



UNIVERSITY OF
LOUISVILLE

KENTUCKY
CYBERSECURITY
CENTER

louisville.edu/research

Just as the global transportation network connects the physical world....

The internet connects us virtually.



A GROWING THREAT

Cybersecurity is a critical element of modern business, government and the lives of all Americans, and cyberattacks of all sorts continue to grow in number and impact.



\$4.82 MILLION

The average cost of a critical infrastructure data breach in 2022, according to IBM.

3 MILLION

Workforce gap for qualified defense civilians and active military personnel with specialties in cybersecurity, per ISC2.

4,000

Currently unfilled highly-paid positions in Kentucky alone, forfeiting potential tax revenue and leaving our critical infrastructure, utilities and businesses vulnerable.

CYBERSECURITY'S NEW KENTUCKY HOME

KentuckyCYBER will tackle this head-on by bringing together public and private partners for workforce development, research and innovation.

Vision: Kentucky's critical infrastructure, state and local agencies, and major economic sectors will thrive on a secure cyber infrastructure built by our own skilled workforce.

Mission: To accelerate adoption of cybersecurity systems in Kentucky by combining assets of higher education, state and federal agencies and private sector companies in an innovation park.



TAKING THE FIGHT ONLINE



CYBER-RELATED ECONOMIC DEVELOPMENT

Collaborative ecosystem combining world-class equipment, facilities and researchers with industry, government and others to solve problems and develop new technology and cyber-related companies.



EDUCATION AND WORKFORCE DEVELOPMENT

Crafting a future cybersecurity workforce through cutting-edge curriculum, training and upskilling, including industry credentials and certificates via a consortium of universities, community colleges and P-12 programs. The goal is to create a pipeline of qualified cybersecurity talent to fill high-paying job vacancies and defend our infrastructure.



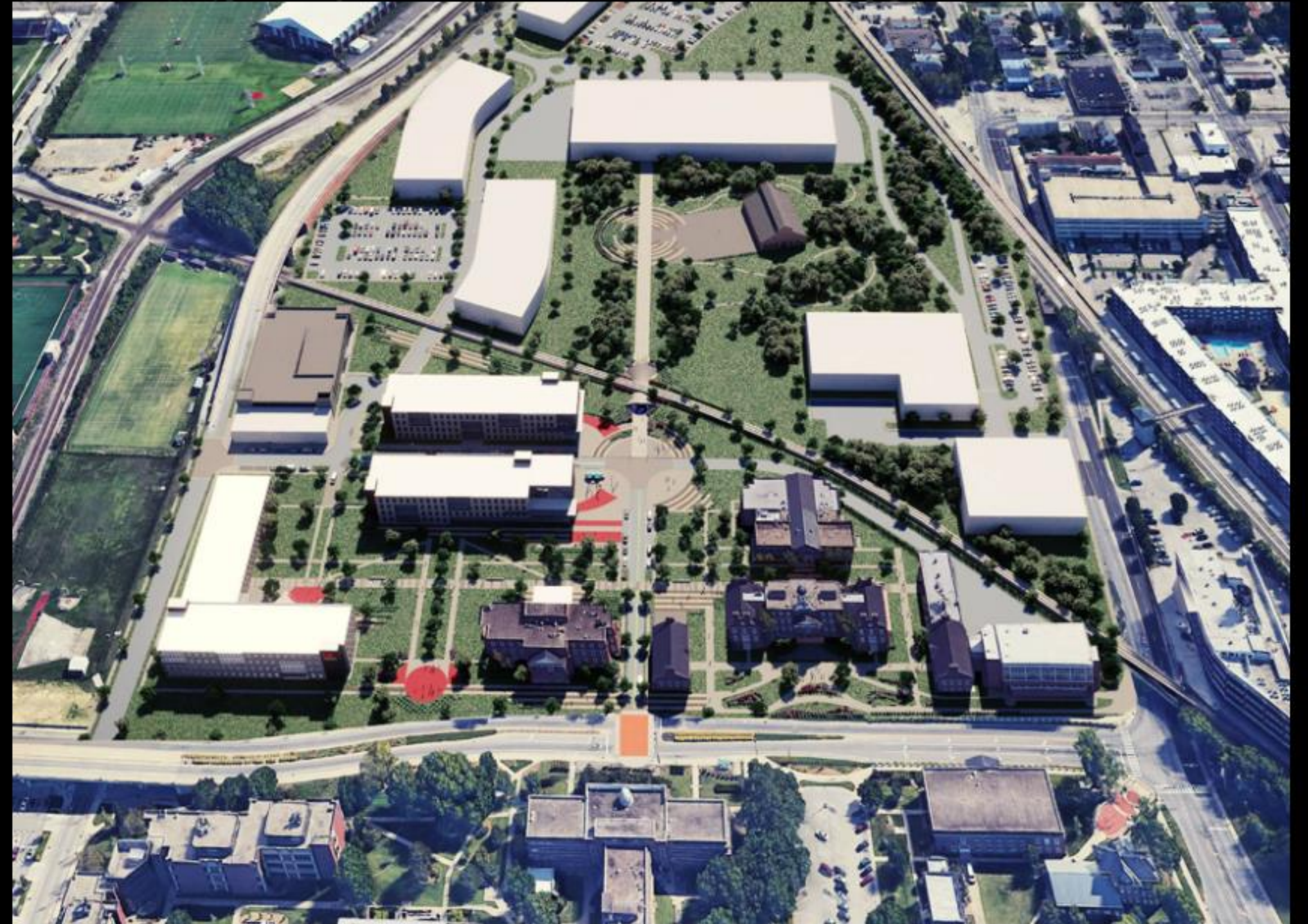
DEDICATED CYBER RANGES AND INCIDENCE RESPONSE

Secure environment for academic, industry, state and critical utility partners to gain hands-on cyber skills and conduct product development and testing. These ranges and staff will provide incidence response and unbiased policy analysis.

BUILDING CONNECTION

KentuckyCYBER will be located at the Industry 4.0 Research Park:

- 30-acre parcel of developable land adjacent to the UofL J.B. School of Engineering and just off I-65
- Physical space will house SCIFs, cyber-ranges, students, professionals, and organizations that will make up the ecosystem that generates innovation and serves the state and its businesses.



WHY UofL?



UofL is uniquely qualified to host KentuckyCYBER:

- Only Carnegie Research-1, Community-Engaged institution in Kentucky nationally recognized as a Center of Academic Excellence in Cybersecurity (CAE) by the Department of Homeland Security (DHS) and the National Security Agency (NSA).
- NSA, DHS, and Department of Defense have already made significant investments in cybersecurity research and education at UofL.

Cyber Training and Biometrics Research

- Developing Cybersecurity Workforce Certification providing online, badge/microcredential-based cyber training;
- Modular and easily customized curriculum has already been applied to healthcare, logistics, etc.
- More than \$10 million in funding between DHS, DoD and NSA;
- UofL leads consortium of schools, each an NSA-designated National Center of Academic Excellence in Cyber Defense;
- Also furthers cutting-edge biometrics research for cybersecurity.



More Cyber Training Programs

Military

The **Cybersecurity Certifications, Careers and Communities (C4) Project** provides training to military, veterans and their spouses transitioning to civilian cyber careers;

- Backed by \$2 million from the Commonwealth of Kentucky;
- So far, has produced 184 graduates.

Law Enforcement

The **Law Enforcement Cybersecurity Project** provides training to law enforcement and criminal justice employees fighting cyber crimes;

- Backed by grant from the U.S. Department of Homeland Security;
- 171 participants across a variety of ranks from 32 states.

Teachers

The **National Cyber Teaching Academy** provides cyber training to high school teachers;

- Scholarships to teachers pursuing 12 credit hour certificate;
- 400 high school teachers applied, and 31 were accepted to begin in summer 2022.

ESTABLISH A SENSITIVE COMPARTMENTED INFORMATION FACILITY FOR CLASSIFIED RESEARCH & OPERATIONS

- *Overall cyber security spending of the US government, excluding the Department of Defense, is projected to increase from \$9.84 billion dollars in FY 2022 to \$10.89 billion in FY23;*
- Engage Federal (DHS/CISA, NSA, DIA, Military Services, Fort Knox and Fort Campbell) and State (Adjutant General/National Guard, Kentucky DHS REP, Kentucky Cyber Fraud Task Force) to support and fund the construction of a SCIF for classified Cyber Research and Intelligence Operations;
- Provide Kentucky Academic Institutions and Industry Partners new opportunities to participate in federal grants focused on complex classified research at the TS/SCI level
- Compete for multi-million dollar grants that require a SCIF, attracting industry, federal agency partners and highly qualified professors and students to our state and increase state revenue and high salary job opportunities.

FY2023 BUDGET AND GOALS

Personnel: Director, technical specialist (including benefits)	\$420,000
Upskilling and training development and offerings	\$220,000
Cyber-range hardware and software	\$400,000
FY23 Total	\$1,040,000

GOALS:

- Hire Executive Director dedicated to planning and building this integrated education, innovation and research collaborative;
- Hire a technical specialist to implement cyber-resources in the first year to serve the state, its critical infrastructure, and workforce training programs;
- Develop consortium partners and consortium agreements;
- Implement cyber-range for selected critical state infrastructure;
- Provide upskilling and training opportunities to state employees and critical infrastructure operators;
- Provide technical assistance to the state for implementation of Strengthening American Cybersecurity Act of 2022.

FY2024 BUDGET AND GOALS

Personnel including benefits	\$760,000
Upskilling and training development and offerings	\$1,715,000
P-12 pipeline programs	\$325,000
Architecture, engineering, and construction management for future building	\$6,000,000
Site Infrastructure Improvements (site access, road construction, utility installation)	\$1,900,000
FY24 Total	\$10,700,000

GOALS:

- Extensive roll-out of upskilling/training/education at UofL and across higher education institutions in Kentucky;
- P-12 workshops for teachers, lesson development, integration with Kentucky Department of Education on learning outcomes and readiness standards;
- Architecture and engineering design for the physical space required;
- Site improvements for the future home of KentuckyCYBER.

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**ANY
QUESTIONS**





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