Reliance 21 – DoD Communities of Interest

Counter Improved Explosive Devices (C-IED)

Scope/Thrust Areas

- Identify Threat Networks that Employ and/or Facilitate IEDs: Detection & predictive analysis of threat networks and their functions through the analysis of intelligence, network activities, exploitation, and signatures.
- Detect IEDs and/or IED Components: Detection of IEDs in any operational environment (mounted, dismounted, in water, or from the air) as rapidly as possible and at distances beyond the serious injury zone of each device. Various types of sensors, as well as the capabilities of humans and animals, may be used to detect any of the common components of an IED: main charge, initiator, switch, container, or power source.
- Prevent and/or Neutralize IEDs: Neutralization can include: pre-detonation, render IEDs and disposal of the IED or the disruption of the detonation command signals. Where neutralization is impossible or impractical, methods such as disabling the trigger mechanism or preventing emplacement of the device are effective alternatives.
- Mitigate IED Effects: Maximize the survivability of personnel, facilities and equipment by mitigating the blast and fragmentation effects of IEDs.
- Distribute IED Related Data across the Community of Interest: Synchronization of intelligence and operational forces by sharing appropriate all-source information and intelligence up and down the chain of command from the strategic to the tactical level, across Federal Department and Agencies and with our allies and partner nations. IED related data includes, but is not limited to, significant event reports, post-blast analysis, forensic and biometric data, trends analysis, C-IED capability assessments, crime pattern analysis, network analysis, intelligence products and reports and new innovative analytic techniques.
- Train C-IED Capabilities: Employing relevant and effective C-IED tactics, techniques and procedures by rapidly developing, defining, and implementing material C-IED training tools, including standards, and integrating into appropriate Service, Joint, and DoD concepts, policy and doctrine.

Technology areas that support improved C-IED capabilities

- Sensor Fusion & Processing
- Explosive Detection
- Autonomous Systems
- Chemical Spectroscopy
- Traumatic injury response
- Knowledge Management
- Electronic Attack/jamming
- Advanced Armor/Robotics
- UAVs
- Forensics/Biometrics: Human Cultural Behavior
- Hyperspectral Imaging
- ISR Sensors
- Infrared Imaging
- Lasers
- Insurgent Network Analysis
- Tagging, Tracking & Locating
- Electronic Support/SIGINT
- Advanced Electronics
- RF Directed Energy

Impact on Capability Needs

- Through greater awareness of past and current efforts, several Service technical efforts are more focused on discrete S&T challenges.
- Recent Broad Agency Announcements have had ROI input prior to submission and ROI technical member review of white papers and proposals.
- Broader set of technical disciplines represented on working groups.

Success Stories

Strong participation in the Joint Improvised-Threat Defeat Organization (JIDO) Joint Lab Board which has resulted in eight funded efforts within the COI in the last 6 months.

Engagement Opportunities for Industry

- Identify and track network activities
- Capture, catalog & Identify IED component signatures
- Collection and analysis of biometric, forensic and DOMEX data
- Detect IEDs from a safe stand-off distance
- Neutralize/pre-detonate IEDs with dismounted, mounted from aircraft
- Distribute IED related data across the Community of Interest
- Detect IEDs while dismounted, mounted, and from the air
- Detect waterborne IEDs
- Neutralize waterborne IEDs
- Detect HME
- Disable IEDs in multiple environments
- Mitigate the effects of IED attacks while mounted or dismounted

Focus Going Forward

- Improving the visibility of operational needs and technology gaps
- Identifying alignment of S&T capabilities, experts, facilities, and programs/projects
- Providing multi-agency coordination and collaboration in cross-cutting science and technology focus areas that benefit addressing the proliferating and enduring challenge presented by IEDs.

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