LocateONE™ LITE

A BK ONE™ SOLUTION

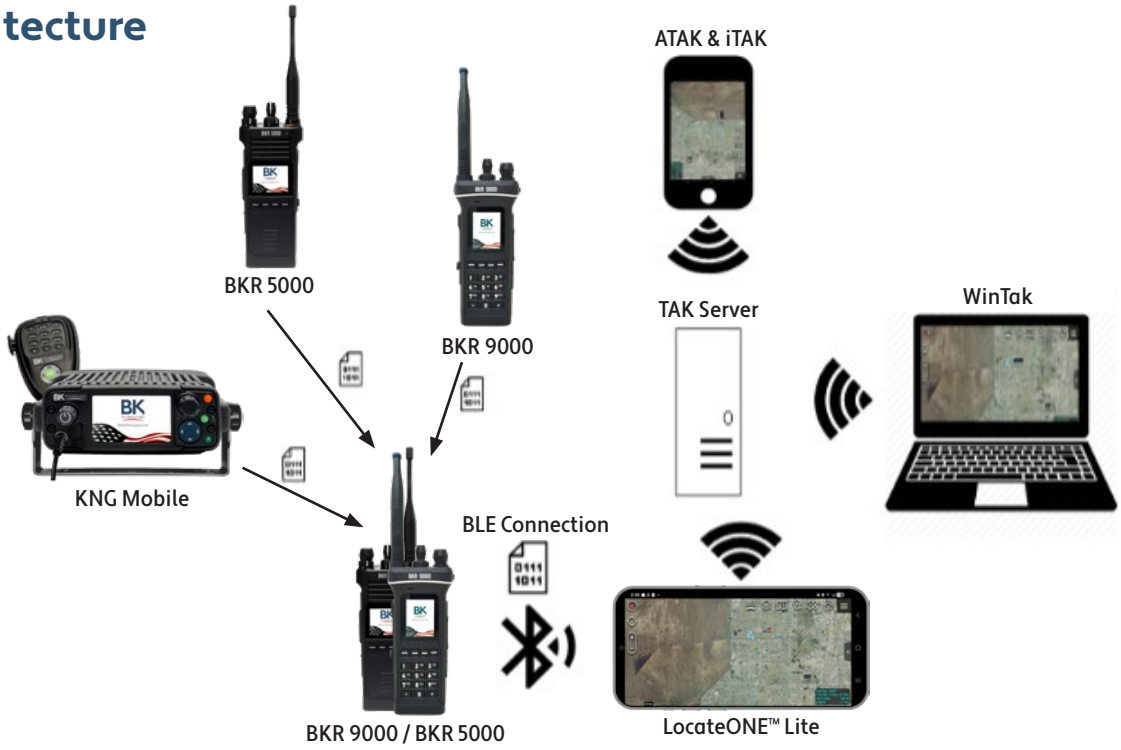
Technical Overview

What It Does

LocateONE™ LITE is an Android plugin for the Android Team Awareness Kit (ATAK) that provides real-time visibility of BK Technologies® radio locations over Bluetooth. It decodes location packets broadcast by the radios and displays the location as a dot on the ATAK map. This means team members equipped with LocateONE™ can see where their teammates are, monitor who's active, and discern emergency alerts–all without needing any cellular or internet connectivity.

When the host ATAK device maintains a connection to a TAK server, radio-derived positions propagate through ATAK's standard distribution mechanisms into the broader TAK ecosystem, providing centralized situational awareness across mixed environments, even if some field users are radio-only and others are on networked ATAK devices.

System Architecture



BK Technologies® radios broadcast their location packets, which are received on BKR 9000 or BKR 5000 radios which, in turn, send the information to the connected Android device running ATAK with the LocateONE™ plugin installed. The connection happens over Bluetooth LE. ATAK renders these locations on the map of the Android device, and if the Android device is connected to a TAK server, positions get shared upstream through ATAK's normal distribution mechanisms.

The basic flow of location information is:

1. BK Technologies® radio broadcasts location
2. Receiving BKR 9000/5000 receives the location
3. LocateONE LITE™ plugin receives it via Bluetooth
4. Location is decoded and displayed as a map marker in ATAK
5. If connected to TAK server, position shares out to other TAK users

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Radio Setup

For BKR 9000/5000 radios to work with LocateONE™ LITE, software feature option BKR0515 (factory installed) or BKRA0515 (field installed) must be purchased. In addition, ensure the radios are running the latest firmware and have the LocateONE™ LITE option enabled through Radio Editing Software (RES) version 5.15.0. The radios also need Fast Analog Signaling Technique (FAST) set as their communication protocol, which is also configured in RES. Once done, enable Bluetooth on the radio and pair it with the appropriate Android device.

Android Device Requirements

Operating System	Android 10 or later (Android 11+ recommended for improved Bluetooth stability and permission handling)
Connectivity	Bluetooth Low Energy (BLE) with GATT connection and continuous notification streaming support
Location Services	GPS required (internal or external receiver)
Minimum Hardware	4 GB RAM, quad-core processor
Recommended Hardware	Ruggedized, ATAK-certified or mission-proven devices for field deployment
Permissions	Location and Bluetooth permissions granted; battery optimization exclusion recommended for background operation
Network	Required only for TAK server integration; local radio-to-device operation functions in fully disconnected environments

ATAK Integration

LocateONE™ LITE installs as a standard ATAK plugin and is compatible with the current ATAK release 5.5.0. Following installation, the plugin appears as a dropdown tool within the ATAK interface. It leverages ATAK's built-in map engine for rendering and native networking pathways for position distribution.

Local vs. Networked Operation

In environments without network connectivity, LocateONE™ LITE operates entirely between the radio and the local Android device. Location packets are decoded and rendered on the ATAK map in real time. All core capabilities–position mapping, time-to-live tracking, and emergency alerting–remain fully functional without any network dependency.

When the Android device is connected to a TAK server, LocateONE LITE pushes radio-derived locations into ATAK as standard map objects, treated like any other positional data that can be shared with other TAK users. This provides centralized command visibility in mixed environments where some users are on radios and others are on networked TAK devices.

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Emergency Alerts

LocateONE™ LITE detects emergency call flags embedded within radio location packets. When an emergency call flag is detected, discerning visual indicators are displayed on the ATAK map. The LocateONE™ LITE user can configure audible, haptic, and visual alerts on the phone itself, and a cooldown setting is provided to prevent alert fatigue.

Emergency alerts work both offline (as local device alerts) and online (shared through ATAK/TAK if configured).

Data Freshness

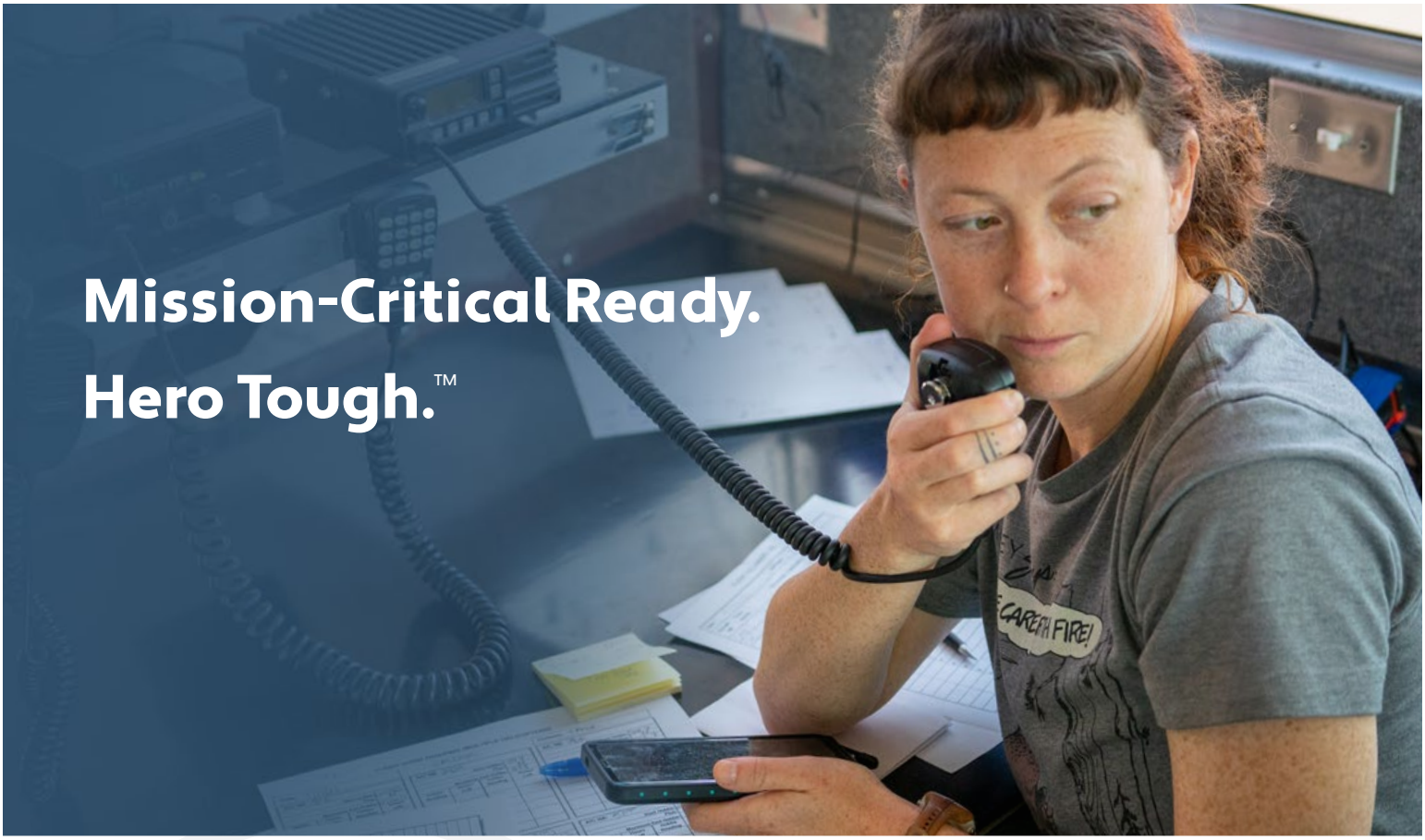
LocateONE™ LITE has built-in time-to-live (TTL) tracking to effectively manage stale data. Each radio location has a configurable TTL whereby if a radio stops reporting, its marker gets visually flagged as stale. Operators can immediately see which locations are current versus historical. TTL settings are configurable within the plugin.

Security Considerations

Data is sent over encrypted Bluetooth connections between the phone and radio. No radio location data gets transmitted externally unless ATAK networking is enabled. TAK server security, authentication, and access control follow existing TAK infrastructure setup. The plugin doesn't bypass any of ATAK's security models.

Summary

LocateONE™ LITE delivers a lightweight, field-ready way to visualize BK Technologies® radio locations inside ATAK without needing additional infrastructure. It works offline or networked, doesn't require any radio data backhaul, integrates cleanly with ATAK and TAK servers, and scales from single-operator scenarios all the way up to multi-node command environments.



For more information visit BKTechnologies.com

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