midmark®

REAL-TIME LOCATING SYSTEM

On-Premises Outpatient Clinic Workflow Solutions

Rethink patient flow for a **better care experience**

The way we provide and receive healthcare is changing every day. The COVID-19 pandemic has caused health systems to rethink care in a way that prioritizes safety, minimizes exposure to contagions and makes time spent in the clinic as optimized as possible. At the same time, patient volumes in outpatient clinics continue to increase as growing populations seek care for chronic and infectious diseases.[1] With all of these changes, creating a safer, more efficient patient experience is more important than ever.

Thankfully, technology can play a significant role in creating this experience. By limiting risks and measuring operational data, you can use technology to both safely increase patient throughput and design a better patient-caregiver experience.

Inefficiency may be preventing your clinic from improving patient care

To successfully respond to increasing patient volumes, your clinic needs to operate like a well-oiled machine. However, the majority of outpatient clinics today are plagued by inefficiencies, known and unknown. How many of these problems have you experienced in your health system?

LONG PATIENT WAIT TIMES
Your patients wait too long for care, resulting in frustration and low patient satisfaction scores.

TOO MANY PATIENTS, TOO LITTLE TIME
Patients have to wait weeks, even months for appointments, and your staff operates in a continuous state of chaos.
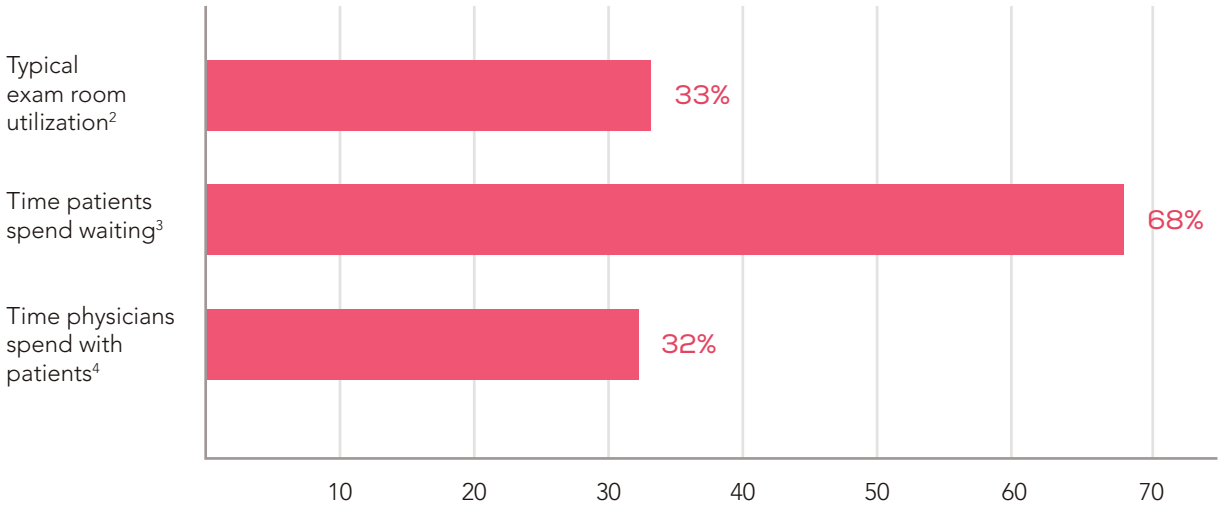
DECISION-MAKING WITHOUT DATA
Lack of data about operations makes it difficult to make informed decisions to improve clinical workflow.

STAFF BURNOUT AND HIGH TURNOVER
Staff are constantly juggling several administrative tasks, like excessive, manual electronic medical record (EMR) data entry, figuring out which rooms are ready for the next patient and searching for colleagues and equipment. They're exhausted and burned out.

The effects of inefficient workflow

Category	Value
Typical exam room utilization[2]	33%
Time patients spend waiting[3]	68%
Time physicians spend with patients[4]	32%

(x-axis: 10, 20, 30, 40, 50, 60, 70)

What do optimal clinical operations look like?

Now, imagine an ideal day at your clinic, where each patient efficiently receives the care they need and staff feel empowered, fulfilled and energized by their work:
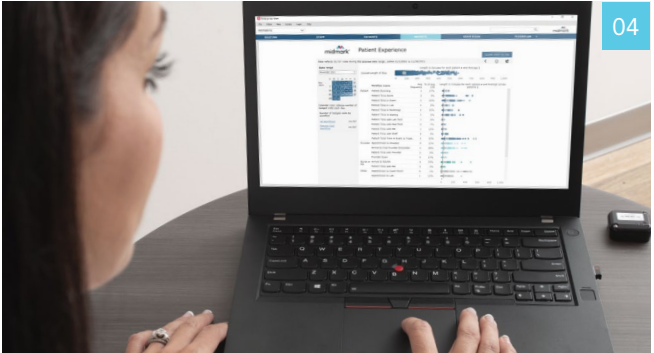
01 SELF-ROOMING/DIRECT ROOMING
Patients bypass the waiting room and go directly to the exam room, limiting exposure to contagions and improving the patient experience.

02 INCREASED PATIENT THROUGHPUT + CAPACITY
Clinic managers can utilize clinical space effectively and add additional patients or providers to the practice.

03 PRODUCTIVE, ENERGIZED STAFF
Staff are organized and always aware of their colleagues' and patients' whereabouts, facilitating more efficient coordination and communication.

04 AUTOMATIC, EFFORTLESS DATA COLLECTION
Accurate, insightful data collection takes place in the background throughout the workday to fuel process improvement efforts.

Impact workflow
across your entire clinic

What if you could have a bird's-eye view of colleagues, patients and equipment in your practice in real time? With RTLS, you can. Using badges (worn by people), tags (affixed to equipment) and sensors (placed in the ceiling throughout the facility) as well as sophisticated software, Midmark RTLS gathers location data and turns it into actionable insights to improve workflow and the delivery of care.

Midmark RTLS customers gain measurable improvements:[5]

10%
increase in clinic capacity

30%
increase in provider productivity

15 MINUTES
reduction in time patients spend in the waiting room

FOR ONE CUSTOMER, IMPLEMENTING MIDMARK RTLS RESULTED IN A 67% INCREASE IN EXAM ROOM UTILIZATION.

Industry average exam room utilization	33%
Exam room utilization before RTLS	30%
Exam room utilization after RTLS	50%
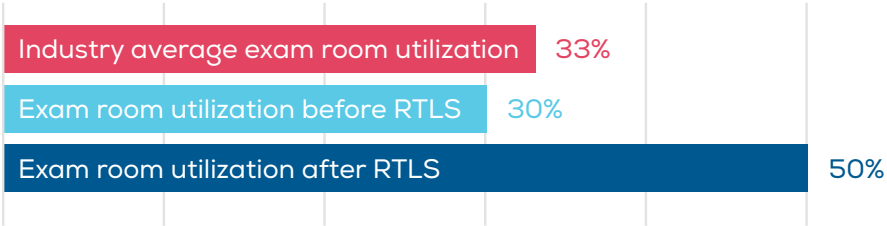
AUTOMATE CONTACT TRACING
Quickly identify who (and what equipment) may have been exposed to an infected individual and for how long they were exposed.

REDUCE WAIT TIME WITH SELF/DIRECT ROOMING
See patient status in real time to provide a prompt patient experience or eliminate the waiting room with self-rooming or direct rooming.

MAXIMIZE CAPACITY AND SEE MORE PATIENTS
Know the status of each room and its usage patterns to help provide care to more patients.

IMPROVE WORKFLOW
Collect operational data in the background to make data-driven process improvements for workflow efficiency.

Clinical operations, as
never seen before

Midmark RTLS offers an entry level option for simply locating for patients, staff and equipment, with an easy upgrade path to automate workflow and collect valuable data to fuel your process improvement efforts.

ENHANCE COMMUNICATION IN YOUR CLINIC.

Midmark RTLS Enterprise View® allows you to quickly find patients, staff and equipment on a digital blueprint displayed on computer monitors and Glance-and-Go™ boards. This facilitates better communication to:

- Create self-rooming or direct-rooming workflows
- Optimize room turnover
- Communicate when rooms need disinfecting
- Improve patient flow
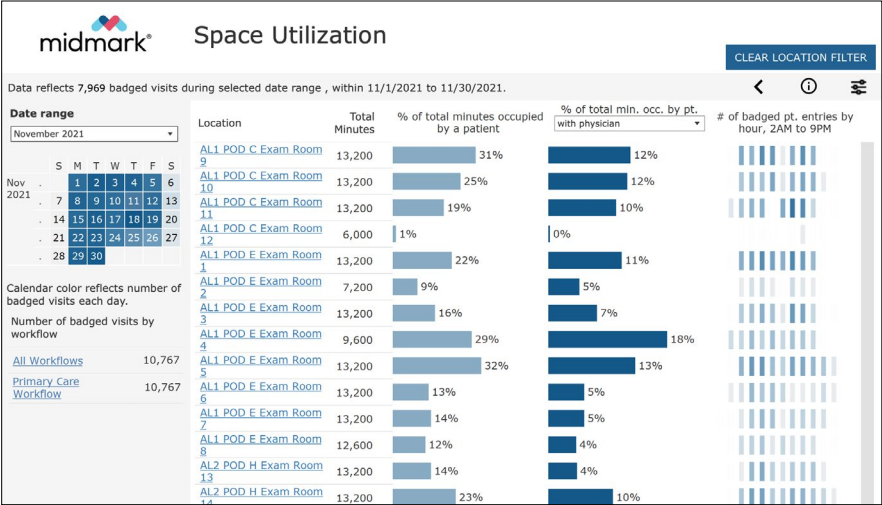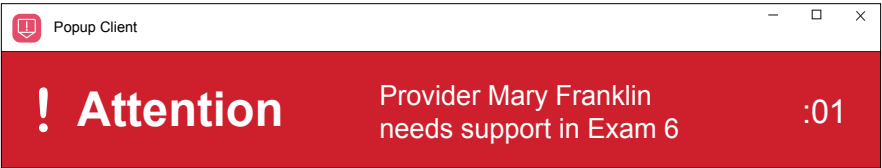- Increase resource utilization

KEEP PATIENT VISITS MOVING SMOOTHLY.

Provide timely care to your patients and help your staff increase productivity with Enterprise View List, an automatically updated electronic whiteboard.

Badge #	Patient ID	Patient Name	Appt Time	Reason for Visit	Provider	Current Location	Alone Time
561234	ID561234	Amelia C	10:00 AM	Seasonal Allergies	Flores, L	Exam 1	00:01
567413	ID567413	Chad R	9:20 AM	Consultation	Larson, H	Exam 7	
565622	ID565671	Daniel E	9:00 AM	Follow Up	Franklin, M	Exam 2	
563871	ID563871	Elizabeth E	9:15 AM	Sore Throat	Franklin, M	Exam 6	
563794	ID563794	Grant W	9:35 AM	Ear Infection	Larson, H	Laboratory	
564543	ID564543	Ian J	9:45 AM	Cholesterol Screening	Franklin, M	Exam 5	00:10
563485	ID563485	Liu W	9:45 AM	Seasonal Allergies	Flores, L	Exam 10	00:08
569214	ID569214	Sofia P	9:45 AM	Follow Up	Larson, H	Exam 9	

HELP PROVIDERS FOCUS ON THE PATIENT.

By simply pressing the button on their Midmark RTLS badge, providers can request support in the exam room without leaving the patient.

FUEL PROCESS IMPROVEMENT WITH DATA.

Every moment is an opportunity to collect data for process improvement. Our reports are packed with insight on patient throughput, provider productivity, resource utilization and other key performance indicators (KPIs) for a snapshot of current operations.

And if a contagious patient enters the clinic, our Contact Tracing reports ensure a faster, simpler way to identify potential exposures, powered by accurate RTLS data.

"We're empowering staff to manage and distribute resources more effectively. Analyzing RTLS data for continuous improvement aids our efforts to improve the experience for both patients and caregivers."

Rodney Haas
Vice President of Operational Excellence
University of Minnesota Health Clinics and Surgery Center

Patient Flow Optimization to fit your clinic's goals

We offer a smart approach to RTLS automation with three progressively sophisticated levels of our Patient Flow Optimization solution.

LEVEL ONE: BASE
Get started with Base Patient Flow Optimization—simple visibility to the real-time and historical location of patients, staff and assets with the sensory network you need for more complex workflows. Without the complexity of workflow rules and alerts, it's quick to implement and easy for staff to learn.

LEVEL TWO: EXPRESS
Take RTLS to the next level and optimize operations. Our Express solution offers a fixed, non-configurable set of basic workflow rules and KPIs that standardize across multiple clinics. Express is a great choice for Primary Care and Urgent Care Clinics.

LEVEL THREE: ADVANCED
If you are an oncology clinic, eye care clinic or multi-specialty clinic, our Advanced solution is right for you. Clinics that use our Express solution can also upgrade to Advanced. We'll work with you to develop unique performance metrics and rule sets to achieve your specific goals.

| Features	Level One: Base	Level Two: Express	Level Three: Advanced
Badge Assignment Interface	Optional	Basic	Configurable
Asset Visibility	Basic	Basic	Configurable
Workflow Cues + Prompts		Fixed	Configurable
Provider Support (Button Press)		●	●
Floorplan View	●	●	●
Patient + Staff List Views	Location Only	●	●
Additional Views		Fixed	Configurable
Reporting (includes Contact Tracing)	Basic	Full-Featured	Full-Featured

HOW WE APPROACH WORKFLOW OPTIMIZATION.
When looking at the many ways RTLS can be implemented, it can be difficult to know where to start. We've developed this three-level approach to help your health system and staff adapt to RTLS and reap its benefits at varying levels of complexity.

New customers can start with our Base or Express solutions to become familiar with the technology before configuring workflows with the Advanced solution. Your investment is applied forward as you upgrade, making your RTLS journey easy and predictable for budgeting.

Level One: Base Patient Flow Optimization

Start with our Base solution for real-time and historical visibility into patient, staff and asset locations, allowing you to improve communication and patient care.
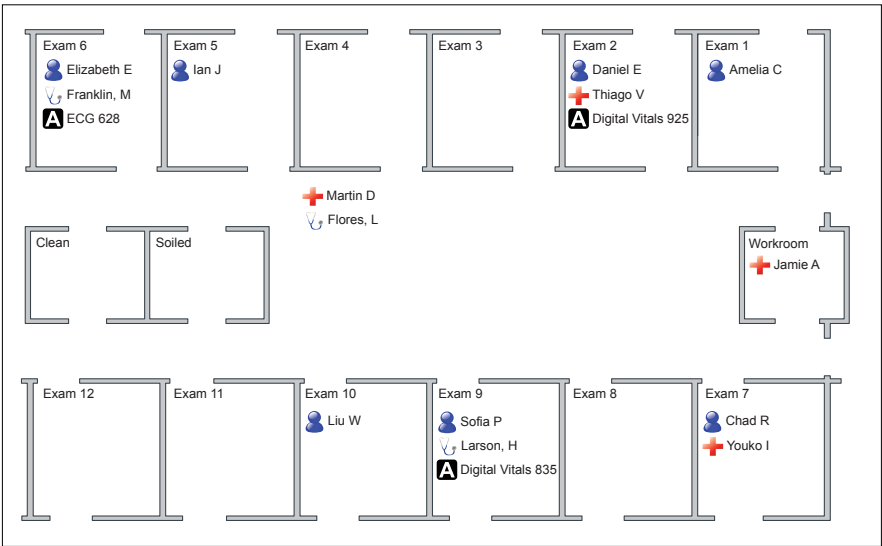
A DIGITAL BLUEPRINT WITH REAL-TIME VISIBILITY.
Searching for colleagues, patients and equipment decreases productivity, increases patient wait times and generally can be a waste of time. On the Enterprise View Floorplan, you can see at a glance where people and equipment are in your clinic, saving time and boosting efficiency.

A DIGITAL WHITEBOARD FOR BETTER COMMUNICATION.
Sort location data and other information in easy-to-use List Views for both Patients and Staff.

- Current patient/colleague location
- Length of time patients/colleagues have been in a location
- Notes field for communication on patient/staff status

Badge #	Patient Name	Current Location	Time Entered	Patient Notes
561234	Amelia C	Exam 1	1/07/2019 9:58:10 AM	
567413	Chad R	Exam 7	1/07/2019 9:16:02 AM	Waiting for labs
565622	Daniel E	Exam 2	1/07/2019 9:02:15 AM	
563871	Elizabeth E	Exam 6	1/07/2019 9:16:32 AM	
563794	Grant W	Laboratory	1/07/2019 9:32:10 AM	
564543	Ian J	Exam 5	1/07/2019 9:42:56 AM	Mobility issues
563485	Liu W	Exam 10	1/07/2019 9:46:38 AM	

AUTOMATED CONTACT TRACING + OPERATIONAL DATA.
Leverage RTLS to understand patterns of how patients and staff move throughout the clinic. Contact Tracing reports allow you to quickly see who (or what equipment) may have been exposed to a contagious individual, and for how long.

Primary exposures occurring at or before 11:59PM by location

Name	ID	Group	Total time	Location	# in loc.	Time in loc.	Longest exposure
Aubrey Maddoux	7374972132818	Staff	152.3 ●	AL1 Services Lab Draw 1	19	53.7	18.0
				AL1 Services Lab	27	98.6	14.6

Seconary exposures via Aubrey Maddoux by location

Name	ID	Group	Total time	Location	# in loc.	Time in loc.	Longest exposure
Carole Nachbar	898501518773433	Staff	43.1 ●	AL1 POD E Breakroom	2	42.7	41.7
				AL1 Services Nurse Office 2	2	0.4	0.3
Devon Egleston	28965449442342	Staff	39.8 ●	AL1 POD E Breakroom	3	38.0	32.2 ●
				AL1 Services Lab	1	0.2	0.2

Level Two: Express Patient Flow Optimization

Implement our Express solution to quickly gain the benefits of RTLS automation with our most popular workflow rules and KPIs for Primary Care Clinics.

MULTIPLE VIEWS INTO YOUR CLINIC.

Real-time data in multiple formats to enhance communication.

- Registration/Waiting Room View
- Patient-Centric View
- Room-Centric View
- Staff View
- Floorplan Views

| Status	Room	Patient	Current Location	Clinical	Provider	Time Alone	OLOS	Room Notes
	Exam 1	Amelia C	Exam 1			00:01	00:03	
	Exam 2	Daniel E	Exam 2	➕			00:59	
	Exam 3							Barrier Free Exam
	Exam 4							Bariatric Exam
	Exam 5	Ian J	Exam 5	➕		00:10	00:18	
	Exam 6	Elizabeth E	Exam 6	➕	🩺		00:44	
	Exam 7	Chad R	Exam 7	➕			00:19	Consultation Only
	Exam 8							

OPERATIONAL INTELLIGENCE.

Receive real-time cues to keep patient flow progressing.

- Patient experience timers for time alone and overall length of stay
- Visual management of room status and patient wait times on floorplan, including which rooms need disinfecting and which are clean and ready for new patients
- Presence/footprint icons (Who has seen the patient? Who has not seen them yet?)
- Provider support alerts

INFORMATIVE REPORTS.

Our collection of reports creates insight from RTLS data, including:

- Patient Experience
- Contact Tracing
- Interactions
- Staff Activity
- Space Utilization
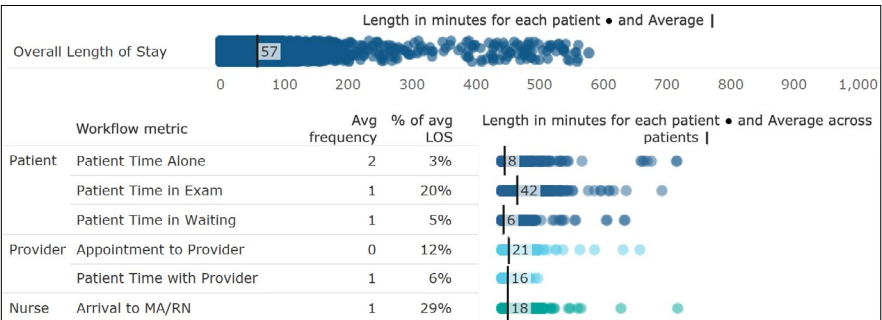
Level Three: Advanced Patient Flow Optimization

For multiple workflows and advanced rule sets, this solution offers flexibility to work with your clinic's specific needs.

DO MORE WITH OUR ADVANCED SOLUTION.

Build on the Express workflow and tailor RTLS for your facility's needs with our Advanced solution, which includes additional workflow cues and prompts, configurable alerts, and additional room status options.

Our Advanced solution can be used to:

- Track additional processes (e.g., labs, infusion)
- Configure alerting options based on patient and staff workflow
- Document the presence of multiple staff types (e.g., dietitians, fellows, internists, counselors)
- Create additional room status metrics for more visibility into utilization

Additional products to consider

BI-DIRECTIONAL EMR INTERFACES

Midmark RTLS interfaces with virtually all EMR systems, including Epic®. A bi-directional RTLS-EMR interface facilitates the flow of automatically collected data from the RTLS to the EMR, reducing manual data entry.
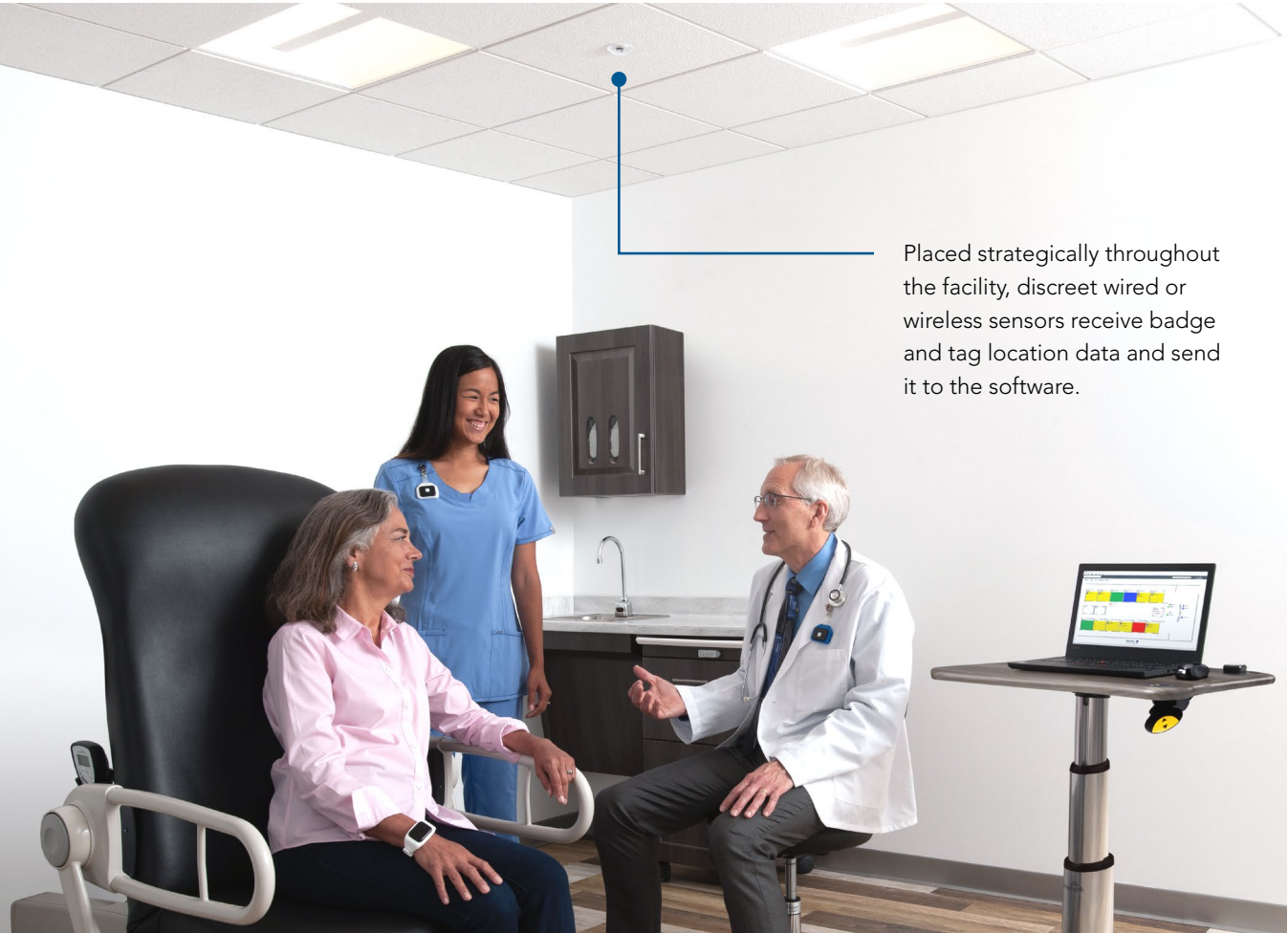
midmark.com/interfaces

PATIENT ENGAGEMENT INTERFACES

It's all about the patient experience. Midmark RTLS automates patient engagement systems like GetWellNetwork®, Cerner CareAware®, eVideon™ and pCare™, providing accurate location data and creating a comprehensive, positive care experience for the patient.

midmark.com/interfaces

Wired and wireless network options for precision locating

Placed strategically throughout the facility, discreet wired or wireless sensors receive badge and tag location data and send it to the software.

What type of sensory network is best for you? Midmark RTLS provides two options, both with the level of accuracy needed for optimizing patient flow.

WIRED SENSORY NETWORK

Highly precise, discreet infrared and radio frequency sensors. Once installed, little to no maintenance is required.

- Compact form factor
- Low cost sensor that offers highest location precision
- Our most widely deployed network, in its fifth generation
- Easily achieves room-, bed- and chair-level accuracy

WIRELESS SENSORY NETWORK

Same locating precision in an easy-to-install, battery-powered sensory network. No wiring necessary.

- Transmits location data without burdening Wi-Fi network
- Battery-operated sensors (uses three standard D Cell batteries; up to 3 years typical battery life)
- Easy sensor installation with no wiring required
- Easily achieves room-, bed- and chair-level accuracy

Badges that are simple, yet powerful by design

Designed to keep pace with healthcare's demands, our RTLS badges combine versatility and durability with accurate locating.

CLEARVIEW™

Classic simplicity and reliability combined with long-lasting battery life.

- Compact form factor (1.65"W x 0.55"D x 2.44"H)
- Lightweight (1.06 oz with battery)
- IR wavelength of 875 nm, 455 kHz; RF frequency of 433.92 MHz
- Superior battery life (up to 2 years when following recommended best practices)
- Uses Murata® CR2477 lithium coin cell battery
- Available colors: white, blue, green, red, yellow

CLEARVIEW™ MINI

One badge. Multiple wearable options.

- Compact form factor (1.937"W x 0.491"D x 1.227"H)
- Lightweight (0.6 oz with battery)
- IR wavelength of 875 nm, 455 kHz; RF frequency of 433.92 MHz
- Battery life: up to 90 days
- Uses Murata® CR2430 lithium coin cell battery
- Silicone accessories available in white, charcoal gray, pink or blue

4 wearable options

- On the lapel using included clothing clip
- On the wrist using hospital wristband (3/4" or less; not included)
- On the lapel using silicone accessory (sold separately)
- On the wrist using silicone wrist accessory (sold separately)
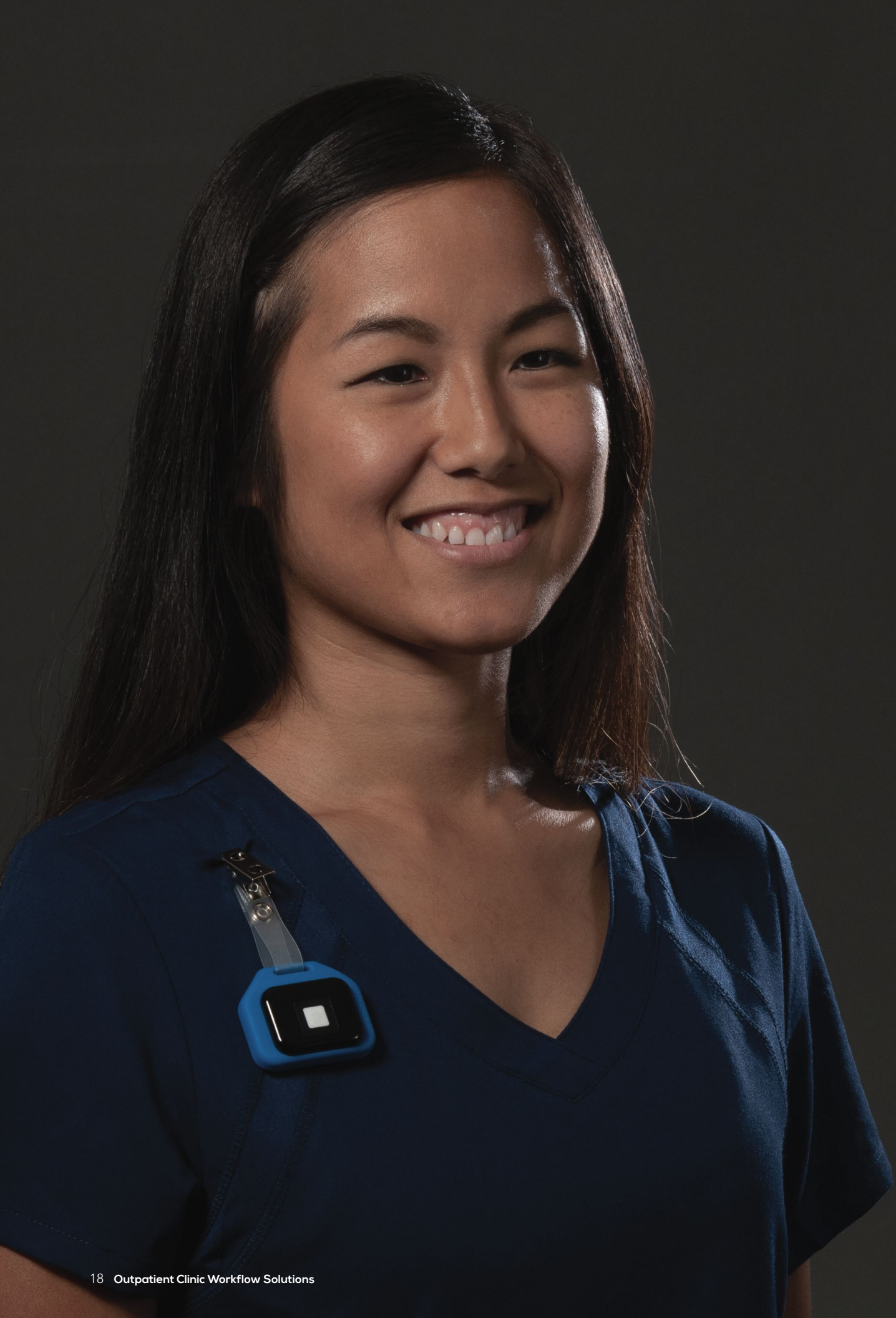
What you get
## with Midmark

SUCCESS COACHING + EXPERT PROJECT MANAGEMENT

Our Success Coaches are with you 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, PMP-certified implementation team, using a proven methodology for successfully deploying Midmark RTLS in the clinical environment.
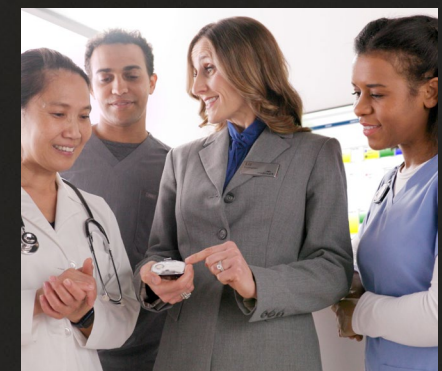
COMPREHENSIVE EDUCATION, IN-PERSON + VIRTUAL

An experienced nurse educator from our Clinical Solutions Consulting team will conduct onsite training for super users on best practices for wearing badges, using software and running reports. For our Advanced Patient Flow Optimization customers, we also provide a three-day System Analyst class at our Education Center in Michigan that enables your team to learn how to configure the system. In addition, on-demand virtual tutorials are available through our online knowledge base.
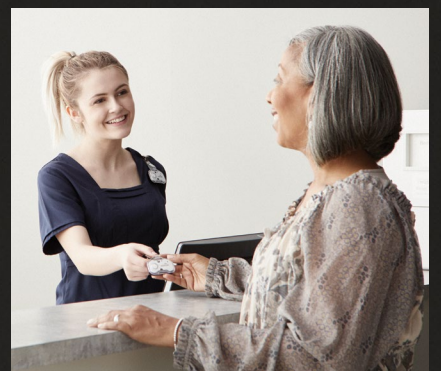
EXTENSIVE, TIME-TESTED WORKFLOW EXPERTISE

As the first RTLS to offer a patient flow solution in the outpatient environment, we've been helping clinics improve operations for more than a decade. Our solution powered the very first clinic to implement a self-rooming workflow with RTLS, an innovation that is revolutionizing the way patients receive care. Midmark RTLS provides the proven expertise your clinic needs to effect positive change using accurate, reliable technology.

SOURCES

1 Sg2 Analysis, 2020. Confidential and Proprietary © 2020 Sg2.

2 Acceptable industry average, multiple sources.

3 "Wait Times, Patient Satisfaction Scores, and the Perception of Care." American Journal of Managed Care.

4 "Are doctors spending less time with patients?" Mobius MD

5 Midmark RTLS customer data, multiple sources.

Designing better care.®

midmark®