



# Soft Target Engineering to Neutralize the Threat Reality (SENTRY)

A Nationwide Consortium Led by Northeastern University

## A DHS Center of Excellence

Led by Northeastern University, SENTRY develops strategies and innovative solutions to secure soft targets and crowded places from targeted attacks that inflict grave injury to human life and property. These soft target environments, such as schools, surface transportation, sports arenas, places of worship, large outdoor events, and retail facilities, often have limited security or protective measures, making them vulnerable to attack. SENTRY is developing next-generation tools and methodologies to predict and mitigate these threats. A key aspect of the SENTRY strategy is the development of a real-time decision support system, a Virtual Sentry Framework, that can be used by the stakeholders of soft target venues and crowded places to detect and mitigate targeted violence.

## About SENTRY

## Research Capabilities

- Real-time management of threat detection and mitigation
- Advanced sensing technologies for threat awareness
- Threat risk assessment, prediction, and deterrence
- Layered security architectural design and simulation

## Workforce and Professional Development

- Community college engagement
- Minority Serving Institutions collaboration
- Student leadership
- Stakeholder engagement

### LAUNCH

2021

### PARTNERS

More than 22 university and industry partners

### MISSION & VISION

We strive to ensure the existence of safe, secure public spaces by creating functional and adaptable solutions to detect and mitigate targeted violence. The cornerstone of this vision is the Virtual Sentry Framework. The SENTRY mission is three-fold: to conduct stakeholder-informed research to better secure soft targets and crowded places; implement the Virtual Sentry Framework strategy; and educate the current and future homeland security workforce in this space.

### DHS ALIGNMENT

U.S. Customs and Border Protection (CBP), Cybersecurity and Infrastructure Security Agency (CISA), Countering Weapons and Mass Destruction Office (CWMD), Federal Emergency Management Agency (FEMA), Federal Law Enforcement Training Center (FLETC), DHS Science and Technology (S&T), Transportation Security Administration (TSA), U.S. Coast Guard (USCG), U.S. Secret Service (USSS)

## Feedback from Our Partners

"The CISA School Safety Task Force and SENTRY began a collaborative effort to address issues confronting K-12 schools. This partnership will provide K-12 schools across the country with access to better resources and technologies to ensure children can learn in safe, secure, and supportive learning environments."

**Dr. David Mussington**, Executive Assistant Director for Infrastructure Security, Cybersecurity and Infrastructure Security Agency (CISA)

## University Partners

Boston University  
Florida International University\*  
Mississippi State University  
Rensselaer Polytechnic Institute  
Rutgers University  
University at Buffalo, SUNY  
University of Florida  
University of Notre Dame  
University of Puerto Rico-Mayagüez\*  
University of Rhode Island  
University of Southern California  
University of Tennessee, Knoxville

\*Minority Serving Institutions (MSI)



## Industry Partners

Astrophysics Inc.  
BLOCK Engineering  
Cambridge Consultants  
EVOLV  
Guardian Centers  
Lauretta AI  
Leidos  
MatrixSpace  
PENDAR Technologies  
Raytheon Technologies

## Impacts



### Virtual Sentry Framework

A long-range goal of the Center is to provide real-time decision support systems, enabling actionable situational awareness leading to more effective threat assessment, preparedness, mitigation, and response for soft targets and crowded places. The framework strives to lessen the security response burden on venue personnel and to provide essential security information in an effective, timely, and actionable way.



### Developing Venue-Specific Solutions

SENTRY has launched a series of case studies to assess the security requirements of various types of soft targets and crowded places. These studies focus on education institutions, sports arenas, surface transportation sites, and retail spaces to identify their unique security challenges and translate these needs into tailored implementations of the Virtual Sentry Framework. SENTRY also maintains a Practitioner Advisory Board which connects stakeholders across DHS components, academic research and facility managers.



### Workforce and Professional Development

SENTRY workshops, conferences, and events provide professional development for students, faculty, and researchers while sharing the Center's latest research with government and industry professionals. The Center is increasing its engagement with underrepresented groups in STEM by partnering with Minority Serving Institutions (MSIs) and community colleges. Additionally, SENTRY is developing a curriculum for high schools and community colleges to promote hands-on learning in line with the DHS mission.



For more information on SENTRY,  
please visit  
<https://sentry.northeastern.edu>

For more information on DHS  
Centers of Excellence, please visit  
<https://www.dhs.gov/science-and-technology/centers-excellence>