**Smart 5G Optimization and Deployment Project Charter**

**1. Project Title**

**Smart 5G Optimization and Deployment Initiative (S5GO-DI)**

**2. Project Sponsor**

**Ministry of ICT and Innovation / Telco Partner Consortium (Safaricom, Huawei, Ericsson)**

**3. Project Manager**

Barbara Malei –Systems Integration Specialist

**4. Purpose / Justification**

The S5GO-DI aims to deliver intelligent, adaptive, and data-driven 5G network optimization in underserved and high-demand zones across Kenya and the EAC region. The goal is to enhance network efficiency, enable real-time AI-based traffic routing, and improve latency-sensitive application performance including mobile money, health diagnostics, and digital education platforms.

**5. Project Objectives**

* **Deploy smart 5G radio and core upgrades** in 12 urban and 8 rural zones.
* **Achieve <10ms latency** and 2Gbps average throughput in test regions.
* **Integrate AI/ML-driven self-optimizing networks (SON)** and energy-aware algorithms.
* **Enable automated slicing** for IoT, AR/VR, and mission-critical applications.
* **Develop KPI dashboards** and analytics-driven decision platforms using Grafana/Prometheus.
* **Comply with national 5G spectrum, security, and health standards.**

**6. Scope Statement**

**In Scope**

* Site surveys and RF planning using 3D GIS and drone mapping.
* 5G NR (New Radio) deployment with beamforming.
* Integration with existing 4G and cloud-native core infrastructure.
* AI/ML-based SON deployment using vendor APIs.
* User-centric QoS/QoE performance tuning.
* IPv6 rollout, SDN/NFV orchestration.

**Out of Scope**

* Backhaul fiber construction beyond the urban PoP boundary.
* Consumer 5G handset provisioning.
* International interconnect peering upgrades.

**7. Deliverables**

* **Feasibility and Spectrum Strategy Report**
* **RF Simulation & Coverage Heatmaps**
* **5G Core & RAN Architecture Blueprints**
* **AI SON Configuration Scripts**
* **Real-Time Monitoring & Alerting Dashboards**
* **Security, Privacy & Risk Mitigation Framework**
* **End-user Experience Feedback Portal**

**8. Milestones**

| **Milestone** | **Date** |
| --- | --- |
| Charter Approval | August 5, 2025 |
| RF Planning Complete | September 15, 2025 |
| Core Upgrade Finalized | October 20, 2025 |
| Pilot Launch in 3 Urban Areas | November 15, 2025 |
| Rural Rollout & Optimization | December 30, 2025 |
| Project Closure & Evaluation | January 25, 2026 |

**9. Key Constraints**

* **Spectrum Licensing Restrictions**
* Limited access to rural last-mile power and backhaul.
* Hardware delivery delays due to international supply chains.
* High CAPEX budget ceiling imposed by fiscal policy.
* Stakeholder coordination across telcos and regulatory bodies.

**10. Assumptions**

* AI/ML tools (e.g., H2O.ai, TensorFlow) are compatible with vendor APIs.
* 5G equipment will support ORAN for vendor-neutral integration.
* Urban areas have adequate power infrastructure for edge nodes.
* Stakeholders will provide timely sign-offs on deliverables.

**11. Risks**

* Regulatory delays in spectrum allocation.
* Security vulnerabilities in SDN controller exposure.
* Resistance to change from legacy network operations teams.
* Low community adoption in rural testbeds due to digital literacy gaps.

**12. Stakeholders**

* **Primary:** Telco providers, ICT Ministry, CAK (Communications Authority of Kenya)
* **Secondary:** Mobile application providers, public utility partners, local communities

**13. Approval Signatures**

| **Name** | **Title** | **Signature** | **Date** |
| --- | --- | --- | --- |
| John Njoroge | Telco CTO | \_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_ |
| Alice Wambui | CAK Representative | \_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_ |
| Barbara Malei | Project Manager | \_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_ |