



Homeland Security

Science and Technology

Center for Accelerating Operational Efficiency (CAOE)

A DHS Center of Excellence

CAOE develops and applies advanced analytical tools and technologies to enhance planning and real-time decision-making in homeland security operations.

LAUNCH ▶ 2017

PARTNERS ▶ More than 16 university, private industry, and national laboratory partners

EXPERTISE ▶ Global security, computer science, engineering, cybersecurity, economics, risk science, policy studies, and operational research

DHS ALIGNMENT ▶ Transportation Security Administration (TSA), DHS Office of Intelligence and Analysis, DHS Office of Health Affairs, DHS Office of Policy, U.S. Customs and Border Protection, U.S. Coast Guard, U.S. Citizenship and Immigration Services, National Protection and Programs Directorate

Research and Education Capabilities

- Policy, risk, and cost analysis
- Design and implementation of efficient security measures
- Process improvement to reduce decision time
- Education and training for the current and future homeland security workforce

CAOE | CENTER FOR ACCELERATING OPERATIONAL EFFICIENCY
A DEPARTMENT OF HOMELAND SECURITY CENTER OF EXCELLENCE

A nationwide consortium led by:

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Feedback from Our Partners

*“TSA greatly values its partnership with CAO E. This new partnership **provides TSA with continued access to world-class academic resources to better manage risk, improve the security of the Transportation Sector, and to proactively address operational challenges.**”*

Jerry C. Booker, Director
Risk Management Division, TSA, 2017

*“To continue to improve homeland security strategic planning, the Department must integrate technical analysis to understand issues arising in the dynamic threat environment and prioritize opportunities to address them. This new Center of Excellence will make a **significant contribution to Departmental strategic planning and the cascading impacts on resource management, accountability, and oversight.**”*

Susan Monarez, Deputy Assistant Secretary
DHS Strategy and Analysis, Office of Policy, 2017

University Partners

Georgia Institute of Technology, TX
North Carolina Agricultural & Technical
State University, NC*
Northwestern University, IL
Spelman College, GA*
The University of Texas at El Paso,
TX*
University of Albany (State University
of New York), NY
University of California at Irvine, CA
University of Chicago, IL
University of Maryland, MD
University of Southern California, CA

*Minority Serving Institution (MSI)

Enterprise Partners

Georgia Tech Research Corporation
(CTRC)
Los Alamos National Laboratories
(LANL)
Maricopa County (AZ) Emergency
Management Department
Pacific Northwest National Laboratory
(PNNL)
Sandia National Laboratories
Skysong Innovations



For a complete list of partners
and more information, please visit
www.caoe.asu.edu

For more information on DHS
Centers of Excellence, please visit
hsuniversityprograms.org



Impacts



Improving airport checkpoint performance

With more than 2.5 million passengers flying each day through U.S. airports, CAOE is working with TSA to improve airport checkpoint performance through resource allocation decision tools that evaluate passenger demand. Outcomes include reduced average wait time, improved customer service, and quicker responses to unplanned events without compromising security.



Planning for lifeline supply chain restoration in the wake of disasters

CAOE is developing a real-time, command-and-control decision tool for more efficient restoration of vital transportation, electrical power and diesel-fuel supply chains, to address challenges in planning for natural disasters and national emergencies.



Improving detection of border threats

With the U.S. government's increased investment in both physical and virtual infrastructure to prevent illegal smuggling and trafficking, CAOE projects identify potential "hot paths" of activity, allowing for better resource allocation to improve capacity and return-on-investment of tactical and surveillance infrastructure.



Detecting and tracking isolated malicious activities

Recent airport security breaches, mass shootings at public events, and cyber-attacks on sensitive data, present the challenge of combating diverse, Isolated Malicious Activities (IMAs) or "lone wolf" type of attacks. CAOE is creating technology that will give law enforcement the ability to identify rare signals that indicate probable activities from IMAs.