

Cyber Vigilance: The Virginia Way



National Cyber "Firsts" are Second Nature in Virginia

First state in the nation to...

- ✓ Adopt National Institute of Standards and Technology (NIST) Cyber Framework
- ✓ Declare itself an Information Sharing and Assessment Organization (ISAO)
- ✓ Require enhanced security on debit or credit card transactions
- ✓ Enact landmark digital identity legislation, now used as the model by other states
- ✓ Register apprenticeships for cyber security jobs (first in Virginia history)
- ✓ Establish a pay-for-performance workforce training program

"Few issues are more fundamental to the security and prosperity of the Commonwealth and its citizens than the safe, reliable, and secure operation of our computer networks and the systems they enable."

COMMONWEALTH OF VIRGINIA
CYBER SECURITY COMMISSION

First Report, Aug. 2015

Cyber Policy Leadership

Executive Order #8 Launched Cyber Virginia and the Cyber Security Commission

Executive Directive #5 Mandates a clear path to secure consumer transactions using authentication technology, such as "chip and pin"

Executive Directive #6 Improved cyber protocols, expanded cyber related risk management activities and conducted inventory of the Commonwealth's critical and sensitive systems

HB1946/SB919 Sealed administrative subpoenas for electronic communications and social networking data

SB1121 Defined IT responsibilities of agency directors

HB1562/SB814 Electronic identity management standards; liability

SB1307 Clarified language for search warrants for seizure, examination of computers, networks, and other electronic devices

SB1109 Secured FOIA exemptions for meetings and discussions which include sensitive information regarding cybersecurity vulnerabilities

SB1129 Secured FOIA exemptions for plans, information, or responses to terrorism regarding cybersecurity threats and vulnerabilities

HB924 Allowed providers to verify the authenticity of reports or records with an affidavit from the custodian of the records

Open Cyber
Jobs in Virginia

17,000

Average Cyber
Starting Salary in Virginia

\$88,000

Average salary in
Virginia with a Certified
Information Systems
Security Professional (CISSP)
designation

\$93,010

2015

2016

CYBER JOBS: VIRGINIA CYBER FIRMS ARE HIRING!
Virginia has the most cyber security companies per capita in the nation.

Cyber Attacks Thwarted In the Commonwealth

The Cyber Security Commission recognizes two national trends that will create additional needs in cybersecurity focused on cyber-physical systems:

1. Rapidly growing initiatives in advanced automation of physical systems (e.g., UAS' automated control of automobiles, digital factories, 3D printers, "Internet of Things")
2. Cyber attacks have been growing in frequency and sophistication, which can cause physical and economic harm to existing kinetic systems.

In order to adequately address the security concerns for these systems, security must be built in from the beginning through inherently secure design. **This creates an opportunity for Virginia businesses and universities to invest in research in these areas of growth in our economy.**

53,517,902

Attack attempts (4 per second)

353,032,453

Spam messages blocked

42,187

Pieces of malware blocked

131

Attack attempts became cyber security incidents

Data collected January - May 2016



CYBER INNOVATION

Virginia Writes the Book Daily

MACH37: Innovative accelerator for emerging security firms. To date Mach37 has launched 35 cyber security companies in Virginia; www.mach37.com

Virginia Cyber Security Partnership: Established by Governor McAuliffe; researches technologies to safeguard citizens and agencies from cyber attacks against smart vehicles

Cyber Portal: Public website provides reputable information on cyber standards and best practices for citizens, businesses, and government organizations; www.cyberva.virginia.gov

Virginia Cyber Approach

- 1 Increase the number of Cyber Defense, Centers of Academic Excellence
- 2 Virginia Scholarship for Service Program
- 3 Veterans Pathway Program in Cyber Security at GMU
- 4 Virginia Cyber Range
- 5 Information Sharing and Analysis Organization
- 6 Virginia Fusion Center

CYBER EDUCATION

Virginia is Training its Workforce Now

Through a rigorous certification process, the U.S. National Security Agency and Department of Homeland Security certify post-secondary schools that excel in cyber defense training as "Cyber Defense, Centers of Academic Excellence."

Innovative cyber training to speed worker readiness for the New Virginia Economy:

- **Cyber Boot Camps:** Cyber Education training for high school teachers
- **Conference on Cyber and Education:** Discussion and education on the importance of training for cyber careers
- **Cyber Range:** Secure platform built for training, research & collaboration

Cyber Defense, Centers of Academic Excellence

George Mason University
Hampton University*
James Madison University
Longwood University
Marymount University
Norfolk State University
Virginia Polytechnic Institute*
Radford University
Northern Virginia Community College
Lord Fairfax Community College
Tidewater Community College

* Denotes two Cyber Centers of Academic Excellence

FOR MORE INFORMATION
visit <http://cyberva.virginia.gov> or call **804-786-9579**