

iLert247

Intelligent Emergency Response Platform

White Paper

Bridging the Public Safety Gap in West Africa

Through Real-Time Emergency Alert Technology

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www.ilert247.com

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01 Executive Summary

iLert247 is a real-time emergency alert and response platform purpose-built for public safety in Nigeria and across West Africa. It connects citizens, field responders, and a centralised Control Room through a single, unified digital platform — dramatically reducing emergency response times, improving coordination, and giving communities the tools to respond to threats faster and more effectively.

This white paper outlines the critical public safety gaps that iLert247 addresses, the platform's core capabilities, its underlying technology, and how organisations and communities can deploy it to protect the people they serve.

"iLert247 connects citizens in distress to trained responders in seconds — not minutes."

02 The Challenge: Public Safety in West Africa

Public safety infrastructure across West Africa faces persistent, systemic challenges that leave citizens vulnerable and emergency services under-equipped to respond effectively.

Slow Emergency Response

Without digital coordination tools, emergency response times are measured in tens of minutes — during which outcomes deteriorate rapidly.

Fragmented Communication

Citizens, responders, and command centres operate in silos with no shared real-time channel for coordinated response.

No Evidence Capture

Traditional emergency calls provide limited information about the nature or severity of an incident. Responders consistently arrive without the context needed to act quickly.

Limited Public Alerting

Communities lack a reliable, real-time mechanism to receive localised alerts about active threats in their immediate area.

No Accountability Trail

Without structured digital logging, response quality cannot be measured, audited, or improved over time.

03 Introducing iLert247

iLert247 is a dual-layer public safety platform that bridges the gap between citizens in distress and the response infrastructure designed to protect them. Designed specifically for the connectivity realities and device ecosystems of West Africa, iLert247 delivers enterprise-grade emergency response capability to communities of any scale.

- Instant panic alerts with automatic photo and video evidence capture
- Live location streaming from citizen to Control Room in real time
- Verified responder dispatch with live status tracking
- Control-Room-driven dynamic guidance messages delivered directly to citizens
- Public alert broadcasting via LED Signal Banner infrastructure
- Full, tamper-proof audit trail from alert creation to resolution
- Identity-verified citizen onboarding via National Identification Number (NIN)
- Role-based access for citizens, responders, operators, and administrators

Available on Android and iOS — no specialist hardware required. A smartphone and a network connection is all a citizen needs.

04 How iLert247 Works

The core of iLert247 is the Panic-to-Dispatch workflow — a structured, automated sequence that moves an emergency from the moment a citizen triggers an alert to the moment a trained responder arrives on-site. Every step is logged, timed, and fully auditable.

01**Citizen Triggers Alert**

The citizen activates a panic alert via the iLert247 app with a single action. The app immediately captures a photo and a 30-second video of the situation as evidence.

02**Evidence & Location Streaming**

The captured evidence is securely uploaded to the platform in real time. The citizen's live location is streamed continuously to the Control Room dashboard.

03**Control Room Receives Alert**

The Control Room operator receives an instant notification complete with alert details, evidence, and the citizen's live location. The operator reviews and verifies the emergency type.

04**Responder Dispatched**

The Control Room selects the nearest available responder and dispatches them to the incident. The responder receives the assignment instantly on their Responder App.

05**Citizen Receives Guidance**

The Control Room pushes a dynamic guidance message tailored to the verified emergency type. The citizen is informed that help is on the way and receives appropriate instructions.

06**Responder Updates Status**

The responder progresses through structured status stages — Accepted, En Route, Arrived, and Completed — keeping the Control Room fully informed throughout the response.

07**Alert Resolved**

Only the Control Room can mark an alert as resolved. Citizens cannot self-cancel an active panic, ensuring every incident receives a proper, verified closure.

05 Platform Components

iLert247 comprises five interconnected modules, each serving a specific role in the emergency response ecosystem.

Module	Platform	Description
Citizen App	iOS & Android	Handles identity-verified onboarding, panic alert triggering, evidence capture, live location streaming, and real-time status updates for citizens.
Responder App	iOS & Android	Enables field responders to receive dispatch assignments, navigate to incidents, and report status updates throughout the response lifecycle.
Control Room Dashboard	Web Browser	The operational nerve centre. Operators monitor all active alerts in real time, verify emergency types, dispatch responders, push guidance messages, and manage resolution.
Admin Panel	Web Browser	Used by system administrators to manage users, subscription plans, vendor configurations, regional settings, and platform-wide controls.
Banner Vendor API	REST API	A structured HTTP API enabling LED Signal Banner vendors to retrieve active regional alerts and display them on public infrastructure automatically.

06 Signal Banner Network

Beyond individual citizens, iLert247 extends public safety alerts to entire communities through its Signal Banner Network — a system of LED display panels positioned at key public locations that broadcast real-time regional alerts automatically.

- Alerts issued by the Control Room are pushed to all Signal Banners within the affected region instantly.
- When multiple alerts are active simultaneously, banners cycle through all of them in a continuous loop — no alert is missed.
- Resolved alerts are automatically removed from the banner rotation without any manual intervention.
- The banner infrastructure operates over 4G/LTE with a resilient HTTP polling architecture, requiring no complex networking dependencies.
- Vendor device authentication uses HMAC-SHA256 cryptographic signing, ensuring only authorised hardware can access the alert feed.
- All banner devices are pre-provisioned through the Admin Panel — no on-site configuration is required at installation.

Signal Banners are vendor-operated hardware. iLert247 provides a fully documented REST API for seamless integration — no proprietary hardware lock-in.

07 Security & Privacy

Security and privacy are foundational to iLert247 — built into every layer of the platform, from citizen identity to evidence integrity.

Identity Verification

Citizens onboard through OTP-based authentication combined with National Identification Number (NIN) verification, including photo matching and liveness detection. Every account on the platform is tied to a verified real-world identity.

Session Authentication

All sessions are secured using JWT access tokens with automatic refresh-token rotation. Tokens are short-lived and invalidated immediately on logout or suspicious activity.

Tamper-Proof Evidence Storage

All captured evidence — photos and videos — is stored on AWS S3 with Object Lock enabled, preventing any modification or deletion. This creates a legally defensible, immutable audit record for every incident.

Data Privacy & Compliance

The platform is designed in compliance with the Nigeria Data Protection Regulation (NDPR). All personal data is processed and stored within applicable regulatory boundaries.

API Security

Third-party integrations, including Signal Banner vendors, authenticate using vendor-level HMAC-SHA256 cryptographic request signing — preventing unauthorised access to the alert feed at the protocol level.

Encrypted Communications

All API traffic is protected by TLS encryption. Push notifications are delivered via Firebase Cloud Messaging (FCM) and Apple Push Notification service (APNs) over their respective encrypted, certified delivery channels.

08 Technology Infrastructure

iLert247 is built on a modern, scalable technology stack selected for reliability, performance, and suitability for the West African operating environment.

Layer	Technology
Mobile Applications	Flutter (Dart) — Android & iOS from a single codebase
Backend API	Node.js / Express
Database	PostgreSQL with PostGIS for geospatial queries
Real-Time Layer	WebSocket / Socket.IO with Redis pub/sub for live alert streaming
Cloud Infrastructure	Amazon Web Services (AWS) — compute, managed database, object storage
Evidence Storage	AWS S3 with Object Lock (immutable, tamper-proof)
Push Notifications	Firebase Cloud Messaging (FCM) + Apple Push Notification service (APNs)
Authentication	OTP + JWT with refresh-token rotation

09 Regional Rollout & Expansion

iLert247 launches in Nigeria with a phased expansion model designed to ensure service quality and operational readiness in each new market before moving to the next.

Phase 1 — Nigeria Launch

Full platform deployment across Nigeria, including Citizen App, Responder App, Control Room Dashboard, Admin Panel, and the Signal Banner API. Control Room operations are established and verified before public rollout.

Phase 2 — West Africa Expansion

Expansion to additional West African markets guided by regulatory compliance, local partnerships, and operational readiness assessments. Platform is configurable per country for language, identity verification, and payment infrastructure.

Phase 3 — Continental Scale

Broader African deployment with market-specific localisation — language packs, payment gateways, national identity provider integrations, and regional Control Room infrastructure.

The platform includes built-in geolocation capabilities that gate access by region, ensuring that citizens only interact with a fully operational Control Room and responder network — providing a quality-assured experience from day one.

10 Get Started

iLert247 is available to governments, security organisations, corporate campuses, residential estates, and communities across West Africa. Whether you are deploying for a single location or an entire region, iLert247 can be configured to meet your operational requirements.

Ready to deploy iLert247 in your region?

Visit www.ilert247.com or reach us via WhatsApp to speak with our team.

- Website: www.ilert247.com
- WhatsApp: [Contact Number]
- Email: [Contact Email]

For partnership enquiries, enterprise deployments, Signal Banner vendor integration, or pilot programme discussions, our team is ready to assist.