Homeland Security
Science and Technology

Critical Infrastructure Resilience Institute (CIRI)

A DHS **Center of Excellence**

From natural disasters to deliberate attacks by hostile entities, critical infrastructure systems face a myriad of challenges. CIRI's interdisciplinary team delivers tools, technologies, and solutions to the businesses and public entities that own and operate critical systems.

LAUNCH ▸	2015
PARTNERS ▸	More than 17 university, private industry, and national laboratory partners.
EXPERTISE ▸	Business, computer science, engineering, law, political science, public policy, and urban planning.
DHS ALIGNMENT ▸	National Protection and Programs Directorate, Federal Emergency Management Agency, U.S. Coast Guard

Feedback from Our Partners

*"**Having a DHS Center of Excellence like CIRI is vital to our operations...** Through our partnership with CIRI, we can get a world-class research team looking at an issue and then we can blend the contributions of our subject matter experts with their researchers to the benefit of both organizations."*

Dr. Joe DiRenzo, Director of Research Partnerships
U.S. Coast Guard Research and Development Center, 2018

*"Through its External Advisory Board, CIRI works to build relationships, influence the policy and regulatory environment, and translate technical data into actionable recommendations for businesses across a wide range of fields. **It's this industry-orientation that sets CIRI apart from other academic research centers.**"*

Ed Hammersla, Chief Executive Officer
Utilidata, 2018

Research and Education Capabilities

- Building the business case for Infrastructure development
- Informing the policy and regulatory environment
- Developing and deploying new technologies and solutions
- Education and training for the current and future homeland security workforce

CIRI | CRITICAL INFRASTRUCTURE RESILIENCE INSTITUTE
A DEPARTMENT OF HOMELAND SECURITY CENTER OF EXCELLENCE

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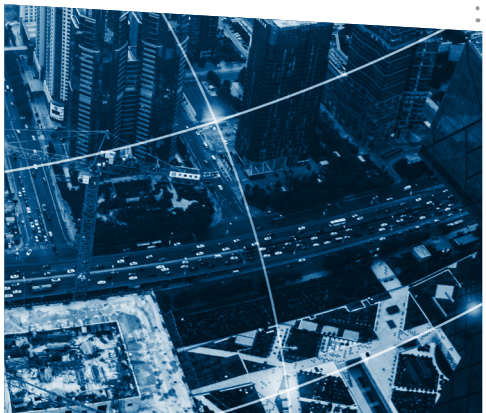

University Partners

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CME Group
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Idaho National Laboratory
MidAmerica Energy
NetScout Systems
Oak Ridge National Laboratory
Resilient Solutions 21
Sandia National Laboratories
Security Industry Association
Siemens Corporate Technology Center
United States Coast Guard
U.S. Bank
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For a complete list of partners and more information, please visit **ciri.illinois.edu**

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

Impacts

Protecting U.S. economic health through improved port cybersecurity

More than 55 million tons of cargo passes through U.S. maritime ports every day. CIRI researchers are working with U.S. port owners and operators and the U.S. Coast Guard to develop tools to show the impacts of potential disruptions and develop effective response strategies.

Developing new cyber-risk assessment tools

The $2.75 billion cyberinsurance market lacks a technological approach to analyzing cyber risks and pricing policies. CIRI researchers have developed a software tool that provides an assessment of a company's cybersecurity risk based on their IT infrastructure.

Facilitating standardized cyber-risk management processes

Companies of all sizes across various sectors are enhancing their cyber security through adoption and implementation of standardized cyber risk management processes such as the NIST Cyber Security Framework (CSF), which is rapidly becoming an international standard. CIRI is developing a cloud-based software application that simplifies conformance to the CSF, facilitating wide-scale adoption of the standard.

Making devices on 4G LTE networks more secure

By 2020, the number of 4G LTE connections is expected to reach 2.8 billion and are critical to the daily operation of everything from healthcare to transportation. CIRI researchers are applying new "fuzzing" testbed methods to uncover and protect against vulnerabilities at the system level on 4G LTE networks response strategies.