



Science and Technology

EMERGENCY PREVENTION & RESPONSE

SCALABLE BODY ARMOR CARRIER SYSTEM

MODULAR BODY ARMOR SYSTEM ALLOWS EXCHANGE OF SOFT OR HARD PANELS BASED ON SITUATIONAL NEEDS

Traditional body armor used by law enforcement is usually worn under an officer's clothes and contains handgun-rated ballistic panels. As the levels of violence and threats have increased, the wearing of armor externally (outside the uniform) has become much more prevalent, along with the use of rifle rated ballistic plates. These threats directly affect U.S. Customs and Border Protection Officers and Agents. In response, CBP's Law Enforcement Safety and Compliance Group designed a novel modular body armor system that can quickly be configured to increase comfort, mobility, versatility, and threat capability configurability. The system is worn over a uniform and can carry either soft handgun-rated armor panels, hard rifle-rated ballistic plates or both. Officers can add or remove these components with relative ease providing an improved level of flexibility to achieve optimal level of protection and comfort. This will reduce the weight carried, heat retention, and extra bulk when the wearer determines that wearing both soft and hard armor simultaneously is not appropriate or necessary.

This system can also be worn in traditional law enforcement and military applications.

KEY BENEFITS

- + Improves safety
- + Decreases weight, bulk, and heat retention
- + Increases comfort, mobility, versatility, and configurability
- + Single piece of tactical gear
- + Worn over clothing

STAGE OF DEVELOPMENT

Prototype

PARTNERSHIP SOUGHT

License

INVENTORS

David Bak

DHS COMPONENT

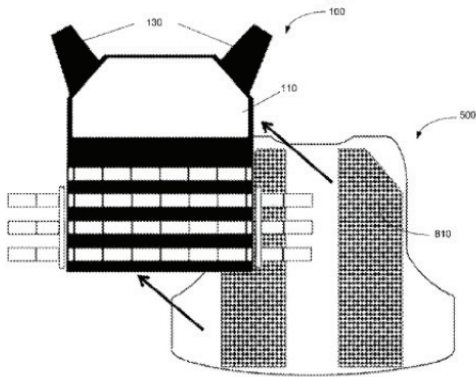
CBP

The Technology Transfer and Commercialization Branch (T2C) within the Office of Industry Partnerships (OIP) of the Department of Homeland Security (DHS) Science and Technology Directorate (S&T) serves as the centralized point to manage technology transfer activities throughout DHS and the DHS laboratory network. T2C@hq.dhs.gov

THE TECHNOLOGY

The Scalable Body Armor System is modular and can be configured depending on the threat and operational environment. The system covers the front, back, and sides of the wearers chest and is connected by a series of cummerbunds and shoulder straps. The system's foundation is a base carrier, intended to hold rigid ballistic plates, and provides attachment points for the system's suspension. Soft, handgun rated ballistics, are then externally affixed to the body side of the base carriers front and back portions using an attachment method such as hook and loop. This invention allows for soft and hard armor to be worn independently or together, while maintaining the structural integrity of the system.

The wearer can scale protection by choosing the ideal hard and soft plate/panel combination (soft/soft, hard/soft, hard/hard). This interchangeability allows flexibility, safety and comfort based on environmental and operational factors within one piece of tactical gear. Due to its comfort, versatility, and configurability, the system is suitable for use by both traditional law enforcement or military operators.



Illustrates combining the front plate and the front panel



Prototype of the scalable body armor system.

APPLICATIONS

The technology has several potential end-users:

- + Law enforcement
- + Security services
- + Military

PATENT INFORMATION

US Patent numbers 11,150,054 and 11,353,292



CONTACT INFORMATION

+ T2C@hq.dhs.gov

TECHNOLOGY SOLUTIONS

FOR MORE INFORMATION ABOUT THE DHS TECHNOLOGY TRANSFER & COMMERCIALIZATION BRANCH:

<https://www.dhs.gov/science-and-technology/technology-transfer-program>

