

# PROTECTING THOSE WHO SERVE



THE  
**BLAST GAUGE**<sup>®</sup>  
SYSTEM



## BLAST TRAUMATIC BRAIN INJURY: AN OCCUPATIONAL HAZARD

Traumatic brain injury (TBI) from an explosive blast remains a significant problem for military and law enforcement personnel exposed to harmful levels of blast shockwaves, especially those involved in operations and training. A blast shockwave can cause a series of complex mechanical and physical reactions in the brain. Mild to moderate TBI may be difficult to detect immediately post event, with cognitive or motor deficits manifesting weeks or months later. Additionally, scientific studies have linked repetitive overpressure exposure to structural changes in the brain, increased risk of PTSD, acceleration of age-associated neurological disorders, and concussion symptoms, highlighting the need for individualized blast surveillance similar to radiation badge programs. Because it is not practical to provide protection from the occupational hazard of blast shockwaves, monitoring and documenting exposure to identify individuals at risk for TBI is paramount.

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## THE SOLUTION FOR MILITARY & LAW ENFORCEMENT

### IMPROVE TACTICS, TECHNIQUES, AND PROCEDURES

Minimize exposures and preserve performance

### GUIDE TRIAGE

Securely interrogate wirelessly or via button push, aiding quick decision making

### BLAST EXPOSURE TO AID IN TREATMENT

Blast overpressure, acceleration, and body loading data for detailed event analysis

### WIRELESS

Optional wireless connectivity to a PC or iOS/Android handheld to download blast information to user-friendly app

### RELIABLE BATTERY

Non-rechargeable battery designed for military extremes, lasts a full deployment and minimizes logistics

### ROBUST

Fully encapsulated design withstands weather and blast

### FLEXIBLE MOUNTING

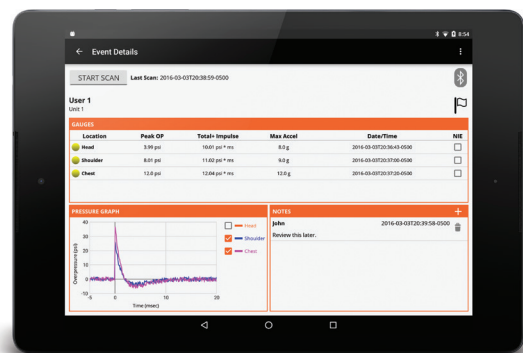
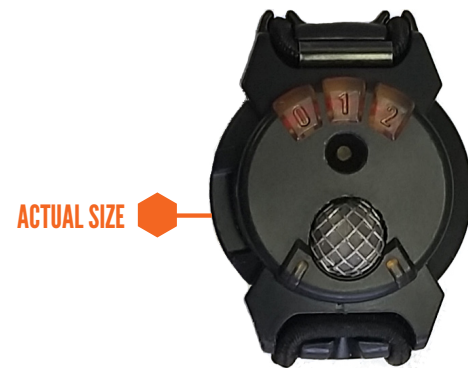
Easily attaches to helmets, gear, structures, and vehicles

### SECURE

Operator privacy protected

### BATTLE-TESTED

Fielded by the U.S. Military



FLEXIBLE MOUNTING:  
HEAD  
SHOULDER  
CHEST



## SAFER TRAINING & DRILLS

### KNOW YOUR SAFE DISTANCE

- Ensure appropriate Minimum Safe Distance for your stack

### MEASURE FLASHBANG SHOCKWAVES

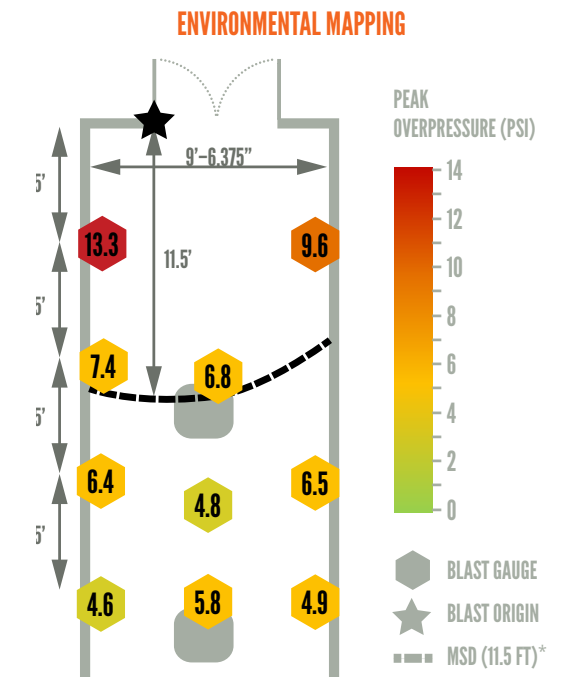
- Deploy flashbangs with confidence by knowing overpressure levels based on size and configuration of room

### MAP YOUR ENVIRONMENT

- Locate the best places to stand in a room during an explosive breach and entry

### MONITOR REPETITIVE EXPOSURE FROM WEAPONS

- Track overpressure exposure from artillery, mortar, shoulder fired weapons, and small arms fire on operators



Ostertag, M. H., Kenyon, M., Borkholder, D. A., Lee, G., Silva, U. D., & Kamimori, G. (2013). The Blast Gauge™ System as a Research Tool to Quantify Blast Overpressure in Complex Environments. *Volume 3A: Biomedical and Biotechnology Engineering*. doi:10.1115

\*The standard K-equation MSD calculation stated 11.5ft as a safe distance, yet using the Blast Gauge to map the room shows actual exposure levels at this distance are above the 4.0psi standard for breaching.



## SUPPORT MEDICS/EMTS

### TRIAGE WIRELESSLY OR WITH A BUTTON PUSH

- Instantly assist the trauma team in guiding triage with objective blast exposure data

### MAINTAIN YOUR UNIT'S PEAK PERFORMANCE

- Track personnel to identify those at-risk and proactively manage the level of exposure and subsequent wellness



## CONTROL LIABILITY

### REDUCE PROPERTY DAMAGE CLAIMS

- Monitor a breach or controlled destination in a civilian locale to ensure it didn't cause shockwave damage

### PROTECT YOUR OPERATORS

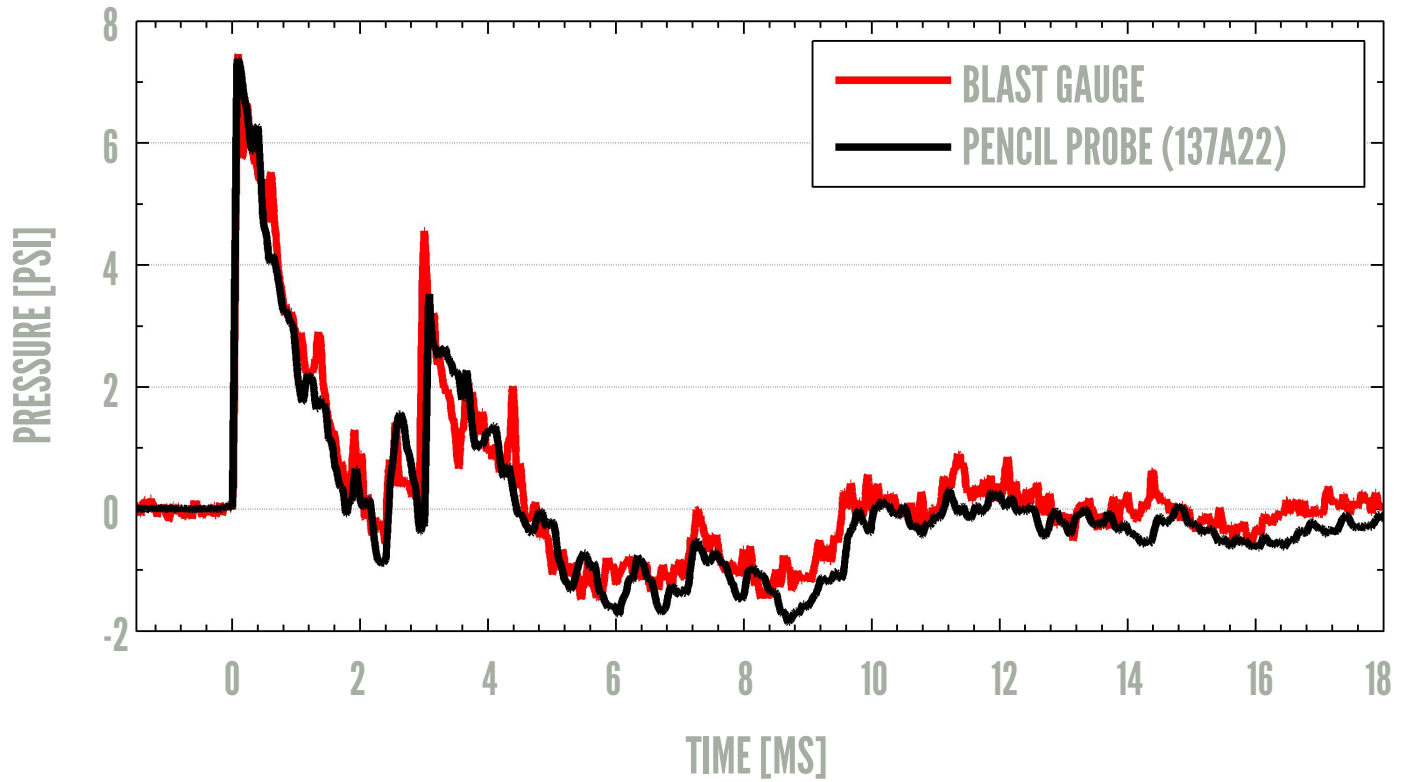
- Reduce exposures to mitigate long-term implications of the occupation
- Ensure operators get evaluated for the long-term care they deserve with objective measures documenting occupational exposure



## ADVANCE RESEARCH

**INEXPENSIVE AND EASY-TO-USE TOOL** anyone can use for research into vulnerability, survivability, and lethality related to explosives, protective materials, vehicles, and weapon systems

ACCURATE CAPTURE OF BLAST OVERPRESSURE: BLAST GAUGE SYSTEM VS. PENCIL PROBE



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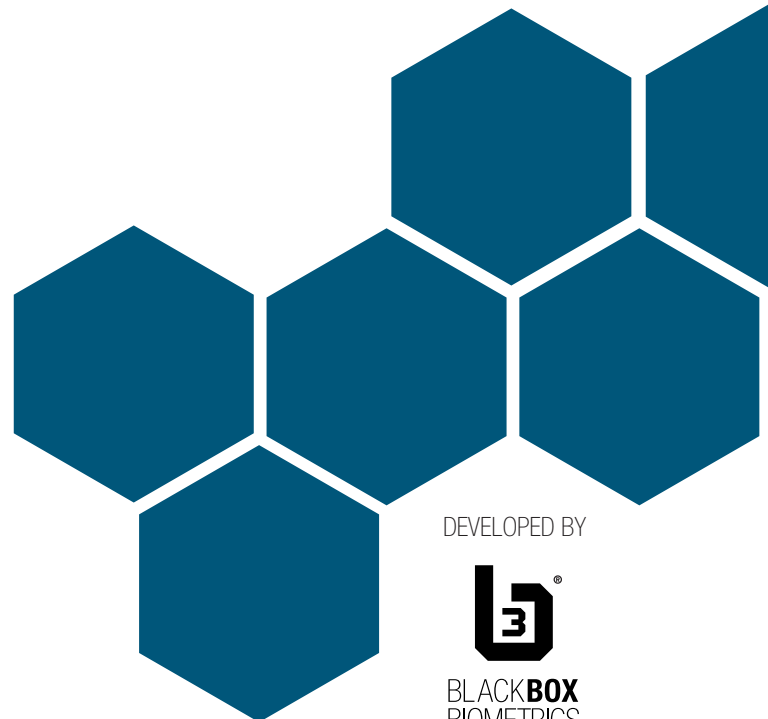


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