



WHITEPAPER · MAN

The 20-Minute Problem: Emergency Muster in Large Facilities

An IIIOT Infotech analysis, grounded in deployment data from iProximity
Sense — Manpower Tracking implementations.

IIIOT INFOTECH · BUILDING CONNECTED SUSTAINABLE ECOSYSTEMS

THE PROBLEM

Where this starts

When an emergency evacuation happens, most plants still take a paper roll-call to confirm headcount — a process that can take 20-30 minutes on a large site, precisely when every minute matters most.

100% ZONE COVERAGE	1,400+ WORKER CAPACITY PER SITE	4 Week GO-LIVE TIMELINE	4 min EMERGENCY MUSTER TIME
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Figures reflect outcomes reported across comparable iProximity Sense deployments.

ANALYSIS

What's actually going on

Why paper roll-call doesn't scale with facility size

A paper-based muster process that works adequately for a 50-person office becomes a genuine safety liability at 1,000+ workers across multiple buildings — not because the process is wrong, but because it was never designed for that scale.

What real-time tracking changes structurally during an emergency

Instead of a physical roll-call, an evacuation coordinator gets a live, continuously updating headcount against a known total, with SOS locations for anyone who hasn't checked in — turning a 20-30 minute uncertain process into a sub-4-minute confirmed one.

What good practice looks like

The everyday value that justifies the investment beyond emergencies

Emergency response justifies the platform, but day-to-day value comes from contractor hours tracking, restricted-zone compliance (PTW enforcement), and incident investigation via historical movement replay.

Contact tracing as an underused capability

Beyond safety and compliance, the ability to instantly identify who was co-located with any given worker over any time window has direct value for incident investigation, quality root-cause analysis, and health-related contact tracing when needed.



HOW IIIOT HELPS

iProximity Sense — Manpower Tracking

Complete indoor people tracking and workforce intelligence — real-time positioning, geofencing, and emergency muster via BLE + LoRaWAN.

Real-Time Floor Map Tracking

Every employee appears as a live dot on a digital floor plan; hover to see name, designation, department, battery status and last-seen time.

Dual-Technology Coverage

BLE for room-level precision plus LoRaWAN for building-wide coverage — 100% zone coverage without gaps.

Soft & Hard Geofencing

Soft zones warn and log (entry allowed but flagged); hard zones physically restrict and immediately escalate — configurable by role and designation.

Time Machine Replay

Replay historical movement over any date-time range at 1x/2x/4x speed — a patented audit and incident-investigation tool.

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