Commonwealth Cyber Initiative

In-depth look: 2030 Strategic Plan

Advancing people and technology for a secure tomorrow

In our first four years of operations, the **Commonwealth Cyber Initiative** (CCI) has far outpaced even our boldest expectations. We are having a demonstrable and meaningful impact on the commonwealth economy while establishing Virginia as a global leader in cybersecurity.

CCI has brought in $192 million in federal and private sector funding, contributed to the creation of 2,517 jobs, helped generate $196 million in labor income, and added $367 million to Virginia's Gross Domestic Product.

Our statewide scale and interlocking mission lines of research, workforce development, and innovation focused on cybersecurity make CCI unique in the nation.

1 WORKFORCE DEVELOPMENT: Our workforce development programs give college students crucial experiential learning opportunities and contribute to their retention in the cybersecurity field. These programs have had high levels of participation by students from groups who are traditionally underrepresented in cybersecurity. **In fiscal year 2023, we supported a record 330 interns. Our workforce programs also resulted in 45 direct full-time job placements. We've formed 652 external partnerships since we started operations.**

2 INNOVATION: In innovation, our two-pronged strategy has gained traction. We promote the transition of research into the commercial space through spin-outs, intellectual property licensing, and preparing our researchers to become entrepreneurs. We also support the success of the Virginia cybersecurity startup ecosystem by placing interns, contributing expertise, and providing incubator and accelerator services.

3 RESEARCH: Our strategy of uniting Virginia's researchers across disciplines, geography, and institutions is yielding significant results. Researchers use CCI-funded seed grants as a springboard to multimillion-dollar externally funded projects.

We've quickened our pace in all three mission lines. To navigate our next phase of growth, we have developed the CCI 2030 Strategic Plan, which focuses on each mission line and details our role, goals, and other key objectives. The plan was developed with input from CCI's Leadership Council, Inclusion and Diversity Committee, Technical Advisory Board, and research community.

We're excited about the future of CCI and Virginia's global role in cybersecurity.

Luiz DaSilva

CCI Executive Director
Bradley Professor of Cybersecurity
Bradley Department of Electrical and
Computer Engineering, Virginia Tech

2,517 jobs sourced $196M labor income $367M GDP value added

$192 +MILLION IMPACT

Shenandoah University

Laurel Ridge Community College

CCI Hub
Virginia Tech, Arlington

Northern Virginia Node
Lead: George Mason University

George Washington University

Marymount University
Northern Virginia Community College

James Madison University

Blue Ridge Community College

University of Virginia

Germanna Community College
University of Mary Washington

Piedmont Virginia Community College

Virginia Military Institute

Central Virginia Node
Lead: Virginia Commonwealth University

Reynolds Community College

Virginia Union University
University of Richmond

Eastern Shore Community College

Southwest Virginia Node
Lead: Virginia Tech

Roanoke College

Liberty University

John Tyler Community College

William & Mary

New River Community College

Virginia Western Community College

Radford University

Longwood University

Virginia State University

New College Institute

Christopher Newport University

Virginia Peninsula Community College

Southwest Community College

Paul D. Camp Community College

Hampton University

University of Virginia, Wise

Wytheville Community College

Coastal Virginia Node
Lead: Old Dominion University

ECPI

Mountain Empire Community College

Patrick & Henry Community College

Danville Community College

The Institute for Advanced Learning and Research

Norfolk State University
Tidewater Community College

Regent University

Virginia Highlands Community College

our network: CCI Is an unprecedented consortium of more than 40 institutions of higher education in Virginia, encompassing more than 375 researchers focused on the intersection of cybersecurity, autonomous systems, and intelligence.

The **ARLINGTON-BASED CCI HUB** coordinates programs and strategy for the entire network while providing cutting-edge facilities that provide a platform for innovative research. Four regional nodes —in **NORTHERN VIRGINIA, CENTRAL VIRGINIA, COASTAL VIRGINIA, and SOUTHWEST VIRGINIA**— include regional industry, government, universities, and community colleges.

our vision: To establish Virginia as a global center of excellence in cybersecurity research and serve as a catalyst for the commonwealth's economic diversification and long-term leadership in this sector.

our mission: To serve as an engine for research, workforce development, and innovation at the intersection of cybersecurity, autonomous systems, and intelligence.
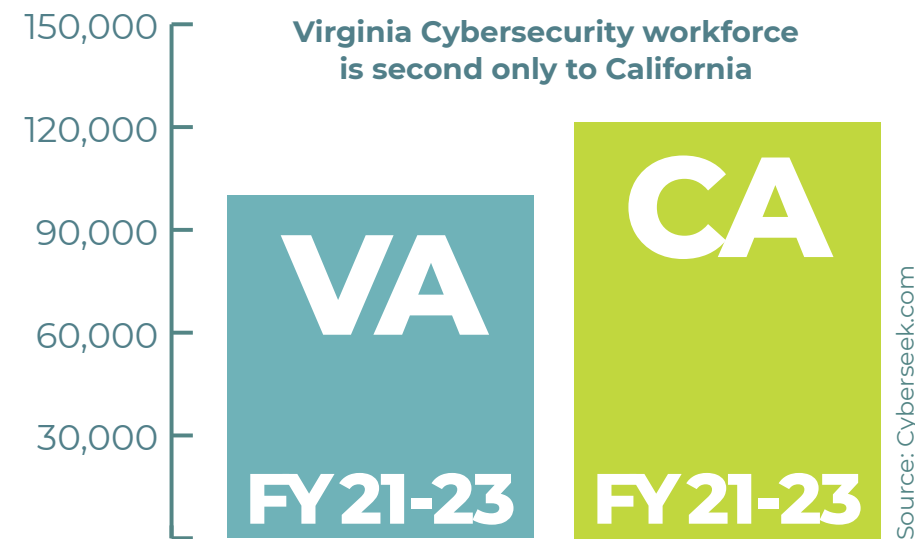
Enabling Legislation, 2018 Special Session 1, Budget Bill HB5002 Chapter 2, Item 252, Paragraph B.1

"The Commonwealth Cyber Initiative shall be established to serve as an engine for research, innovation, and commercialization of cybersecurity technologies, and address the Commonwealth's need for growth of advanced and professional degrees within the cyber workforce."

1 workforce development

our role: CCI is a Connector and a Creator

- CCI is a connector between Virginia students and employers and a creator of experiential learning opportunities for cybersecurity careers.

Virginia Cybersecurity workforce is second only to California

VA FY 21-23	CA FY 21-23

150,000
120,000
90,000
60,000
30,000

Source: Cyberseek.com

1:1

Source: RTI 2023 Report

Every job directly created by **CCI SPENDING** supports **another job in the economy.**

TAYLOR

our goals:

- To close the cybersecurity workforce gap in Virginia, becoming a recognized resource for talent statewide.

- To reduce equity gaps of underrepresented groups in the cybersecurity workforce.

Programming Objectives

- Enable students through experiential learning to thrive in cybersecurity careers providing an advantage once they graduate, helping them land their first job, and promoting continued engagement with CCI

- Include professional and technical skill development opportunities for students

- Work with Virginia employers to train and attract students from all educational experiences and disciplines

- Identify and connect with underrepresented groups in cybersecurity to engage them in workforce opportunities

- Encourage cybersecurity programming that responds to local community needs

Tangible Outcomes

- Students in internships and traineeships

- Companies and agencies hosting students in workforce development activities

- Post-graduation employment

- Retention of students in cybersecurity careers

- Improved participation of traditionally underrepresented groups in our programs and, ultimately, in the cybersecurity workforce

- Relative improvements in the economic indicators of the cybersecurity sector in Virginia

Supporting Tomorrow's Cybersecurity Experts
Source: RTI Economic Impact Report

573 Interns + experiential learning participants

317 Research scientists + graduate assistants

801 Undergraduates supported

Signs of Success

- Increased participation in CCI Programs year over year or program iterations

- Increased diverse participation year over year based on current/yearly workforce data

- Continued engagement of company/agency partners with CCI

- Increase in the number of companies collaborating with CCI in workforce development

- CCI internships with partner companies that result in full-time or post-graduation jobs

- Increase in year to year number of students entering the cybersecurity workforce

- Engagement with Virginia agencies to attract and retain businesses in Virginia

2 Innovation

our role: CCI is a Broker and a Resource for the cybersecurity innovation ecosystem in Virginia

- CCI acts as a broker between Virginia's faculty and students and the entrepreneurial ecosystem.

- Specifically, CCI is a resource for students and faculty to evolve their research towards commercialization.

our goals:

- Identify and foster commercialization of research from academic labs across the commonwealth

- Support regional industry, in particular startups, by providing intellectual capacity through partnerships with a diverse collection CCI faculty and students

- Empower the next generation of innovators by providing CCI students with equitable access to the tools of entrepreneurship

- Align innovation initiatives with socioeconomic mobility and other strategic priorities of the Commonwealth.

Programming Objectives

- Convene investors interested in cutting edge research with commercial potential to interact with CCI's robust community of researchers

- Fund ideation and translational research by CCI researchers

- Enable CCI spinouts

- Develop opportunities for students and researchers within the entrepreneurial ecosystem

- Support the startup ecosystem with technical expertise from CCI researchers

CCI INNOVATION FLOWCHART

	Ideation	Formation/ Feasibility	Validation/ Launch	Growth	Maturity/ Exit
MATURITY	Ideation	Formation/ Feasibility	Validation/ Launch	Growth	Maturity/ Exit
START UP STAGE	PRE-SEED Concepts/ Ideas	SEED MVP, Prototypes	SERIES A Production-Market Fit	SERIES B+ Working at Scale	PUBLIC/EXIT Diverse Revenue Streams
FUNDING LEVEL	$50K	$10K-$3M	$2-15M	$30M	$50M+
VA FUNDING SOURCES	• **CCI Programs** • VA Venture Partners • SBIR/STTR	• **CCI Programs** • VA Venture Partners • SBIR/STTR • CCF • VA Founders Fund	• **CCI Programs** • VA Venture Partners	• Private Sector Funding (VCs) • VA Venture Partners	• Private Sector Funding (VCs)

Commonwealth Commercialization Fund (CCF), Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR), and Venture Capital (VCs)
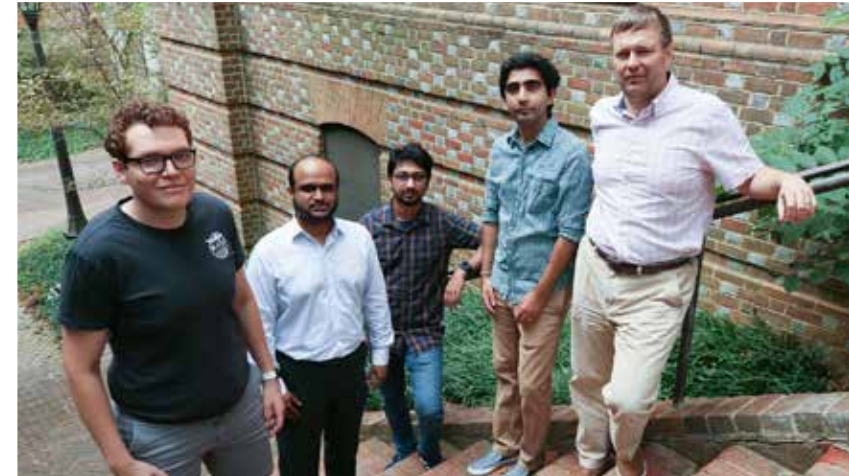
Tangible Outcomes

- IP (patents and disclosures)

- Spin-outs

- Placements

- Extramural funding for start ups

- Licensing

- Commercialized cybersecurity products
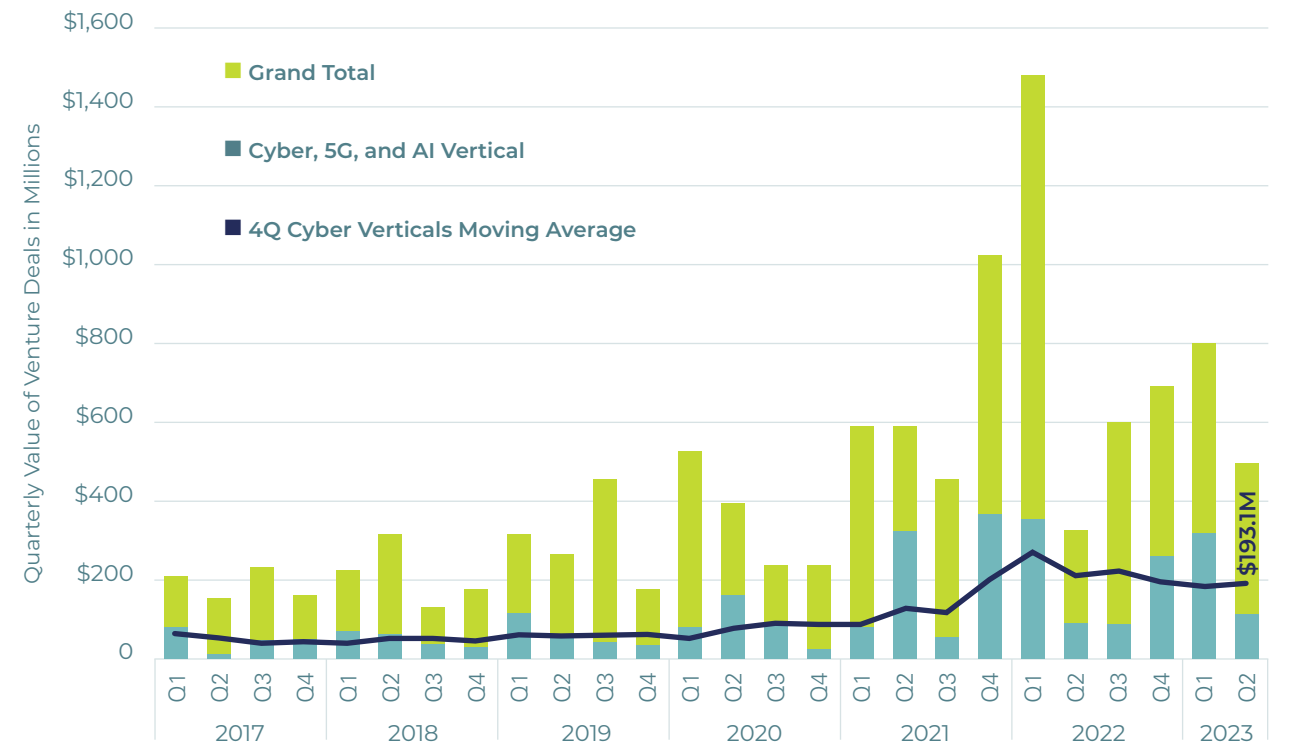
Signs of Success

- Be recognized as the premier conduit between the cybersecurity entrepreneurial ecosystem and the academic research community in Virginia

- Health and size of cybersecurity entrepreneurial ecosystem in Virginia

- Startups lasting 5 years and beyond

- National and global visibility as a destination for cybersecurity innovation

AWARDS IN CYBER, G5, AI/ML, SOFTWARE, & AUTONOMY

VA $72M
MD $37M
NC $32M

Source: Department of Commerce
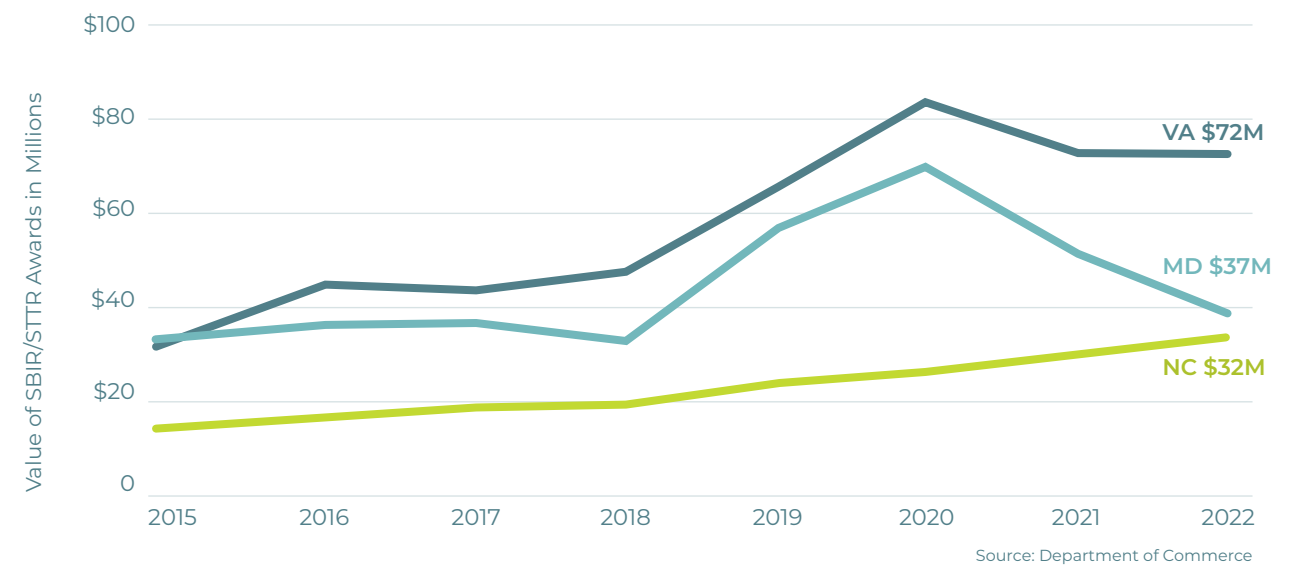
VIRGINIA VENTURE & STARTUP ACTIVITY

- Grand Total
- Cyber, 5G, and AI Vertical
- 4Q Cyber Verticals Moving Average

$193.1M

3 research

our role:

CCI IS A LEADER of cybersecurity research with impact, through collaborative multi-institution research teams with depth and breadth of cybersecurity expertise.

our goals:

- Produce impactful research (state of the art/top quality) through teams that bring diversity of thought and experience

- Across institutions of higher education and disciplines, strengthen a culture of collaboration to build research relationships in cybersecurity

- Invest in inclusivity through a robust research infrastructure that can be shared across CCI institutions o enhance researchers' competitiveness

- Bring top cybersecurity research talent to Virginia, and develop future senior researchers

- Fuel significant research efforts by increasing the CCI network's competitiveness for large-scale grants

NEW CCI RESEARCH CONTRACTS
Funding from Federal and Industry Sources in Millions

FY 20	FY 21	FY 22	FY 23
40	37	38	75
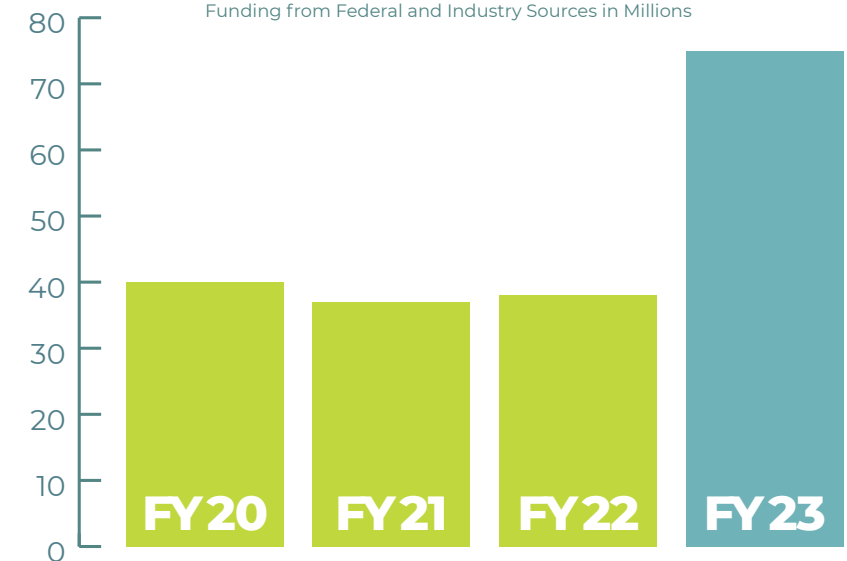
Programming Objectives

- Increase and diversify the research portfolio funding sources

- Develop the research pipeline and empower junior researchers on a pathway to prominent positions/promotion/recognition in the field

- Seed early-concept research opportunities to help faculty be more competitive for grants

- Fund faculty to enable them to lead large research teams to go after large-scale grants

- Contribute to faculty development

Tangible Outcomes

- Measurable research impact through publications in top-tier journals and conferences

- Increase in research funding

- Research awards

- Recruitment of eminent scholars

- Recognition from top-tier professional organizations

- Collaboration with leading international universities

- Support of national and international efforts to enhance cybersecurity capabilities for public and private sectors

7.5 to 1

In the last year, CCI obtained **$7.51 in research funding** from sources outside Virginia for every **$1 spent by CCI in research activities.**

Signs of Success

- Increased visibility and impact for cybersecurity research in Virginia

- Health and size of academic ecosystem in Virginia in cybersecurity

Commonwealth Cyber Initiative

900 North Glebe Road | Arlington, VA 22203 | contact@cyberinitiative.org | (571) 858-3303 | cyberinitiative.org