SLATE SAFETY

Connect the Workforce.

Automate Safety.
Prevent Injuries.

Distributed in Australia by

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www.pacdatasys.com.au

Established: 2016

Headquarters: Atlanta, Georgia, USA

Mission: Eliminating preventable worker injuries and deaths by creating modern, connected, and automated safety systems

There is no better way to protect workers from heat-illness. It's easy to deploy and supervisors no longer have to micromanage their teams.

Donald Elswick
FormerACGIHBoard Chair, CIH, CSP

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Leaders can not easily monitor the safety of workers and prevent injuries.

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Problem

Current safety instruments are outdated, hard-to-use, and unconnected leading to preventable workplace injuries

- *2.3M per year worker deaths*
- *313M per year worker injuries*
- *$40K per injury in fines, compensation, etc.*
- *$12.5T per year lost in wages & productivity*

It's hard for us to keep track of work/rest cycles. People get busy and lose track. These help us keep everyone accountable for safe operation

Spencer Riccio
Industrial Hygiene
AdvanSix

Source: [International Labor Organization]

A comprehensive solution for any situation

*Connectivity depends on network availability and may require additional configurations and/or hardware

The SlateSafety System: Hardware

BAND V2
Advanced Physiological Indicators

Heat Stress
- Exertion
- Heart Rate
- Core Temperature
- Heart Rate Limit Value

Lone Workers
- GPS
- SOS TapAlert
- No Movement Alert
- Fall Detection

BEACON V2
Advanced Environmental Indicators

Environmental
- Temperature
- Humidity
- Heat Index
- Humidex
- eWBGT
- Coarse indoor location

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The SlateSafety System: Software

Live and Historical Data

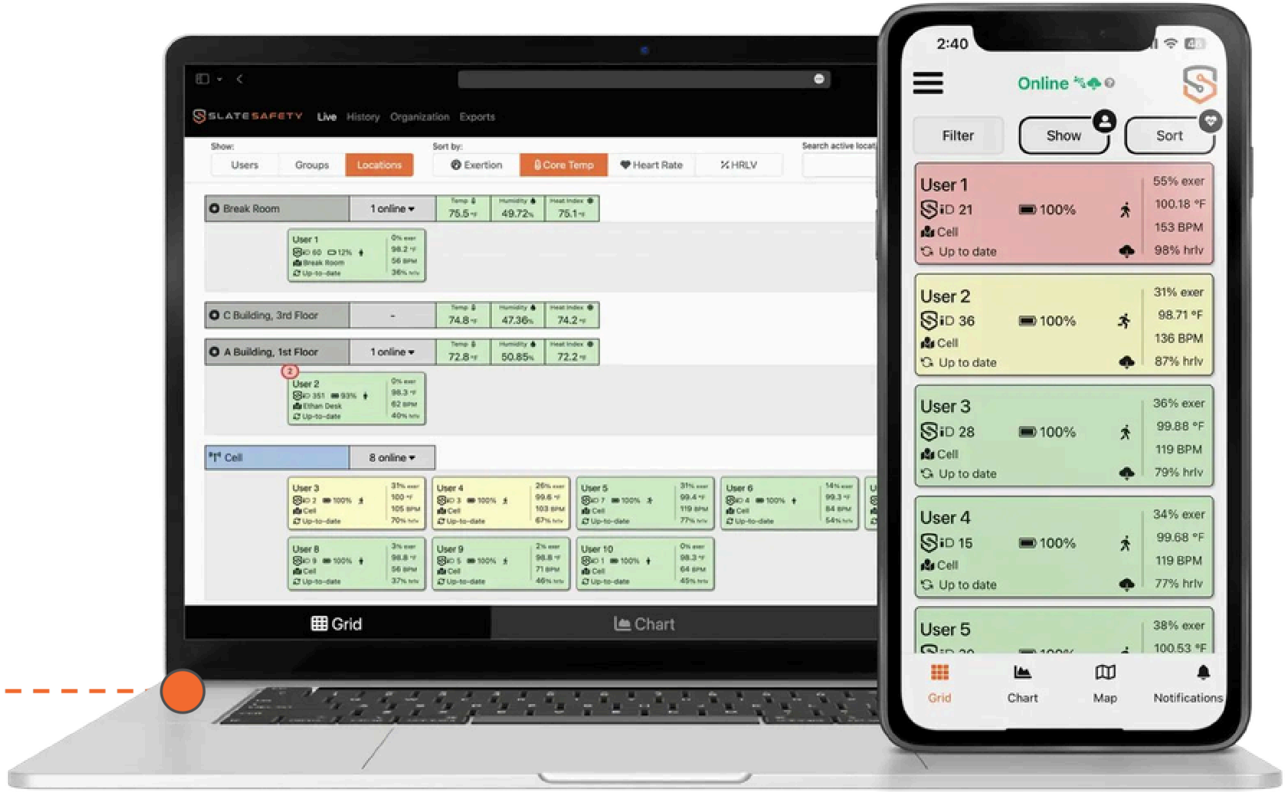
- Real-time data through any web enabled device
- Historical data for analysis

Advanced Analytical Insights

- Identify and alert on problems in real-time, understand and improve after analysis

Deep Configurability and Security

- Configurable alert thresholds, device settings and user permissions
- Unlimited alert contacts



Available on the App Store

GET IT ON Google Play

Log into the Web App

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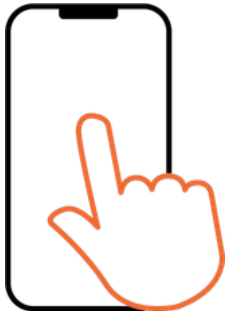
Differentiation

Superior Usability and Configurability

- Designed for simplicity, allowing quick setup and easy use, even in demanding industrial environments.
- The platform “just works”

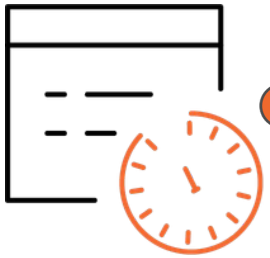


Rugged and Reliable

- Dependable connected performance under heavy use and harsh conditions.
- Built to withstand extreme conditions

Advanced Safety Intelligence

- Configurable features for real-time alerts and data insights, enhancing worker safety and situational awareness.



Workers at Oak Ridge National Laboratory perform low intensity test reactor waste and asbestos removal

Who Do We Serve?

A Soldier prepares to breach through a steel door as a part of the final obstacle of the Best Sapper Competition at Fort Leonard Wood, Missouri. (Photo by Lekendrick Stallworth)

USGovernment

U.S. ARMY

U.S. Department of Homeland Security

NAVY

U.S. AIR FORCE

Research

UAB

THE UNIVERSITY OF ALABAMA

KSI Korey Stringer Institute University of Connecticut

A|M

GT GTRI

Industry

Thuroona Services

Southern Company

BECHTEL

UCOR United Cleanup Oak Ridge LLC

Perrigo

QUANTA

BATTELLE

CPCCo Central Plateau Cleanup Company

CARDINAL Glass Industries

CNS consolidated nuclear security, llc
PANTEX PLANT | Y-12 NATIONAL SECURITY COMPLEX

washington river protection solutions
an amentum-led company

Kairos Power

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Case Study: Asbestos Removal in the hottest town in Australia

Background

Removal of 800m 2 of ACM sheeting from a large house in Marble Bar damaged by cyclone Zelia to enable demolition. Marble Bar is known as Australia's hottest town with summer temperatures consistently >38 degrees for days on end. During the project Maximums ranged between 38.3°C and 44.6°C with five consecutive days over 42°C.

What happened

ACM removal was completed over eight consecutive days by a six-person team. To help prevent the risk of thermal stress, Thuroona trialed Slate V2 armbands that monitor real-time physiological data. Live data from arm bands showed some workers were pushing themselves too hard with core temperature alarms. Sometimes operatives work longer than they should trying to complete a task.

Key Outcome

This trial allowed us to remotely observe such behaviour and modify it. With workers more conscious of thermal load they modified their behaviour to reduce their exposure to thermal stress.

"From a management perspective the trial was an overwhelming success and adds to our "kit" of risk mitigation strategies."

-Thuroona Services

Case Study: Central Plateau Cleanup Company (CPCCo)

CPCCo
Central Plateau Cleanup Company

Background

Based in Richland, Washington, CPCCo recognized the need to enhance their safety measures. They previously tested chest-worn monitors for real-time physiological monitoring, but these proved cumbersome and not user-friendly for those working in the field.

What happened

Implementing SlateSafety's BAND V2 for physiological monitoring, allows comfortable, real-time monitoring of heart rate and core body temperature. The early warning system, protects against heat stress, by notifying workers and safety personnel when action is needed.

Key Outcome

0 Heat-related incidents

While implementing the SlateSafety system.

"Heat mitigation was critical at the Hanford Site, where temperatures often exceeded 90 degrees in summer."

-Stan Branch, EM Safety and Health Division Director

[Full Study Here]

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Case Study: United Cleanup Oak Ridge (UCOR)

UCOR
United Cleanup Oak Ridge LLC

Background

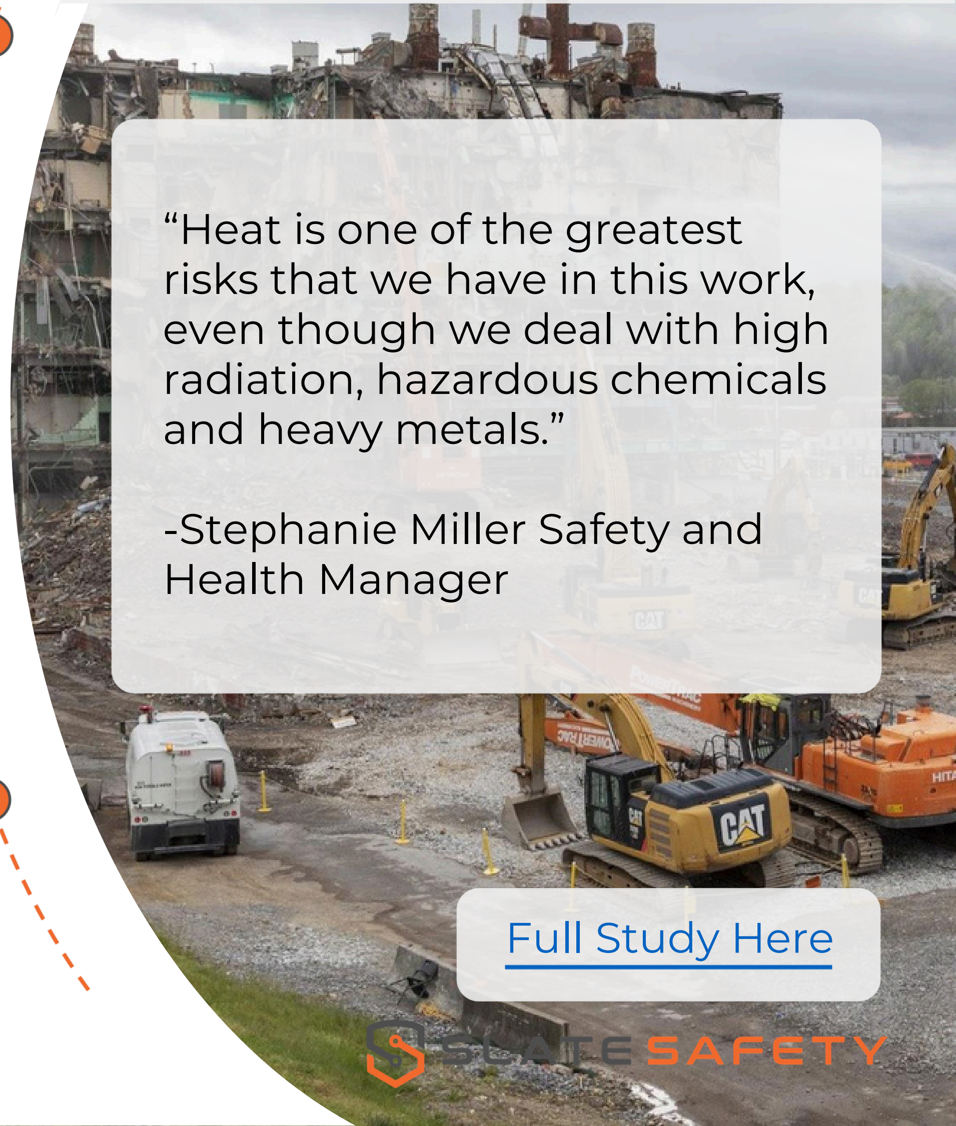
Located in Oak Ridge, Tennessee, the environmental cleanup contractor for the Department of Energy required physiological monitoring for worker safety but faced connectivity and range issues with existing technology, prompting a search for better solution.

What happened

SlateSafety's BAND V2 addressed UCOR's challenges, providing ease of use, ruggedness, and real-time monitoring. The introduction of a mobile application further enhanced connectivity in remote areas, resulting in increased worker safety and operational efficiency.

Key Outcome

0 Heat-related incidents
While wearing the SlateSafety system.



"Heat is one of the greatest risks that we have in this work, even though we deal with high radiation, hazardous chemicals and heavy metals."

-Stephanie Miller Safety and Health Manager

Full Study Here

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Case Study: Philadelphia District, U.S. Army Corps of Engineers(USACE)

Background

Addressing radiological contamination due to the Manhattan Project at the Chemours Chambers Works site in Deepwater, New Jersey workers must conduct remedial action wearing elevated levels of PPE often when the heat index exceeds 115F.

What happened

By outfitting cleanup workers with SlateSafety's BAND V2, real-time, personnel monitoring can be performed efficiently across the project site. Supervisor can observe worker simultaneously and provide advanced early warning of possible physiological events.

Key Outcome

0 Heat-related incidents
While wearing the SlateSafety system.

"With these armbands we can make sure that we have people resting while people are working and swapping them out. Work continues so we're not losing any kind of production."

-Russell Roman

Site Safety and Health Officer

Full Study Here

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Case Study: US Army uses SlateSafety at Best Sapper Competition

BEST SAPPER COMPETITION

Background

Each year, the U.S. Army brings together the very best of the elite combat engineers, known as Sappers, to a single location for a multi-day competition of technical proficiency, mental agility, and physical endurance.

What happened

SlateSafety BAND V2s are already in use to protect soldiers during training at several military bases, where wearable technology has become a seamless part of the standard operating procedure to decrease heat stress and overexertion injuries by over 90%.

Key Outcome

0 Heat-related Incidents
While wearing the SlateSafety system.

“We’re grateful our technology was incorporated into the competition this year and we’re proud to be able to provide an extra layer of safety through such a physically rigorous competition." -Zack Braun CEO SlateSafety

Full Study Here

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Case Study: Goodfellow Department of Defense, Firefighter Training School

Background

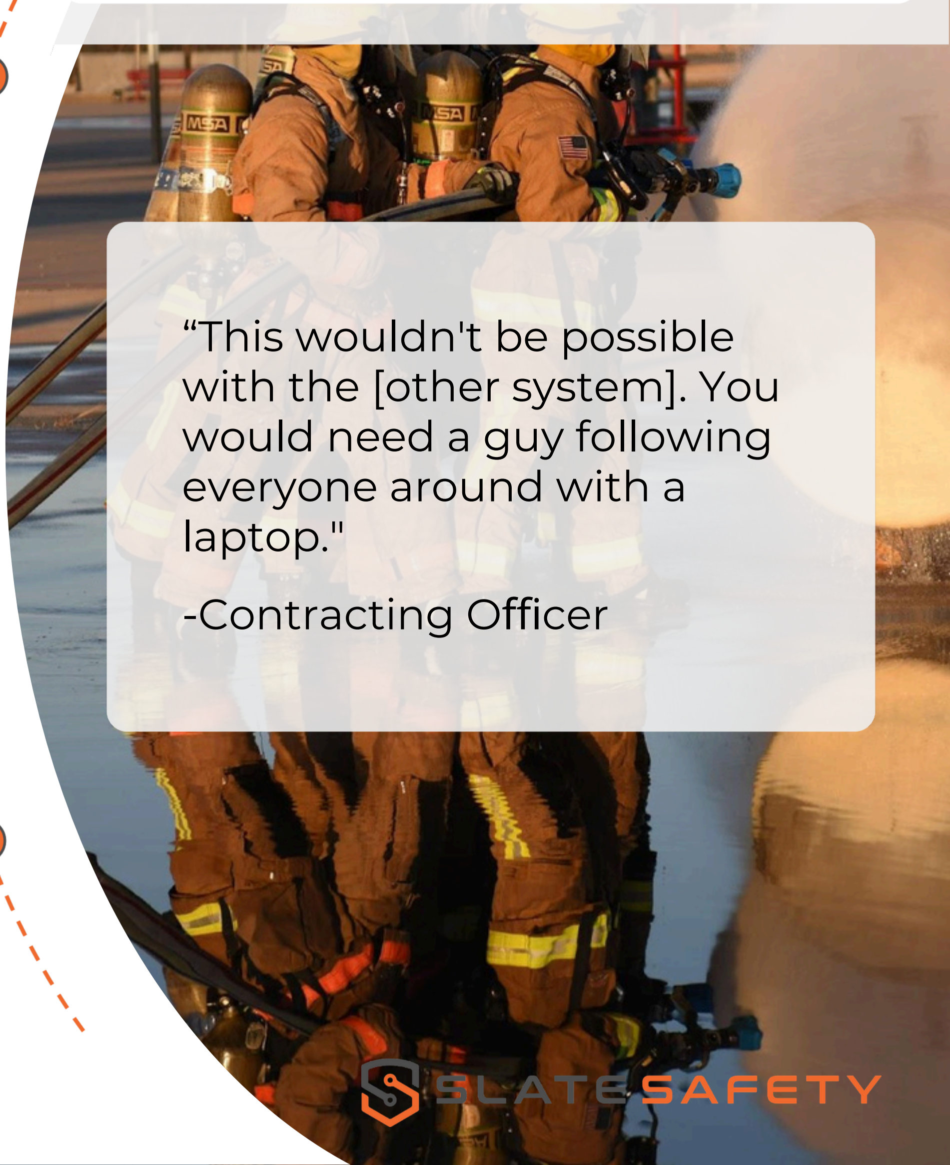
The 17th Training Wing, located at Goodfellow Air Force Base, in San Angelo, Texas is tasked with providing firefighters for all branches of the US armed forces. High class attrition rates due to heat stress led to decreased operational readiness for the US military.

What happened

By outfitting training classes with SlateSafety's BAND V2 training personal can monitor the safety of 600 students simultaneously and provide advanced early warning of possible physiological events. To date over 5K Students & 1M training hours have been recorded.

Key Outcome

0 Heat-related incidents
While wearing the SlateSafety system.



"This wouldn't be possible with the [other system]. You would need a guy following everyone around with a laptop."

-Contracting Officer

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Appendix

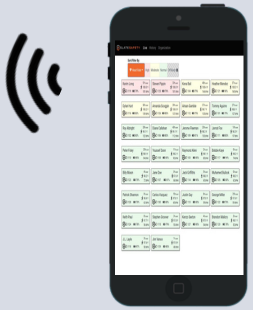
BAND V2 Methods of Connectivity

4 No signal available or desired

BAND V2

- Alerts on the worker
- NO alerts to authorized safety official

3 No signal available or desired but near by alerting needed



Local Application

- Alerts on the worker
- Alerts sent to nearby safety officials

2 No cellular signal, but WIFI present

GATEWAY V2

- Alerts on the worker
- Alerts sent to cloud via WIFI for authorized safety officials

1 Software

Web Interface

- Alerts on the worker
- Alerts sent to directly to cloud for authorized safety officials

BEACON V2 Methods of Connectivity

1

2

Data is collected and transmitted

BEACON V2

- NO alerts to authorized safety official

Beacon data is transmitted to cloud via direct cell

via BAND V2

- Alerts sent to cloud via direct cell for authorized safety officials

Beacon data is transmitted to cloud via WIFI network

via GATEWAY V2

- Alerts sent to cloud via WIFI for authorized safety officials

Software

Web Interface

- Alerts sent to directly to cloud for authorized safety officials

SLATE SAFETY

Welcome to your SlateSafety Starter Kit. All the tools you'll need for your free trial, packed in a rugged Pelican™ Air Protective Case.

STARTER KIT V2

MULTI-CHARGER V2
Power Supply

▶ BAND V2

▶ MULTI-CHARGER V2

BAND V2 Straps

▶ BEACON V2
Notallkits will be equipped with BEACON V2.

BAND V2
Single Charger
Power Supply

▶ GATEWAY V2
Notallkits willbeequipped with GATEWAY V2.

Misc. materials
Cords,toolsfortable and wall-mounting MULTI-CHARGER V2, user manuals.

BAND V2
Single Charger

Send us an email to learn more

pacific data systems / tell me more about slate safety

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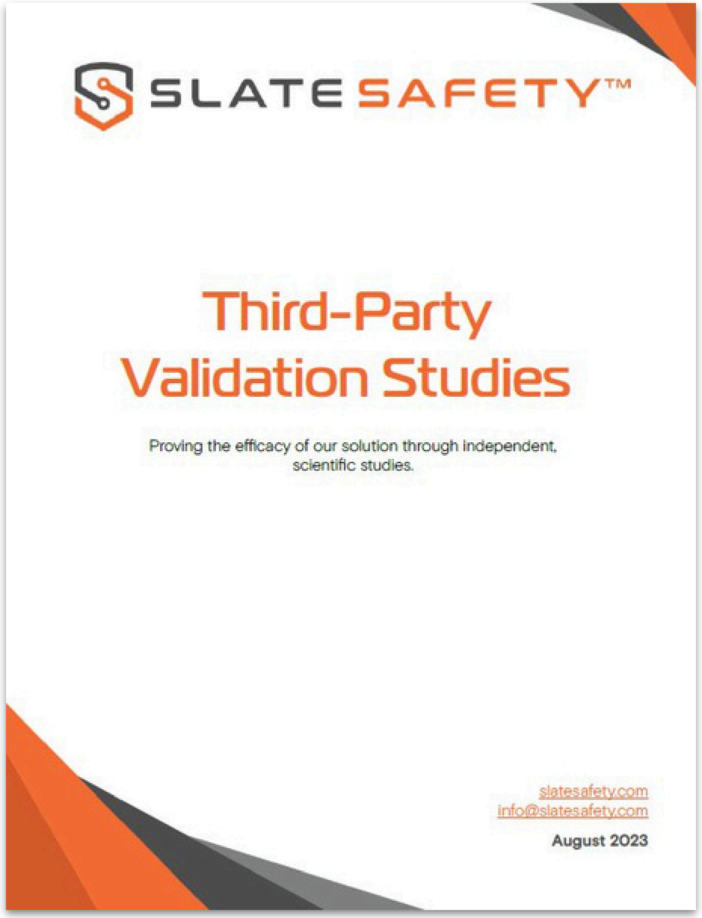
SlateSafety Heat Science

Partnering with several academic institutions, SlateSafety's estimated core temperature algorithm performs on par with more invasive methods deemed impractical to use in the field.

Third-Party Research Team	Total Minutes of Activity	Participants (n=)	Environment	Mean Absolute Error (°C)	Mean Bias (°C)
Texas A&M / Univ of Alabama	235	10	temp = 33 °C humidity = 50% PPE = none	0.33	0.20
Univ of Alabama	884	20	temp = 21 to 29 °C humidity = 40% PPE = medium	0.25	0.04
Lee University	948	5	temp = 18 to 27 °C humidity = 50 to 90% PPE = heavy	0.23	0.07
Total/Range/ Weighted Avg.	**2,067**	**35**	**temp = 18 to 33 °C humidity = 40 to 90% PPE = none, medium, and high**	**0.25**	**0.07**



SlateSafety Third Party Validation Summary

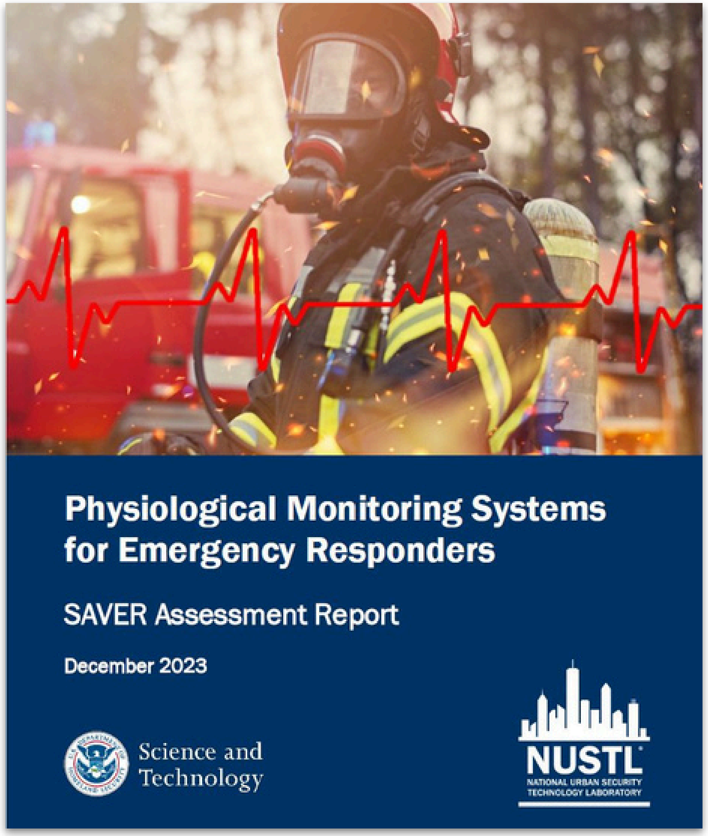
Department of Homeland Security

In November 2022, the System Assessment and Validation for Emergency Responders (SAVER) program, in conjunction with the Department of Energy Pacific Northwest National Laboratory (PNNL) and the National Institute of Standards and Technology (NIST), assessed physiological monitoring systems for emergency responders

Overall Scores Summary Table

Product	Overall Score	Overall	Capability	Usability	Deployability	Maintainability	Affordability
Slate Safety Band V2		4.3	4.3	4.3	4.3	4.3	NA
Equivital eq02+ LifeMonitor and Black Ghost		4.1	4.2	3.9	4.4	4.0	NA
Five Vital Signs Detect-C		3.4	3.4	3.1	3.5	3.8	NA
Kenzen Kenzen		3.2	2.7	3.5	3.0	3.8	NA
Empatica Embrace Plus		3.1	2.5	3.1	3.6	3.9	NA
	0 1 2 3 4 5						

Key: 1 (least favorable) to 5 (most favorable)



[US Department of Homeland Security NUSTL (National Urban Security Technology Laboratory):SAVER (System Assessment and Validation for Emergency Responders)]

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Additional Information

Contracts, Awards and Accolades

- Verdantix Celebrates Pioneers Of Innovation At The 2023 EHS Innovation Excellence Awards Americas
- 2023 US Army Best Sapper Competition
- U.S. Navy Phase I Small Business Innovation Research (SBIR) contract
- Department of Homeland Security (DHS) Next Generation First Responder (NGFR) Partner
- National Science Foundation Phase I SBIR: Biometric IoT System for First Responders
- National Science Foundation Phase II SBIR (Active): Biometric IoT System for First Responders
- U.S. Air Force Phase I SBIR: Biometric IoT System for Air Force
- U.S. Air Force Phase I SBIR : Wearable Medical Sensor
- Leadership recognized on Forbes 30 Under 30
- SlateSafety Wins OH&S 2023 Product of the Year Awards
- 2023 Industrial Hygiene Award for Heat Stress Protection
- Awarded the 2021 Occupational New Product of the Year Award
- Awarded the 2021 Industrial Hygiene Award for IoT - Connected Devices
- TIME Best Inventions or 2021

Studies and Partnerships

- US Department of Homeland Security NUSTL (National Urban Security Technology Laboratory):SAVER (System Assessment and Validation for Emergency Responders)
- Core Temperature Validation Study with The University of Alabama
- Core Temperature Validation Study with Texas A & M University
- SlateSafety Featured on NBC Nightly News with Lestor Holt
- Case Study: Department of Energy Site Uses Physiological Monitoring to Keep Workers Safe from Heat Stress
- SlateSafety Partners with ACGIH® to Digitize Physiological Monitoring Guidelines
- Thuroona Asbestos Removal in Australias Hottest Town

Product Material

- SlateSafety product overview
- BAND V2 Product Page

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