**Gap Analysis Report – Technical and Operational Gaps**

**Title:** *Smart 5G Technical & Operational Gap Analysis Report*

**Objective:**  
To identify and quantify gaps between current network capabilities and the desired future state aligned to 5G best practices, business objectives, and emerging customer demands.

**Framework Used:**

* **TO-BE vs AS-IS Comparison**
* **3-Pillar Model**: Infrastructure, Operations, and Experience
* **RAG Status Indicators**
* **Maturity Model Benchmarking (1–5 Scale)**

**Summary Table:**

| **Domain** | **Current State (AS-IS)** | **Target State (TO-BE)** | **Gap Severity** | **Actions Required** | **RAG** |
| --- | --- | --- | --- | --- | --- |
| Radio Access Network | Mostly LTE-Advanced with partial NSA 5G rollouts | Full SA 5G with massive MIMO, beamforming | High | Upgrade to SA core, 5G NR rollout in 80% coverage zones | 🔴 |
| Core Network | EPC with NFV patchwork | 5G Core with cloud-native, containerized functions | High | Migrate to 5GC, implement AMF, SMF, and UPF modules | 🔴 |
| Orchestration | Manual slicing, static provisioning | AI-driven automation and dynamic slice orchestration | Medium | Deploy ONAP, integrate with AI/ML models | 🟠 |
| Security | Legacy SIM registration & basic encryption | End-to-end 5G security, Zero Trust Architecture | High | Integrate SEPP, SUCI, implement slice isolation controls | 🔴 |
| Analytics & Monitoring | Reactive NOC with SNMP traps and logs | Predictive analytics using ML for anomaly detection | Medium | Implement AIOps dashboards, telemetry ingestion engines | 🟠 |
| Energy Efficiency | No active management; peak/off-peak wastage | Smart RAN sleep mode, solar/hybrid optimization | Medium | Deploy green RAN features and AI-controlled energy policies | 🟠 |

**Tools Used:**

* NetAct, iMaster NCE, and CEM platforms
* Gap Analysis matrices (Excel, Lucidchart)
* TM Forum maturity reference models