



Counter-IED Community of Interest



The Counter Improvised Explosive Device (IED) S&T COI was formed to encourage multi-agency coordination and collaboration in cross-cutting science and technology focus areas that have particular benefit addressing the proliferating and enduring challenge presented by IEDs. The COI concentrates on fostering the bonds between the Joint IED Defeat Organization (JIEDDO) and the DoD S&T Enterprise by improving the visibility of operational needs and technology gaps, and identifying alignment of S&T capabilities, experts, facilities, and programs/projects with these gaps.



SOURCES: Multiple Open Sources
NOTE: Events and casualties are based solely on Open-Source reporting and should not be considered definitive or all-inclusive.

C-IED COI 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 every 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 safe, 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 materiel C-IED training tools, including standards, and integrating into appropriate Service, Joint, and DoD concepts, policy and doctrine.

Technologies 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

C-IED S&T COI Membership

Bold Denotes Service Agency Principal Member

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| ASD(R&E)/RD: Dr. Karl Dahlhauser (Co-Chair) JIEDDO: LTC Clay McGuyer (Co-Chair) SAF/AQR: vacant Joint Staff: LTC Katherine Trombley MDA: vacant DTRA: Dr. Donald Cronce Army ERDC: Dr. Mark Moran Naval C-IED Knowledge Network: Debra Powers DASA(R&T): Matt Donohue RDECOM CIED TF: Dr. Paul Zablocky ARL: Kelly Sherbondy USMC MCSC SIAT: Dave Karcher USMC MCCDC CDD FPID: Maj Steven Lucas | NVSD: Dr. Mike Grove ONR: Lee Mastrolanni OSTP: Chris Fall DHS: Elizabeth Obregon OSD – JRAC: Chris O'Donnell DARPA: vacant CTTSD: Lou Wasserzug JSEOD: Keith Plumadore UXOCOE: Bill Windsor Army SMDC: Dr. Mark Rader NGIC: Randy Scholl AFRL: 1st Lt Michael Duenes |
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COI Impact and Success Stories

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 COI input prior to submission and COI technical member review of white papers and proposals
- Broader set of technical disciplines represented on working groups

Recent Success Stories

- Strong participation in the Joint Improvised Threat Agency (JIDA) Joint Lab Board which has resulted in eight funded efforts within the COI in the last 6 months

Opportunities to Develop/Enhance the Following Technology Areas:

- 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