

Empowering a Smart Future: Building a Trustworthy and Sustainable AI+ Ecosystem

Background

We are living in an era of profound transformation driven by artificial intelligence (AI). Once an emerging technology, AI has now become a cornerstone of industrial productivity, public innovation, and social progress. As a key builder and service provider of Pakistan's digital infrastructure, CMPak recognizes both its responsibility and opportunity in guiding this transformation. Positioned at the nexus of national development and global technological change, CMPak AI+ Plan articulates a vision to accelerate Pakistan's digital transformation by deploying responsible, scalable, and future-proof AI solutions that deliver long-term value to all stakeholders.

CMPak's strategic direction is firmly grounded in the **“China Mobile Group AI+ Strategy”**, which outlines the Group's vision to become a **World-Class Information Service and Technology Innovation Company**. China Mobile framework emphasizes the three roles of **“Supplier, Aggregator, and Operator”** in digital landscape. That is, to act as a supplier of computing power and connectivity, an aggregator of data, technology, and ecosystem innovation, and an operator managing the full lifecycle of intelligent services. The objectives of this plan include developing world-class intelligent computing infrastructure, strengthening large-model capabilities, and accelerating AI applications across industries. These guiding principles directly inform CMPak AI+ Plan, aligning global expertise with national needs.

CMPak strategic vision aligns closely with the **“Pakistan National Artificial Intelligence Policy (2025)”**, which envisions a robust, ethical, and inclusive AI ecosystem to drive socio-economic development and digital transformation. Pakistan's AI Policy is structured around six foundational pillars: AI Innovation Ecosystem, Awareness and Readiness, Secure AI Ecosystem, Transformation and Evolution, AI Infrastructure, and International Partnerships and Collaborations. It emphasizes the development of indigenous AI capabilities, skill enhancement, ethical governance, and the creation of national AI infrastructure including high-performance computing (HPC) grids and data repositories. CMPak AI+ Plan reflects these priorities through initiatives aimed at developing AI-enabled networks, promoting research and upskilling programs, and fostering open innovation through local–international collaborations.

As part of its AI+ Strategy, CMPak is strengthening the planning and deployment of its underlying computing resources to support scalable AI development. The company is embedding AI into key products and services to create smarter, data-driven offerings. At the same time, CMPak is expanding the use of AI in marketing, network operations, and maintenance, enabling more efficient processes, improved service quality, and the development of new AI-enabled products.

While CMPak AI+ Plan is closely aligned with both the China Mobile AI+ Strategy and the Pakistan National AI Policy, achieving its goals requires addressing key challenges such as limited data availability, uneven AI talent readiness, and the need for stronger ethical and regulatory frameworks. This paper outlines CMPak's vision, strategic roadmap, and core commitments for AI development, combining China Mobile's global technological depth with Pakistan's national priorities. Through sustained collaboration with government, academia, and industry, CMPak aims to build a trustworthy and sustainable AI ecosystem that drives digital future of Pakistan.

1. Strategic Framework: Driving Comprehensive Intelligence with AI+

CMPak AI+ Strategic framework draws its foundation from the China Mobile Group AI+ Strategy and the Pakistan National AI Policy. It localizes these strategic directions to digital landscape of Pakistan, ensuring that AI serves as a sustainable driver of national and corporate transformation. The framework defines long-term engagement of CMPak in three main areas, intelligent infrastructure, comprehensive AI capabilities, and business-focused applications, aligned with China Mobile's roles of *Supplier*, *Aggregator*, and *Operator*.

I. Unified Intelligent Infrastructure

- **Intelligent Infrastructure:** A robust and intelligent infrastructure is the foundation of CMPak AI+ Strategy. To enable large-scale AI deployment, CMPak continues to invest in high-performance computing systems, scalable storage, and advanced data lake technologies. These resources form the technical backbone for AI model training, inference, and enterprise-level innovation, ensuring that CMPak's infrastructure can support both current and emerging AI workloads.
- **Intelligent Network:** Through intelligent network management, CMPak will leverage AI for network traffic prediction, fault self-healing, and dynamic resource optimization. These capabilities allow the network to operate with higher reliability and lower latency, delivering consistent quality for users across 4G and the upcoming 5G/6G networks.

In the long term, CMPak aims to evolve network into a fully autonomous, self-optimizing system that intelligently allocates computing and connectivity resources in real time. This transformation reflects CMPak's role as a **Supplier** of intelligent connectivity and computing power, capable of supporting large-scale AI applications and industrial digitalization.

This direction also aligns closely with the AI Infrastructure and AI Innovation Ecosystem pillars of Pakistan National AI Policy, which emphasize building high-performance computing grids, data repositories, and AI hubs. By contributing to this national objective, CMPak is helping to establish a solid digital foundation that can support AI research, innovation, and cross-sector collaboration throughout Pakistan.

II. Comprehensive AI Capabilities Hub

- **Capability Aggregation:** CMPak is developing a Comprehensive AI Capabilities Hub that integrates advanced technologies such as machine learning, deep learning, natural language processing, computer vision, and Generative AI (GenAI). The hub will serve as a central platform for building, testing, and deploying AI models. A key goal of this hub is to unify data and capabilities into a cohesive, enterprise-level AI system. This integration will allow CMPak to accelerate innovation, reduce time-to-market for AI solutions, and create reusable AI assets across multiple business units.
- **Knowledge Empowerment:** In addition to technical capabilities, the hub will focus on knowledge empowerment. CMPak is working on AI systems and advanced architectures such as Modular Retrieval-Augmented Generation (RAG) and Agentic AI. These systems can process and interpret unstructured knowledge specific to the telecom industry, such as

technical manuals, regulatory policies, and service workflows. RAG will enable efficient retrieval and contextual generation of accurate information, while Agentic AI will assist in reasoning, task automation, and decision support. Together, these systems will allow employees to access precise information through natural language queries, improving operational efficiency, problem-solving, and customer service quality.

Aligned with China Mobile's role as an **Aggregator**, this hub represents CMPak's commitment to integrate technology, data, and application ecosystems. It will also promote open collaboration with academic institutions, startups, and industry partners to co-develop innovative solutions for the local market.

This initiative supports the Awareness and Readiness and AI Innovation Ecosystem pillars of Pakistan National AI Policy by fostering AI research, workforce development, and technology sharing. Over time, CMPak's AI Capabilities Hub will evolve into an open, trusted platform for Pakistan's AI ecosystem, encouraging responsible innovation and sustained national progress.

III. Business-Focused Intelligent Applications

The true value of AI lies in its ability to address real-world challenges and create measurable business and social impact. CMPak AI+ strategy focuses on developing scenario-driven applications that enhance operational intelligence, customer experience, and cross-industry innovation. These efforts represent CMPak's evolution from a telecom operator to an end-to-end technology service provider.

- **Intelligent Operations:** In network and operational domains, CMPak is applying AI for automation, predictive maintenance, and energy optimization. Intelligent systems will detect faults, anticipate service degradation, and allocate resources dynamically to ensure stable and efficient operations. By integrating AI into network management, CMPak aims to improve service reliability while reducing operational costs and environmental impact.
- **Customer Experience:** For customers, AI supports the delivery of personalized, adaptive, and proactive services. Intelligent customer interaction platforms, powered by natural language models and Generative AI, will enhance responsiveness and accuracy in customer support functions. By enabling precision marketing, CMPak can anticipate customer needs and offer personalized products while maintaining transparency and data privacy.
- **AI+ DICT:** Beyond telecom industry, CMPak plans to extend its AI capabilities to support digital transformation and empower vertical industries. Through DICT (Data, Information, Communication, and Technology) solutions, the company will provide AI-driven services to sectors such as manufacturing, agriculture, healthcare, and education. These solutions will assist enterprises in improving efficiency, decision-making, and service delivery, contributing to Pakistan's broader goal of AI-enabled economic growth.

Aligned with China Mobile's **Operator** role and the Transformation and Evolution pillar of Pakistan National AI Policy, CMPak's approach emphasizes full-lifecycle service delivery, from model development and deployment to continuous monitoring, optimization, and governance. This ensures that every AI solution remains effective, secure, and ethically compliant throughout its operational life.

2. Leading Innovation: Embracing the Next Generation of AI Paradigms

CMPak believes that true innovation leadership lies not only in applying established technologies but in shaping the next generation of AI paradigms. Guided by China Mobile AI+ Strategy and aligned with the Pakistan National AI Policy, CMPak is expanding its AI vision from implementation to co-creation, developing intelligent systems that are adaptive, ethical, and contextually aware. This approach supports Pakistan's goal of fostering a robust AI innovation ecosystem while advancing China Mobile's mission to lead global intelligent transformation. We are focused on the following evolutionary directions for AI:

From Large Language Models to Contextual Intelligence:

Moving beyond generic large language models, CMPak is developing domain-specific intelligent agents capable of understanding industry context, integrating real-time data, and ensuring compliance with regulatory and ethical standards. These agents can act as autonomous digital intelligent employees, able to plan, reason, and execute complex tasks within controlled boundaries. Such systems will transform internal operations, technical support, and enterprise services, ensuring decisions are both data-driven and contextually relevant.

From Reactive to Proactive Service:

CMPak is advancing from reactive operations to predictive and proactive intelligence. By combining user behavior analysis, network telemetry, and AI-based forecasting, the company can anticipate customer needs and network events before they occur. This shift enables zero-touch operations, preventive maintenance, and real-time service adaptation, enhancing reliability and user satisfaction.

From Static Knowledge to Dynamic Learning:

CMPAI is integrating Retrieval-Augmented Generation (RAG), Agentic AI, and continuous learning mechanisms to create AI models that evolve with new information. These systems can dynamically access up-to-date data sources, enabling more accurate responses and faster adaptation to change. This capability is crucial in sectors like telecommunications, where regulatory updates, network topologies, and service demands shift rapidly.

From Human Assistance to Human-AI Collaboration:

CMPak focuses on collaborative intelligence, where AI augments human expertise rather than replaces it. By integrating AI tools into workflows, CMPak aims to enhance human productivity, improve strategic decision-making, and support skill development. Training programs will help employees use AI responsibly and effectively, contributing to Pakistan's Awareness and Readiness pillar, which highlights workforce empowerment as a national priority.

3. Upholding the Foundation: Responsible and Trustworthy AI

Technological innovation must progress alongside social and ethical responsibility. CMPak adopts a **Governance-by-Design** approach, embedding risk controls, accountability, and compliance directly into the architecture and development lifecycle of all AI systems. By making governance an integral design principle rather than a post-deployment checkpoint, AI systems remain transparent, secure, fair, and regulatory compliant at scale.

This principle ensures that innovation contributes to social trust and aligns with Pakistan's Secure AI Ecosystem and Ethical Objectives under the National AI Policy.

Governance-by-Design Overview

Governance-by-Design is a proactive methodology that integrates governance principles throughout the lifecycle of an AI system. It shifts governance from being a compliance checkpoint to becoming a fundamental design characteristic. The guiding principles of this approach include:

- **Transparency and Explainability:** CMPak is committed to increasing the transparency of AI decision-making. Systems will be designed to provide clear reasoning for their outputs, allowing both users and regulators to understand how key conclusions are reached.
- **Fairness and Bias Mitigation:** AI models will be regularly evaluated to identify and mitigate bias at both the data and algorithmic levels. This ensures equitable access and fair outcomes for all user groups across Pakistan's diverse population.
- **Security and Privacy:** CMPak will uphold the data protection standards, ensuring compliance with legal and regulatory frameworks of Pakistan. The development and deployment of AI systems will strictly adhere to these laws and regulations.
- **Accountability:** Human oversight remains central to AI governance in CMPak. Clear boundaries will be maintained between human and machine roles, ensuring that all automated decisions are traceable, auditable, and accountable.

Together, these commitments reflect CMPak's belief that responsible innovation is the foundation of sustainable progress. By ensuring transparency, fairness, and security, CMPak aims to establish AI systems that are not only advanced but also trustworthy and aligned with public interest.

4. Collaborative Creation: Building a Thriving AI Ecosystem

Great achievements in artificial intelligence cannot be accomplished in isolation. CMPak believes that collaboration is the cornerstone of sustainable innovation. CMPak advocates for open cooperation and wants to collaborate with government agencies, academic institutions, research organizations, technology companies, and customers to build a prosperous and inclusive AI ecosystem in Pakistan.

CMPak's collaborative vision directly supports the Pakistan National AI Policy:

- **AI Innovation Ecosystem:** CMPak will promote open research and development by working with universities, startups, and local enterprises. CMPak will support projects that develop AI solutions suited to Pakistan's needs and help turn research into real-world applications.
- **Awareness and Readiness:** CMPak will invest in AI education and training to build a skilled local workforce. Training programs and knowledge-sharing sessions will prepare professionals to design and use AI systems across different industries.
- **Secure AI Ecosystem:** CMPak will focus on responsible and transparent AI practices. It will work with regulators to ensure data protection, privacy, and fairness in all AI operations. Every system will follow national standards for safety and ethical use.
- **Transformation and Evolution:** CMPak will enable industries adopt AI to improve efficiency and productivity. The company will expand AI applications in telecommunications, agriculture, healthcare, manufacturing, and education, helping organizations use technology to grow and innovate.
- **AI Infrastructure:** CMPak will share its expertise and invest in high-performance computing, data storage, and cloud-based AI platforms. These insights and resources will support national research efforts and help businesses develop and deploy AI solutions more efficiently.
- **International Partnerships and Collaborations:** CMPak will utilize its connection with China Mobile Group to bring global expertise to Pakistan. The company will promote knowledge exchange, joint research, and cross-border innovation partnerships that support the country's AI development goals.

By aligning with these six pillars of Pakistan National AI Policy, CMPak aims to act as "Supplier, Aggregator, and Operator" in Pakistan's AI landscape. Through shared insight, infrastructure, and investment, CMPak seeks to foster an environment where academia, industry, and government can work together to accelerate innovation, nurture talent, and advance Pakistan's digital transformation agenda.

5. Conclusion

The journey of artificial intelligence transformation has only just begun. CMPak will continue to pursue the research, development, and application of intelligent technologies with a long-term vision and clear strategic focus. Guided by the principles of innovation, responsibility, and collaboration, the company aims to contribute meaningfully to Pakistan's transformation into a digitally empowered and intelligent society.

By combining global expertise with local understanding, CMPak seeks to ensure that AI development in Pakistan remains both inclusive and sustainable. We are committed to advancing innovation that benefits people, strengthens industries, and supports national priorities under the Pakistan AI Policy.

CMPak believes that the future will belong to organizations that innovate responsibly and collaborate openly. Together, with government, academia, industry, and society, we can build an AI-powered ecosystem that drives shared progress and opportunity for all.

Let us join hands to usher in this era filled with wisdom and opportunity.