**Security & Compliance Plan**

**(AML, KYC, Encryption, Audit Trails)**

**Objective**

To safeguard customer data, financial transactions, and platform infrastructure against fraud, misuse, or regulatory non-compliance during and post-integration.

**Key Domains & Controls**

| **Area** | **Control Description** | **Tools/Frameworks** |
| --- | --- | --- |
| **AML (Anti-Money Laundering)** | Risk scoring, transaction threshold checks, pattern recognition | Comply Advantage, rules engine, real-time alerts |
| **KYC Validation** | National ID/passport validation, biometric/photo match, real-time onboarding check | Telco KYC DB, bank API, AI-based facial matching |
| **Encryption** | AES-256 encryption at rest, TLS 1.3 in transit, tokenization for APIs | Hashicorp Vault, Let’s Encrypt, OpenSSL |
| **Audit Trails** | Immutable logs, timestamped actions, access metadata for every transaction or update | ELK Stack, Splunk, AWS CloudTrail |
| **Role-Based Access Control (RBAC)** | Scoped permissions for telco agents, bank officers, vendors | Keycloak, IAM platforms |
| **Data Protection Compliance** | DPA 2019 (Kenya), GDPR alignment for user consent, data retention/deletion | Consent APIs, data minimization policies |

**Compliance Procedures**

* **CBK Compliance**: Adhere to Payment Service Provider (PSP) guidelines, share transaction logs monthly
* **Data Protection Officer (DPO)** reviews all data-sharing contracts and breach handling SOPs
* **Fraud Investigation Teams** receive automatic triggers for suspicious activity (e.g., >10 wallets per ID, velocity alerts)

**Security Testing & Validation**

| **Test** | **Objective** | **Tool** |
| --- | --- | --- |
| Penetration Testing | Identify platform vulnerabilities | Burp Suite, OWASP ZAP |
| API Fuzzing | Test API robustness and fault injection | Postman/Newman |
| Compliance Audits | Ensure full traceability & KYC/AML coverage | Manual audit + scripts |
| Secure Code Review | Verify no hardcoded secrets or insecure flows | SonarQube, GitHub Advanced Security |