The DHS Science and Technology Directorate (S&T) First Responder Technologies (R-Tech) program provides rapid technology solutions that address high-priority first responder capability gaps. R-Tech works with responders at every step and engages with industry, academia, national laboratories and the innovation community to ensure technology needs are met and exceeded. With a mature and proven requirements gathering, prototype development, field assessment and transition process, R-Tech solutions are working in the field today to make DHS components, federal agencies, state, local, tribal and territorial responders safer and more effective.

**RETURN ON INVESTMENT**

S&T’s R-Tech program fulfills first responder technology needs fast. R-Tech quickly translates capability requirements into commercially-available solutions for operational use—when responders are safer, our communities are safer.

**Rapid R&D for High-Priority First Responder Gaps**
- R-Tech works with responders to identify capability requirements
- R-Tech solicits industry and other key partners to develop solutions
- Critical technology is developed within 12 to 18 months

**Assessing and Validating Technology in the Real-World**
- Responders from all disciplines inform R&D to ensure technologies meet field needs
- Prototypes are operationally tested in responder duty environments
- Responders are advocates for themselves and colleagues

**Technology Transition to Commercial Marketplace**
- R-Tech works with R&D partners to plan for technology commercialization
- To date, R-Tech performers have sold approximately 33,000 units for first responder use across the U.S.
- 19 technologies and 19 knowledge products are currently available to first responders and public safety bomb squads

**MAKING FIRST RESPONDERS SAFER AND MORE EFFECTIVE**

Each day more than 70,000 state, local, tribal, and federal agencies support public safety and emergency response across the nation. Access to technologies that allow them to perform their job safely, efficiently and effectively is critical to their performance and well-being.

**LEVERAGING INDUSTRY AND SPURRING INNOVATION**

R-Tech partners with industry to rapidly develop technology for high priority, first responder needs. We leverage industry to create innovative approaches and work closely with first responders to ensure desired results.

**SECURING COMMUNITIES ACROSS AMERICA**

First responders at all levels of service, from local and tribal jurisdictions to state and federal agencies, share their technology needs and R-Tech delivers. Our R&D efforts are strategic investments in the men and women who put their lives on the line every day to protect our communities and our nation.
R-Tech identifies and prioritizes high-priority technology gaps facing the nation’s first responders. From there, R-Tech scans the current technology market, matches the need with vendors who can build solutions, and then invests in the most promising concepts over the next 12-18 months. An additional 6 to 8 months is typically required to transition completed technologies to the commercial marketplace.

EMERGING TECHNOLOGIES
R-Tech develops technologies that improve first responder safety and performance and strengthen their ability to protect the homeland. Sometimes that means enhancing products already on the market, and many times it means leveraging cutting-edge technology to build first-of-its-kind solutions and capabilities.

PERSONAL PROTECTIVE EQUIPMENT (PPE)
R-Tech researches advanced materials and develops garments and equipment that protect first responders and increase their safety in hazardous working environments. PPE developed by R-Tech improves radiant thermal protection; shields against punctures, lacerations and exposure to carcinogens; and keeps responders cooler under extreme temperatures.

RESPONSE & DEFEAT OPERATIONS SUPPORT (REDOPS)
REDOPS uses an integrated approach to assist public safety bomb squads with responding to, defeating, and rendering safe improvised explosive devices. Working with the Federal Bureau of Investigation, REDOPS draws on expertise from the bomb squad community to develop countermeasures and tools, like the Laminate Window Portal Charge and Power Hawk, that improve safety and efficiency during render safe operations.

Enhanced Dynamic Geo-Social Environment (EDGE): EDGE is a virtual environment where first responders—single agencies or across agency, jurisdiction, or discipline—can train for a coordinated response to critical incidents, such as active shooters. Launched in June 2017, more than 520 agencies in 48 states and the District of Columbia have requested EDGE access.

Prepaid Card Reader (ERAD): ERAD allows law enforcement to check the balance of suspicious cards—bank credit/debit cards, gift cards, library cards, hotel keys, even Metrorail cards—and put a temporary hold on linked funds until a full investigation can be completed. To date, 780 agencies are using this technology across the U.S., with more than $10 million seized.

Lost Person Locator: The suite of tools puts historical, geographical and statistical data at responders’ fingertips to improve search and rescue response. Tools include a GIS and communications software platform, post-incident data collection system, and a mobile app with checklists and missing person behavior profiles. The app has been downloaded more than 4,250 times.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.

Wildland Fire Advanced Personal Protective System (APPS): Wildland Firefighter APPS is an NFPA-certified responder garment system that improves radiant thermal protection; reduces heat stress; and improves the form, fit and function of the garment ensemble. To date, sales total more than $18,000.