



White paper

Mobile duress alarm systems

Table of Contents

| | |
|--|----------|
| Table of Contents..... | 1 |
| What is a Mobile Duress Alarm System? | 2 |
| Who Needs a Mobile Duress Alarm System? | 2 |
| Applications where mobile duress is necessary | 3 |
| Education | 3 |
| Healthcare | 5 |
| Government | 6 |
| Additional applications | 7 |
| Mobile Duress System Requirements..... | 8 |

What is a Mobile Duress Alarm System?

Unlike traditional burg/intrusion systems which protect property from damage or theft, duress systems are designed to protect individuals from harm, providing a way to summon help in the case of emergency.

This requires that the location of the emergency must be delivered along with the alarm. In the case of fixed panic buttons, this can be achieved by transmitting the location where the fixed panic button was installed. This means, however, that fixed panic buttons can only summon assistance to the location where they're installed.

For a mobile duress system to be effective, the location of a call for help must be provided along with the alarm.

When individuals are mobile, the ability to call for help must travel with them and summon that help to where they're at, no matter where it is. This is the defining characteristic of a mobile duress system.

This whitepaper addresses both the user applications where a mobile duress system is necessary, as well as the specific requirements for an effective mobile duress system.

Who Needs a Mobile Duress Alarm System?

Millions of Americans are victims of workplace violence every year. Though those who work with money or the public are most at risk, violence can strike any workplace at any time. According to the U.S. Department of Labor survey:

Every year, approximately two million people throughout the country are victims of non-fatal violence at the workplace. Officials at the Department of Justice have found violence to be a leading cause of fatal injuries at work with about 1,000 workplace homicides each year. Violence against employees occurs in a variety of circumstances and situations including: robberies and other crimes, actions by frustrated or dissatisfied clients and customers, acts perpetrated by disgruntled co-workers or former co-workers, and domestic incidents that spill over into the workplace.”¹

A mobile duress system is integral to any workplace violence prevention plan.

Nor is the danger only to employees. Security directors are rightfully concerned for the safety of any person using the facilities they protect.

While it is impossible to eliminate acts of violence, there are ways to reduce the risk. Along with prevention programs, employee training, and emergency communication systems, mobile duress systems can play an integral role.

Applications where mobile duress is necessary

Education

Given the size of many education campuses — as well as the inherent mobility of students, faculty and staff — knowing precisely where a life threatening crisis is unfolding can be an impossible challenge. Security personnel can use fixed pendants in high risk areas, but depending on the situation, these fixed pendants may not always be within reach. In addition, life threatening emergencies can unfold anywhere.

1. US Department of Labor, 2021. “DOL Workplace Violence Program.” <https://www.dol.gov/agencies/oasam/centers-offices/human-resources-center/policies/workplace-violence-program>

A mobile duress system is necessary to provide the precise location granularity needed for an effective response.



Figure 1 Most violent incidents in school are resolved by staff or students

The high-profile school shootings of the last two decades have exposed the weaknesses of security on education campuses. Most have a limited number of security personnel on site, and help from the outside is often unavailable or of limited use, given how quickly active shooter events unfold. In fact, according to a report by the U.S. Secret Service, most school shootings are resolved by staff or students, not law enforcement.

While not reported on as much as school shootings, everyday violence is common in public schools.

Furthermore, while not garnering the headlines of school shootings, violence including students, families and staff are even more common, and can escalate to be just as dangerous. According to the National Center for Education Statistics: “During the 2017–18 school year, 80 percent of public schools recorded that one or more incidents of violence, theft, or other crimes had taken place, amounting to 1.4 million incidents.”²

Left unchecked, altercations can quickly jump from fists to more deadly weapons, and as tempers rise, so too can the number of people involved. And as with school shootings, it will typically be on site personnel who must de-escalate the situation.

2.National Center for Education Statistics, 2021. “Indicators of School Crime and Safety.” <https://nces.ed.gov/programs/crimeindicators/>

Whenever a crisis unfolds in an educational facility, staff needs to the ability to call for help, and responders need to know where to go to minimize injury and loss of life, get people out of harm's way, and begin recovery.

In hospitals where staff is inherently mobile, a mobile duress system is necessary to ensure an adequate security response.

Healthcare

Hospital emergency rooms, behavior health clinics, and addiction recovery centers are stressful environments. People who come in for care are understandably under pressure and in pain, and often struggling with mental illness and/or under the influence of drugs or alcohol. Dangerous situations can unfold at any moment, making it unrealistic to assume security personnel can always be on hand to protect patients, visitors and staff. As with educational facilities, fixed pendants may not always be within reach. A mobile duress system is necessary to ensure an appropriate security response when and where it is needed.



Figure 2 The vast majority of physicians, nurses and supporting staff will be victims of workplace violence

A 2020 article from *The American Journal of Managed Care* states:

The problem of violence against health care workers, especially in critical care units, prevails and escalates across the world. It has been confirmed time and again that the vast majority of physicians, nurses, and supporting staff fall victim to WPV [work place violence] during their careers.”³

For this reason, the American Nursing Association has initiated an End Nurse Abuse campaign, with one of the mandates being that nurses have a way to call for help when they suspect the potential for work place violence.⁴

After surveying the complete range of security options available to emergency departments, the Institute for Emergency Nursing Research came to the following conclusion: “Only 1 [environmental control measure] was significantly associated with lower odds of physical violence – panic button/silent alarm.”⁵

Health care workers need the tools to call for help and to ensure that help arrives where it’s needed. A mobile duress system is a necessity.

Government

Members of all levels of governments — from city council members to judges, and state and federal officials — often become the focal point for resentment. As recent events have reminded us, those resentments can lead to threats and acts of violence, either planned or in the heat of the moment. Moreover, as the Bureau of Justice Statistics tells us, “about 1 in 5 victims of workplace homicide was a government employee.”⁶ It is imperative that members of government be able to signal for help wherever and whenever needed.

3. *The American Journal of Managed Care*, 2020. “The Persistent Pandemic of Violence Against Health Care Workers.” <https://www.ajmc.com/view/the-persistent-pandemic-of-violence-against-health-care-workers>

4. American Nursing Association, 2021. “End Nurse Abuse.” <https://www.nursing-world.org/practice-policy/work-environment/end-nurse-abuse/>
<http://www.ena.org/IENR/Documents/ENAEDVSReportNovember2011.pdf>

5. Institute for Emergency Nursing Research, 2011. “Emergency Department Violence Surveillance Study.”

<http://www.ena.org/IENR/Documents/ENAEDVSReportNovember2011.pdf>

6. Bureau of Justice Statistics, 2013. “Workplace Violence Against Government Employees, 1994-2011.”

<https://bjs.ojp.gov/library/publications/workplace-violence-against-government-employees-1994-2011>



Figure 3 Twenty percent of victims of workplace homicide are government employees.

A mobile duress system is necessary to protect government employees when they're not in their office or courtroom.

Courtrooms are typically open to the public but are also emotionally charged environments where tempers and violence may erupt without provocation or warning. To provide some measure of protection to judges, the benches in many federal and state courtrooms are bulletproof. But judges are not always at their bench, within reach of a fixed pendant.

The same can be said for state houses. And as we've most recently seen, federal facilities, which are also typically open to the public. Political figures can become lightning rods for acts of violence. And like judges, they may not always be in their office.

In these publicly accessible and highly-charged environments, a mobile duress system provides the additional layer of security needed to keep public officials, their staff and government employees safe.

Additional applications

Beyond these specific examples, there is a broad market for mobile duress systems. Mobile duress can play a role in any situation where an individual routinely moves about a facility and is potentially in harm's way, Corporate executives; bank managers; restaurant employees handling curbside delivery; theater, stadium and arena employees; people working in airports and transportation hubs; bar and hospitality workers; and storage facility managers all interact with a volatile

public, and, because of the nature of their job, may be targets of violence. Arming them with mobile duress pendants, and the location precision it provides in the event of an emergency, will help ensure they get the help they need where they need it.

Mobile Duress System Requirements

There is no requirement for a mobile duress alarm system more important than reliability. There are numerous radio frequency (RF) protocols available. WiFi, Bluetooth, Zigbee and Z-wave are all used for mobile duress solutions. But, while suitable for consumer grade applications, they are not capable of delivering messages with the level of reliability demanded in RF-unfriendly, indoor commercial environments. A mobile duress system's wireless backbone must have a proven track record of withstanding interference, overcoming obstacles, and guaranteeing multiple paths from the alarm device to the receiver. Such reliability is only afforded by Inovonics EchoStream.

The most important requirements for an effective mobile duress system are reliability and the ability to provide precise indoor location.

Likewise, a mobile duress system that cannot demonstrate its ability to deliver precise room and floor level location accuracy is of little use in large commercial settings. When it comes to emergency responders knowing exactly where to respond, nothing else will do. Through rigorous and repeatable testing, Inovonics has demonstrated the location precision of its mobile duress system.

The mobile duress system must also be able to integrate into existing systems — such as central station monitoring or access control software — and feed precise location information into the preexisting emergency response infrastructure. Any solution that requires an additional stand-alone system will be cut off from the larger whole. Not only is this duplicative from an administrative standpoint, but it is also duplicative from a cost standpoint. Here too, with application programming interface (API) integration available for central station monitoring, access control or any other IP-based software application, the Inovonics mobile duress system delivers.

Lastly, an effective mobile duress system must not solely rely on a mobile phone. Imagine yourself in a crisis and your only lifeline is your cell phone — which you left in your coat pocket

at your desk. Or, maybe you were fortunate enough to have it in your pocket, but you still must retrieve it, unlock it, navigate to the app, press the right alarm button and then hope the GPS technology it relies upon for location precision and the cellular connectivity works indoors.

A dedicated body-worn mobile duress pendant, easily accessible and easy to use, with a proven ability to deliver emergency messages in an indoor environment, is necessary for mobile duress. Once again, the Inovonics mobile duress system architecture is purpose-built precisely for such situations.