Center for Accelerating Operational Efficiency (CAOE)
A Nationwide Consortium Led by Arizona State University

A DHS Center of Excellence

CAOE develops and applies advanced analytical tools and technologies to enhance planning, information-sharing and real-time decision-making in homeland security operations. The Center also develops educational programs to meet current and future workforce needs across the Homeland Security Enterprise in visual and data analytics, operations research and systems analysis, economic analysis, and risk science.

Research and Education Capabilities

- Predictive analyses
- Screening for threat assessment and resource allocation
- Risk detection and mitigation
- Education and training for current and future

About CAOE

LAUNCH	2017
PARTNERS	More than 25 university, private industry, and national laboratory partners
EXPERTISE	Global security, computer science, engineering, cybersecurity, economics, risk science, policy studies, supply chain management, data analytics, and operational research
DHS ALIGNMENT	U.S. Customs and Border Protection (CBP), Cybersecurity and Infrastructure Security Agency (CISA), Office of Intelligence and Analysis (I&A), DHS Privacy Office, DHS Procurement Innovation Lab (PIL), DHS Science and Technology (S&T), Transportation Security Administration (TSA)

Feedback from Our Partners

"The Transportation Security Administration team in Arizona has had the privilege to partner with ASU and the Center for Accelerating Operational Efficiency for the past several years. We are particularly excited to have the opportunity to partner with CAOE on a project involving Artificial Intelligence (AI). With the use of AI rapidly growing across government and private sector organizations around the globe, there is significant value in increasing public awareness and confidence in this technology."

Brian W. Towle, Assistant Federal Security Director, Mission Support, Transportation Security Administration

University Partners

College of William and Mary
Elizabeth City State University
Fayetteville State University
North Carolina A&T State University*
Northwestern University
Rutgers University
San Diego State University*
Texas A&M University   Kingsville*
Texas State University
The Ohio State University
University at Albany – State University
    of New York
University at Buffalo – State University
    of New York
University of the District of Columbia*
University of Florida
University of Illinois at Urbana
    Champaign
University of Nebraska at Omaha
University of Notre Dame
University of Southern California
University of Texas at Arlington
University of Texas El Paso*

*Minority Serving Institution (MSI)

Enterprise Partners

Business Executives for National
    Security (BENS)
City of Austin
Cummiskey Strategic Solutions, LLC
Duality Technologies
FedTech
IQT Labs
Los Alamos National Laboratories
Maricopa County Emergency
    Management Department
Notre Dame IDEA Center
Pacific Northwest National Laboratory
Phoenix Police Department
Sandia National Laboratories
SkySong Innovation Center
Travis County Texas
Washington Homeland Security
    Roundtable

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
**www.dhs.gov/science and
technology/centers excellence**

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 using 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.

Evaluating the Reliability of AI-Enabled Technology

Artificial Intelligence (AI) is being used more frequently in homeland security applications but there are challenges to determining the reliability and accuracy of AI-enabled systems. CAOE is developing tools that can help government and industry evaluate the trustworthiness of AI technology. These tools have the potential to streamline technology development and acquisition of AI-enabled systems and increase organizational confidence in the technology.

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.

Developing Cross-Disciplinary Education Resources for the Future Workforce

CAOE strives to support workforce and professional development through a multi-institutional approach to developing a diverse and inclusive homeland security workforce. The Center's research and education programs generate graduates competitively skilled in quantitative analytics and advance established relationships with Minority Serving Institutions (MSIs). A key component of the Center's program has been the establishment of cross-disciplinary modules and programs that span traditional disciplinary boundaries while being agile enough to deliver skill sets critical to support existing and emerging mission needs.