



# CYBERSECURITY INITIATIVE

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UNIVERSITY *of*  
DELAWARE  
CYBERSECURITY  
INITIATIVE



The Cybersecurity Initiative was established at the University of Delaware in 2014 as an integrated learning and research collaboratory aimed at establishing and building synergies in areas of cybersecurity and cyber privacy research and development.

# Introduction

- Partnership among state, UD, federal government, and industry
- All sectors face increasing threat
- Attackers can:
  - threaten our national security and global competitiveness
  - steal intellectual property to gain competitive advantage
  - gain access to the nation's critical infrastructure and key resources
  - tamper with financial markets

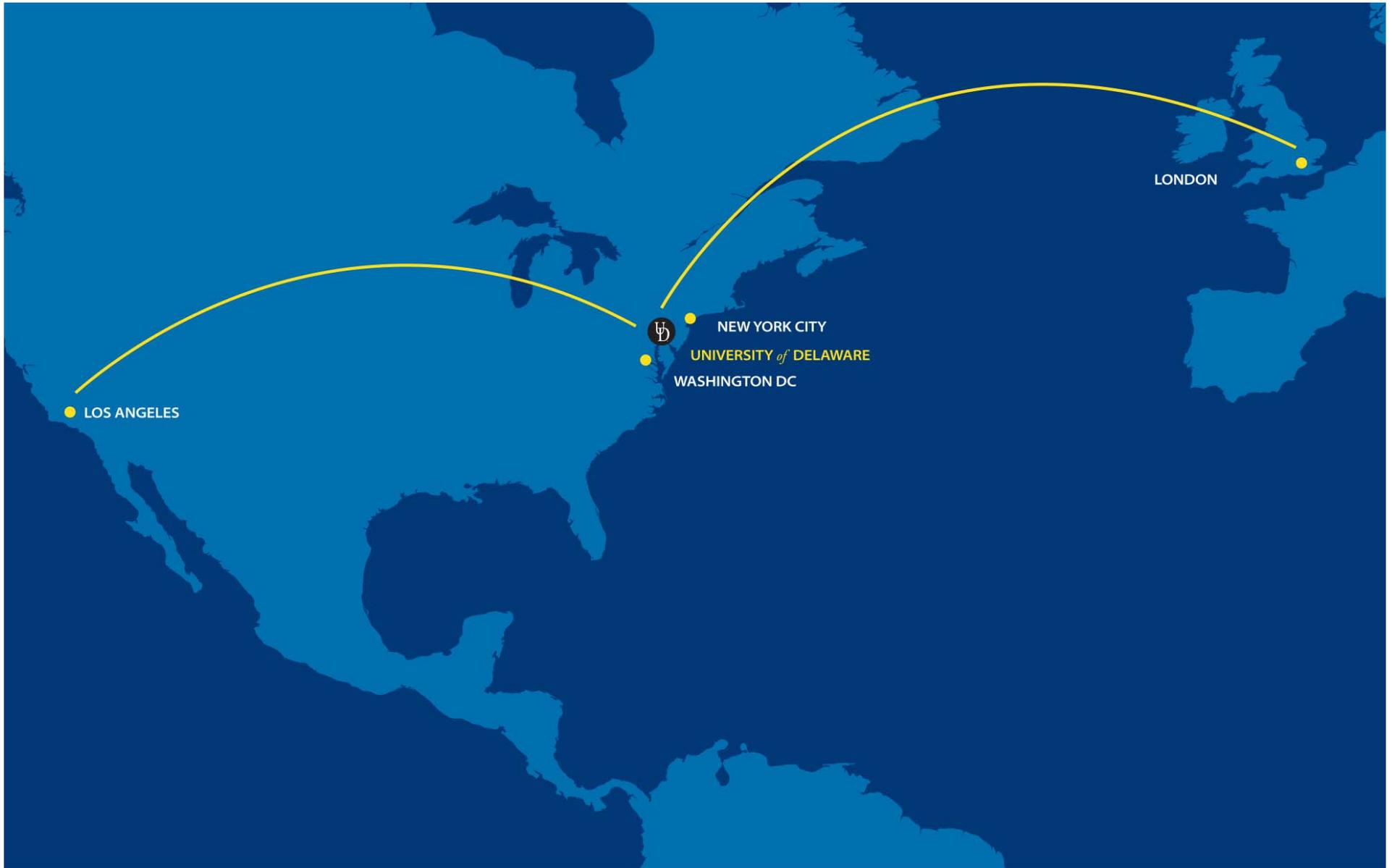
# Why Delaware?

*Delaware is the second-smallest state in the U.S. and has a population of less than a million.*

*BUT...*

# Why Delaware?

- Delaware is corporate capital of America
- 1M+ companies are incorporated here
- More than half of Fortune 500 companies are headquartered in Delaware
- Delaware Court of Chancery is national forum for resolution of corporate disputes



## IDEAL LOCATION

- Halfway between financial capital (NYC) and government/military capital (Washington, DC)
- Halfway between LA and London

# Why UD?

*Universities are in an ideal position to lead efforts for three reasons....*

- Providing education and training
- Building partnerships
- Conducting unbiased research



# EDUCATION



# Education

*We're in the business of education, so we're best suited to address workforce education and training needs.*

# Education

- 1,000 qualified workers for ~30,000 job openings
- Need graduates skilled in latest theories and tools to address cybersecurity problems
- Need to provide existing workforce with tools and training to protect from attacks



AGRICULTURE &  
NATURAL RESOURCES



EARTH, OCEAN  
& ENVIRONMENT



ARTS & SCIENCES

UNIVERSITY OF  
DELAWARE®

OUR **7** COLLEGES



ENGINEERING



HEALTH SCIENCES



EDUCATION &  
HUMAN DEVELOPMENT



BUSINESS & ECONOMICS

# Education

- UD has launched undergraduate minor and master's in cybersecurity
- Programs build on strengths in computer science, electrical and computer engineering, sociology, criminal justice, psychology, financial service analytics, corporate governance
- Collaborating with community colleges to prepare highly trained workforce to meet employment needs of companies in Delaware

# Partnerships

*We're good at creating, facilitating, and fostering partnerships with other academic institutions, industry, and government.*

# OUR PARTNERS

UNIVERSITY OF DELAWARE | Cybersecurity Initiative



# Partnerships

- Support for small companies in co-op type environment



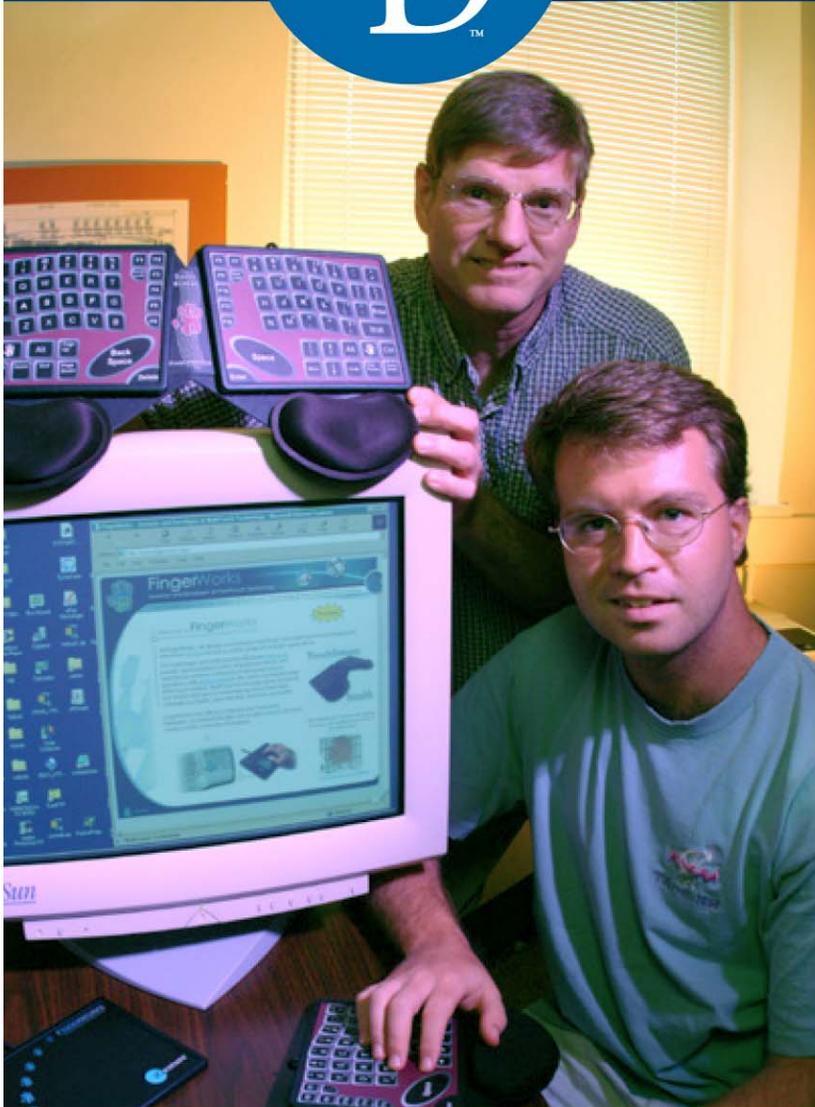
- Increased economic activity--startups and spinoffs
- Potential for industrial affiliates program

# Partnerships

- Effort builds on existing partnerships
- Advisory board with representation from top industry, academia, military, and government leaders
- Academic partners with complementary expertise



# RESEARCH



# Research

*We conduct  
unbiased research.*

# Research

- Cybersecurity affects all industrial sectors, but:
  - Corporations may be reluctant to share cybersecurity measures and policies
  - Companies may lack economies of scale or specialization to produce technologies in house
  - Large businesses are investing, but process needs to be accelerated to stay ahead of threat

# Research

*There is a need  
for more than just  
technology.*

# Research

- At UD, efforts can cross our 7 colleges. Potential contributions:
  - Agriculture & Natural Resources--protecting water supply
  - Arts & Sciences--policy, ethics, psychology of cyber crime
  - Business--financial analytics
  - Earth, Ocean & Environment--secure data from unmanned underwater missions
  - Education & Human Development--K-12 education, cybersecurity as life skill
  - Engineering--chemical processing, manufacturing, Big Data analytics
  - Health Sciences--secure medical records

# Will it Work?

*This is a very new initiative,  
but we have great models  
for it at UD.*

# Will it Work?

- Delaware Biotechnology Institute
- Center for Composite Materials
- Delaware Health Science Alliance



# QUESTIONS?

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# Who is Starnes Walker?

Starnes Walker is a leading national expert in cybersecurity and founding director of the University of Delaware Cybersecurity Initiative. He holds B.S., M.S. and Ph.D. degrees in physics from the University of California-Riverside and an honorary degree in nuclear engineering from the University of Missouri-Rolla. Dr. Walker formerly served as the chief technology officer and technical director for the U.S. Fleet Cyber Command and U.S. 10th Fleet, U.S. Navy. His previous senior executive positions include director of research for the Department of Homeland Security, technical director and chief scientist at the Office of Naval Research, associate laboratory director at Argonne National Laboratory, and senior advisor for science and technology at the Defense Threat Reduction Agency. Contact him at [starnes@udel.edu](mailto:starnes@udel.edu).

