

HEARTLAND

Science & Technology Group

Scientific Research & Engineering Development

Heartland Science & Technology is a not-for profit building greater-good technology solutions. We partner with private industry, government, and academia to solve complex, big-picture technology issues that would be difficult or impossible for any single sector to solve independently. Our portfolio includes projects addressing national infrastructure protection, promoting environmental conservation through precision agriculture, managing cyber security risks in nonfederal information systems and organizations, and facilitating access to scientific, high-performance computing applications.

Information Systems for Agriculture

Transformative Sustainable Practices

In partnership with the Illinois Corn Growers Association, we enable farmers to economically implement sustainable farming practices through the use of precision agriculture technologies. Heartland developed and operates an information system for farmers that integrates precision agriculture, conservation management, and economic data to facilitate the widespread adoption of conservation management best-practices.

www.precisionconservation.org

Maritime Risk Assessment

Developing Tools to Support The National Infrastructure Protection Plan

Heartland supports applied research conducted at the **University of Illinois** in the area of threat-based assessments of port infrastructure – prototyping tools to better understand and mitigate the possible effects of port disruptions and their potential impact on industry, economics, and supply chains.

www.ciri.illinois.edu/research/assessment-and-measurement-port-disruptions

Critical Infrastructure Resilience

Supporting Applied Research & Technology Transition from Academia to Industry

Heartland provides technical and business support to the **Critical Infrastructure Resilience Institute (CIRI)** - a **Department of Homeland Security Center of Excellence**. As part of the University of Illinois, the Institute conducts research and education that enhances the resiliency of the nation's critical infrastructures, and the businesses and public entities that own and operate those assets and systems.

Cybersecurity Risk Management

Guiding Organizations Through Complex Federal Cybersecurity Regulations

Heartland continues to develop a web-based cybersecurity dashboard that demystifies challenging cybersecurity compliance processes and regulations set forth by the federal government. The **Cyber Secure Dashboard** tool provides the functionality required to implement, manage, monitor, and communicate NIST cybersecurity requirements across enterprises, and maintain compliance through an evolving landscape of potential security threats.

www.cybersecuredashboard.com

The Software Commons

High Performance Computing Software & Systems

The Software Commons will provide engineers and scientists with direct access to and use of the latest & most advanced academic, government, and private industry computational codes and tools. Using this resource, private and public organizations are empowered to research, develop, share, and employ scientific, high performance computational codes while preserving proprietary methods, processes, and information.

www.thesoftwarecommons.org

Scientific Software Development

Portable, Hand-Held Spectroscopy

Heartland is developing software tools for **SpectroClick's** portable spectroscopy device - a portable, accurate, consumer-easy chemical testing device. The technology lets ordinary people immediately determine if lead or arsenic is present in their drinking water, and it enables farmers to determine the levels of nitrates in their soil.