Developemnt

Objective: To create a future-ready, digitally empowered workforce by equipping individuals with foundational, intermediate, and advanced technology skills, ensuring inclusive access to digital opportunities across all segments of society.

Interventions:

- Skill Progression Strategy - A structured skill progression strategy to transition individuals from basic digital literacy to advanced technology specialization (guidelines, framework, roadmap)
- Global Certification Scholarships – Providing financial aid and government-sponsored scholarships for AI, cybersecurity, and emerging technologies.
- Industry-Aligned Tech Training Bootcamps – Conducting intensive boot camps in AI, data science, software development, and ethical hacking.
- Micro-Credentialing & Specialized IT Diplomas – Offering short-term professional diploma programs aligned with global industry certifications.
- Structured Industry Internships – Partnering with tech companies, startups, and R&D labs to provide hands-on learning experiences.
- Apprenticeship & Work-Study Programs – Implementing dual-learning models where students gain real-world experience while completing formal education.
- Government-Supported IT Apprenticeship Programs – Placing graduates in emerging technologies roles through government-subsidized internships.
- AI-Powered Career Counseling & Job Placement Platforms – Deploying AI-driven career coaching platforms for personalized career recommendations for graduates and professionals.

- Freelancer to Entrepreneur Program – Helping freelancers transition into business owners by supporting them with legal, financial, and marketing expertise.
- Startup Growth Accelerator for Tech Entrepreneurs – Providing funding, mentorship, and training to early-stage startups.
- Women & Youth-Led Digital Businesses – Supporting female entrepreneurs, youth-led startups, and freelancers in launching digital businesses.
- Soft Skills & Digital Communication Training – Ensuring graduates and job seekers are equipped with communication, problem-solving, and leadership skills.
- AI-Powered Language Learning for Remote Jobs – Offering AI-driven multilingual training for global freelancing and cross-border job placements (China, Saudi Arabia, UAE, Japen markets etc)
- Creative & Digital Media Training – Providing professional certification in gaming, animation, content creation, and VR-based storytelling.
- University & R&D Learning Platforms – Establishing AI-powered adaptive learning and virtual research collaboration tools.
- Specialized Semester & University Courses – Introducing semester-based specialized courses in emerging technologies to align with industry demand.
- AI-Powered Adaptive Learning Systems – Deploying AI-driven personalized learning platforms to optimize student performance and skill acquisition.
- Tech-Based Academia-Industry Partnerships – Facilitating joint research projects, startup incubation programs, and industry-driven university curricula.
- Developing Open-Access Digital Libraries – Providing free access to educational materials, research papers, and learning resources for students and professionals.
- Remote Learning Tools for Schools & Universities – Expanding e-learning platforms and smart classrooms to facilitate distance education.
- Integrating VR, AR & Gamification into Education – Developing interactive learning experiences through virtual labs and immersive educational simulations.

Workstream 1: Foundational Skill Development

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Skill Progression Strategy	Q1 2026–Q4 2026	KPITB	Develop tiered skill frameworks (basic to advanced)	Structured learning pathways	Approved strategy doc	Skill framework for the Government
Micro-Credentialing	Q2 2025–Q4 2027	Universities + Industry + KPITB	Partner with global certifications	Short-term industry-ready diplomas	Micro-credentials	Certifications issued
AI-Powered Adaptive Learning	Q3 2025–Q4 2026	EdTech Firms + KPITB	Deploy AI platforms (e.g., Coursera, Khan Academy)	Personalized learning experiences	Active users	Improvement in pass rates

Workstream 2: Advanced Technical Training

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Global Certifications	Q4 2026–Q4 2028	KPITB	Fund scholarships via Coursera/edX	Certified professionals	Scholarship fund	Job placement rate
Tech Bootcamps	Q2 2026–Ongoing	KPITB	Intensive 12-week programs in AI/cybersecurity	Job-ready graduates	Bootcamps/year	Employment rate
Specialized University Courses	Q3 2026–Q4 2027	Universities	Introduce AI, FinTech, IoT courses	Industry-aligned graduates	Updated curricula	Industry satisfaction

Workstream 3: Industry-Academia Collaboration

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Internships & Apprenticeships	Q1 2026–Q4 2029	IT Industry Partners + KPITB	MoUs with IT tech firms / IT Park/STP for placements	Hands-on experience	Internships/year	Conversion to full-time roles
Tech Partnerships	Q2 2025–Q4 2028	Universities + Industry	Joint R&D projects, curriculum co-design	Commercialized innovations	Patents filed	Research funding

Workstream 4: Entrepreneurship & Career Transition

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Freelancer/Startup Support	Q1 2026–Q4 2028	KPITB	Funding, legal workshops, mentorship	Startups launched	Startup accelerator hub	Funding raised
Women/Youth-Led Businesses	Q2 2026–Q4 2027	KPITB	Grants, incubators for underrepresented groups	Inclusive entrepreneurship	Women-led startups	Revenue growth

Workstream 5: Emerging Tech Education

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Creative Media Training	Q1 2026–Q4 2028	KPITB + Information Department	Certifications in VR/gaming	Skilled media professionals	Trained creators	Employment in creative sector
VR/AR in Education	Q2 2026–Q4 2027	Education Dept	Deploy VR labs in 100 schools	Immersive STEM learning	VR modules	Engagement boost
AI Language Learning	Q3 2026–Q4 2029	KPITB	Multilingual training for remote jobs	Global freelancing opportunities	Users trained	Cross-border job placement

Workstream 6: Infrastructure & Resources

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Open-Access Libraries	Q2 2025–Q4 2027	KPITB + HED	Digitize textbooks, research papers	Free knowledge access	Resources	Learning resource availability
Remote Learning Tools	Q3 2025–Q4 2026	HED + EnSE + KPITB	Expand e-learning platforms (e.g., Moodle)	Accessible education	Active users	Rural participation

Emerging Technologies & Future Skills

Objective: To equip individuals with advanced and specialized skills in next-generation technologies, ensuring a future-ready workforce aligned with global digital trends.

Interventions:

- Advanced AI, Machine Learning & NLP Training – Offering structured, tiered training programs in generative AI, computer vision, natural language processing (NLP), and autonomous systems.
- Cybersecurity & Ethical Hacking Certifications – Launching specialized programs in penetration testing, ethical hacking, digital forensics, and zero-trust architecture.
- Metaverse-Based Education & Skills Training Environments – Creating interactive digital environments for industrial training simulations, virtual labs, and soft skills development.
- AI-Driven Career Pathway Platforms – Offering customized skill assessments, career mapping, and upskilling pathways based on labor market trends and user aptitude.
- Tech Leadership Acceleration Programs – Training mid- and senior-level professionals in strategic technology management, digital governance, and innovation leadership.
- Digital Future Skills Labs – Establishing multi-disciplinary innovation spaces for youth, professionals, and civil servants to explore emerging tech applications.
- Women & Youth in Deep Tech Leadership – Special programs to build leadership capabilities among women and young professionals in AI, cybersecurity, digital games and fintech.
- Future Skills Curriculum in TVET & Higher Education – Mainstreaming AI, gaming & animation, metaverse development, and IoT courses into technical and university programs.
- Curriculum Innovation Hub: Establish a dedicated hub within a university/college to continuously modernize digital skills curricula in collaboration with industry, ensuring graduates possess future-ready competencies aligned with the evolving needs of the digital economy.
- Cross-Sectoral Emerging Tech Use Cases – Embedding real-life sectoral use cases (agritech, healthtech, smart cities, digital justice) in training modules.
- Continuous Learning & Digital Micro-Credentials – Enabling on-demand learning with stackable micro-certifications for lifelong learning pathways.
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Workstream 1: Advanced Technical Training

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Advanced AI/ML/NLP Training	Q1 2026–Q4 2027	Universities + KPITB	Partner with OpenAI, NVIDIA and other bodies for labs and joint ventures	AI specialists	Certified programs	Increase in job placement
Cybersecurity Certifications	Q2 2026–Q4 2026	KPITB + Industry	Ethical hacking bootcamps	Certified experts	ISO 27001 compliance	Exam pass rate
Metaverse Education	Q3 2026–Q4 2028	EdTech Firms	Develop VR industrial simulations	Skilled metaverse developers	Training modules	Industry adoption
Future Skills Curriculum	Q1 2026–Q4 2027	Education Dept + KPITB	Embed AI/gaming/IoT in TVET	Modernized education	Updated curricula	Institution adoption
Cross-Sector Use Cases	Q2 2026–Q4 2028	KPITB + Sector Depts	Case studies in agritech, healthtech	Practical skill application	Use case modules	Solution scalability

Workstream 2: Leadership & Governance

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
Tech Leadership Programs	Q1 2026–Q4 2028	KPITB + Industry	Executive workshops on digital governance	Leaders trained	Leadership certification	Promotion rate
Women/Youth in Deep Tech	Q2 2026–Q4 2028	Social Welfare Dept + KPITB	Scholarships for AI/cybersecurity	Inclusive leadership	Women/youth leaders	50% leadership roles

Establishment of Specialized Digital Education Institutions

Objective : To build centers of excellence in emerging technologies and digital governance, enabling the development of high-end specialized skills in AI, cybersecurity, digital games & animation, and public service digitization.

Interventions:

- School of Artificial Intelligence – A center of excellence for training and research in AI, machine learning, and deep tech innovation in public/private sector.
- School of Digital Games & Animation – A specialized institute for game design, animation, and immersive media technologies.
- School of Cybersecurity & Governance – A training hub for cybersecurity, ethical hacking, digital forensics, and cyber policy.
- School of e-Governance & Digital Literacy – A dedicated institution to build digital governance capacity for public servants and citizens.
- Center of Excellence in Emerging Technologies (Divisional HQs) – Regional tech hubs offering advanced training, incubation, and R&D in each Divisional Headquarters.

Workstream 3: Institutional Development

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
School of AI	Q4 2026–Q4 2030	KPITB	Hire faculty, set up AI labs	AI innovation hub	Graduates/year	AI Professional Trained
School of Digital Games	Q4 2026–Q4 2030	KPITB	Partner with Unity/Epic Games	Creative tech workforce	Game prototypes	Digital Games Professional Trained
School of Cybersecurity	Q4 2025–Q4 2026	KPITB	Certifications, threat simulation labs	Cyber-resilient KP	Certified professionals	Cyber Security Professional Trained
Centers of Excellence	Q4 2026–Q4 2030	Divisional HQs	Regional hubs for R&D/incubation	Decentralized innovation	Operational hubs	Startups supported

Workstream 4: Lifelong Learning & Ecosystem

Activity	Timeline	Responsibility	Required Action	Expected Outcome	Deliverable	KPI
AI Career Pathways	Q1 2026–Q4 2029	KPITB	AI-driven skill assessments	Personalized career plans	Digital platform	AI Profession adopted
Future Skills Labs	Q2 2026–Q4 2029	KPITB + IT Industry	Labs for AI/robotics prototyping	Innovations/year	commercialized products	Investment
Micro-Credentials	Q3 2026–Q4 2029	KPITB + Universities + Colleges	Stackable certifications	Flexible learning	Micro-credentials	Learner retention

Digital Economy, Business, and Innovation

Objective: To accelerate economic growth by leveraging digital technologies in FinTech, e-commerce, MSMEs, digital trade, innovation ecosystems, and sustainable digital entrepreneurship.

FinTech & Digital Payments

Objective : The FinTech & Digital Payments domain aims to drive financial inclusion, promote a cashless economy, and create a seamless digital payment ecosystem across Khyber Pakhtunkhwa.

Inteventions

- Digital Payment and FinTech Strategy – A comprehensive roadmap to transform Khyber Pakhtunkhwa's financial ecosystem into a secure, inclusive, interoperable, and innovation-driven digital payment landscape.
- Paymir – KP's Digital Payment Gateway – A secure, scalable, and integrated platform to enable all government-to-citizen, citizen-to-government, and business digital transactions in one place.
- Integration with 1Link and National Payment Systems and Financial Institutions – Ensuring interoperability with national financial infrastructure for seamless and resal-time transactions across platforms (such as 1link, Rasst, and other e-payment solutions)
- Digital Wallets for Citizens & Businesses – Secure digital wallets linked to CNICs to facilitate government payments, subsidies, utilities, and commerce (G2P and P2G).
- QR Code-Based Payment Acceptance Points – Deployment of QR code systems at public offices, utility counters, and retail shops to promote contactless transactions.
- Digitization of All Government Revenue Receipts – Embedding end-to-end digital payment solutions across all public revenue streams to enhance efficiency, reduce manual handling, and improve fiscal transparency.
- Integrated G2P and P2G Payment Ecosystem – Establishing seamless platforms for government disbursements and citizen payments through biometric-linked wallets and secure gateways.

- Public Service Delivery-Embedded Payments – Embedding digital payments directly into e-government service portals to ensure cashless, user-friendly transactions.
- Provincial FinTech Innovation Ecosystem Development – Cultivating a robust FinTech sector by enabling regulatory sandboxes, startup incubation, and innovation funding frameworks.
- Financial Literacy & Digital Inclusion Strategy – Implementing province-wide education programs to increase financial knowledge, trust in digital payments, and reduce exclusion of marginalized communities.
- School & College Digital Financial Safety Program – Awareness and training for children and youth on secure digital transactions, cyber hygiene, and privacy.
- Curriculum Development for FinTech & Financial Literacy – Integration of digital finance, e-payment systems, and budgeting skills into university and technical education.
- FinTech Startup Acceleration Fund – Dedicated funding support for digital finance startups, accelerators, and early-stage innovations.
- No Cash Collection Policy – Mandating a province-wide shift from manual payment receipts to digital transaction modes to improve service accountability and transparency.
- Digital Payment Infrastructure Modernization Plan – Upgrading technical architecture, payment acceptance devices, and interoperability frameworks through public-private partnerships.
- AI-Driven Payment Oversight & Revenue Analytics – Using AI-powered systems for transaction monitoring, fraud detection, predictive forecasting, and data-driven revenue optimization.
- Open Payment Data & Public Financial Dashboards – Real-time public access to government receipts, expenditures, and budget tracking through digital transparency portals.
- Digital Public Finance Management (PFM) Reform – Integrating payments, budget execution, procurement, and audit systems into a unified digital finance ecosystem.
- Standardization of E-Receipts and Legal Recognition – Establishing e-receipts as official proof of transaction and mandating their use across all sectors.
- Inclusive Digital Payment Accessibility Programs – Extending digital payment services to remote and underserved areas with low-cost merchant acquisition models.
- FinTech Partnerships & PPP Framework – Driving innovation through structured partnerships between government, tech firms, telcos, and financial institutions.
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Workstream 1: Digital Payment Infrastructure

Activity	Timeline	Responsibility	Key Actions	Expected Outcome	Deliverable	KPI
Digital Payments & FinTech Strategy	Q2025–Q3 2025	Finance Dept + KPITB	Roadmap development, stakeholder consultations	Unified digital payment ecosystem	Approved strategy	Action plans with timelines
Paymir Gateway	Q2 2025–Q4 2026	KPITB + Banks + 1Link	Develop integrated platform	All-in-one payment solution	Operational gateway	transactions/month
National Payment Integration	Q3 2025–Q1 2026	KPITB + SBP/1Link	API integration with Raast/1Link	Interoperable transactions	Real-time settlement	Success rate in Transactions
Digital Wallets & QR Payments	Q1 2025–Q4 2027	Finance Dept + KPITB + Financial Institutions	Deploy wallets and QR codes	Cashless KP	Wallets, + QR points	Cashless adoption

Workstream 2: Financial Inclusion & Literacy

Activity	Timeline	Responsibility	Key Actions	Expected Outcome	Deliverable	KPI
Financial Literacy	Q4 2025–Q4 2026	Education Dept + KPITB	Workshops in rural/urban areas/schools	Financial inclusion	Citizen Awareness	Awareness program
School/College Programs	Q4 2025–Q4 2027	Education Dept + KPITB	Curriculum integration, cyber hygiene training	Youth financial safety	Schools covered	Student awareness
Inclusive Payment Access	Q1 2026–Q4 2027	Local Govt + KPITB	Low-cost merchant onboarding	Rural digital access	Rural merchants	Rural transaction growth

Workstream 3: Governance & Security

Activity	Timeline	Responsibility	Key Actions	Expected Outcome	Deliverable	KPI
No Cash Policy	Q1 2026–Q4 2027	Finance Dept	Mandate digital payments for govt services	Digital transactions	Policy enforcement	Compliance
AI Oversight & Dashboards	Q2 2026–Q4 2026	KPITB + Finance	Deploy AI fraud detection, open data portals	Transparent governance	Real-time dashboards	Fraud detection

Startup & Innovation Ecosystem

Startup & Innovation Ecosystem

Objective : To create a thriving, inclusive, and globally competitive startup ecosystem in Khyber Pakhtunkhwa by fostering innovation, entrepreneurship, and digital business growth through strategic interventions such as incubators, accelerators, venture funding, global partnerships, and regulatory reforms.

Interventions

- Startup Exchange Program with Global Tech Hubs – Facilitate international collaboration and exposure for local startups through global exchange programs with innovation centers in Silicon Valley, Singapore, and London, etc.
- Establishment of Divisional Innovation Centers (GovTech, AI, AgriTech) – Develop regional innovation hubs in all divisional headquarters to foster sectoral innovation in AI, agriculture, tourism, governance, health, and fintech.
- One-Month Fast-Track Incubation & Acceleration Programs – Launch short-cycle accelerator programs offering mentorship, prototyping support, and investor readiness training for early-stage founders.
- Digital Startup Registry & Monitoring Dashboard – Create a centralized platform to register, track, and evaluate startup growth, impact metrics, funding rounds, and sectoral diversity.
- Venture Capital / Innovation Fund for High-Impact Startups – Establish a dedicated provincial fund and blended financing models to support scale-ready startups with equity, debt, or matching grants.
- Challenge Funds & Innovation Competitions (HealthTech, EdTech, AgriTech) – Launch government-sponsored innovation challenges, grand tech competitions, and thematic hackathons to crowdsource impactful solutions.
- Mentorship Networks, Business Clinics & Go-to-Market Support – Build structured mentorship programs, advisory clinics, and GTM support platforms to strengthen business model execution.
- Startup Accreditation & Incentive Programs (Grants, Subsidies) – Roll out a formal startup accreditation system linked with access to government grants, tax reliefs (via STZA), and co-working subsidies.
- GovTech Sandbox Programs for Piloting Digital Solutions – Establish regulatory sandboxes in collaboration with departments to allow startups to test GovTech solutions.
- Loan Programs for Freelancers and Startups – Provide low-interest, collateral-free loans and credit guarantee facilities to early-stage entrepreneurs and freelancers.
- Freelancer Tech Meetup Consortium – Build a community-driven consortium to foster peer-learning, client sourcing, and cross-border freelancing market integration.

- University-Based Incubators & Accelerators (Strengthening BICs)– Set up structured incubation programs within universities, enabling research commercialization and youth-driven innovation.
- Integrated Startup Support Framework – Establish a province-wide framework for startup support integrating incubators, accelerators, government facilitation desks, mentors, funding bodies, and legal advisors.
- Startup One-Window Facilitation Portal –Create a digital portal offering one-window services for startup registration, funding access, certification, and mentorship matching.
- National & Global Startup Residency Programs – facilitate startup visas, residency, and infrastructure support to attract regional and international talent to KP's innovation ecosystem.
- Tech for Social Impact Program – Encourage startups working on SDG-aligned solutions through special incentives, partnerships, and funding.
- Women-Led Startup Acceleration Program – Introduce dedicated programs to accelerate women-led startups and provide safe innovation spaces, grants, and peer-learning opportunities.
- Rural Innovation & Entrepreneurship Hubs – Establish tech-enabled innovation labs and micro-incubators in rural and semi-urban areas to democratize startup culture.
- Startup Globalization Support Desk – Help startups expand globally through export facilitation, trade partnerships, branding support, and international investor linkage.
- Tech Fellowship & Founder Development Programs – Introduce structured fellowship and leadership training programs for founders and CTOs.

Workstream 1: Incubation & Acceleration

Activity	Timeline	Responsibility	Key Actions	Expected Outcome	Deliverable	KPI
Global Exchange & Divisional Hubs	Q1 2025–Q4 2027	KPITB + Int'l Partners	MoUs with Silicon Valley/Singapore hubs	Global exposure for startups	Innovation hubs	Startups scaled
Fast-Track Programs & Registry	Q2 2025–Q4 2026	KPITB	30-day bootcamps, digital tracking	Rapid prototyping	Startups incubated	Funding success
University Incubators	Q3 2025–Q4 2027	Universities + KPITB	Embed programs in academia	Youth-driven innovation	University incubators	Success Stories

Workstream 2: Funding & Incentives

Activity	Timeline	Responsibility	Key Actions	Expected Outcome	Deliverable	KPI
VC Fund & Competitions	Q4 2026–Q4 2028	Finance Dept + KPITB + BOK	Innovation fund, hackathons	High-impact startups	Investments	Funded startups
Accreditation & Sandboxes	Q2 2026–Q4 2026	KPITB	Startup accreditation, GovTech testing	Policy-compliant innovations	Accredited startups	Solutions adopted
Women/Rural Focus	Q3 2026–Q4 2027	Social Welfare Dept	Grants, rural labs	Inclusive innovation	Women-led startups	Rural participation

Private Sector & Business Enablement

Private Sector & Business Enablement

Objective : To foster a conducive business environment that empowers the private sector to drive innovation, digital transformation, and economic growth in Khyber Pakhtunkhwa.

Interventions

- IT Park Revitalization Strategy – Comprehensive infrastructure and service modernization plan for enhancing IT Park performance and company retention.
- IT Company Facilitation SOPs & eDesk – Standardized operational procedures and digital help desks to streamline administrative and technical support.
- One Window Facilitation for IT Companies – Single-window service platform for registrations, licenses, compliance, and business services in all IT Parks and STPs.
- Establishment of Ghandhara Digital Complex (Peshawar) – A flagship innovation hub for digital showcasing, startup exhibitions, and tech product launches, hosting IT companies, incubation and co-working spaces.
- Product Showcasing Arena in KPITB – Dedicated space to exhibit software solutions, digital innovations, and products from KP-based tech companies.
- Establishment of a Digital Innovation Fund for KP IT Park companies, aimed at providing grants startups and established firms to develop cutting-edge technologies in areas like AI, blockchain, and IoT.
- Creation of a Public-Private Collaboration Platform, where KP IT Park companies can collaborate with government departments, academic institutions, and research centers to co-create and test new digital solutions for public service delivery.
- Regional Digital Hubs in smaller cities within Khyber Pakhtunkhwa to decentralize digital innovation and bring digital resources closer to local businesses and talent pools
- Digital Innovation Partner Program, which will allow pre-qualified KP IT Park companies to co-develop and test digital tools for government needs
- IT Companies Product Showcasing via Metaverse – Creating immersive virtual showrooms and exhibitions using Metaverse platforms to globally showcase KP tech products and attract international buyers and investors.
- Operationalization of Digital City Haripur – A comprehensive digital ecosystem enabling innovation, enterprise development, and hosting end-high IT organizations.
- Help Desk for IT Companies – A dedicated facilitation desk to support IT companies with investment, registration, and technical assistance.
- Expansion of Software Technology Parks in Universities & Colleges – Upgrading academic institutions with STPs to promote innovation, incubation, and academia-industry linkages.
- Establishment of Grand Software Technology Park in Peshawar – A landmark facility to host high-end IT companies and boost regional digital exports.

- Development of Co-working Clusters in Peshawar – Shared workspaces designed to promote freelancing, remote work, digital startups, and collaborative tech innovation.
- IT Industry Exposure Visits – Organized tours/visits and participation in national/international tech expos to build business networks and global visibility for KP IT companies.
- Triple Helix Linkage Model – Strengthening collaboration among industry, academia, and government for digital policy co-creation and joint R&D.
- Linkage with National Tech Ecosystems – Connecting KP's IT Parks with major tech hubs in Islamabad, Lahore, and Karachi for market access and mentoring.
- KPPRA Rules Modification – Amending procurement rules to encourage public sector procurement from local tech firms and startups.
- Cluster-Based Promotion of IT Companies – Sector-focused facilitation and promotion strategies targeting HealthTech, FinTech, AgriTech, and EduTech clusters.
- Products/Solutions Exhibitions – Participation in tech expos across Pakistan and abroad to promote KP's digital products and attract partnerships.
- Establishment of KP Software Export Board (KPSEB) – A dedicated body to promote software export, policy advocacy, and market development.
- Strengthening P@SHA Local Chapter – Enhancing representation, networking, and capacity-building of KP's tech firms under P@SHA umbrella.
- Online Marketplace for Local Procurement – A digital portal for KP government to source IT solutions directly from local tech companies.
- Ease of Doing Business Facilitation at KPITB Office – Streamlined services and support desks for entrepreneurs and IT firms under a business-friendly environment.
- Training Programs for IT Park Companies – Business, technical, and compliance training modules designed for capacity development in IT Parks.
- Sponsorship Mechanism for Global Exposure – Structured support system to sponsor IT companies' participation in global B2B expos and conferences.
- Establishment of KP High-Tech Zone – A tech-intensive industrial zone focused on deep technologies, AI, robotics, and advanced manufacturing.
- IT Companies Certification Program – Supporting global certification (CMMI, ISO, GDPR) to enhance credibility and export competitiveness.
- Development of Low-Skill Digital Economy Segments – Enabling growth in BPO, Call Centers, Data Entry, and Virtual Assistant services for employment generation.
- Establishment of Innovation Centers – Integrated incubators providing R&D infrastructure, co-development support, and business assistance to startups.
- Public-Private Partnerships in Digital Infrastructure & Services – Foster collaborative investment in broadband, data centers, cloud platforms, and e-governance services to accelerate infrastructure development and service delivery.

- BPO & Shared Services Hub Development (Call Centers, Tech Parks) – Build Business Process Outsourcing hubs and shared service centers to tap into global outsourcing demand and generate youth employment.
- Digital Cluster Development Strategy – Promote sectoral clusters such as FinTech, EdTech, HealthTech, AgriTech, and eCommerce through common infrastructure, branding, and innovation ecosystems.
- Business Incubation in SEZs & Industrial Parks – Integrate innovation centers and incubation programs within industrial parks to encourage tech-driven enterprise development and job creation.

Workstream 1: Infrastructure Development & Modernization

Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
IT Park Revitalization	Q1 2026–Q4 2027	KPITB + IT Industry	Modernize IT parks with high-speed internet, labs	Revitalized IT parks	30% company retention increase
Ghandhara Digital Complex	Q2 2026–Q4 2030	KPITB + Private Sector	Build innovation hub in Peshawar	Operational complex hosting startups	Investment attracted
Grand Software Tech Park	Q1 2026–Q4 2029	KPITB	Establish flagship facility in Peshawar	IT Companies	Export growth
Co-Working Clusters	Q3 2026–Q4 2026	KPITB	Develop shared workspaces in Peshawar and other districts	Co-working hubs	Freelancers supported

Workstream 2: Policy & Regulatory Support

Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
KPPRA Rule Amendment (subject to approval)	Q1 2026–Q2 2028	Finance Dept	Mandate local tech procurement	Policy enacted	Govt IT procurement from KP firms
Cluster-Based Promotion	Q2 2026–Q4 2030	KPITB	Sector-specific hubs (HealthTech, FinTech)	Operational clusters	Cluster revenue
Certification Support	Q3 2026–Q4 2030	KPITB	Subsidize ISO/CMMI certifications	Certified companies	Export increase

Workstream 3: Business Support & Facilitation

Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
One-Window eDesk	Q1 2026–Q4 2030	KPITB, Industries, District Administration	Digital platform for registrations/licenses	Process automation	Faster service delivery
Metaverse Showcasing	Q2 2026–Q4 2030	KPITB, Industries, Chamber of Commerce	Virtual exhibitions for global buyers	Virtual expos	Product Display
Local Procurement Marketplace	Q3 2026–Q4 2030	KPPRA + KPITB	Portal for govt IT procurement	Local vendors onboarded	Cost savings

Workstream 4: Public-Private Partnerships & Ecosystem Building

Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
Triple Helix Linkages	Q1 2026–Q4 2030	Academia + Industry + KPIT	Joint R&D projects	10 industry-academia MoUs	5 commercialized innovations
BPO Hub Development	Q2 2025–Q4 2030	KPITB	Establish call centers/tech parks	2 BPO hubs	1,000+ jobs created
Digital Clusters	Q3 2028–Q4 2030	KPITB	Sectoral clusters (EdTech, AgriTech)	3 operational clusters	Cluster revenue

Workstream 5: Innovation & Skill Development

Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
University & Colleges STPs	Q1 2026–Q4 2030	Universities & Colleges	Embed STPs in institutions	Students trained/year	Startup formation
Low-Skill Digital Economy	Q2 2026–Q4 2030	KPITB	Train youth in BPO/data entry	Certified workers	Job placement

Digital Trade & E-Commerce

Digital Trade & E-Commerce

Objective: To accelerate economic growth, empower SMEs, and integrate Khyber Pakhtunkhwa into global digital value chains by establishing robust digital trade infrastructure, e-commerce platforms, export facilitation systems, and targeted capacity-building interventions for entrepreneurs, youth, and women.

Interventions

- Export Facilitation for E-Commerce SMEs (Training, Tools, Logistics Support) – Provide tailored training, toolkits, and logistics support to help SMEs navigate global e-commerce platforms, manage supply chains, and scale exports efficiently.
- Integration with Global E-Commerce Platforms (e.g., Amazon, Alibaba, eBay, Etsy) – Enable onboarding and support for KP's SMEs on leading global marketplaces with technical assistance, branding support, and regulatory compliance.
- AI-Powered Market Intelligence Platforms for Exporters – Develop AI-driven tools for predictive analytics, export trends, pricing strategies, and demand forecasting to help SMEs identify and access new global markets.
- Cloud-Based ERP & Business Management Tools for SMEs – Promote adoption of cloud-based ERP, CRM, and accounting solutions among SMEs to improve operations, compliance, and global competitiveness.
- Promotion of Freelance Exports through Global Platforms – Facilitate access to platforms like Upwork, Fiverr, Toptal, and Freelancer by providing skill certification, digital marketing training, and transaction support.
- E-Commerce Enablement Program for Women and Youth – Launch tailored digital commerce training programs and startup kits for women and youth-led enterprises to promote inclusive participation in online business.
- Provincial Digital Trade Policy and Investment Promotion Plan – Draft and implement a comprehensive policy to promote digital exports, reduce trade barriers, offer incentives, and attract foreign e-commerce investment.
- E-Commerce Export Gateway Portal for KP – Develop a centralized digital gateway for export documentation, payment reconciliation, market access data, and matchmaking with international buyers.
- SME Digital Branding & Product Showcasing Hubs – Set up physical and virtual hubs for showcasing KP's crafts, products, and services on international platforms using VR/AR and digital storytelling.
- E-Commerce Business Accreditation & Quality Certification Program – Introduce digital accreditation systems and product quality certifications for e-commerce enterprises to boost credibility in global markets.
- Digital Marketing & Growth Hacking Bootcamps for Exporters – Organize intensive bootcamps to equip businesses with online marketing, SEO, content strategy, and cross-border digital campaign skills.

Workstream 1: Global Market Access

Intervention	Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
Export Facilitation	Train SMEs on global platforms	Q1 2026–Q4 2029	Industries Dept + KPITB + Chamber	Workshops, logistics partnerships	SMEs onboarded	Export volume increase
Platform Integration	Technical support for compliance/branding	Q2 2026–Q4 2029	KPITB + E-commerce Firms	API integration, regulatory guidance	SMEs on global platforms	Annual sales

Workstream 2: Inclusive Participation

Intervention	Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
Freelance Exports	Certify freelancers for Upwork/Fiverr	Q3 2027–Q4 2029	KPITB	Skill certification, payment support	Freelancers certified	Freelance revenue
Women/Youth Enablement	Startup kits, mentorship	Q1 2026–Q4 2029	Social Welfare Dept + KPITB	Grants, e-commerce training	Women/youth-led startups	Survival rate

Workstream 3: Skills Development

Intervention	Activity	Timeline	Responsibility	Key Actions	Deliverables	KPI
Digital Marketing Bootcamps	SEO, content strategy training	Annual from 2025	KPITB + Marketing Firms	Workshops, hackathons	Businesses trained	Online sales growth

Digital Governance, Society, & Rights

Digital Governance, Society, & Rights

Objective : To build a responsive, transparent, citizen-centric, and secure digital government that empowers citizens, strengthens institutions, ensures equitable access to digital rights, and promotes sustainable digital public infrastructure.

Digital Government & Business Process Optimization

Objective : To transform government operations into a smart, agile, integrated, and paperless digital ecosystem, aligned with the vision of a "One Stop, Non-Stop, and Any Stop Government"—where citizens and businesses can access seamless services anytime, anywhere, through unified, interoperable, and proactive digital government systems.

Interventions

- Comprehensive Digitization of Government Processes – Digital transformation of administrative, governance, operational, and service delivery processes across all departments and autonomous bodies.
- Government-as-a-Platform (GaaP) - Develop shared, reusable building blocks (eID, ePayments, eKYC, Messaging, Data Exchange, Consent Management) as core digital public goods across all government departments.
- Internal Process Re-engineering Lab (GovProcess Lab) - Establish a Government Process Innovation Lab to continuously redesign service flows, reduce steps, eliminate redundancies, and increase citizen satisfaction.
- Unified Notification System (UNS) - Create a central notification system that auto-sends reminders, approvals, alerts, status updates to citizens via SMS, email, mobile push notifications, and digital mailboxes.
- Unified Government Resource Planning (GRP) System – Implementation of a province-wide GRP system integrating financial management, human resource systems, procurement, planning, asset tracking, and performance monitoring.
- Digital Document Vault / DigiLocker for Citizens & Departments - Enable citizens and government departments to store, retrieve, and share documents (certificates, licenses, approvals) via secure cloud-based document vaults.
- Paperless Office Ecosystem (Gov360) – A fully digitized internal working environment enabling e-File systems, digital signatures, digital correspondence, e-Note sheets, and automated approvals.
- End-to-End e-Governance Platform – Centralized integration of all government functions via interoperable modules covering ERP, HRMIS, budgeting, procurement, planning, and performance dashboards.

- AI-Powered Government Decision Support Systems – AI-driven dashboards and business intelligence tools to support predictive planning, early-warning/alerts systems, and real-time service delivery monitoring.
- Enterprise Architecture Framework for Government – Structured architecture for ICT standardization, process harmonization, and systems interoperability aligned with TOGAF/GovStack/COBIT frameworks.
- Citizen-Centric Workflow Automation Systems – Automating citizen-facing workflows with personalized service delivery triggers, integrated notifications, and status tracking.
- One Unified Government ID System Integration – Linkage of services with Khyber Pass – Digital ID for authentication, digital signatures, and single sign-on for all citizen-facing services.
- Proactive Government Services Model – Move from request-based to proactive service delivery by using integrated citizen profiles, predictive analytics, and lifecycle events (birth, education, marriage, business, pre-pension).
- Integrated Case & Task Management Systems – Smart case tracking, automated task allocation, escalation mechanisms, and performance accountability tools across departments.
- Government Collaboration and Communication Platform – Secure internal messaging, project collaboration suites, file-sharing, and document co-authoring tools replacing paper-based communication.
- Employees Internal Portal - Digital Assistant and Chatbot Support for Officials – AI-powered virtual assistants for scheduling, file tracking, referencing, and automated data summaries.
- Smart Performance & Productivity Measurement System – Department-wise performance analytics powered by KPIs, milestone tracking, benchmarking, and annual digital scorecards.
- Digital Procurement and e-Bidding Integration – Transparent digital procurement lifecycle with e-tendering, e-auctions, pre-qualification, contract monitoring, and vendor dashboards.
- Development of Departmental Digital Maturity Index for digital governance and infrastructrure, and human resources etc.
- Real-Time Government Service Monitoring Command Center – Central dashboard (GovernmentPerformance Command Center) tracking all digital transactions, delivery timelines, and citizen feedback.
- Automated Notifications and Escalation Protocols – Real-time alerts to officials for pending files, delays, and citizen complaints through integrated SMS/Email/Push channels.
- Audit-Ready Digital Trails and Archiving – Secure archival, audit logs, and traceability features for governance transparency and accountability.
- Interdepartmental System Interoperability via APIs – A robust API layer enabling real-time data exchange between departments for seamless service orchestration.
- Multi-Device Access and Mobility Enablement – Enabling officials and citizens to access digital governance platforms via mobile, tablets, desktops, and ensuring anywhere governance.

Workstream 1: Foundational Digitization

Focus: Digitize core government processes and establish reusable digital infrastructure.

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
End to End Digitization	Q4 2025–Q4 2030	All Departments	Digitize workflows (e.g., approvals, records)	Processes digitized	Reduction in manual handling
Government-as-a-Platform (GaaP)	Q2 2026–Q4 2028	KPITB	Develop shared modules (eID, ePayments)	Reusable APIs	Department adoption
Digital Document Vault	Q3 2026–Q4 2028	KPITB	Secure cloud storage for docs	Documents stored	Documents management

Workstream 2: Process Re-engineering

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
GovProcess Lab	Q2 2026–Q4 2027	KPITB	Identify bottlenecks, automate steps	Re-engineered services	Faster service delivery
Workflow Automation	Q1 2026–Q4 2027	KPITB	Automate citizen-facing workflows	Automated services	Fewer manual steps

Workstream 3: Systems Integration

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Unified GRP System	Q3 2025–Q4 2028	KPITB, ST&IT	Integrate finance, HR, procurement	Province-wide GRP	Department integration
API Interoperability	Q4 2025–Q4 2027	KPITB	Deploy API gateway for data sharing	APIs published	System connectivity
Enterprise Architecture	Q4 2025–Q4 2026	KPITB, ST&IT	Adopt TOGAF/GovStack frameworks	Approved architecture	Departmental compliance

Workstream 4: Citizen-Centric Automation

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Unified Notification System	Q4 2025–Q4 2026	KPITB	Central alerts via SMS/WhatsApp	Alerts/month	Reduction of processing cost
Single Sign-On (SSO)	Q4 2025–Q4 2026	KPITB	Link services to Khyber Pass ID	SSO for services	Usage rate

Workstream 5: Governance & Monitoring

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Real-Time Command Center	Q4 2025–Q4 2026	KPITB	Central dashboard for service tracking	Live KPI monitoring	SLA adherence
Smart Performance Analytics	Q4 2025–Q4 2027	KPITB	AI-driven department scorecards	Quarterly performance reports	YoY efficiency gains

e-Governance Infrastructure (Core Digital Backbone)

e-Governance Infrastructure (Core Digital Backbone)

Objective: To establish a secure, cloud-powered, scalable, and interoperable digital backbone that enables smart governance, seamless communication, efficient service delivery, data-driven decision-making, and digital workplace modernization across the Government of Khyber Pakhtunkhwa.

Intervnetions

- Enterprise-Class Civil Secretariat Secure Network – Establish a high-speed, encrypted internal network infrastructure across the provincial secretariat for secure communication and document transmission.
- Fiberization of All Departments and Attached Formations – Ensure end-to-end high-speed broadband connectivity across all government offices, district formations, and service delivery outlets.
- e-Governance Infrastructure (Core IT Services) – Deploy enterprise-grade email systems, cloud-based collaboration suites, secure file sharing, and document co-authoring platforms.
- Official Email Usage Enforcement Policy – Mandate the use of secure, domain-based government email accounts for all official communication across departments and directorates.
- Government Employee Communication Portal – Launch an internal digital platform for file sharing, circulars, HR notices, e-documents, calendars, and collaborative tools for interdepartmental coordination.
- Internal Intranet Portal – Build an internal, restricted-access portal for confidential departmental communication, file movement tracking, document templates, and resources.
- Central Internet Tunnel & Bandwidth Optimization Framework – Route all internet access through a centrally controlled tunnel to optimize bandwidth, manage usage, and ensure cybersecurity compliance.
- Fair Internet Usage Policy (FIUP) – Enforce digital usage guidelines for internet access in government offices including role-based access, content filters, and social media management protocols.
- Bring Your Own Device (BYOD) Policy – Introduce a BYOD policy allowing secure use of personal devices through controlled access protocols, encryption policies, and endpoint security.
- IT Hardware Standardization Guidelines – Establish hardware specifications and procurement frameworks for all government departments to ensure compatibility, cost-efficiency, and performance.

- Provincial Government IT HelpDesk System – Set up a central troubleshooting helpdesk for government officials offering support for IT hardware, software, and user access issues.
- Government Cloud Storage & Backup Services – Provide secure, scalable cloud infrastructure for data storage, departmental backups, and interdepartmental sharing.
- Establishment of a GPU-based Data Center – Develop a high-performance computing environment to support AI, Big Data analytics, high compuational applications, and real-time decision systems.
- Digital Asset Compliance System– Implement a system for storing, indexing, tracking, and accessing government digital content, media files, documents, and templates, source code, databases, UIs, etc.
- User Authentication & Identity Access Management (IAM) – Enable role-based, multi-factor authentication protocols for all access points within the government IT network.
- Device & Endpoint Monitoring System – Monitor IT equipment and devices for performance, security, updates, and optimization to ensure robust service delivery.
- Provincial Cloud Infrastructure – GovCloud KP – Develop and operationalize a government-owned, secure, and scalable cloud infrastructure hosted at KP Data Center to serve all departments and public sector entities.
- Cloud-Native Application Development & Hosting – Enable departments to build and host their digital applications directly on GovCloud KP with scalability, performance, and cost-efficiency.

Workstream 1: Network & Connectivity Infrastructure

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Enterprise-Class Civil Secretariat Secure Network	Q1 2026–Q4 2028	ST&IT, Data Center	Deploy encrypted network infrastructure, conduct penetration testing	Secure internal network for document transmission	Coverage, <1ms latency, zero breaches
Fiberization of All Departments	Q1 2026–Q4 2029	ST&IT, Data Center	Lay fiber cables, upgrade remote offices	End-to-end broadband connectivity	Offices connected, 99.9% uptime
Central Internet Tunnel & Bandwidth Optimization	Q2 2026–Q1 2029	ST&IT, Data Center	Route traffic centrally, allocate bandwidth	Optimized internet gateway	Cost savings, 95% uptime

Workstream 2: Cloud & Data Infrastructure

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Provincial Cloud Infrastructure (GovCloud KP)	Q2 2026–Q4 2027	ST&IT, Data Center	Build government-owned cloud infrastructure	Operational GovCloud	Departments migrated
Cloud-Native Application Development	Q1 2028–Q4 2030	ST&IT, Data Center	Train developers, host apps on GovCloud	100+ cloud-hosted apps	Reduced hosting costs
Government Cloud Storage & Backup	Q3 2026–Q4 2027	ST&IT, Data Center	Migrate data, enable secure sharing	100TB+ cloud storage	Backup compliance

Workstream 3: Security & Access Management

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Official Email Enforcement Policy	Q2 2026–Q1 2026	ST&IT, Data Center	Ban non-official emails, train staff	Policy compliance	adoption of Official emails
Fair Internet Usage Policy (FIUP)	Q1 2026–Q2 2026	ST&IT, Data Center	Deploy content filters, role-based access	Filtered internet usage	Adherence to protocols
Identity Access Management (IAM)	Q1 2026–Q4 2026	ST&IT, Data Center	Implement MFA, role-based access	MFA-enabled systems	User enrollment

Workstream 4: IT Support & Collaboration Tools

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Core IT Services (Email, Cloud Collaboration)	Q3 2026–Q2 2028	ST&IT, Data Center, KPITB	Migrate to enterprise email, deploy collaboration tools	Active email accounts	Adoption of core services
Government Employee Communication Portal	Q4 2026–Q3 2028	ST&IT, Data Center, KPITB	Develop HR, file-sharing, and calendar tools	Portal with government users	Active monthly users
Provincial IT HelpDesk System	Q2 2026–Q1 2029	ST&IT, Data Center	Deploy ticketing system, train staff	Operational helpdesk	Resolution in <4hrs

Workstream 5: Advanced Computing & Data Management

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
GPU-Based Data Center	Q1 2027–Q4 2030	ST&IT, Data Center	Procure GPUs, deploy HPC infrastructure	AI-ready data center	AI projects hosted
Digital Asset Compliance System	Q2 2027–Q4 2028	ST&IT, Data Center, KPITB	Tag metadata, enforce access protocols	Searchable asset database	Digital Assets indexed

Sectoral Digitalization (Hyper-Digitalization Across Sectors)

Objective : To accelerate the digital transformation of high-impact service sectors through sector-specific smart solutions, integrated platforms, and real-time analytics, ensuring citizen-centric service delivery, resource efficiency, and data-driven governance.

Digital Tourism (Smart Tourism)

Digital transformation of the tourism sector to enhance tourist experiences, streamline services, and unlock KP's cultural, religious, and ecological tourism potential.

Interventions:

- Smart Tourism Portals with e-booking, virtual guides, and payment systems.
- AR/VR-based cultural site exploration and immersive digital tours.
- Tourism Information Management System (TIMS) for data-driven planning.
- Community-based tourism digital integration and capacity-building.
- QR-based digital ticketing at museums, parks, and heritage sites.

Digital Revenue & Taxation

Complete digitization of revenue systems to improve transparency, compliance, and forecasting, while reducing manual handling and leakages.

Interventions:

- Online property tax, excise, stamp duty, and licensing systems.
- AI-based revenue intelligence and performance monitoring dashboards.
- QR-code enabled digital payment receipts.
- AI-driven valuation tools and GIS mapping would modernize tax assessments
- Digitizing land records, automating property taxes, and integrating revenue service
- Digitized dispute resolution
- Automated e-filing, and digital invoicing.
- Integration with Paymir for digital revenue collection through digital muhsail
- GIS-based mapping of property records, Token Tax, Motor vehicle registration
- Tobaco Tax, Professional tax etc.

Sectoral Digitization (Hyper-Digitization Across Sectors)

Digital Agriculture (AgriTech)

Leverage digital and emerging technologies to transform agriculture, empower farmers, optimize resources, and build resilience in the agriculture value chain.

Interventions:

- IoT and AI-based precision farming, crop monitoring, and weather forecasting.
- Farmer Digital IDs (integration with Khyber Pass) and e-subsidy platforms.
- Mobile-based Agri-Advisory Services and e-Mandi systems.
- Drone and satellite-based crop surveillance and risk assessment.
- Agriulture data analytics for yield forecasting and climate adaptation.

Digital Transport & Mobility

Transformation of transport governance and service delivery using smart mobility systems, automation, and real-time analytics.

Interventions:

- End-to-end automation of driving licenses, vehicle permits, and e-challans.
- AI-based traffic violation, fitness and digital payments.
- Integrated digital ticketing for public transport.
- Smart Parking, Fleet Management, and Road Infrastructure Dashboards.
- GIS-based transport route planning and monitoring tools.

Smart Health (Digital Health Services)

Enhancing access, efficiency, and quality of healthcare services through digitization, smart diagnostics, and real-time patient management systems.

Interventions:

- One Patient – One ID (Khyber Pass Integrated)
- A centralized digital platform for managing patient records, facility performance, diagnostics, and health service data.
- Standardized digital health records for seamless, secure, and interoperable patient data access across all health facilities.
- Cloud-based digital repository for secure storage and easy retrieval of patient medical history and diagnostic data.
- Remote consultation and AI-enabled diagnostic tools for accessible healthcare in remote and underserved areas.
- Digital immunization records linked to Khyber Pass Digital ID for secure citizen authentication and service delivery.
- Automation of hospital operations including admission, discharge, billing, pharmacy, and laboratory workflows.
- Digitized medical imaging management and tele-radiology systems for seamless image sharing across facilities.
- AI-powered dashboards for tracking disease patterns, forecasting outbreaks, and public health planning.
- Digitally equipped mobile health teams with HMIS connectivity for community-level service delivery.
- Dashboards to monitor antenatal care, child immunization, nutrition, and growth indicators, and other disease spread in real-time.
- Digital systems for managing medicine procurement, inventory, and e-prescription fulfillment.
- Machine learning algorithms to prioritize high-risk patients and automate referrals.
- Real-time monitoring of facility operations, service delivery, and health staff deployment.

Digital Education (Smart Learning Ecosystem)

Transforming the education system through digital platforms, data-driven learning tools, and AI-enabled personalization to improve teaching quality, student performance, and institutional efficiency.

Interventions:

- Integrated School Information Management System (SIMS) and digital teacher performance portals.
- Smart classrooms equipped with interactive displays, digital content, and Learning Management Systems (LMS).
- Real-time student performance dashboards and auto-generated e-certifications.
- AI-powered adaptive learning systems and personalized learning pathways.
- Mobile apps for digital attendance, learning progress tracking, assessments, and parent-teacher communication.
- Digital curriculum mapping, online content repositories, and gamified learning platforms.
- Teacher digital upskilling platforms and professional development learning hubs.
- Centralized examination systems, digital test banks, and auto-grading tools.
- e-Libraries, knowledge portals, and offline-first learning apps for rural outreach.
- AI-driven school cluster mapping and rationalization dashboards for equitable access planning.
- Posting/ transfers of teachers
- Attendance of teachers and students
- School Leaving Certificate
- Provisional Certificate
- Character certificate

Smart Policing & Digital Law Enforcement

Enhancing law enforcement effectiveness and public safety through AI, digital case management, real-time surveillance, and citizen-centric policing tools.

Interventions:

- Real-time crime dashboards with GIS-enabled crime heat maps and incident tracking.
- Digital FIR registration, e-prosecution workflows, and integrated case tracking systems.
- AI-powered surveillance systems with facial recognition and anomaly detection (linked with Khyber Pass).
- Smart patrolling systems with predictive deployment and incident anticipation analytics.
- Digital forensic tracking, evidence management, and chain-of-custody dashboards.
- Integration with Police ERP for seamless records management.
- QR-based beat logging and officer tracking systems.
- Predictive analytics for crime prevention, crowd control, and hotspot detection.

Digital Social Protection & Welfare

Redesigning social welfare delivery through data-driven targeting, AI-based eligibility screening, and integrated financial disbursement systems to uplift marginalized populations.

Interventions

- Development of Social Protection Registry
- Centralized Digital Beneficiary Management System linked with Khyber Pass – Digital Identity.
- AI-based eligibility scoring and dynamic targeting algorithms for social assistance.
- G2P payments delivered securely through Paymir-enabled digital wallets/digital payments.
- Unified platform for disbursing Zakat, scholarships, stipends, micro-loans and other subsidizes.
- Smart card-enabled social welfare services and subsidy tracking systems.
- Social protection analytics for coverage mapping and inclusion diagnostics.
- Digital enrollment and exit tracking for conditional cash transfer programs.
- Integration with civil registration data to enable proactive support delivery.
- e-Welfare Performance Scorecards for departmental efficiency monitoring.
- National Sign Language Data Repository: Standardize content for chatbots and learning platforms.
- Immersive AR Learning Modules for children with autism and dyslexia
- Implement e-Welfare MIS, vulnerability mapping, and unified service cards for PWDs, Senior Citizens, Transgender and other related sections

Digital Climate Protection, Forestry & Environment

Enabling environmental sustainability and climate resilience through digital surveillance, ecosystem analytics, and AI-based climate governance tools.

Interventions:

- Satellite and drone-based forest monitoring and plantation tracking systems.
- AI-powered dashboards for real-time emissions tracking and deforestation alerts.
- Online automation for Environmental Impact Assessments and clearance processes.
- Real-time monitoring stations for air, water, and soil quality with public dashboards.
- Digital Carbon Credit Registry for climate financing, trading, and offset validation.
- Biodiversity mapping systems and ecosystem health analytics platforms.
- Integration of weather data systems for disaster early warning and response.
- Smart forest asset inventory and geotagging tools for sustainable management.
- E-reporting platforms for environmental violations and pollution alerts.
- Climate Risk Vulnerability Index Dashboard for data-driven environmental planning.
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Digital Mines & Mineral Development

Promoting transparent, efficient, and data-enabled mineral resource governance and automation.

Interventions :

- GIS-based mapping of mineral resources, deposits, and exploration zones.
- Online Mining Lease Management System (MLMS) for application, approval, and monitoring.
- Digital auction platforms and e-procurment systems for contracts and permits (through service delivery).
- IoT-enabled mine site surveillance and safety monitoring systems.
- Real-time dashboards for royalty tracking, production reporting, and compliance management.
- Mineral resource valuation dashboards and AI-based revenue forecasting tools.
- e-Permit verification and QR-enabled transparency in transactions.
- Digital inspection and regulatory, checklist-based compliance audit tools.

Digital Transformation Plans for Key Departement

Police Department

- Digital FIR & Reporting System – Automate FIR registration and enable digital crime reporting.
- Crime Profiling & Investigation Automation – Implement AI-driven crime hotspot mapping, digital profiling, and case tracking systems.
- Forensics & Evidence Management – Digitize forensic labs and evidence handling through smart chain-of-custody systems.
- e-Prosecution & Traffic E-Challan System – Deploy electronic prosecution tools and integrate digital challan systems with payment gateways.
- HRMIS & Performance Management – Develop an integrated Human Resource Management Information System for training, duty rosters, and performance tracking.
- Digital Case Management & e-Filing – Streamline litigation workflows and automate case documentation via e-filing systems.
- Fleet & Asset Management Systems – Digitize management of police vehicles, equipment, and asset tracking systems.
- Citizen Service Portal & Mobile App (Dastak Platform)– Launch a unified platform for police clearance, tenant verification, complaint registration, e-FIR, and legal support.
- Smart License & ID Verification Services – Digitize issuance and verification of driving licenses, servant verification, and character certificates.

- AI-Based Surveillance & Monitoring – Deploy AI-enabled facial recognition, biometric verification, and smart surveillance systems.
- Daily Situation Reports (E-DSR) – Automate daily reporting of security status, hotspots, and incidents with predictive dashboards.
- Smart Patrol & Deployment Planning – Use AI and GIS tools to optimize patrolling routes and force deployment strategies.
- Digital Payments & Financial Systems – Integrate Paymir and digital payment solutions for fines, fees, and service charges.
- Integrated Data Registries – Link police systems with NADRA, Excise, hotels, and criminal databases for seamless profiling.
- Police Welfare Digital Services – Digitize welfare school admissions, volunteer blood banks, and information centers.
- Smart Innovation Labs – Establish innovation labs focused on AI, IoT, big data, and cybersecurity for future policing needs.

Home Department

- Develop Integrated Security Compliance & Monitoring System (ISCMS) for centralized oversight.
- Implement Case Tracking System for Police, Prison, and Prosecution.
- Launch Digital Daily Situation Reporting System for law & order and emergencies.
- Deploy E-Verification System for biometric and identity checks.
- Enable E-Incident Reporting Platform for real-time security issue reporting.
- Establish Integrated Security Workspace for multi-agency coordination.
- Automate Issuance System for Arms Licenses, NOCs (Local/Foreigner), and Notary services.
- Create Centralized Information Registry for FIRs, POs, and Criminal Database.
- Introduce E-Registration System for NGOs, Companies, Dealers, and Manufacturers.
- Digitize SAW & KPISW Compliance Monitoring.
- Deploy Hotspot Monitoring System using GIS for high-risk areas.
- Implement Track & Trace System for smuggling-prone goods and border activity.
- Integrate with National Security Agencies (NACTA, FIA, PTA, SB, CTD, IB, Police).
- Probation Digital Portal for online referrals, progress reporting, and coordination
- GIS-driven tool to supervise probation officer movements and enhance planning and decision-making.
- Development/Implementation of centralized digital platform to manage case data of probationers and parolees.
- Integration of electronic case tracking systems for real-time updates across judicial & law enforcement bodies.

Local Government

- Integrated Citizen Services, Reporting & Monitoring System for end-to-end governance automation.
- Financial Management System covering budget management, asset/liability tracking, and fund utilization.
- Real-Time Fund Tracking and E-Payments integrated with Raast.
- Deploy Tracking & KPI Dashboard for performance and progress monitoring.
- Enable E-Procurement ecosystem with E-Tendering, E-Bidding, E-Invoicing, and E-Auction.
- Automate Citizen Services (Certificates, Licenses, Permits) including Birth/Death/Marriage, NOCs, and Water Connection.
- Operationalize Performance Management System for institutional accountability.
- Implement Human Resource Management and Case/E-Filing System.
- Strengthen Emergency Management & Early Warning Systems (Rescue 1122, Fire Brigade, Hospitals).
- Integrate Urban Planning & Land Use with GIS Mapping and Anti-Encroachment solutions.
- Launch Citizen Feedback System to institutionalize participatory governance.
- Integrate Information Registry for profiling of Tehsil, VC/NC and service personalization.
- Establish Smart City / Smart Village and Smart TMA models.
- Integrate Reporting & Monitoring with Health, Education, and Works sectors.
- Enable Digital Compliance Reporting through Litigation & Task Management Systems.
- Unified Urban Service Monitoring Dashboard Create an integrated Urban Digital Services Dashboard at the district and tehsil levels that consolidates data from sanitation, water supply, solid waste collection, municipal vehicle movements, and complaint redressal systems in real time
- Geo-Fencing of Service Zones - Implement geo-fencing technology across municipal service zones (especially for waste collection and public sanitation vehicles) to ensure route adherence, performance tracking, and automatic exception alerts when a service vehicle goes off-route or skips assigned areas.
- Digital Licensing and Staff Verification System - Establish a centralized Digital Driver and Operator Verification System for all government-operated or contracted fleet services.
- Real-Time Waste Collection Index (WCI) - Introduce a Waste Collection Index using IoT and GIS data to measure cleanliness levels in urban areas.

Transport Department

- Implement Integrated License Issuance System for Domestic, International, Learner & Commercial licenses.
- Automate Compliance & Monitoring via License Renewal Alerts and Self-Service Reporting Portal.

- Launch Financial Management System for Target Setting, Fund Tracking, and E-Payments.
- Operationalize Commercial Vehicle Inspection & Vehicle Fitness System.
- Enable Citizen Services Platform for Permits, Certifications, and Good Forwarding Agency Licensing.
- Introduce Vehicle Emission Certification & Inspection Module.
- Establish Bus Stand Management System for Licensing and Maintenance Tracking.
- Deploy Body Building Workshops Licensing System.
- Digitize Axle Load Management System for freight monitoring and compliance.
- Launch Citizen Feedback System to enhance public engagement and participatory governance.
- Enable Dashboard & Analytics System for performance visibility and insights.
- Integrate Core Systems for HRM, Asset Management, Case & E-Filing, and Performance Monitoring.
- Establish Third-Party Integration with NADRA, Immigration, and Banking Systems for service authentication.
- Deploy VETS System for technical inspections and digital compliance assurance.

Exise Department

- Implement Tax Alerts & Compliance Monitoring through Self-Service Portals and ETO Performance Management.
- Launch Financial Management System for Tax Management, Fund Tracking, and E-Payments.
- Digitize Professional Tax System for Registration, E-Invoicing, Assessment, Payment & Rebates.
- Enable Citizen Feedback System for perception tracking and participatory governance.
- Modernize Revenue Systems via GIS Tax Zoning, AI-based Plate Recognition & Smart Vehicle Monitoring.
- Deploy Urban Property Management System for Digital Survey, Mapping, Valuation & E-Assessment.
- Enable Automated Tax Enforcement with Land-Property System Integration.
- Establish Narcotics Incident Reporting & Analysis System including Demographics, Mobility & Hotspot Mapping.
- Introduce Citizen Services for Vehicle Registration, Fitness Inspection, Token Tax, Dealer Licensing & Transfer of Vehicle.
- Integrate Electronic Record Management & Smart Number Plates System.
- Build a Centralized Information Registry for Profiling and Integration with ANF, Customs, and NADRA.
- Automate Government Vehicle Tax and Commercial Property Invoicing through E-Invoicing Modules.
- Launch Dashboard & Analytics Platform for oversight, decision-making and compliance review.

Agriculture Department

- Smart Agriculture Information System (SAIS) - Develop a province-wide digital platform that integrates weather data, pest alerts, agronomic tips, and local market rates. The system should be mobile-friendly and support local languages for easy farmer access.
- Drone and Satellite-Based Monitoring - Deploy drones and satellite imagery to monitor crop health, detect diseases early, assess flood/drought impacts, and ensure optimal use of inputs (fertilizers, pesticides, water).
- IoT-Enabled Precision Farming - Install soil and moisture sensors to guide farmers on irrigation schedules, reduce water wastage, and improve crop yields.
- Digital Farmer ID and E-wallet Integration: Register farmers with a unique digital ID linked to an e-wallet system to streamline the disbursement of subsidies, crop insurance payouts, and government incentives.
- Agritech Start-up Incubation: Support and incubate local startups that focus on AI-driven crop analytics, supply chain optimization, smart irrigation systems, and farm-to-market connectivity.
- E-Marketplace for Farmers: Create a digital platform where farmers can directly sell their produce to buyers, bypassing middlemen.
- Remote Sensing for Disaster Response - Use satellite imagery and AI analytics to quickly assess damage from floods, locusts, or droughts, enabling timely relief and re-sowing interventions.
- Community Wi-Fi Zones and Digital Centers - Establish rural digital hubs or "Agri-Tech Centers" that provide internet access, training, and digital services to farmers in remote areas.
- Establish Integrated Farmer Registry linked with Gov e-ID and land records.
- Launch Mobile App, Call Center, and Mobile Units for farmer facilitation and outreach.
- Enable Digital Farmer Registration, Crop Profiling, and Demographic Data Collection.
- Integrate Bank Info and Land Records for targeted, transparent subsidy management.
- Implement Kisan Card (Khyber Pass Integrated) & Farmer Info System for unified digital farmer identity and services.
- Deploy Land Record Information System for ownership validation and transparency.
- Digitize Irrigation Assessment and Girdwari System for real-time crop monitoring.
- Automate Subsidy Disbursement across seeds, tractors, fertilizers, and agri-inputs.
- Launch E-Portal for Digital Advisory & Credit Services for improved decision-making.
- Rollout Soil Information & Certification System for improved agricultural planning.
- Deploy Early Warning & Pest Monitoring System for proactive crop protection.
- Enable Data Analytics, Crop Forecasting, and Visualization Systems for predictive agriculture.

- Operationalize Field Assessment & Compliance Inspection Systems digitally.
- Automate Agriculture Supply Chain & Procurement Management end-to-end.
- Digitize Irrigation, Fertilizer Distribution, and Harvest Management Systems.
- Promote Market Engagement Platforms for real-time pricing and improved farmer income.
- Integrate Seed Certification System for traceability and authenticity.
- Integrate weather-driven advisory, AI-based irrigation planning, and climate-resilient cropping systems.
- Introduce Agri-FinTech & Microinsuranc, Enable access to weather-indexed crop insurance and AI-based credit scoring for smallholder farmers.
- Unify Redundant Systems, Merge irrigation, crop, and input digitization into a single Smart AgriOps Platform for streamlined operations.
- Expand Soil Intelligence Tools, Use AI-powered dashboards for soil health, nutrient mapping, and crop-soil matching.
- Leverage Blockchain for Traceability, Ensure seed authenticity, transparent subsidy disbursement, and product tracking from farm to market.
- Create a Farmer Feedback Loop, Integrate voice/SMS-based rating systems within agri-advisory apps for real-time service improvement.
- Launch Agri-Innovation Challenges, Support homegrown AgriTech startups through a challenge fund targeting climate adaptation, supply chain, and mechanization solutions.

Irrigation Department

- Smart irrigation, and climate forecasting. Digitize Irrigation Assessment and Girdwari System for real-time crop monitoring.
- Digitize Irrigation, Fertilizer Distribution, and Harvest Management Systems.
- GIS-based digitization of irrigation infrastructure and assets.
- Implementation of the E-Abyana digital system for streamlined Abyana (water charges) collection.
- Digital transformation of the Abyana assessment process.
- Digitize Irrigation, Fertilizer Distribution, and Harvest Management Systems.
- Full Automation of the Procurement System: Integrate with One Link for Call Deposit Receipt (CDR) verification and implementation of e-procurement system
- Crop Assessment via GIS and Remote Sensing: Utilize advanced geospatial technologies for accurate crop assessment to support transparent and efficient Abyana (water charges) levying on farmers.
- E-Warbandi System: Implement a digital scheduling system to ensure timely and equitable water distribution (Warbandi) to farmers.
- IOT based Telemetry Systems: Installation of telemetry systems across the eight canal systems in Khyber Pakhtunkhwa to enhance monitoring and operational efficiency.
- Enhancement of the Water Apportionment Accounting (WAA) Tool
- Development of AI-driven hydrological model for accurately estimating seasonal water availability in KP.

Auqaf, Hajj, Religious & Minority Affairs

- Launch an online pilgrim registration and tracking system.
- Develop a digital donations management platform.
- Provide virtual tours for religious sites.

Labour Department

- End to end Digitization Departmental Processes
- Financial automation of all (Transaction activities)
- e-labor inspection system
- Develop an online job portal for laborers.
- Create a digital worker database.
- Implement digital wage protection programs.
- Digital Platform for workers to easily access information on labor laws, benefits, and rights
- Case management and tracking system
- Record Management of Workers Welfare Board Scholarships, case tracking, online application submission, a digital payment system for grants and benefits.
- ESSI Smart Portal: A unified portal for benefit applications, e-verification, contribution records.
- Mobile App for Workers: For real-time claim updates, medical care access, and benefit awareness (multilingual: Urdu, Pashto, English).
- Digital Medical Board System: Scheduling, reporting, and appeals through online tools, including telemedicine where applicable.
- Geotagged Health Facility Directory: Mapping access to ESSI-affiliated hospitals with real-time service availability.

ADMINISTRATION

- Vehicle Management System and fleet management
- House alloatment and mapping system
- KP house booking and automation system
- Governement protocols management system, orders, notifications
- Develop a centralized case management system.
- Introduce AI-driven decision support tools.
- E-Cabinet Automation
- Asset Management System

ENERGY AND POWER

- Digital platform to monitor and evaluate the physical and financial progress of ongoing projects, including Hydropower, Solar, and Mini/Micro Hydropower (MHP) projects.
- Electronic Document Management System
- Energy sources and ultiization dashboard.
- Develop a real-time energy monitoring dashboard/complaints
- Introduce AI-based demand forecasting.

Establishment Department

- Documents E-Archiving System
- Revamping / Enhancing existing Machine Readable Service Card System
- Integrated HR management system.
- AI-based posting/transfer system
- Digitize service records and approvals.
- Enable biometric attendance tracking.
- E-PSB System
- KPIs Tracking System
- Integrated Inquiry's system
- Revamping Machine Readable Service Card System
- Employee Engagement Platform

Elementary and Secondary Education Department

- Integration of Digital Platforms Developed
- Real-time geospatial mapping of schools with infrastructure and enrollment overlays.
- Data-driven school planning and monitoring.
- Public reporting tool for school issues (e.g., facilities, teacher presence).
- Central dashboard for real-time KPIs of all schools.
- E-learning platform for KPEMA monitors on digital tools and data handling.

Finance Department

- Introduce an e-budgeting system.
- Implement digital payment solutions for government transactions.
- Develop AI-driven financial fraud detection tools.
- AI-driven Budget Dashboard (expenditure, allocation, spending patterns)
- SNE Automation system/NOC Management
- Grant-in Aid Approval and Automation System
- Open Budget Portal (Citizen Dashboard
- Debt & Liability Management Dashboard
- Digital Grants Transparency Tracker
- Chatbot for Financial Queries (query budgets, releases, and procedural guidance)

Food Department

- Food Supply Chain System
- Inspections of Food items
- Digital Demands and supply of wheat system
- AI-driven dashboard

Higher Education, Archives And Libraries Department

- Web-Based Online Registration System for Private Sector HEIs
- Unifed Campus Management Platform for colleges, universities covering Student Life Cycle, admission, fee, examinations etc.
- AI-Powered Historical Archives Assistant
- Colleges/University (ERP) and Learning Management System (LMS)
- Centralized Academic Record Repository (certificates, transcripts, degrees) linked with Khyber Pass and CNIC-based verification.
- Real-time dashboards analyzing faculty performance, student outcomes, course effectiveness, and academic resource optimization.
- Higher Education Research Data Repository
- Digital Accreditation and Quality Assurance Platform
- Online Faculty Evaluation and Professional Development Portal
- Unifed Admission systems for colleges and universities.
- Open-Source GovTech Labs - establish college/university labs to develop open-source tools for governance.
- Digital KP Student Ambassadors: Train students to mentor SMEs, women entrepreneurs, and rural communities on adopting Paymir, e-commerce platforms, and cybersecurity tools

Industries, Commerce, and Technical Education

- Digitalization of DG Industries and Commerce
- Develop an online business registration portal.
- Implement an e-commerce support program for SMEs.
- Create a digital export-import tracking system.
- Development of ERP for SIDB, inventory management.
- Development of artisan e-marketplaces to support the visibility and commercialization of traditional crafts and local products at national and international levels
- Student life Cycle Digitilization (End-to-End) of TEVTA/BTE/TTB
- GIS Mapping of SIE (Small Industry Estates), plot allotment, payments etc.
- Integrated Dashboard for Industries, and SMEs.

Law Department

- Integarted Case Management system
- Litigation Management and Reporting System (integrated with Courts)
- CPLA case management and digital payments
- AI-Powered Legal Research & Case Prediction
- AI-based attendance and performance tracking for District Attorneys

Information And Public Relations

- Development of an AI Agent for Efficient Knowledge Management, Record Keeping, and Analysis
- Launch digital media platforms for government communication.
- Utilize AI for sentiment analysis of public opinion.
- Implement a citizen engagement mobile application.
- AI-driving monitoring of Social Media platforms for countering propaganda and false narratives.
- AI-driven monitoring of TV channels and Newspapers
- Development of centralized reforms management system for real-time information regarding reforms initiatives and activities of the provincial government
- Establishing linkages of media monitoring system with all government departments through APIs to keep them informed about news regarding their respective sectors.
- Digital media content regulation for government departments to ensure unified and consistent narratives across all platforms
- Evolving centrally controlled content dissemination mechanism to link all public information officers across the province to share public welfare interventions from their respective pages/accounts and websites
- Training AI model for character-based story development and narrative building
- Transform public engagement in the field of education, health, tourism etc. in KP by shifting from storytelling to storyliving letting citizens experience history, governance, and culture firsthand using VR, AR, and Metaverse technologies.

Inter Provincial Coordination

- Website for KP Overseas Pakistani Commission
- Develop an integrated data-sharing platform between provinces.
- Create a centralized policy coordination system.
- Implement digital documentation for intergovernmental meetings.

Planning & Development

- Planning Toolkit (Digital platform covering concept paper, PC documents, progress, and outcome)
- Project HR Management System
- Litigation Management System
- Unavailability of Inventory / Stock Control System, Library Management Information System, Human Resource
- Deploy AI-driven urban planning tools.
- Implement digital project monitoring dashboards.
- Develop a centralized data hub for policy analysis.

Population Welfare

- Provincial Supply Chain Management System
- Launch a digital reproductive health awareness campaign.
- Develop an electronic health record (EHR) system.
- Learning Management System (LMS) (Admission + Examination etc.)
- Upgradation / Extension of Monitoring and Evaluation Android Application (M&NS APP)
- Implement AI-based population trend analysis.
- Public Health Engineering
- Use IoT for real-time water quality monitoring.
- Develop a smart water management system.
- Implement AI-based predictive maintenance for water supply infrastructure.

Relief, Rehabilitation And Settlement

- Develop a disaster management GIS mapping system.
- Implement real-time emergency response tracking.
- Create a digital platform for relief fund distribution.

Social Welfare and Woman Empowerment

- Development of an ERP System for Social Welfare Department and its Attached Formations
- Online registration of Non Profit Organizations (Renewal)

Communication & Works Department

- Implement digital project management software.
- Use Geographic Information System (GIS) for project tracking.
- Develop a digital tendering and procurement system.
- Road Asset Management System (RAMS) – A digital system for tracking inventory, condition, and lifecycle of road assets.
- Bridge Health Index Dashboard – Real-time monitoring of bridge conditions and safety metrics.
- Green Infrastructure Compliance Scorecard – Tool to evaluate contractor performance against environmental benchmarks.
- Drone and AI-Based Site Inspection App – Mobile application for field engineers to upload drone data and site reports.
- Smart Construction Permit Monitoring System – Real-time compliance tracking using AI-enabled models
- Digital Project Performance Tracker – A central dashboard to track project progress, quality ratings, delays, and budget performance
- Crowdsourced Maintenance Reporting App – A mobile app allowing citizens to report road issues (e.g., potholes, damaged signage) tagged with geolocation and photos
- Contractor Rating and Digital Feedback System – A transparent platform where contractor performance is rated based on digital KPIs, citizen feedback, and audit trails.

- Real-Time Road Usage & Load Monitoring System – AI-integrated sensors to monitor road usage and identify potential wear-and-tear hotspots proactively
- Real-Time Road Usage & Load Monitoring System – AI-integrated sensors to monitor road usage and identify potential wear-and-tear hotspots proactively

Culture, Tourism, & Archaeology

- Create a virtual tourism platform showcasing historical sites.
- Digitize records of cultural heritage.
- Use AI for predictive maintenance of tourist sites.
- An integrated Digital Heritage Portal - one-stop online resource featuring virtual tours, collection databases, site information, research archives, interactive maps, and e-ticketing.
- AI-driven toolkit for analyzing satellite/drone imagery to identify potential archaelogical sites, monitoring existing sites, predictive modelling for site degradation, and assisting artifact analysis
- Digital Platform/App for tracking artifact provenance to enhance authenticity verification (QR-based)
- Augmented Reality based interactive guides for visitors at sites and museums.
- A crowdsourced heritage mapping platform to allow citizens to contribute information (with expert verification)

Housing Department

- Use GIS-based urban planning tools.
- Implement an online housing application system.
- Develop a digital land record management system.

Livestock, Fisheries & Cooperative

- Implement IoT-based smart farming solutions.
- Develop a digital disease tracking system for livestock.
- Introduce an online fisheries and cooperatives management system.
- Digital Tracking System in Farm with features i.e. disease record, medication record, vaccination record, milk production record and owners record

Enviornment, wildlife and Forest Department

- Hunting License / NOCs
- Biodiversity mapping systems and ecosystem health analytics platforms.
- Smart forest asset inventory and geotagging tools for sustainable management.
- Issuance of Permit for transportation of Timber
- EPA NOCs approval, Renwal and Digital Payments
- EcoWatch KP: An AI- and IoT-enabled platform to monitor illegal hunting, deforestation, and wildlife trafficking in real time using motion sensors, thermal cameras, and GPS tagging.
- GreenRanger App: A mobile app for field officers to log sightings, GPS coordinates, habitat data, and incidents—syncing to a central biodiversity database accessible across departments.
- Wildlife Citizen Science Portal: Engage communities and schools through a gamified platform where users upload images or sounds from the wild for species identification using AI models.
- Digitized Permit and Licensing System: Automate processes for wildlife-related permits (hunting, research, rehabilitation) with integrated biometric verification and transparent tracking, and digital payments.
- Environmental Intelligence System (EIS): Integration of air quality, noise pollution, and industrial emissions data into a central environmental intelligence platform.
- Digitization of Environmental Approvals Workflow: Full automation of the EIA/IEE/GEA application, screening, review, approval, and post-approval compliance process.
- Smart Enforcement System: Integration of environmental field inspections with mobile inspection apps, QR-based verification of approvals, and live feed from CEMS.
- Open Environmental Data Portal: Public dashboard for transparency in pollution levels, compliant industries, and enforcement actions.

Zakat & Ushr Department

- Develop an online zakat collection and disbursement system.
- Implement AI-driven beneficiary verification.
- Create a financial inclusion program for underprivileged citizens.
- AI-Based Assistive Tech Matching System: Match PWDs with suitable devices/services based on type and severity of disability.
- Disability Rights Dashboard: Real-time monitoring of accessibility compliance in public infrastructure.
- Digital Disability Wallet: Preloaded monthly allowances, subsidies, and access to partner services
- AI Fraud Detection Engine: Analyze disbursement data to flag anomalies
- AI-driven Zakat eligibility scoring and Ushr dashboards
- AI-driven Social eligibility scoring dashboards
- Fund utilization tracking for Social Welfare & Zakat
- Operationalize AI-based Digital IEPs, gesture-based apps, and sign language chatbots

- AI-facilitated legal aid and protection registry
- Provincial Socio-Economic Digital Registry enables data-driven policymaking with dynamic updates from across sectors.

Digital Experience Hubs / Governance Experience (GX) & Government Innovation Lab

Digital Experience Hubs/Governance Experience (GX) & Government Innovation Lab

Objective: Establish immersive, citizen-centric Digital Experience Hubs through unified government portals, mobile apps, self-service kiosks, and AR/VR-powered interfaces to reimagine public service delivery. Integrate behavioral science frameworks to analyze citizen behavior, service friction points, and decision-making patterns, enabling evidence-based redesign of services and nudging strategies to improve adoption, satisfaction, and compliance. The Government Innovation Lab will act as a catalyst for rapid experimentation, co-creation with citizens, testing of GovTech prototypes, and scaling of transformative digital solutions across departments.

Interventions

- Digital Experience Hubs - Establish citizen-facing hubs equipped with AR/VR kiosks, mobile apps, and digital screens for immersive service delivery.
- Unified Citizen Service Portals (Dastak) - Launch centralized portals integrating all public services with a seamless user interface and multilingual accessibility.
- GovTech Innovation Lab - Create a dedicated lab for agile service design, digital solution prototyping, and co-creation with citizens and startups.
- Behavioral Science Unit - Set up behavioral insight units to apply behavioral economics in redesigning services, policies, and citizen engagement models.
- AI-Enabled Feedback Loops - Integrate real-time feedback systems powered by AI to capture, analyze, and respond to citizen sentiments and experiences.
- Service Friction Analytics - Implement tools to analyze pain points and improve the ease of access in public service delivery using data insights.
- Government Service Satisfaction Benchmarking - Develop KPIs and indices to benchmark citizen satisfaction across departments and improve service delivery standards.
- Voice of Citizens Platform - Establish digital platforms to continuously gather citizen feedback, identify frustrations, and inform policy improvements.
- Capability Maturity Assessments - Conduct digital capability evaluations across departments using structured maturity indexes and readiness models.
- Participatory Governance Framework - Foster citizen engagement through open consultations, digital participatory platforms, and co-creation mechanisms.
- Edge of Government – Museum of the Future - Develop an innovation showcase to exhibit futuristic governance solutions using AI, IoT, and immersive technologies.

Workstream 1: Citizen-Centric Service Delivery

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Digital Experience Hubs	Q2 2026–Q4 2028	KPITB	Deploy AR/VR kiosks, mobile apps, and digital screens	Hubs operational	Citizen engagement rate
Unified Citizen Service Portals (Dastak)	Q1 2026–Q3 2028	KPITB	Integrate services into a single multilingual portal	Services accessible	Monthly active users
Edge of Government – Museum of the Future	Q3 2026–Q4 2027	KPITB Innovation Lab	Showcase AI, IoT, and immersive governance solutions	Interactive innovation exhibit	Annual visitors

Workstream 2: Innovation & Co-Creation

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
GovTech Innovation Lab	Q3 2026–Q4 2026	KPITB Innovation Lab	Prototype digital solutions with startups/citizens	Piloted innovations	Adoption rate
Behavioral Science Unit	Q2 2027–Q1 2030	KPITB BSU	Apply behavioral economics to service redesign	Redesigned policies	Citizen effort reduction
Participatory Governance Framework	Q3 2026–Q4 2027	KPITB + Finance + P&D	Launch digital co-creation platforms	Citizen inputs/year	Policy changes influenced

Workstream 3: Governance & Capacity Building

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Service Satisfaction Benchmarking	Q1 2026–Q4 2030	PMRU	Develop satisfaction KPIs for departments	Annual benchmarking report	YoY satisfaction improvement
Capability Maturity Assessments	Q2 2026–Q3 2030	KPITB	Evaluate digital readiness using maturity models	Departmental maturity scores	Departments assessed

Data Governance - Dashboard / Data Analysis

Data Governance – Dashboard / Data Analytics

Objective: Ensure standardized, secure, ethical, and accountable management of data across all government departments and entities. Aims to institutionalize data stewardship practices, foster data accountability across departments, and enable trusted data sharing and integration for informed decision-making.

Interventions

- Data Governance Strategy - Establish a comprehensive policy and framework for data ownership, stewardship, quality, access, privacy, compliance, and ethical use of data across all government entities.
- Data Archival and Disposal Framework – Draft framework containing retention schedules, archival procedures, and secure disposal mechanisms.
- Master Dashboard (Unified Government View) - Develop an integrated, real-time dashboard for Chief Minister, Chief Secretary, and Key Officials providing unified KPIs, alerts, trends, and analytics across departments.
- Data Integration Framework - Create standardized protocols and middleware for seamless integration of structured and unstructured data from diverse government systems ensuring interoperability.
- Data Analytics and Big Data Infrastructure - Establish a Data Analytics and Big Data Unit (DX Unit) equipped with AI/ML capabilities for predictive modeling, scenario analysis, policy forecasting, and evidence-based planning.
- Open Data Integration - Enable integration with Open Data Platforms to promote transparency, citizen engagement, and innovation through anonymized datasets and public APIs.
- OpenAPI Marketplace - Create a centralized OpenAPI Marketplace for secure, standardized, and scalable data sharing between government entities, private sector, startups, and researchers.

Workstream 1: Governance & Compliance

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Data Governance Strategy	Q2 2026–Q4 2027	KPITB, PMRU	Define ownership, privacy, and ethical guidelines	Approved governance framework	Compliance of data governance indicators
Data Archival and Disposal Framework	Q2 2026–Q1 2028	Establishment Department, ST&IT	Design retention schedules, secure disposal protocols	Archival compliance system	Data archiving

Workstream 2: Executive Decision-Making

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Master Dashboard (Unified Government View)	Q3 2026–Q4 2027	KPITB + CMPO + PMRU	Integrate KPIs, alerts, and trends	Real-time dashboard for leadership	User adoption by officials

Workstream 3: Data Infrastructure

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Data Integration Framework	Q3 2026–Q2 2027	KPITB	Develop protocols for structured/unstructured data	Unified middleware layer	System interoperability

Workstream 4: Advanced Analytics

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Data Analytics and Big Data Infrastructure	Q4 2026–Q4 2030	Government DX Unit	Deploy AI/ML tools, predictive models	Operational analytics unit	Predictive models deployed

Workstream 5: Open Data & Collaboration

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Open Data Integration	Q3 2026–Q1 2029	KPITB	Publish anonymized datasets via APIs	Public Open Data Platform	Datasets shared
OpenAPI Marketplace	Q2 2026–Q4 2030	KPITB Innovation Lab	Build secure API marketplace	Centralized API hub	APIs published

Cybersecurity & Data Protection

Cybersecurity & Data Protection

Objective: To build a secure, resilient, and trusted digital government ecosystem by safeguarding digital assets, infrastructure, data, and services from cyber threats.

Interventions

- KP Information Protection Framework - Develop and enforce a framework for the classification, handling, and protection of government data and digital infrastructure.
- Cyber Governance, Risk & Compliance (GRC) Platform - Implement a centralized system to monitor cyber compliance, conduct risk assessments, and ensure regulatory adherence.
- Zero Trust Security Architecture - Introduce identity-based access control, continuous verification, and network segmentation across departments.
- Cyber Resilience Framework - Build resilience through continuity planning, simulation exercises, recovery protocols, and multi-layered security architecture.
- Government Digital Assets Protection Guidelines - Define technical and policy-based security guidelines aligned with ISO 27001, NIST, and national standards.
- Cyber Threat Intelligence & CERT Strengthening - Enhance the capabilities of KP-CERT with real-time threat feeds, red teaming, SIEM/SOAR solutions, and inter-agency coordination.
- Crisis Management & Incident Response Strategy - Deploy structured playbooks, crisis communication protocols, and a unified incident response platform for rapid action.
- Cyber Security Policy Compliance Toolkit - Create toolkits for departments to self-assess and monitor adherence to security controls and standards.
- Cybersecurity Training & Awareness Program - Institutionalize mandatory cyber hygiene training, simulations, and certification programs for government employees.
- Public Sector Security Infrastructure Enhancement - Upgrade firewall systems, endpoint protection, secure VPNs, DLP, IDS/IPS, and authentication mechanisms.
- Integrated Incident Reporting & Monitoring Portal - Launch a unified platform for incident logging, vulnerability scanning, assessment, and follow-up actions.
- Data Loss Prevention & Insider Threat Monitoring - Implement proactive tools and protocols to detect anomalies, insider risks, and prevent data exfiltration.
- Cybersecurity Maturity Index - Assess and benchmark the cybersecurity maturity of departments to guide digital security investments.
- Secure Digital Identity and Authentication Systems - Integrate multi-factor authentication and biometric verification for access to digital government platforms.
- Policy for Critical Information Infrastructure (CII) Protection - Identify and secure high-value digital assets such as e-services portals, citizen databases, and treasury systems.

Digital Literacy for Government Officials

Digital Literacy for Government Officials

Objective : Equipping government officers, executives, and policymakers with essential digital skills, leadership competencies, and transformation readiness.

Interventions

- School of eGovernance - Establish a dedicated School of eGovernance for structured, institutionalized training on digital governance, inclusion, and innovation.
- Digital Competence Framework for Governmen - Define a standard digital skillset matrix aligned with global frameworks to map skill progression for all government roles.
- Capacity Development Programs - Conduct regular training courses, executive programs, workshops, bootcamps, summits, and conferences to build digital capability at scale.
- Self-Paced Digital Learning Platforms (DLX) - Launch e-courses and self-paced online learning modules for continuous skilling and upskilling of public officials.
- Digital Leadership for Executives & Policymakers - Design specialized programs on digital change management, leadership in digital age, and strategic innovation for top-tier government leadership.
- KP eGovpedia – Knowledge Exchange Hub - Establish a digital hub to share knowledge, case studies, success stories, and global best practices in digital governance.
- Awareness on Digital Transformation - Develop podcasts, whitepapers, webinars, dashboards, and communication toolkits to promote awareness and adoption of digital initiatives.
- International IT Certification Program for Government IT Workforce - Launch globally recognized certification programs to professionally upskill government IT personnel and align them with international digital competency standards.
- Government Civic Innovation Programs - Foster civic innovation through fellowships, challenge funds, digital innovation scholarships, and hackathons for public sector innovation.
- Digital Mentorship and Peer-Learning Networks - Build mentorship programs and peer-exchange cohorts to promote collaborative learning across departments.
- Digital Literacy Index for Government Departments - Establish a benchmarking index to assess digital maturity and literacy levels across departments for targeted capacity building.
- Global Perception & Visibility – Global Publications & Whitepapers - Publish strategic whitepapers, blogs, and thought pieces showcasing digital governance success stories and innovations.
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Workstream 1: Institutional Training & Capacity Building

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Capacity Development Programs	Q2 2026–Q4 2027	KPITB	Conduct workshops, bootcamps	Training sessions	Participation rate
Self-Paced Digital Learning Platforms (DLX)	Q2 2026–Q2 2026	KPITB	Launch e-courses, certifications	Online modules	Completion rate

Workstream 2: Competency Assessment & Leadership

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Digital Competence Framework	Q2 2026–Q4 2026	ST&IT, KPITB	Align skills with global standards	Skill matrix for roles	Roles mapped
Digital Leadership Programs	Q2 2026 –Q4 2030	KPITB	Train executives on digital strategy	Leaders certified	Innovation projects initiated
Digital Literacy Index	Q3 2026–Q4 2030	KPITB	Benchmark departmental maturity	Annual literacy scores	Departments assessed

Workstream 3: Knowledge Sharing & Innovation

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
KP eGovpedia – Knowledge Hub	Q1 2026–Q4 2030	KPITB	Curate case studies, best practices	Digital Resources	Monthly users
Civic Innovation Programs	Q2 2026–Q4 2027	KPITB	Host hackathons, fellowships	Innovation projects	Solutions scaled
Digital Mentorship Networks	Q3 2026–Q2 2030	KPITB	Pair mentors with mentees	Mentorship pairs	Satisfaction rate

Workstream 4: Global Engagement & Awareness

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
International IT Certifications	Q3 2026–Q4 2030	KPITB	Partner with global certifiers	Certified IT staff	Certification pass rate
Global eGov Conferences	Q3 2026–Q4 2030	KPITB	Host/participate in global summits	Annual events	Global attendees
Digital Storytelling & Impact Blogs	Q2 2026–Q4 2030	KPITB	Publish citizen-centric success stories	Case studies	Story telling and blogs

Digital Society, Rights & Well-being

- International eGovernment Conferences & Summits - Host and participate in global digital government conferences to exchange ideas, promote local innovations, and position KP globally.
- Strategic Events & Forums - Organize high-impact events, digital showcases, and panel discussions on emerging technologies and digital policy innovation.
- TED Talks & Expert Keynotes - Encourage leadership participation in global TED-style talks and expert keynotes to highlight transformative initiatives and governance innovation.
- Digital Storytelling & Impact Blogs - Develop impact-driven digital storytelling blogs and case studies to narrate citizen-centric digital success stories.

Digital Society, Rights & Well-being

Objective: Empowering citizens through inclusive digital ecosystems that uphold digital rights, promote civic engagement, and foster digital well-being.

Interventions

- Digital Rights & Citizen Engagement - Promote online freedom, privacy protection, and open governance through citizen-centric digital platforms.
- Digital Civic Engagement Platforms - Deploy platforms and mobile applications that facilitate citizen participation, public consultations, and crowdsourced policy inputs.
- Cyber Ethics & Digital Literacy for Society - Launch programs to promote ethical online behavior, counter misinformation, and improve digital hygiene among citizens.
- Digital Inclusivity Framework - Ensure marginalized communities, women, and persons with disabilities are included in the digital transformation journey through targeted initiatives and accessibility standards.
- Well-being & Mindful Tech Use Campaigns - Initiate awareness programs on digital wellness, screen time balance, and mental health in the digital age.
- Youth Digital Volunteer Network - Establish a youth-driven digital volunteer program to support social innovation, awareness campaigns, and community tech enablement.
- AI for Social Good - Promote use of ethical AI for community development, accessibility tools, disability inclusion, and social justice.

Workstream 1: Digital Rights & Civic Participation

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Digital Rights & Citizen Engagement	Q1 2026–Q4 2030	KPITB	Launch privacy protection frameworks and open governance platforms	Citizen-centric digital rights charter	Citizen awareness
Digital Civic Engagement Platforms	Q2 2026–Q4 2030	KPITB	Deploy apps for public consultations, petitions, and crowdsourced policy inputs	Participatory platforms	Monthly active users

Workstream 2: Ethics, Literacy & Inclusivity

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Cyber Ethics & Digital Literacy	Q3 2026–Q4 2028	KPITB	Train citizens on misinformation detection and digital hygiene	Citizens trained	Reduction in misinformation reports
Digital Inclusivity Framework	Q1 2026–Q2 2028	Social Welfare Dept + KPITB	Implement accessibility standards for marginalized groups	Inclusive digital policy	Compliance by service providers

Workstream 3: Well-being & Youth Engagement

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Well-being & Mindful Tech Use	Q2 2026–Q4 2030	KPITB	Run campaigns on screen time balance and mental health	National wellness guidelines	Improvement in citizen well-being surveys
Youth Digital Volunteer Network	Q1 2026–Q4 2030	KPITB	Mobilize volunteers for tech-enabled community projects	Youth volunteers	Social innovation projects

Workstream 4: AI for Social Impact

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
AI for Social Good	Q3 2026–Q4 2030	KP AI Ethics Board	Develop AI tools for disability inclusion and social justice	AI-driven solutions	Adoption in targeted communities

Digital Sustainability

Digital Sustainability

Objective: To foster a climate-resilient, environmentally sustainable, and low-carbon digital ecosystem in Khyber Pakhtunkhwa by embedding green IT principles, and sustainable infrastructure practices, across the digital transformation landscape.

Eco-Friendly Digital Ecosystem

Interventions

- Green IT & Climate-Smart Technology - Energy-Efficient Data Centers (Green DCs) – Establishing Tier-3/Tier-4 green-certified data centers with renewable energy integration, liquid cooling systems, and AI-powered energy optimization.
- Low-Emission Digital Devices Program – Promoting energy-efficient devices in schools, offices, and community centers, including device labelling and procurement incentive schemes.
- AI for Environmental Monitoring – Using IoT sensors and AI platforms for real-time tracking of carbon emissions, air and water quality, waste disposal, and natural resource utilization.
- Sustainable Building Certifications for Tech Infrastructure – Ensuring green building certifications for new ICT hubs/IT parks/STZs and digital learning centers.
- Green Startup Ecosystem Development – Supporting eco-tech entrepreneurs, agritech startups, clean energy innovators, and circular economy enablers through green grants, incubation, and market access.
- Green Digital Literacy Campaigns – Launching awareness programs on green computing, e-waste recycling, digital minimalism, and sustainable device use.
- Carbon Accounting Dashboard for Digital Services – Establishing AI-powered dashboards to monitor carbon footprint of digital platforms, service centers, and infrastructure.
- Green Digital Skills Curriculum – Embedding green tech, sustainability in digital innovation, and environmental responsibility into technical and vocational training programs
- Provincial Carbon Credit Registry - Establish a Digital Carbon Credit Registry System to document, monitor, and validate carbon offsets by public and private sector initiatives.
- Develop AI-powered dashboards to track real-time greenhouse gas (GHG) emissions from digital infrastructure, public buildings, and service delivery operations.

Workstream 1: Green IT Infrastructure

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Green Data Centers	Q1 2027–Q4 2030	Energy Dept + KPITB + ST&IT	Deploy renewable-powered Tier-3/4 data centers	Certified Green DCs	Energy savings
Low-Emission Devices	Q2 2026–Q4 2030	KPITB + ST&IT	Incentivize energy-efficient device procurement	Labeled devices	Emission reduction
Sustainable Building Certifications	Q3 2026–Q2 2030	KPITB + ST&IT + C&W	Certify ICT hubs/parks as green buildings	LEED-certified hubs	Compliance

Workstream 2: Environmental Monitoring & AI

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
AI for Environmental Monitoring	Q1 2026–Q4 2030	Environment Dept	Deploy IoT sensors for air/water quality	Real-time monitoring platform	Data accuracy
Carbon Accounting Dashboard	Q2 2026–Q4 2030	Data Team	Develop AI-powered carbon tracking	Live emissions dashboard	Digital services monitored
GHG Emissions Dashboard	Q3 2026–Q1 2030	Climate Authority	Track real-time emissions from infrastructure	Provincial GHG tracker	Emission reduction

Workstream 3: Sustainability Education & Recognition

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Green Digital Literacy	Q1 2026–Q4 2030	Education Dept + KPITB	Train students on green initiatives	Awareness	Train students on green initiatives
Green Office Certification	Q3 2026–Q2 2030	KPITB	Evaluate offices on energy efficiency	Certified offices	Compliance

Sustainability Digital Growth

- Reward high-performing departments (Reduction of Paper) with Green Governance Awards and introduce recognition systems for eco-efficient behavior.
- Launch a Green Government Office Certification Program, evaluating departments based on paper reduction, energy efficiency, digital adoption, and recycling compliance.

Sustainable Digital Growth

Objective: To promote environmentally sustainable digital transformation by adopting green ICT practices, fostering low-carbon digital innovation, and enabling businesses to contribute to climate goals through eco-friendly technologies, carbon offset systems, and responsible digital infrastructure.

Inteventions

- KP Green Digital Transformation Index – Introduce an index to measure the environmental performance of digital companies and public institutions, ranking them on energy use, emissions, and sustainability practices.
- Promotion of Local Green IT Hardware Manufacturing – Offer incentives for production of eco-certified IT devices and accessories in KP, reducing import reliance and carbon transport footprint (through KP digital complexes via STZA).
- Green ICT Procurement Policy for Businesses – Introduce policy mandates that encourage public and private sector entities to procure energy-efficient ICT hardware and sustainable digital tools.
- Sustainable Data Centers for Private Sector Hosting – Promote the development of green, energy-efficient data centers with renewable energy integration, modular cooling systems, and carbon footprint tracking.
- Carbon Credit Integration in Digital Businesses – Enable tech companies and startups to participate in carbon trading by embedding carbon credit calculation and reporting mechanisms in their platforms.
- Digital Sustainability Reporting Framework – Establish a standardized sustainability reporting mechanism for digital enterprises to monitor and disclose environmental impact.
- Digital Innovation for Climate-Tech and Eco-Economy – Encourage startups and researchers to develop solutions in renewable energy management, carbon capture technology, smart waste management, and biodiversity monitoring through IoT and AI.
- Paperless Business Certification and Filing Processes – Transition all business registrations, renewals, licensing, and compliance reporting to secure digital platforms to reduce paper usage and bureaucratic delays.
- Green Coding & Sustainable Software Development Practices – Promote eco-efficient coding standards, energy-optimized application development, and serverless computing techniques in software design.

- Public-Private Partnerships for Sustainable Digital Infrastructure – Encourage joint development of low-impact digital infrastructure projects such as solar-powered ICT hubs, and green co-working spaces.
- Eco-Friendly Digital Education Content & Platforms – Develop awareness modules and certification programs on digital sustainability, green economy skills, and climate-resilient technologies for entrepreneurs and students.
- Carbon-Neutral Digital Events & Exhibitions – Implement digital-first, carbon-offset events and conferences for the ICT industry, supported by real-time impact tracking and sustainability scoring.

Workstream 1: Measurement & Reporting

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Green Digital Index	Q4 2026–Q4 2030	KPITB	Rank institutions on sustainability	Annual index report	Institutions assessed
Sustainability Reporting	Q4 2026–Q4 2030	KPITB	Standardize ESG disclosures for tech firms	Reporting framework	Compliance

Workstream 2: Local Manufacturing & Procurement

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Green IT Manufacturing	Q3 2026–Q4 2030	KPITB	Incentivize eco-certified hardware production	Local factories	Import reduction
Green Procurement Policy	Q3 2026–Q4 2026	KPITB	Mandate energy-efficient ICT procurement	Policy document	Adoption of digital green initiatives

Workstream 3: Sustainable Business Practices

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Green Coding Practices	Q2 2026–Q4 2027	KPITB	Train developers in energy-efficient coding	Eco-coding guidelines	Energy savings
Carbon-Neutral Events	Q3 2025–Q1 2027	KPITB	Host digital-first, offset conferences	Carbon-neutral events	Offset compliance

Workstream 4: Climate-Tech Innovation

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Climate-Tech Solutions	Q1 2026–Q4 2028	KPITB Innovation Lab	Support AI/IoT for waste management	Pilot projects	Adoption rate
Carbon Credit Integration	Q2 2026–Q4 2027	KPITB + CMPO	Embed carbon trading in tech platforms	Trading mechanism	Credit value

Strategic Pillars: Digital Sustainability

Digital Trust & Responsibility

Ethical AI and Technology & Digital Rights Accountability

Open Governance & Trust Frameworks

Digital Trust & Responsibility

Digital Trust & Responsibility

Objective: To establish a secure, transparent, ethical, and accountable digital environment, ensuring data protection, responsible use of AI, and public confidence in digital systems.

Cybersecurity & Data Protection

- Provincial Cybersecurity & Data Protection Framework - Enacting a robust framework for data privacy, digital rights, secure data processing, and compliance requirements for digital systems.
- Cybersecurity Governance Framework - Implementing an enterprise-wide cybersecurity architecture based on NIST CSF and ISO 27001, focusing on Identify, Protect, Detect, Respond, and Recover functions.
- Cyber Governance & Resilience Framework - Formulating a comprehensive Cyber GRC (Governance, Risk & Compliance) strategy, with policies for risk mapping, control mechanisms, and institutional cyber maturity scaling.
- Implementation of Cyber GRC Platforms (Governance, Risk, Compliance) - Deployment of automated cyber GRC systems in government institutions to ensure real-time monitoring of risks, vulnerabilities, and regulatory compliance status.
- Classification of Digital Assets - Developing a framework to categorize digital assets by sensitivity, criticality, and exposure, ensuring prioritized protection of mission-critical systems.
- Digital Risk Assessment & Compliance Audits - Periodic cyber risk profiling, vulnerability scans, and red-team security assessments across departments with a central audit compliance tracker.
- Secure Cloud Data Architecture - Implementing end-to-end encryption, identity access management, privileged user control, and secure data residency policies in compliance with cloud standards
- Government CERT (Computer Emergency Response Team) - Establishing a Provincial CERT for incident response, threat intelligence sharing, phishing mitigation, and early warning systems.
- Information Security Audit Registry - Maintaining a centralized audit registry and maturity scoring system for all government entities to measure and report on cyber hygiene practices.
- Establishment of RED Cyber Team - Launching a specialized RED Cyber Team (ethical hackers & penetration testers) to simulate advanced persistent threats (APT), test system resilience, and proactively identify vulnerabilities.

- Cyber Awareness & Social Engineering Simulations - Regular cyber awareness campaigns, phishing simulations, and social engineering resistance drills to build a security-first culture across all levels of government.
- AI-Powered Threat Intelligence Platforms - Deploying AI and machine learning tools for behavior-based anomaly detection, threat hunting, and predictive breach analysis.
- Zero Trust Security Architecture (ZTNA) - Adopting Zero Trust principles (never trust, always verify) across identity, devices, networks, and applications to ensure perimeter-less security.
- Cybersecurity Capacity Building & Certification Program - Launching Certified Government Cybersecurity Officer Program (CGCOP) and partnerships with global cyber security organizations to train professionals in cybersecurity governance.
- Public Sector Security Operations Center (GovSOC) - Establishing a dedicated, AI-integrated Security Operations Center to monitor and respond to cyber threats in real-time across the provincial network.
- Cybersecurity Simulation Center: Build a lab for real-time cyberattack simulations (e.g., ransomware, phishing) to train government IT staff and students..

Workstream 1: Legal & Governance Frameworks

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Provincial Cybersecurity Framework	Q1 2026–Q4 2027	KPITB, ST&IT	Enact data privacy and digital rights laws	Approved legal framework	Compliance
Cybersecurity Governance Framework	Q2 2026–Q4 2027	KPITB	Align with NIST CSF/ISO 27001	Enterprise-wide security architecture	IS controls implemented
Cyber GRC Platforms	Q3 2026–Q2 2027	KPITB	Deploy automated risk monitoring tools	Real-time compliance dashboard	Risk reduction

Workstream 2: Threat Detection & Response

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Provincial CERT	Q1 2026–Q4 2029	KPITB CERT Team	Establish incident response protocols	Operational CERT	Incidents resolved in <24hrs
AI-Powered Threat Intelligence	Q2 2026–Q4 2027	KPITB CERT Team	Deploy anomaly detection tools	Predictive threat analytics	50% fewer breaches
Zero Trust Architecture	Q3 2026–Q1 2027	KPITB CERT Team	Implement "never trust, always verify"	Perimeter-less security	100% systems covered

Workstream 3: Capacity Building & Audits

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Cyber Awareness Simulations	Q1 2026–Q4 2026	KPITB CERT Team	Conduct phishing drills	Security-first culture	Reduced phishing success
Cybersecurity Certification Program	Q2 2026–Q1 2030	KPITB CERT Team	Train certified officers	Certified professionals	Workforce skilled
Digital Risk Audits	Q3 2026–Q4 2030	KPITB CERT Team	Perform vulnerability scans	Central audit tracker	Departments audited

Ethical AI and Technology & Digital Rights

Ethical AI and Technology & Digital Rights

Objective: To ensure the ethical and responsible development, deployment, and use of Digital & AI systems, while safeguarding citizen digital rights, privacy, equity, and trust in digital public services.

Interventions

- Formulating a Provincial Responsible AI Framework, covering fairness, transparency, inclusivity, human oversight, and non-discrimination.
- Mandating transparent, interpretable, and auditable AI & Technology decision-making models, especially for citizen-facing services (e.g., welfare distribution, recruitment, land records etc.).
- Enforcing Ethics-by-Design and Accountability-by-Design principles in public AI & Digital systems.
- Institutionalizing an AI Ethics Impact Assessment (AIEIA) protocol for all major government AI deployments.
- Integrating complaint category in existing complaints portals to address algorithmic bias, discrimination, or digital rights violations.
- Digital Rights Literacy & Inclusion Programs - Launching awareness campaigns and training programs on data ownership, privacy rights, consent protocols, and secure digital participation.
- Introducing Digital Rights Modules in School & University Curricula, targeting youth understanding of digital dignity and information self-determination.
- Collaborating with education departments and tech platforms to promote digital wellbeing, online ethics, and healthy screen time practices.
- Encouraging GovTech solution providers to comply with AI ethics benchmarks and undergo periodic audits.
- Digital Consent Mechanism - Implementing Citizen-Controlled Consent Management Systems for data sharing across government departments, allowing users to manage access preferences and configurations.
- Ensuring data localization and digital sovereignty, especially for sensitive citizen information.
- Ethics Curriculum for Public Officials & AI Practitioners - Institutionalizing Ethical AI and Data Governance Training in civil service capacity-building programs, especially for departments using automated or algorithmic systems.

Accountability, Open Governance & Trust Frameworks

Accountability, Open Governance & Trust Frameworks

Objective: To build a transparent, participatory, and citizen-trusted digital governance ecosystem through open data standards, digital trust mechanisms, consent frameworks, and grievance redressal systems, aligned with Open Government Partnership (OGP) principles and the Khyber Pakhtunkhwa Open Government Data Strategy 2022. This pillar ensures that government digital services are ethical, reliable, auditable, and citizen-centric.

Interventions

- Open Data Governance Policy - Aligning with the Khyber Pakhtunkhwa Open Government Data Strategy, promoting open access, reuse of public data, and cross-sectoral transparency.
- Standardizing data disclosure protocols, metadata quality, open API integration, and interoperability across government departments.
- Upgradation of KP Open Data Portal - Enhancing the existing KP Open Data Portal with new datasets from health, education, transport, agriculture, environment, and fiscal sectors.
- Introducing interactive dashboards, real-time visualizations, AI-based data insights, and download-ready data sets.
- Promoting open data literacy workshops, civic tech hackathons, and startup access to government datasets.
- Digital Trust Framework for Public Platforms - Developing a Digital Trust Index to assess and rate government platforms based on security, privacy compliance, uptime, service quality, and user trust metrics.
- Establishing a Digital Transparency Monitoring Unit (DTMU) to oversee digital governance performance and citizen trust indicators.
- Digital Ethics Curriculum & Public Sector Training - Introducing mandatory digital ethics, data protection, and cybersecurity modules in public servant training programs.
- Open Budget & Fiscal Transparency Platforms - Publishing departmental budgets, development expenditure, procurement details, and fiscal KPIs via interactive open budget dashboards.

Workstream 1: AI Governance & Ethics

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Responsible AI Framework	Q1 2026 –Q4 2026	KPITB Policy Wing	Define fairness, transparency principles	Approved AI ethics policy	AI systems compliant
AI Ethics Impact Assessments	Q2 2026–Q4 2027	KPITB Ethics Board	Evaluate AI deployments	AIEIA protocol	Assessments/year
Digital Consent Management	Q3 2025–Q2 2027	KPITB	Launch citizen-controlled consent systems	Consent management platform	Citizen opt-in rate

Workstream 2: Rights & Literacy

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Digital Rights Literacy	Q1 2026–Q4 2027	Education Dept + KPITB	Train citizens on privacy rights	Citizens educated	Awareness rate
School Curriculum Integration	Q2 2026–Q4 2027	Education Dept + KPITB	Add digital dignity modules	Updated curricula	Schools compliant
Ethics Training for Officials	Q3 2026–Q1 2027	Education Dept + KPITB	Train AI practitioners	Officials trained	Course completion

Accountability & Open Governance

Workstream 1: Open Data & Transparency

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
KP Open Data Portal Upgrade	Q2 2026–Q4 2027	KPITB, PMRU	Add health, education datasets	Enhanced portal	Annual users
Open Budget Dashboards	Q3 2026–Q2 2026	KPITB, PMRU	Publish fiscal KPIs interactively	Live budget tracker	Transparency score

Workstream 2: Trust & Monitoring

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Digital Trust Index	Q1 2026–Q4 2027	KPITB, PMRU	Rate platforms on security/privacy	Trust index report	80% platforms rated "trusted"
Digital Transparency Unit	Q2 2025–Q1 2026	KPITB, PMRU	Monitor governance performance	Quarterly reports	100% departments evaluated

Overarchnig Spectrum - Cross-Cutting Enablers for Digital Transformation

Overarching Spectrum – Cross-Cutting Enablers for Digital Transformation

Objective: To establish a robust, future-ready, and interoperable digital governance ecosystem by embedding foundational enablers such as institutional frameworks, technology governance, enterprise architecture, policy coherence, infrastructure standardization, and citizen-centric service mechanisms.

Institutional & Advisory Ecosystem

Objective : Establishing a robust governance and consultative mechanism to steer digital initiatives, foster innovation, and integrate academia-industry-policy frameworks.

Key Interventions:

- Formation of IT Advisory Council (Government, Industry, Tech Experts, Development Partners).
- Establishment of Working Group for Oversight of Digital KP 2030 Strategy & Roadmap.
- Institutionalization of eGovernance Council / eGovernance Service Cadre to lead and manage digital reforms across departments/formations..

Technology Governance, Standards & Architecture

Objective: Laying the foundation for unified, secure, scalable, and interoperable technology systems through clear standards and architectural blueprints.

Key Interventions:

- Khyber Pakhtunkhwa Enterprise Architecture Framework (KPEAF) for standardized digital transformation across all departments/formations.
- Development of Technology Governance Framework including guidelines on architecture, platforms, databased, mobile applications, APIs, cybersecurity, and data protection.
- Adoption of Open Standards & Interoperability Protocols to ensure seamless data and service exchange across departments.
- Formation of Khyber Pakhtunkhwa Integration Framework – A middleware/API gateway for system integration.

E-Governance Infrastructure & Frameworks

E-Governance Infrastructure & Frameworks

Objective: Institutionalizing the foundation of end-to-end digital service delivery mechanisms across all levels of government.

Key Interventions:

- Creation of a Framework for E-Governance in Government Departments (Processes, Standards, Interoperability).
- Establishment of eGovernance Unit in every Department/formation.
- Design of Tech-Driven Public Service Delivery Framework & Tools (automation, AI, service workflows, analytics).
- Digitization of Government Workflows through standardization of e-File, Digital Signatures, GRP Systems, and Workflow Automation Tools.

Smart City Governance Framework (Smart Cities - Urban sustainability and Citizen Centered Innovations)

Objective: Strategically driving the development of smart, connected, and sustainable cities using data and technology.

Key Interventions:

- Formation of KP Smart City Commission to develop Smart City Roadmaps (starting with Peshawar and Abbottabad).
- Integration of IoT, GIS, AI-based City Management Tools, Smart Surveillance, Waste Management, and Traffic Systems.
- Development of Smart Governance Platforms for urban service delivery, citizen engagement, and city planning.
- Develop municipal AI ethics and data governance frameworks.
- Integrate AI into Smart City Masterplans.
- Establish urban data platforms (real-time sensors, open data, IoT integration).
- Deploy edge AI infrastructure for smart traffic, waste, energy.
- Train city officials, engineers, and planners in AI systems.
- Launch AI awareness and digital inclusion campaigns for citizens
- Incentivize AI startups working on urban problems via grants and PPPs
- Pilot digital twins, predictive policing, AI in disaster management, etc.
- Citizen participatory platforms for feedback on AI services

Strategic Outsourcing & Vendor Ecosystem

Strategic Outsourcing & Vendor Ecosystem

Objective: Leveraging private sector capabilities to enhance agility, reduce cost, and drive innovation in government digital projects.

Key Interventions:

- Development of IT Outsourcing Strategy (Tactical, Strategic, and Transformational).
- Creation of a Standardized Vendor Ecosystem for IT services, digital platforms, and infrastructure provisioning.
- Pre-qualification of vendors, framework agreements, and adoption of performance-based contracting models for IT and digital services in the Government.

Infrastructure Standardization & Optimization

Objective: Ensuring cost-effective, scalable, and interoperable infrastructure through unified standards.

Key Interventions:

- Standardization of Infrastructure (Hardware, Software, Network, Cloud, Endpoints).
- Implementation of Government Asset Compliance System (GACS) to track digital infrastructure lifecycle.
- Development of GovCloud KP Infrastructure, cloud-native services, and GPU Data Center for AI and Big Data platforms.

Workstream 1: Institutional & Advisory Ecosystem

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
IT & R&D Advisory Councils Formation	Q3 2025–Q4 2026	KPITB Policy Wing	Constitute councils with members from government, academia, industry	Notified councils with TORs	Functional councils
Digital KP 2030 Oversight Working Group	Q3 2025	ST&IT, KPIT	Establish interdepartmental working group for roadmap monitoring	Working group charter	Quarterly review meetings held
eGovernance Cadre & Council Institutionalization	Q1 2026–Q4 2026	Establishment Department & KPITB	Designate cadre roles, develop SOPs and policies	eGovernance service cadre established	Officers trained/placed

Workstream 2: Technology Governance, Standards & Architecture

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
KPEAF Implementation	Q4 2025–Q4 2026	KPITB	Develop and roll out enterprise architecture across departments	KPEAF Document & Implementation Toolkit	Departments onboarded
Technology Governance Framework	Q3 2025–Q2 2026	KPITB	Define platform, application, API, and security standards	Published Tech Governance Framework	New systems compliant
Interoperability Standards Adoption	Q1 2026–Q4 2026	KPITB	Develop protocols for data and service interoperability	Open Standards Protocols Guide	Systems integrated
KP Integration Framework	Q4 2026–Q2 2028	KPITB	Design and deploy middleware/API Gateway	Live integration platform	API connections enabled

Workstream 3: E-Governance Infrastructure & Frameworks

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
Departmental eGovernance Units	Q3 2025–Q4 2026	All Departments + KPITB	Set up units, assign focal persons, train teams	Functional eGovernance Units	Units reporting quarterly
Digitization of Government Workflows	Q1 2026–Q4 2027	KPITB + ST&IT Dept	Rollout of e-File, digital signature, GRP, workflow systems	Standardized digital workflow suite	Processes digitized

Workstream 5: Strategic Outsourcing & Vendor Ecosystem

Activity	Timeline	Responsibility	Key Actions	Deliverable	KPI
IT Outsourcing Strategy	Q2 2026–Q2 2027	KPITB + Finance Dept	Develop strategic, tactical outsourcing models	IT Outsourcing Strategy Document	Projects outsourced
Standardized Vendor Ecosystem	Q2 2026–Q2 2027	KPITB + KPPRA	Create vendor directory, performance criteria	Pre-qualified Vendor Registry	Vendors onboarded

Implementation

Institutional Arrangement for Digital KP 2030 Execution Level I – Strategic Oversight: Apex Digital Council – "KP Digital Council"

Role: Provide high-level policy guidance, strategic direction, interdepartmental coordination, and political ownership.

Functions

- Provide high-level strategic direction and guidance for Digital KP 2030.
- Approve key digital policies, frameworks, and strategic programs.
- Promote cross-sectoral coordination and integration of digital services.
- Monitor performance and implementation of digital transformation initiatives.
- Facilitate resource mobilization, budget allocation, and public-private partnerships.
- Recommend policy and legislative reforms for digital governance.
- Oversee digital inclusion, women empowerment, and rural outreach programs.
- Foster innovation through collaboration with academia, startups, and industry.
- Promote adoption of emerging technologies like AI, IoT, and smart systems.
- Ensure implementation of cybersecurity, open data, and digital trust frameworks.
- Guide digital response strategies for public emergencies and crisis resilience
- Review KPIs, progress dashboards, and implementation reports from KPITB Digital Transformation Unit (DTU).
- Ensure timely implementation of flagship projects and digital infrastructure initiatives.

Compostion

- Chief Minister (Chairman)
- Minister for ST&IT/Special Assistant to CM on IT
- Chief Secretary
- Additional Chief Secretary (P&D)
- Additional Chief Secretary (Home)
- Board Members (Private) of KPITB
- Secretary ST&IT
- Secretary Finance
- Secretary Planning & Development
- Secretary Health, Education, Transport, Agriculture, Local Government, etc.
- Managing Director, KPITB
- Academia Representatives
- Industry Representatives (PASHA, Software Companies, Startups)

- **Meeting Frequency**: Bi-Annual (twice a year) or as required
- **Secretariat**: Digital Transformation Unit (DTU), KPITB

Level II - Digital Transformation Unit (DTU) at KPITB

Technical lead to drive, coordinate, standardize, and monitor the execution of Digital KP 2030 strategy across departments.

Functions

- Serve as the central technical coordination and delivery hub for Digital KP 2030.
- Provide technical advisory, program management, and implementation support to all departments.
- Translate strategic priorities into operational digital projects, platforms, and interventions.
- Ensure alignment of departmental initiatives with provincial digital frameworks and architecture.
- Support development and rollout of common digital infrastructure and services.
- Manage e-Government platforms, cloud services, integration frameworks, and digital standards.
- Drive innovation, research, and emerging technology adoption across departments.
- Monitor KPIs, timelines, and deliverables for strategic pillars and interventions.
- Provide capacity building, training, and digital upskilling programs.
- Facilitate public-private partnerships, industry linkages, and donor collaboration.
- Ensure cybersecurity, digital inclusion, and citizen-centric design across systems.
- Serve as the implementation secretariat to the KP Digital Council.

Level III - Departmental Implementation Forum (DIF)

To serve as the operational arm of Digital KP 2030 at the departmental/formation level by ensuring that all strategies, digital interventions, and reforms are localized, implemented, and institutionalized effectively within each line department and its attached formations.

Functions

- Translate provincial digital transformation strategy into department-specific implementation plans.
- Identify digital service delivery gaps and recommend solutions aligned with KPITB frameworks.
- Ensure smooth integration with province-wide platforms such as DASTAK, GRP, KP Cloud, and KP Digital Identity.
- Supervise development and deployment of departmental e-Services, automation modules, dashboards, and mobile apps.

- Monitor KPIs, timelines, and quality of digital initiatives at department level.
- Collaborate with KPITB's Digital Transformation Unit (DTU) for technical support and compliance with digital standards.
- Serve as a communication channel between department and Apex KP Digital Council.
- Identify departmental digital workforce needs and recommend internal restructuring/upskilling.
- Establish internal feedback loops and performance scorecards for digital maturity.
- Ensure adoption of cybersecurity protocols, data protection measures, and citizen-centric design.

Establishment of e-Governance Unit within each Department/Attached Formations:

- Functions as the secretariat of DIF
- Maintains digital asset inventory, citizen service catalog, and workflow redesigns
- Drives interoperability with provincial systems (DASTAK, Cloud, Digital ID, GRP, etc.)

Digital Champions / Innovation Leads:

- Designate mid-level officers as "Digital Champions" responsible for driving change at each functional directorate or division level.

Composition

- Chairperson: Administrative Secretary / Head of Department
- Coordinator – Head of IT in respective Department / In-charge of eGovernance Unit
- Concerned Wings/Sections/Unit Heads

Monitoring and Evaluation

The execution of Digital KP 2030 is guided by a robust Monitoring and Evaluation (M&E) framework designed to ensure transparency, responsiveness, and results-driven implementation. A centralized Digital KP Dashboard enables real-time tracking of performance indicators such as digitization of government processes, citizen training coverage, digital transaction volumes, and service satisfaction levels. This data informs Quarterly Reviews led by the KP Digital Council, where strategic decisions are refined, implementation bottlenecks addressed, and course corrections made in alignment with evolving priorities.

To ensure citizen-centric delivery, the Voice of Citizens Platform and AI-powered feedback loops collect, analyze, and respond to citizen sentiment, enabling dynamic service enhancements and fostering trust. These mechanisms ensure the government remains responsive and adaptive to public needs. Comprehensive Annual Progress Reports are publicly released, providing detailed updates on achievements, challenges, and forward-looking priorities—reinforcing a culture of accountability and open governance.

Living Strategy & Adaptive Roadmap - An Evolving Framework for Khyber Pakhtunkhwa's Digital Future

The Digital KP 2030 Policy is designed not as a static blueprint, but as a living, evolving policy framework—one that remains responsive to the rapidly changing technological landscape and dynamic socio-economic needs of the province. In the age of accelerated digital disruption, AI-driven change, and continuous innovation, this strategy embraces agility, adaptability, and foresight as its core operating principles.

This document will serve as a live digital policy—regularly updated in alignment with global best practices, local innovations, citizen feedback, and emerging technology trends. The roadmap will evolve iteratively through quarterly reviews, data-driven evaluations, stakeholder consultations, and co-creation with public, private, academic, and civic actors. Key performance indicators (KPIs), timelines, and interventions will be refined based on real-time analytics, pilot learnings, and strategic shifts.

As new technologies like AI, quantum computing, digital twins, and immersive platforms redefine governance and service delivery, Digital KP 2030 will adopt these innovations proactively—ensuring that the province remains ahead of the curve and responsive to the future. Through this adaptive approach, Khyber Pakhtunkhwa aims not only to achieve its digital transformation targets but also to position itself as a national and global leader in ethical, inclusive, and future-ready governance.

Expected Outcome

AI & Emerging Technologies

100,000+

AI-trained professionals equipped by **2030** to support AI-poweredgovernance and innovation.

80%

of government departments will use AI-enabled dashboards.

KP GovGPT

deployed across 100% core departments.

e-Government & Smart Services

90%

citizen services digitized through DASTAK 2.0.

Dastak

for Business launched .

100%

departments integrated into unified service delivery workflow.

70%

reduction in average citizen service delivery time.

AI Chatbots

live on 100% citizen service portals.

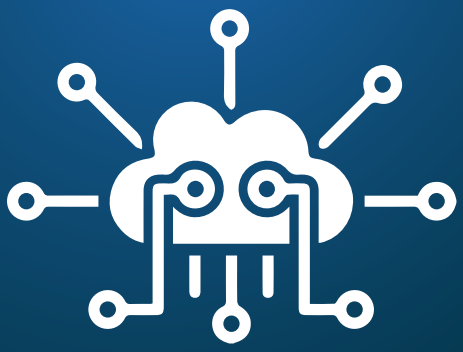
Digital Identity & Inclusion Digital Public Infrastructure (DPI)

KhyberPass
launched

Digital
Document Locker accessed by 5 million citizens by 2028.

196+
services integrated with Digital ID authentication.

100%
government aid disbursed via digital wallets.



Cloud-First & Edge Computing

90%

departmental data hosted on GovCloud KP.

100%

public-facing apps migrated to cloud-native architecture.

Secured API Gateway

adopted by 100% digital platforms by 2026.

Digital Twin &
Smart Cities

Divisional Cities

Mapped with 3D digital twin.

Metaverse & Immersive Experience

MetaVerse

based service portal piloted.

5+

historical sites integrated into KP Metaverse Platform by 2026.

Virtual

Town Halls and Khuli Kacheris launched province-wide.

Open Government & Data-Driven Policymaking

100%

non-sensitive datasets published on KP Open Data Portal by 2026.

80%

increase in API usage by startups and researchers by 2027.

Universal Access to Technology, Connectivity & Accessibility

Digital

Community Centers functional in 100% underserved districts .

Public Wi-Fi

hotspots established.

Digital Skills & Workforce Development

Structured

Industry Internship programs

100,000+

cybersecurity and AI-certified professionals.

FinTech & Digital Payments

70%

government and citizen transactions digitized.

Paymir

platform scaled.

100%

government receipts and disbursements via digital wallets.

QR-Based

payment systems operational in 100% government.

Startup & Innovation Ecosystem

Divisional

HQs host functional innovation centers.

Tech

entrepreneurs incubated through university-based programs.

Global Startup

Exchange Programs initiated.

Private Sector & Business Enablement

500+

IT companies registered in KP IT parks by 2027.

Digital City

Haripur fully operational.

Digital Trade & E-Commerce

SMEs

onboarded to e-commerce platforms.

Digital Government & Business Process Optimization

100%

government processes digitized and paperless.

100%

departments adopt standardized workflow automation systems.

Unified

Notification System deployed in 100% departments by 2026.

90%

internal approvals processed via digital file systems.

100% Departments

integrated with Government Resource Planning (GRP) system.

e-Governance Infrastructure (Core Digital Backbone)

Departments

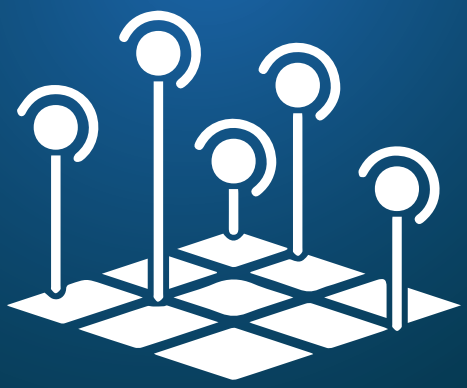
are connected via secure GovNet.

Digital Asset

Compliance System deployed across 100% government entities.

Official

use secure official email and intranet.



Sectoral Digitalization

Automation

in health, education, police, transport, revenue, agriculture.

Sectoral

performance dashboards operational.

AI-Based

predictive analytics deployed in 100% key service sectors

G2C

sectors integrated into DASTAK.

Smart Policing

and e-health systems and other platforms scaled province-wide.

Digital Experience Hubs / Governance Experience (GX)

Citizen

Facilitation Centers operational.

Real-Time

Citizen Sentiment Dashboards deployed.

Digital Experience Hubs

functional in all divisional HQs.

Data Governance – Dashboards / Analytics

Unified

Master Dashboard for CM/CS live.

Departments

will adopt standardized data-sharing protocols.

Data

Integration Framework operational across all systems.

Data

Analytics Units functional in 100% departments.

AI-Based

Predictive Policy Modeling used by 80% departments.

Cybersecurity & Data Protection

Zero Trust

Security Architecture implemented in departments.

100%

departments integrated into KP Cybersecurity Maturity Index.

Provincial

SOC (GovSOC) operational 24/7.

100%

critical assets mapped under KP Information Protection Framework.

Regular cybersecurity

drills conducted in all departments.

Digital Literacy for Government Officials

Mid

and senior-level officials trained in digital skills.

Certified

Government IT Officer Program adopted province-wide.

Digital

Competency Index applied in all departments.

Self-Paced

digital learning platform used by government officials.

Digital Society, Rights & Well-being

Digital

platforms comply with data privacy and digital rights laws.

Digital Rights

Awareness Campaigns.

Online

Civic Engagement Platforms scaled to all departments.

Digital

Wellbeing Programs launched in schools/colleges.

Eco-Friendly Digital Ecosystem

Reduction

in digital carbon footprint.

Government

buildings certified under Green IT standards.

AI-Powered

GHG Dashboards live in all sectors.

Digital

Carbon Credit Registry fully operational.

Green Governance

Awards launched annually.

Sustainable Digital Growth

KP Green

Digital Transformation Index published annually.

Green

Digital Startups supported.

Green ICT

Procurement Policy adopted across all departments.

Cybersecurity & Data Protection

100%

compliance with cybersecurity audits.

Cyber

Governance Risk & Compliance Platform used by all departments.

Red

Teaming Simulations conducted annually in all critical systems.

Government

employees trained in cyber hygiene practices.

Citizen-Controlled

Access Management System adopted.

Ethical AI & Digital Rights

Government

AI systems pass AI Ethics Impact Assessment.

Digital

Consent Mechanism adopted in all service platforms.

AI Bias

Audit Framework applied in AI systems.

Digital

Rights Literacy Curriculum integrated in public schools/colleges.

Digital Ethics

Certificate Program launched for all public sector AI developers.

Accountability, Open Governance & Trust Frameworks

Digital

Trust Index live and monitored annually.

Open

Budget Dashboards functional in all departments.

Public

Performance Monitoring Portals adopted in all ministries.

KP Open

Government strategy updated every two years.

Institutional & Advisory Ecosystem

KP Digital

Council operational with annual policy reviews.

Technology Governance, Standards & Architecture

KP Enterprise

Architecture Framework adopted by all departments by 2026.

GovStack

Architecture implemented in all core systems.

Integration

Framework API Gateway rolled out province-wide

Compliance

Dashboards operational in all departments.

Interoperability

Standards applied in all cross-departmental systems.

e-Governance Frameworks

Digital

Workflow toolkits distributed across 100% formations.

e-Governance

Units established in all departments/formations.

Unified

Service Delivery Architecture adopted by ministries.

Service

Automation Scorecards live in all departments.