midmark®

REAL-TIME LOCATING SYSTEM

CareFlow™ Staff Duress

Prioritize safety, prioritize care

Workplace violence against caregivers is rising at a rate no health system can ignore—up 115% since 2021.[1] It adds pressure to teams already stretched thin, creating environments where caregivers aren't asking *if* something will happen, but *when*.

In response, many organizations have deployed staff duress as a point solution to meet this urgent need. But without a broader strategy for location-based technologies, progress becomes a patchwork of disconnected systems. Security selects one platform for duress. Biomed deploys another for asset tracking. Nursing adopts yet another for clinical workflow automation. The result is duplicated infrastructure, increased IT complexity and limited return on investment.

A better approach starts with staff protection—but is built for more. When RTLS is deployed as an enterprise platform, the same infrastructure that powers reliable duress response can also deliver real-time asset visibility, clinical automation and operational insight. Instead of layering technologies, health systems build a connected foundation that strengthens safety while improving efficiency across departments.

Start with the protection your teams need today. Add capabilities as you grow. It's a foundation that strengthens the entire organization. It's safety—simplified, connected and built to last.

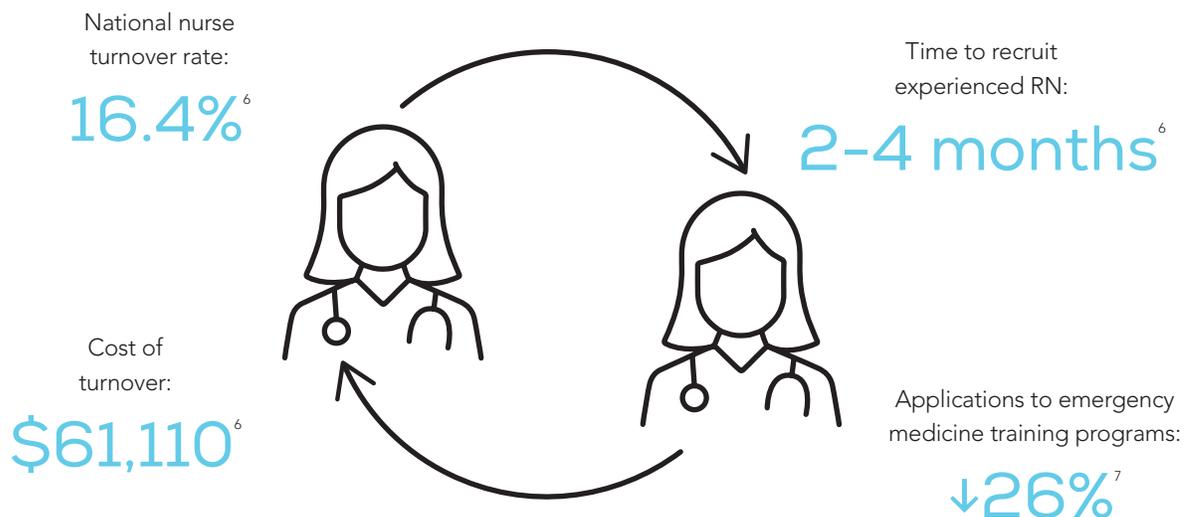# The risks of workplace violence in healthcare

Alarming events

5x
more violent injuries than overall US workforce[2]

115%
increase in violence since 2021[1]

78,000
workplace violence incidents against RNs in 2020— a 290% increase YOY[3]

1 in 4
nurses are assaulted, yet 20-60% go unreported[4]

Impact on staff

13%
of missed workdays are due to workplace violence[1]

$45,000
minimum cost of staff injury[5]

17%
of nurses leave the industry due to lack of safety[6]

Can your healthcare system afford this?

National nurse turnover rate:
16.4%[6]

Time to recruit experienced RN:
2-4 months[6]

Cost of turnover:
$61,110[6]

Applications to emergency medicine training programs:
↓26%[7]

There is a clear call for change.

That's why Midmark offers CareFlow™ Staff Duress to help prioritize safety **and** care.

Send alerts quickly and discreetly
with a personal duress button

Staff members wear an RTLS badge that transmits a signal to the network. In real time, the network detects and displays the staff member's location information. Through the power of RTLS data, quickly responding to violence can be started with a single press of a button. Staff go from thinking, "I'm not sure what will happen next" to "we have a plan for this."

Delivered Value

ENHANCED ALERT DELIVERY
An RTLS staff badge sends a silent, real-time alert to let security teams and other staff members know who is in trouble and where. Clear visuals help responders act immediately and effectively without delaying communication.

INCREASED SAFETY MEASURES
Staff can feel safer, empowered and confident with badges that discreetly alert security teams when they need help. The staff duress solution encourages a safe environment and can have a positive impact on employee performance and patient satisfaction.

MODERNIZED ANALYTICS
Interactive reports transform location data into actionable insights. Robust analytics provide the visualization needed to help understand incident time and location, so you can gauge response efficiency, help determine staffing levels and assess security protocols.

BLE
IR/RF
HYBRID BLE/IR
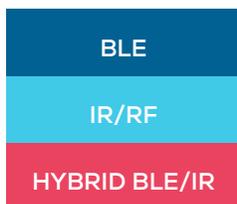
FUTURE-PROOF, SCALABLE RTLS FOUNDATION
CareFlow Staff Duress establishes the infrastructure for a broader RTLS strategy. The same badges, sensory network and software platform can expand to support additional solutions (see pages 8-9)—leveraging your initial investment while enabling future improvements.

Because different RTLS applications require different levels of locating precision, the platform supports multiple technologies. Our infrared (IR) technology delivers the gold standard of room-level or better accuracy, while Bluetooth Low Energy (BLE) provides near-room precision. Color-coded visual cues throughout this brochure identify compatible technologies.

CareFlow™ Staff Duress
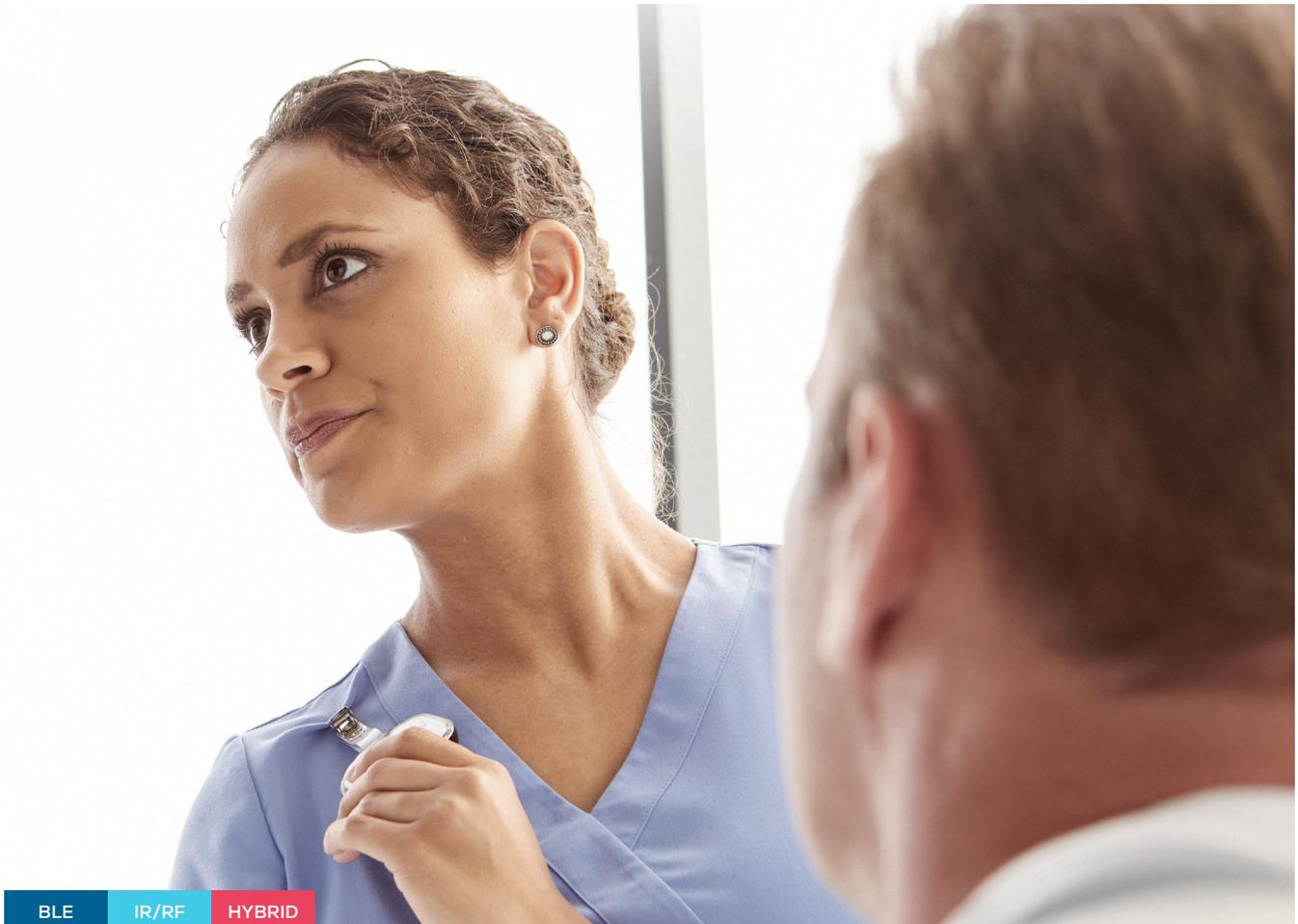
BLE   IR/RF   HYBRID

Provide staff with a discreet way to call for help while giving security teams the real-time visibility needed to respond—while building a foundation for future RTLS solutions.

Safeguard staff during high-risk situations by enabling them to request help at the press of a button. When a duress alert is activated, security teams and designated responders receive immediate notification along with real-time location data—allowing them to quickly identify who needs assistance and where. With visibility to all staff wearing Midmark RTLS badges, responders can visualize the full scope of the incident.

Because Staff Duress is powered by the CareFlow RTLS platform, the same infrastructure can support additional solutions across your health system—including Nurse Call Automation, Asset Tracking and Patient Flow—creating a scalable foundation for future operational improvements.

"Knowing that our hospital places priority on our safety, and gives us a way to call for help, really helps us ease our minds as we care for our patients."

Nurse Manager, Behavioral Health
Western Maryland Health System

What You Get

Type	Badge	Initials	Name	Assist Call Time	Current Location	Time Entered
	60007	AF	Annie Flynn		East Hall	01/08/2024 11:20:58 AM
	60008	BC	Betsy Chilson		West Hall	01/08/2024 11:15:15 AM
	60001	BS	Bobbie Spencer		Exam Rm 1106	01/08/2024 11:16:13 AM
	60002	CR	Carmen Roberts		Exam Rm 1104	01/08/2024 11:16:41 AM
	60010	CB	Catherine Barkley		Triage 1	01/08/2024 11:18:41 AM
	60011	KL	Kate Taylor	11:33:37 AM	South Hall	01/08/2024 11:18:51 AM
	60009	LB	Larry Buxton		Clean Utility	01/08/2024 11:18:32 AM

VISUAL LOCATION CUES

Quickly and easily find staff when they are in need of help with distinct icons and color-coding. When the duress button is pressed, the staff member's icon changes to a red triangle and their name is highlighted in yellow.

CENTRALIZED INCIDENT MANAGEMENT

The CareFlow Staff Duress application provides a centralized location for security teams to view and resolve duress incidents.

Timestamps of every action logged during a duress incident, including any associated alerts sent to other CareFlow or third-party applications, are captured and viewable.

POP-UP ALERTS

Automated desktop alerts appear on top of open applications—so they're less likely to be overlooked.

ANALYTICS + BENCHMARKS

Better understand how to improve your incident procedures and make more informed decisions. The included Incident Response report provides detailed metrics on who signaled for help, the day/time of each incident and how long each remained open. The Staff Calls report (purchased separately through the CareFlow Analytics suite), provides greater flexibility to visualize resolution metrics.

Additional CareFlow™ Solutions

BLE IR/RF HYBRID

ASSET TRACKING + MANAGEMENT

Enable nursing and biomedical teams to easily locate equipment, improving workflow and patient care efficiency. With the included PAR Management feature, track inventory levels of key mobile equipment throughout the hospital, helping to inform redistribution routines.

Built on the same RTLS infrastructure as Staff Duress, Asset Tracking + Management can be quickly and cost-effectively implemented, helping reduce expenses by maximizing use of your existing asset fleet.

IR/RF HYBRID

NURSE CALL AUTOMATION

Automate your nurse call system with location data. Nurses wearing RTLS badges can cancel a patient call automatically with their presence, allowing immediate focus on the patient and accurate metrics on response times.

IR/RF HYBRID

PATIENT FLOW

Improve care delivery with real-time visibility into patients, staff and equipment across your facility. CareFlow Patient Flow uses RTLS data to reduce wait times, streamline workflows and optimize space utilization for a more efficient care experience.

BLE IR/RF HYBRID

ANALYTICS

Transform real-time location data into actionable insights. CareFlow Analytics helps healthcare leaders understand staff interactions, movement patterns and time in locations to improve workflows, reduce bottlenecks and support data-driven decisions.

Interfaces

Create a seamless architecture for a connected healthcare ecosystem, by integrating CareFlow RTLS with your EMR, Alarm Management and other systems with interfaces available through one simple subscription.

BLE · IR/RF · HYBRID

STAFF DURESS FOR EPIC

The CareFlow Staff Duress interface to Epic—currently under construction in the Epic Toolbox—extends staff safety into the EMR. When the badge button is pressed, designated responders will be notified through Epic's push notification framework.

BLE · IR/RF · HYBRID

ALARM MESSAGING

Send staff duress and other notifications from CareFlow RTLS to mobile phones and other devices via your middleware, ensuring the right alerts reach the right responders—instantly and reliably.
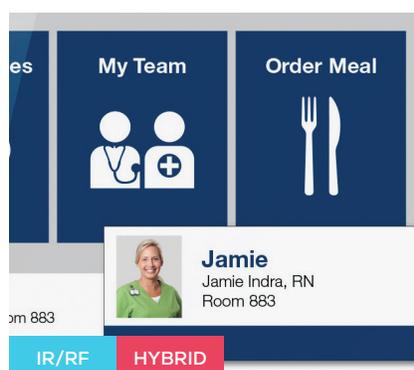

IR/RF · HYBRID

ALARM MANAGEMENT

Make your middleware smarter with real-time location data. When caregivers are in the patient room, suppress alarms from going to their phones, minimizing alarm fatigue and creating a calmer care environment.
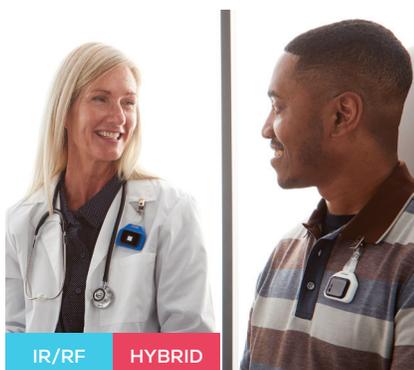
IR/RF · HYBRID

ELECTRONIC MEDICAL RECORDS (EMR)

Leverage your Epic investment to its fullest potential. CareFlow RTLS—now part of the Epic Toolbox—integrates real-time location data to automate workflows, cut manual tasks, and allow teams to focus on care—not clicks.

IR/RF · HYBRID

PATIENT ENGAGEMENT

Create a positive, interactive care experience by providing location data to patient engagement systems. As a caregiver enters the patient room, their credentials are displayed on the TV to inform and put the patient at ease.
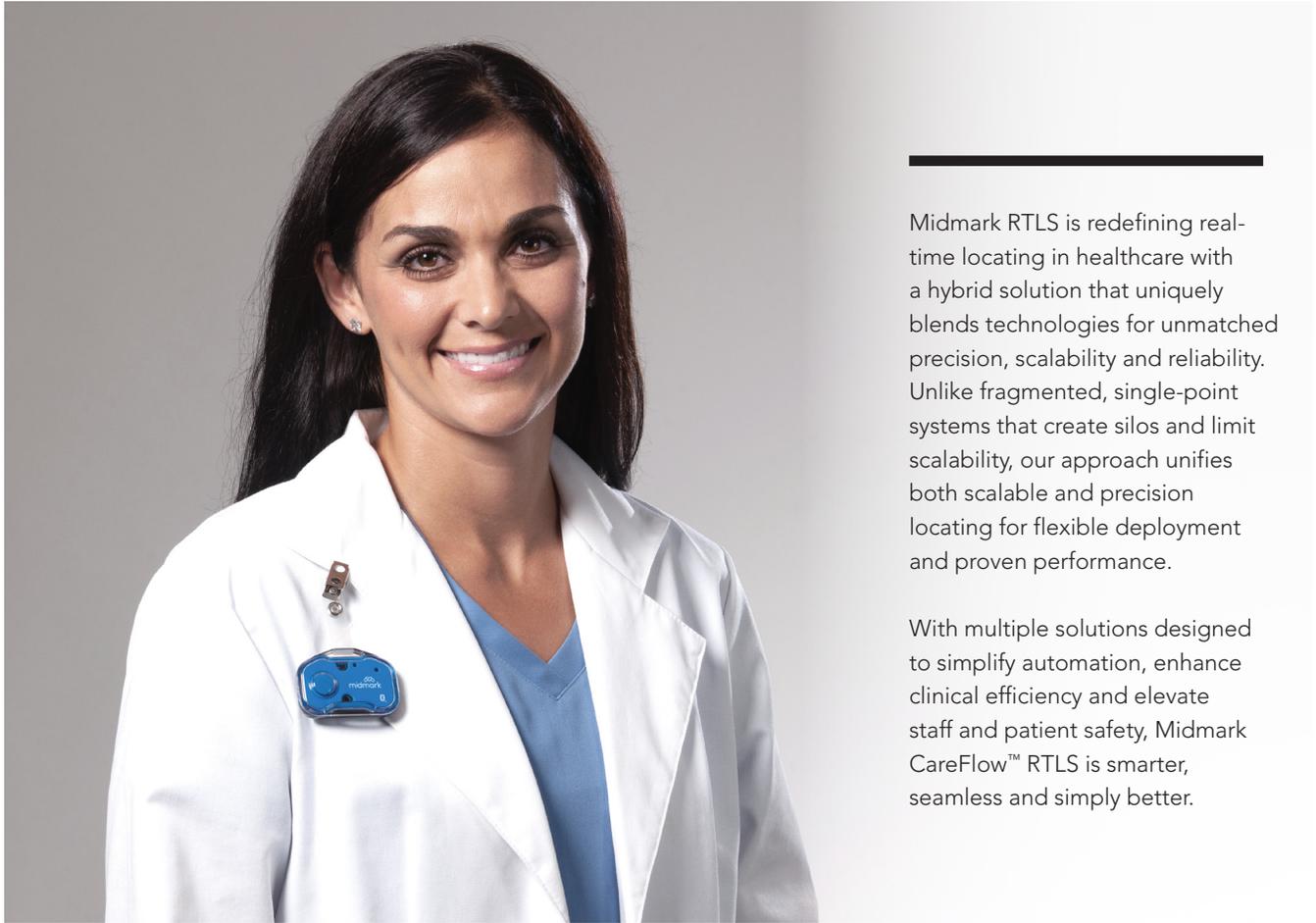

BLE · IR/RF · HYBRID

SMART IV PUMPS

Our smart IV pump interface allows you to know whether or not an IV pump is in use—a perfect complement to our Asset Tracking solution.

RTLS Simplified

Midmark RTLS is redefining real-time locating in healthcare with a hybrid solution that uniquely blends technologies for unmatched precision, scalability and reliability. Unlike fragmented, single-point systems that create silos and limit scalability, our approach unifies both scalable and precision locating for flexible deployment and proven performance.

With multiple solutions designed to simplify automation, enhance clinical efficiency and elevate staff and patient safety, Midmark CareFlow™ RTLS is smarter, seamless and simply better.

Our hybrid approach to real-time locating bridges innovative, scalable Bluetooth® Low Energy (BLE) with precision Infrared (IR) technology—supporting multiple solutions on a single, adaptable platform.

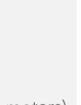## A FUTURE-PROOF RTLS FOUNDATION

BLE offers a fast, simple way to enable facility-wide RTLS coverage with minimal disruption, delivering rapid ROI and immediate visibility for critical use cases. Start by deploying BLE for Staff Duress and Asset Tracking—then layer on Wired or Wireless IR Sensors to deliver room-certain accuracy, enabling advanced workflows like nurse call automation, patient flow and delivering location intelligence to Epic and other EMRs.

A SMARTER PATH TO FACILITY-WIDE RTLS

For many healthcare facilities, nurse call automation was the starting point of their IR investment—now it can be the foundation for so much more, including staff duress, asset tracking and additional workflow automation for better patient flow. Maximize the value of your existing IR infrastructure by layering on BLE to extend location visibility across the entire facility. It's a fast, flexible way to scale RTLS while leveraging the value of existing investments.

Built to meet you where you are on your locating journey

Our hybrid approach provides future-proofing and flexibility. Start with a cost-effective BLE foundation and add room-certain precision only when (and where) it's needed. Or, add BLE onto an existing IR system for facility-wide coverage.

SENSORY NETWORK	BLE	Wireless IR	Wired IR
LOCATION METHOD	**Bluetooth**®	Infrared	Infrared
GRANULARITY	Near Room-Level (<5 meters)	Room/Bed/Chair Level	Room/Bed/Chair Level
POWER SOURCE	Plug-In Sensors / Access Points	Battery	Low Voltage Wiring

BLE SENSORY NETWORK

BLE technology is less expensive to deploy and uses an algorithm to estimate the location of a badge or tag to the near-room level (within 3-5 meters). Due to the low-power nature of BLE signals, badges and tags are often smaller, or have longer-lasting battery life. BLE technology is suitable for use cases where definitive room-certain location is not required.

- Asset Tracking
- Staff Duress
- Interfaces that require simple location visibility

WIRED OR WIRELESS IR SENSORY NETWORK

Infrared uses a sensor in each location to provide highly accurate room-, bed- and chair-level locating for use cases where a person or asset needs to be definitively located. Wired IR is nearly maintenance free, while Wireless IR trades cost-effective, easy installation for battery management.

- Nurse Call Automation
- Patient Flow
- EMR, Patient Engagement and other interfaces

HYBRID SENSORY NETWORK

With Hybrid RTLS, facilities can start with BLE as a fast, cost-effective entry point. Interoperable Wireless IR can then be added to specific areas to enable room-certain accuracy for clinical automation use cases. Or, layer BLE onto existing IR infrastructure to quickly expand coverage.

- BLE supports facility-wide RTLS solutions such as asset tracking and staff duress
- IR is used in patient care areas for room-certain precision to automate clinical workflows

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BLE Sensory Network

Our Bluetooth® Low Energy (BLE) Sensory Network delivers scalable, near-room visibility using existing BLE-capable access points or plug-in BLE sensors for quick, cost-effective deployment. As a flexible entry point, BLE is ideal for critical use cases such as Asset Tracking and Staff Duress, and can also be layered onto an existing IR network to extend visibility for facility-wide coverage. Add Wireless IR to achieve the right balance of precision and price.

BLE-CAPABLE ACCESS POINTS
Smarter RTLS starts with existing systems. Healthcare facilities with BLE-capable access points can rapidly deploy scalable RTLS by leveraging their current infrastructure.

PLUG-IN BLE SENSORS (V2)
When your facility's networking infrastructure isn't yet BLE-capable, Midmark RTLS Plug-In BLE Sensors provide fast, scalable deployment. Our second-generation sensor delivers dual-band Wi-Fi connectivity and provides 3-5 meter location accuracy.

PLUG-IN BLE SENSORS (V1)
While our second-generation sensor offers notable improvements, cost-conscious facilities may prefer the first-generation model. Providing the same 3-5 meter location accuracy, this sensor supports single-band, 2.4GHz Wi-Fi connectivity.

Compatible Badges

BLE BADGE

Lightweight and reliable, the BLE Badge powers CareFlow Staff Duress—supporting discreet personal duress alerts. With an 18-month battery life and a design that integrates easily into staff's existing ID stack, it fits seamlessly into everyday workflows.

BLE/IR CLEARVIEW BADGE

Our BLE/IR Clearview Badge sets the standard for durability and accuracy. With a replaceable battery and up to 2 years battery life, BLE-only deployments may utilize the BLE/IR badge for easy expandability into future room-certain workflows.

CLEARVIEW BADGE INSERTS

Choose the color that matches your facility, or creatively color code badges based on staff roles. The possibilities are endless. Clearview comes in White, Red, Blue, Yellow and Green. Custom options also available.

Compatible Asset Tags

BLE MICRO ASSET TAG

The smallest asset tag available, the Micro BLE Asset Tag helps track easily lost, small equipment providing near-room location within 3-5 meters. Battery life of up to one year.

BLE ASSET TAG

With a battery life of up to three years, this compact asset tag provides the perfect foundation to locate most mobile equipment within 3-5 meters.

BLE/IR ASSET TAG

The BLE/IR Asset Tag provides room-certain location where IR sensors are installed and near-room location where BLE coverage exists. Battery life of up to one year depending on time in motion.

Wireless IR Sensory Network

Achieve room-certain precision without wiring. Our battery-powered Wireless IR Sensor is interoperable with BLE-capable APs or Plug-In Sensors, installing quickly and cost-effectively with no additional hardware needed. Ideal for existing environments or phased RTLS expansions, Wireless IR can be layered onto BLE to add precision where it matters most—supporting advanced clinical automation and room-certain accuracy in patient care areas.

WIRELESS IR SENSORS

Wireless IR Sensors receive IR signals from BLE/IR badges and tags to create locations as small as a 4-foot radius. Battery operated and roughly the size of a smoke detector, they use BLE-capable APs on Plug-In Sensors to communicate location data to CareFlow RTLS.

BLE-CAPABLE ACCESS POINTS

Healthcare facilities with BLE-capable APs can rapidly deploy scalable RTLS by leveraging their current infrastructure. APs receive precise location data from Wireless IR Sensors while also delivering near-room location information as a backup to IR or for BLE-only badges and tags.

PLUG-IN BLE SENSORS (V1 OR V2)

When your facility's networking infrastructure isn't yet BLE-capable, Midmark RTLS Plug-In BLE Sensors provide fast, scalable deployment. Like BLE-capable APs, these sensors receive precise location data from Wireless IR while also delivering near-room location information.

Compatible Badges

BLE/IR CLEARVIEW™ BADGE
Our BLE/IR Clearview Badge provides room-certain location where IR sensors are installed and near-room location where BLE coverage is available. It offers superior battery life and a functional, easy-to-wear design.

CLEARVIEW BADGE INSERTS
Choose the color that matches your facility, or creatively color code badges based on staff roles. The possibilities are endless. Clearview comes in White, Red, Blue, Yellow and Green. Custom options also available.

BLE BADGE
For staff who only need duress capability—without precise, room-certain location—the lightweight BLE Badge can be located with near-room accuracy within the Wireless IR Sensory Network.

Compatible Asset Tags

BLE/IR ASSET TAG
The BLE/IR Asset Tag provides room-certain location where IR sensors are installed and near-room location where BLE coverage exists. Battery life of up to one year depending on time in motion.

BLE ASSET TAG
With a battery life of up to three years, this compact asset tag provides the perfect foundation to locate most mobile equipment within 3-5 meters.

BLE MICRO ASSET TAG
The smallest asset tag available, the Micro BLE Asset Tag helps track easily lost, small equipment providing near-room location within 3-5 meters. Battery life of up to one year.

Wired IR Sensory Network

When installing IR facility-wide, use our 7th generation Wired IR/RF Sensory Network, featuring small, discreet ceiling-mounted sensors.

Exchange RF for BLE, and Wired IR can also be the room-certain foundation for a hybrid BLE/IR system, with BLE extending visibility beyond patient care areas for facility-wide RTLS solutions.

Once installed, little to no maintenance is required, offering a low total cost of ownership and the precision necessary to drive workflow automation.

WIRED IR SENSORS

Our discreet IR Sensors (2.75"W x 1"D) receive badge and tag signals to create room-, bed- or chair-level locations as small as a 2-foot radius. Sensor Plus includes a USB port to power BLE beacons for wayfinding applications.

WIRED RF SENSORS

When Wired IR is deployed facility-wide, we pair with RF sensors to receive button push and battery status data from IR/RF devices. In a hybrid BLE/IR system, RF is replaced with BLE-capable APs or plug-in sensors for the same function—plus extended locating capabilities.

COLLECTOR + CONCENTRATOR

The Concentrator (shown, with punchdown block) and Collector (both 5.25"W x 1.625"D x 5.5"H) are the backbone of the Wired IR Sensory Network. Concentrators receive data from up to four Collectors, which each receive data from up to 24 wired sensors.

Compatible Badges

IR/RF CLEARVIEW™ BADGE
Used in facility-wide IR/RF deployments, the IR/RF Clearview Badge sets the standard for durability and accuracy. With superior battery life and a functional, easy-to-wear design, Clearview stands the test of time.

BLE/IR CLEARVIEW BADGE
For use in hybrid environments, the BLE/IR Clearview Badge provides room-certain location where IR sensors are installed and near-room elsewhere with BLE coverage.

IR/RF CLEARVIEW MINI BADGE
The IR/RF Clearview Mini can be worn on the wrist using our silicone accessory (sold separately), a hospital wrist band, or on the lapel using the included clothing clip or our silicone accessory (sold separately).

Compatible Asset Tags

IR/RF ASSET TAG
A reliable RTLS tag for room-level (or better) accuracy. Exceptional battery life of up to two years, depending on time in motion.

IR/RF MINI ASSET TAG
Same locating technology and precision in a smaller size. Exceptional battery life of up to two years, depending on time in motion.

BLE/IR ASSET TAG
The BLE/IR Asset Tag provides room-certain location where IR sensors are installed and near-room location where BLE coverage exists. For use in hybrid environments, it delivers up to one year of battery life depending on time in motion.

Additional Accessories

Enhance your RTLS investment and equip your facility or health system with these additional accessories for the Wired and Wireless IR Sensory Networks.

ADA BADGE STORAGE CABINET
Place IR/RF or BLE/IR badges in a "non-active" zone and preserve battery life. Meets Americans with Disabilities Act (ADA) standards for accessible design. Available in wired and wireless configurations.

ADA BADGE DROP BOX
Make returning IR/RF or BLE/IR patient badges easy with our ADA-compliant Badge Drop Box. Used to automate the patient discharge process with EMR integrations and CareFlow Patient Flow. Available in wired and wireless configurations.

REMOTE STATION
The Remote Station is a small, wireless RF or BLE device that can be mounted on a wall or other surface to initiate a preprogrammed response (e.g., identify room status, call for vital signs, call for staff assist or duress).

FOCUS KIT
Looking to focus your IR sensors for increased precision? Our inexpensive Focus Kits easily configure Wired and Wireless IR Sensors to achieve bed- and chair-level precision.

RACK MOUNT SYSTEM
Integrate your Midmark RTLS Wired IR Sensory Network with your existing rack mount architecture using our Rack Mount System for Collectors and Concentrators.

IR BADGE TESTER
Check the status of IR badges or tags using our hand-held Badge Tester. The LCD screen shows a reading of badge/tag ID number, battery state, IR signal type, motion state and alarm state.

What you get
# with Midmark

SUCCESS COACHING + EXPERT PROJECT MANAGEMENT

Our Success Coaches are available every step of the way, pre-sale to post-go-live, helping you with decision making, change management and process improvement using RTLS data. They'll work together with our highly knowledgeable in-house clinical experts and regionally-certified System Integrators, using a proven methodology for successfully deploying CareFlow RTLS in the clinical environment.

COMPREHENSIVE EDUCATION, IN-PERSON + VIRTUAL

An experienced nurse educator from our Clinical Solutions team or your local System Integrator will conduct onsite training for super users on best practices for wearing badges, using software and running reports. For our Advanced Patient Flow customers, we also provide System Analyst education that enables your team to configure and support the system. In addition, on-demand virtual tutorials are available through our online knowledge base.
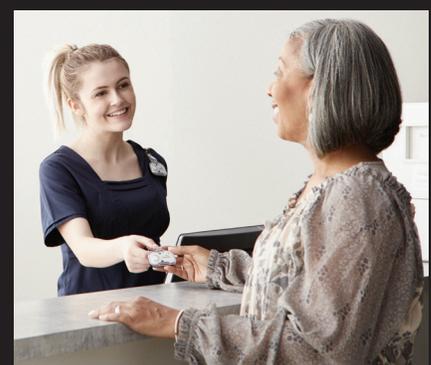
EXTENSIVE, TIME-TESTED WORKFLOW EXPERTISE

For more than three decades, we've helped health systems improve operations and create better experiences for patients, nurses, providers and staff. From simple asset tracking to complex patient flow solutions, which we pioneered more than 15 years ago, Midmark RTLS and our nationwide network of local support offers the proven expertise your health system needs to catalyze positive change using accurate, reliable technology.

SOURCES

1 "Managing the risk of violence against health care workers: Effective solutions needed." Medical Economics. July 2023.

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4 "Protect Yourselves, Protect Your Patients." American Nursing Association. 2021.

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6 "The cost of nurse turnover in 24 numbers." Becker's Hospital Review. April 2025.

7 National Resident Matching Program. 2023.

Designing better care.®

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