

Office of University Programs: Product Overviews

Project Number	Tool/Technology/Knowledge Product	Brief Description	COE	End user (U = tool used; P = tool piloted)
1	Explosives Technical Knowledge Database	Source of technical knowledge for physical properties of about 75 explosive compounds and precursors.	ALERT	State forensics labs (U), law enforcement officials (U), university researchers (U), explosive detection equipment vendors (U), Department of Defense research labs (U)
2	Hyperspectral Image Analysis Toolbox (HIAT)	Analytical toolkit of multi-spectral (Ultraviolet, Infrared) techniques for understanding images for detection and tracking of drugs or explosives from aerial surveillance systems in Border Security applications.	ALERT	Industry developers of multi-spectral surveillance systems (U), border security and surveillance organizations (U), academic researchers (U)
3	Partnership in Pedestrian-tracking Technology Detection	The focus of this project is to develop pedestrian-tracking technology to detect suspicious individuals in a dense crowd.	ALERT	Massachusetts National Guard (P)
4	COE Explorer tool	Uses visual analytics to help understand networks and currently demonstrates relationships within the DHS Centers of Excellence (Centers, People, Institutions, Projects).	CCI	DHS Office of University Programs (U)
5	CompStat II	This tool provides first responder agencies with advanced computer services to simplify, organize, and easily display data by combining historical crime statistics with other investigative or surveillance data, then automatically displays the data in easy-to-understand visual images.	CCI	Port Authority of New York and New Jersey (U)
6	CrimeMap	Provides real-time information on crime and potential crime hotspots using geographically and temporally linked crime and suspicious activity data.	CCI	University of Illinois students and residents (U)
7	GeoVISTA CrimeViz	GeoVISTA CrimeViz (Geovisual Analytics for Spatiotemporal Crime Analysis) is a web-based map application that supports exploration and sensemaking of criminal activity in space and time.	CCI	Harrisburg Police Department (P)
8	GEOXray	The GeoXray tool displays a geographic area and overlays relevant emergency response and other services (schools, hospitals, parking areas, etc.), content from news, events, databases, tweets, and blogs and clusters and summarizes text associated with map locations.	CCI	Cities of El Segundo and Culver City in California (U)
9	Jigsaw	This tool identifies entities such as people, organizations and places within a large document collection, highlights connections between entities, and provides a “visual index” on those entities to guide the analyst to relevant reports.	CCI	Indianapolis Dept. of Public Safety (U)
10	KOJAK	KOJAK is an integrated suite of link discovery tools that perform tasks such as group detection, anomaly detection, pattern matching and relationship and graph simplification.	CCI	IARPA (U)
11	PanViz	PanViz technology provides public health officials with a suite of visual analytic tools for analyzing the spread of a pandemic influenza.	CCI	State of Indiana (U), State of Washington (U), Indiana State Department of Health (U)

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12	SportEvac	The SportEvac tool evaluates evacuation plans and pedestrian flow for buildings: office, school, stadium or multiplex environment. Tool outputs are in the form of 3D animation and statistical reports.	CCI	National Football League (U), New Meadowlands Stadium (U), New Jersey State Police (U), Indianapolis Colts stadium (P), Washington Redskins stadium (P), Pennsylvania Eagles stadium (P), Baltimore Ravens stadium (P), New Orleans Saints stadium (P)
13	Rosetta Phone	A handheld device that translates foreign languages from visual images such as road signs.	CCI	This tool has been incorporated into two applications: Mobil Emergency Response Guide (MERGE) and Gang Graffiti Automatic Recognition & Interpretation (GARI). These applications will be deployed in the Summer of 2011 (MERGE) and Fall 2011 (GARI).
14	TraffiCop	Analysis of Twitter and social media to detect human trafficking	CCI	
15	Visual Analytics for Law Enforcement (VALET)	VALET (Visual Analytics Law Enforcement Toolkit) allows investigative analysts to explore police records and statistics by linking data to a geographical map to identify crime hotspots and observe changes in criminal activity through time.	CCI	Tippecanoe Co. Sheriff's Department (U), West Lafayette Police Department (U), Lafayette Police Department (U), Purdue University Police Department (U)
16	Coastal Hazards Modeling	This modeling suite is the next generation of coastal hazard models for predicting coastal flooding. The models couple rain and wind forecasts with hydrologic, storm surge, and wave models to provide holistic coastal flooding predictions.	CHC	FEMA (U), US Army Corps of Engineers (U), National Weather Service Weather Forecast Offices (P)
17	Disaster Response Intelligent System (DRIS)	DRIS is a GIS-based situational awareness system for regional and national disaster response and recovery that is scalable to the regional, state, county and local levels. DRIS integrates several tools including: Hurricane Storm Surge Model (SLOSH); Chemical Plume Model (ALOHA); At-Risk Population Model; WebEOC, Live Weather, Earthquake, Traffic Feeds; and Virtual USA Library Tool.	CHC	Emergency Operations Center in Yazoo County, MS (U); Mississippi Emergency Management Agency (U); Mississippi National Guard Intelligence and Operations Division (U); Local Emergency Operations Centers in Alabama, Louisiana, Mississippi, and Tennessee (U); and the City of Jackson Mississippi Fire Department (U)
18	MUNICIPAL- Post Disaster Infrastructure Decision Support Tool	MUNICIPAL is a decision support tool that includes modeling capabilities, optimization software and GIS software. It allows users to visualize critical infrastructure systems and their interdependencies; visually assess the damage to these systems caused by an extreme event; and make mitigation, response, and recovery decisions that help ensure community resiliency.	CHC	New Hanover County Emergency Management Department (P), Cape Fear Public Utility Authority (P)
19	Hazard Mitigation Plan Quality Performance Indicators	This is a tool to evaluate the quality of hazard mitigation plans, consisting of a set of performance indicators and procedures for applying these indicators.	CHC	FEMA (U)

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20	ARMOR (<i>Assistant for Randomized Monitoring over Routes</i>)	ARMOR (Assistant for Randomized Monitoring over Routes) software randomizes schedules, plans or actions for security agencies. Successfully deployed at the Los Angeles International Airport (LAX) since August 2007 for randomized scheduling of LAX police.	CREATE	Los Angeles Airport (U), LAX police (U)
21	GUARDS (<i>Game-theoretic Unpredictable And Randomly Deployed Security</i>)	GUARDS (Game-theoretic Unpredictable And Randomly Deployed Security) is being deployed for the Transportation Security Administration (TSA) at the Pittsburgh International Airport and LAX with potential for future nation-wide deployment.	CREATE	TSA (U), Pittsburgh International Airport (U), Los Angeles Airport (U)
22	IRIS (<i>Intelligent Randomization in International Scheduling</i>)	IRIS (Intelligent Randomization in International Scheduling), a software program for scheduling deployments of Federal Air Marshals, deployed since October 2009.	CREATE	FAMS (U)
23	PortSec (Port Security)	PortSec (Port Operations Modeling for Security Risk Management and Resource Allocation) is a systems-based risk management tool that helps port security personnel assess tactical and strategic risks to port operations and evaluate alternative technology-based solutions and resource allocation policies.	CREATE	Ports of Los Angeles and Long Beach (P)
24	Food and Agriculture Criticality Assessment Tool (FAS-CAT)	FAS-CAT (Food & Agriculture Sector Criticality Assessment Tool) identifies critical assets in the food and agriculture sector. The tool helps States determine the most critical elements, nodes, and subsystems in the food and agriculture infrastructure. Expanded for use in all 50 states for the FY2011 NPPD/NCIPP data call	NCFPD	DHS NPPD (U), State Emergency Management Agencies (U), FDA (U), USDA (U)
25	FoodSHIELD	FoodSHIELD is a web-based system for communication, coordination, community-building, education, and training among the nation's food and agriculture sectors. FoodSHIELD enables real-time response and decision making by facilitating collaborations between public health and food regulatory officials at the local, state, and federal levels. Currently 8000 users are registered.	NCFPD	DHS NPPD (U), DHS OHA (U), DHS S&T/CBD (U), FDA (U), USDA (U), State Public Health Officials (U)
26	Risk Communication Best Practices	Best practices for active engagement of multiple audiences in effective risk communications before, during, and after potentially catastrophic food bioterrorism incidents. Used by the CDC during the H1N1 pandemic.	NCFPD	CDC (U)
27	System Based Risk and Vulnerability Assessment (e.g. BTRA)	Models are in development to assess risk and vulnerability for specific food systems. A prototype has been developed based on the milk system in Minnesota and is now being extended to eggs. Risk assessments and subject matter expertise are used to inform the DHS bioterrorism risk assessment (BTRA).	NCFPD	DHS S&T/CBD (U)
28	MTI Database on Terrorist and Serious Criminal Attacks against Public Surface Transportation	MTI's database of attacks against public surface transportation targets is used in various types of analyses to discern trends and risks of attacks against public surface transportation by terrorists or criminals.	NTSCOE	DHS TSA (U)
29	Bus Operator Awareness Research and Development (BOARD)	This training program provides bus operators with enhanced awareness and training in behavioral assessment to better recognize and respond to security threats. The goal of the program is to enhance bus operators' abilities to quickly and effectively evaluate suspicious and dangerous behaviors, and take actions to protect themselves and their passengers.		Houston Metropolitan Transit Authority (P), New York Metropolitan Transit Authority (P)
30	Electronic Mass Casualty Assessment and Planning Scenarios (EMCAPS)	EMCAPS estimates casualties at a local/jurisdictional level resulting from biological attacks (anthrax, plague, food contamination), chemical attacks (blister agent, nerve agent, or toxic agent), or incidents involving radiological ("dirty") bombs or improvised explosive devices.	PACER	North Central Colorado Region Metropolitan Medical Response System (U), Boston Emergency Management System (U)

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31	Global Terrorism Database (GTD)	The GTD provides the world's most comprehensive unclassified data source for measuring terrorist attacks, including structured data on more than 120 variables for over 87,000 terrorist attacks committed by more than 2,000 terrorist organizations around the world from 1970 - 2008.	START	DHS S&T HFD (U), DHS S&T Explosives Division (U), DHS S&T International Programs (U), DHS I&A (U); DHS Office of Policy (U); DHS NPPD (U); National Counterterrorism Center (U); Department of Defense (U); State Department Office of Counterterrorism (U); FBI (U); and State/Local Law Enforcement Agencies (U); FLETC (U)
32	Communities Advancing Resilience Toolkit (CART)	Methods to enhance community resilience through assessment, group processes, planning, and action. The CART process encourages public engagement in problem solving and the development and use of local assets to address community needs.	START	DHS S&T HFD (U); DHS OHA (U); FEMA (U); HHS Office of the Assistant Secretary for Preparedness & Response (U); and State/Local Emergency Response Agencies (U)
33	Extremist Crime Database	This database contains systematically collected information on all crimes since 1990 in the United States involving a suspect known to adhere to far-right ideology -- principles such as fierce nationalism, anti-globalization, suspicions of centralized Federal authority, support for conspiracy theories, and reverence for individual liberties (including gun ownership).	START	DHS I&A (U), DHS S&T/HFD (U), FBI (U), State/Local law enforcement agencies (U)
34	Big Allied and Dangerous (BAAD I)	Database captures organizational and relational characteristics of 400 different terrorist organizations for the years 1998-2005.	START	DHS S&T HFD (U); DHS I&A (U); DHS Office of Policy (U); Department of Defense (U); and State Department Office of Counterterrorism (U)
35	Minorities at Risk for Organizational Behavior (MAROB)	An open-source dataset covering political organizations representing the interests of ethnic groups whose political status and behavior are tracked by the Minorities at Risk project. MAROB gathers information on more than 163 variables for both violent and nonviolent organizations.	START	DHS (U), PNNL (U), RTI (U)
36	Radiological and Nuclear Non-State Adversaries (RANNSAD)	Drawing on existing CBRN event databases, as well as independent research, RANNSAD is an attempt to develop a systematic method of recording detailed information about all previous non-state users and attempted users of RN weapons.	START	DHS DNDO (U)
37	Social Vulnerability Index (SoVI)	SoVI provides comparative data at the county level on social vulnerability to hazards and extreme events, based on the synthesis of 42 socioeconomic, demographic, and built environment variables.	START	CDC (U), NOAA (U)
38	START Background Reports	These reports use data from the GTD and other START projects to provide information on terrorism trends related to current events.	START	Academia (U), federal agencies (U), think tanks (U), media (U)
39	Animal Health Network	The animal health network is a system for rapidly alerting and educating underserved and non-commercial livestock producers of new, re-emerging, or zoonotic diseases in the event of an outbreak.	ZADD	USDA (U), State extension services (U)
40	Dynamic Preparedness System (DPS)	For use in emergency responses, the DPS organizes, displays, and presents real-time information securely online to geographically dispersed decision makers.	ZADD	DHS OHA (U), USCG (U), USDA Animal and Plant Health Inspection Service (U)

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41	National FAD Training Curriculum	Training materials including workbooks, CDs, PowerPoints, and webinars focus on early recognition to facilitate rapid response in the event of a disease outbreak. Species-specific (dairy, sheep/goat, swine, beef) and bilingual manuals are available.	ZADD	USDA (U), State extension services (U)