

BACKGROUND

The Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) [Probabilistic Analysis for National Threats Hazards and Risks](#) (PANTHR) program supports the national chemical, biological, radiological, nuclear, and explosives (CBRNE) defense mission. PANTHR provides accurate, useful, and defensible knowledge and tools to stakeholders to enable risk-informed decision making for defense against weapons of mass destruction threats to the homeland. PANTHR enables decision-makers to address CBRNE threats more effectively through three strategic capabilities: risk assessment, characterization, and knowledge management.

The **Hazard Knowledge Center (HKC)**, a core activity of the PANTHR program, is the project that builds and maintains the knowledge management system, which hosts and ensures broad access to PANTHR products, tools, models, and capabilities. The HKC leverages other DHS assets to develop and deploy a secure, cloud-based system across classified and "for official use only (FOUO)" environments.

A SAFE ENVIRONMENT FOR DATA & TOOLS

HKC provides a protected environment for government analysts, decision-makers, and designated contractors to gain access to a wide-range of data and tools. The valuable data and information are contained in the HKC's Hazard Knowledge Management System (HKMS), a system hosted by S&T and the DHS Information and Analysis Division. HKMS hosts a portfolio of risk assessments, analytic tool development, and laboratory and field threat characterization results.

HKMS CAPABILITIES

The HKMS is a platform that provides the Homeland Security Enterprise (HSE) with a single, enduring capability to archive, access, and communicate chemical and biological hazard information generated by PANTHR. Hazard data and information, maintained in secure, DHS-owned cloud storage, is accessible to HSE customers 24/7 through electronic means.

HKMS currently hosts data and information from the biological and chemical domains. PANTHR plans to expand this scope to include the radiological, nuclear, and explosives domains.

IMPACT

The provision of tailored products, tools, technologies, information, and data across CBRNE modalities, as well as analyses and information generated by the PANTHR tool are, available 24/7 to approved HSE customers for automated and human assessment. This increase in awareness enables effective decision making, which is required to understand and mitigate current and future chemical and biological hazards.



PANTHR's knowledge development cycle: awareness to analysis to characterization to knowledge access, distribution, and management.

ACCOMPLISHMENTS

- Established DHS approved networks for hosting Top Secret and FOUO applications and knowledge products.
 - Completed Privacy Impact Analysis, Business Impact Analysis, and reference architecture. Achieved Governance Board Approval.
- Completed four deployments across our two networks.
- Completed HKMS Transition Management Plan with the S&T Office of National Laboratories for long term system maintenance.

STRATEGIC GOALS

- Access, organize, disseminate and archive CBRNE data to HSE customers.
- Host and ensure broad access to tools, algorithms, and knowledge management capabilities to allow users to extract data and information from HKMS stores.