



Commonwealth  
Cyber Initiative  
COASTAL VIRGINIA

**Commonwealth Cyber Initiative  
(CCI) Coastal Virginia Center for  
Cyber Innovation (COVA CCI)  
Strategic Plan**

Updated February 2023



### **Commonwealth Cyber Initiative (CCI)**

**Vision:** To establish Virginia as a global leader in cybersecurity, and by doing so, help diversify the economy of the commonwealth, attracting private investments and jobs. (CCI FY 22 Annual Report, September 26, 2022)

**Mission:** The Commonwealth Cyber Initiative serves as an engine for research, innovation, talent development, and commercialization of technologies at the intersection of security, autonomy, and data.

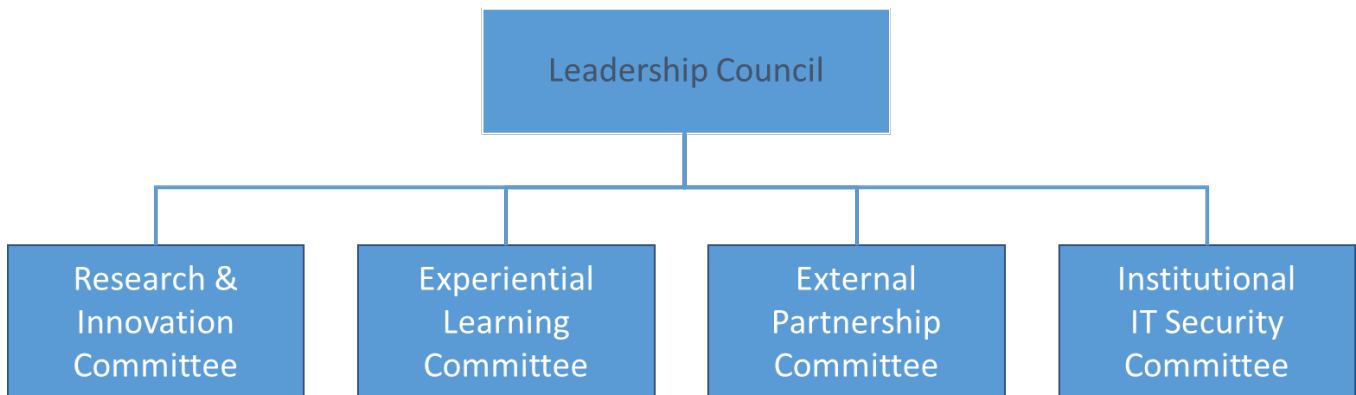
### **Coastal Virginia Center for Cyber Innovation (COVA CCI)**

**Vision:** Strengthen Virginia’s economy through cybersecurity research and talent/economic development focused on the maritime, defense, and transportation industries.

**Mission:** COVA CCI is southeastern Virginia’s engine for research, innovation, and commercialization of next-generation cybersecurity technologies particularly in the areas of Cyber Physical Systems Security (CPSS), NextG, and Artificial Intelligence (AI)

- Maritime
- Defense
- Transportation

### **COVA CCI Organizational Structure**





# Coastal Virginia Center for Cyber Innovation Strategic Plan

## GOAL 1. BUILD WORLD-LEADING CPSS RESEARCH CAPABILITIES

The Coastal Virginia Center for Cyber Innovation will create a research ecosystem in line with the CCI vision. The COVA CCI Cyber Physical Systems Security (CPSS) research ecosystem will be built within a framework including a critical mass of nationally recognized CPSS researchers, state-of-the-art CPSS research infrastructures, and strong and vivid academic, industry, military and government partnerships. COVA CCI will support diverse and inclusive CPSS research efforts, with a focus on the intersection of artificial intelligence (AI), cybersecurity, and cyber-physical systems in the maritime, defense, and transportation sectors.

### Strategy 1.A. Expand research programs applying advanced cyber technologies to the Node focus areas, to include maritime, defense, and transportation.

COVA CCI will contribute to the Commonwealth's goal of establishing a critical mass of CPSS/AI researchers. Leveraging the current cadre of cybersecurity scholars across Coastal Virginia, we will engage the following initiatives to expand the node's CPSS/AI capabilities:

**Initiative 1.A.i Recruit through a regional cluster hire research faculty and research scientists to add to regional capabilities in CPSS/AI, with expertise in Artificial Intelligence and Machine Learning and next-generation wireless as related to the research focus areas of maritime, defense, and transportation industries.**

These research scientists will be based in the COVA research universities (William and Mary, Norfolk State University, and Old Dominion University). They will work together under the direction of the COVA Research Committee (chaired by Hongyi Wu from ODU and George Hsieh from NSU). Pending approval of subsequent budgets, in the next biennium the research institutions will hire a cluster of eminent faculty with expertise in these areas.

**Initiative 1.A.ii Develop cross-node research program to promote collaborative interdisciplinary research teams to enable holistic approaches driven by technological, social, political, legal, criminological, and ethical dimensions.**



## Commonwealth Cyber Initiative COASTAL VIRGINIA

To encourage cross-institutional collaboration among current cybersecurity researchers in the node, we will provide funding and graduate research assistant support to research-qualified faculty wanting to collaborate on projects identified by the research committee and industry partners. Scholars from different disciplines and practitioners from different fields will work together to fully understand the problems and explore the design spaces. Faculty participating in the program will be expected to participate in R&D workshops, submit collaborative proposals to federal and industry agencies, contribute to ongoing projects in COVA CCI, and participate in projects across institutions in the node.

[Initiative 1.A.iii Expand the pool of graduate research assistants available to help node faculty on cybersecurity research projects focused on the intersection of CPSS and AI in maritime, defense, or transportation industries.](#)

COVA CCI will develop a pool of qualified graduate research assistants from multiple disciplines related to the node's domain areas. The graduate assistantships will be made available through the research committee to participating faculty.

[Initiative 1.A.iv Create inventory of cyber faculty and cyber resources available in regional institutions.](#)

COVA CCI will develop an inventory and portal showcasing the cybersecurity faculty participating in the node. Information to be made available in the portal will include contact information, openings, research interests, currently funded projects, research publications, patents, technical reports, opensource software, commercialization products, upcoming meetings, workshops and conferences, and other information industry partners identify as helpful. In addition, information about those resources (space and otherwise) available to be shared across the network will be identified and made available.

[Strategy 1.B. Promote and support diverse and inclusive CPSS/AI research efforts, particularly in areas related to the intersection of artificial intelligence and cybersecurity in maritime, defense, and transportation industries.](#)

Recognizing the economic opportunities in southeast Virginia, COVA CCI will incentivize and support CPSS/AI research that has the potential to produce products and start-ups of benefit to the Commonwealth. Specific initiatives will include:

[Initiative 1.B.i Identify and execute collaborative research projects that leverage Node expertise.](#)

The research committee will create research panels and bring together researchers from across the nodes to conduct fundamental research projects that have the potential to identify solutions that can be commercialized.



Initiative 1.B.ii Provide support to foster and accelerate commercialization of CPSS/AI innovation in order to grow and diversify the Virginia cyber economy.

The COVA CCI administrative office will develop tech transfer processes in consultation with the HUB. Researchers will be trained in these areas to support the commercialization efforts.

**Strategy 1.C. Uplift cybersecurity research infrastructure. COVA CCI will expand shared research resources between institutions in the node, other nodes, and the Hub. Specific initiatives will include:**

Initiative 1.C.i Develop secure connections and shared policies between institutional networks.

COVA CCI IT employees from across the institutions will work collaboratively to develop secure connections between institutions. The work will be led by the node's Institutional IT Security committee. A governance policy framework will be developed to guide use of the shared connections and network.

Initiative 1.C.ii Develop 5G test bed that can be used across the region and connected to the HUB 5G test bed and available to researchers from the Hub and other nodes.

Working with the Hub and other nodes, COVA CCI will create a 5G test bed to share with research institutions (William and Mary, Norfolk State University, and Old Dominion University) in the node and connect to the Hub. The test bed will be available for research, model development, simulations, and experiments by faculty and business partners affiliated with COVA CCI.

Initiative 1.C.iii Build and Support a search research environment (COVA SHARE) which allows faculty, researchers, and students to work in a secure virtual environment

Drawing on regional needs in coastal Virginia, we will develop a testbed that can be used to study cybersecurity topics related to maritime transportation and flooding. The testbed will be connected across regional research institutions (William and Mary, Norfolk State University, and Old Dominion University) and will be available for research, model development, simulations, and experiments by faculty and business partners affiliated with COVA CCI.

Initiative 1.C.iv Develop the COVA Cyber Innovation Park as a location where collaborative research and experiential learning (including competitions and gaming) occurs in the Node.

The COVA CCI will be housed on the first and second floors of Monarch Hall on Old Dominion University's main campus. Roughly 11,500 square feet are planned for cybersecurity programming in that space. The space will be designated as the COVA Cyber Innovation Park. The first floor will include an experiential learning lab and faculty office space, and the second floor will include a research laboratory for COVA CCI



researchers and graduate students. The COVA CCI lab will be set up so that researchers from regional research institutions will be able to connect to testbeds and other virtual programming.

**Strategy 1.D. Expand connections between government, industry, and higher education to focus CPSS/AI research on topics that will help generate start-ups and products in the maritime, defense, and transportation industries.**

Building on the success of the Hampton Roads Cybersecurity Education, Workforce, and Economic Development Alliance (HRCYBER) and the Virginia Cyber Alliance (VCA), COVA CCI will expand its connections between regional partners. A specific focus will be given to strengthening connections that will benefit the entire cybersecurity ecosystem. Strengthening these connections, the node will engage in the following initiatives:

**Initiative 1.D.i Develop inventory of business leaders and government officials who are willing and able to serve on research projects or as adjunct faculty members at one of the regional institutions.**

COVA CCI will work with business partners to identify areas where they are able to share their expertise either as researchers or adjunct professors. In doing so, the business officials will gain access to those services currently available to adjuncts at the node institutions.

**Initiative 1.D.ii Coordinate with regional business development organizations like ODU's Institute for Innovation and Entrepreneurship, 757 Collab, ICAP, and Virginia Workforce Innovation & Entrepreneurship Center**

**As the Cyber Innovation Park is developed, the space will be designed in a flexible way so partnering businesses can hold planning meetings or innovation workshops in the innovation park. Additional spaces other institutions in the node are willing to share for these purposes will also be identified.**

**Initiative 1.D.iii Develop regional workshops focused on cybersecurity innovations.**

COVA CCI will host up to three annual regional workshops designed to bring together industry and researchers so they can discuss ongoing opportunities for cyber innovation. The workshops will be held at multiple locations across the node.

**Initiative 1.D.iv Build platform for cross-node research activities by implementing region-wide industry-university cooperative research center model to formalize partnerships between industry, government, and higher education.**

COVA CCI will use the NSF Industry-University Cooperative Research Center (IUCRC) model to develop an industry/government research advisory board. Using a fee-based model, advisory board members will help to identify viable research projects, inventory research capabilities, foster joint SBIR/STTR proposals, provide insight into the



commercialization of opportunities, develop IP sharing policies, and provide regular feedback on ongoing projects. Initially, the industry/government partners will be provided a list of possible research projects and be asked for their feedback. The research scientists and node researchers will carry out those research projects.

**GOAL 1 – BUILD WORLD LEADING CPSS CAPABILITIES**

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Strategy	Activities
<p><b>Strategy 1.A.</b></p> <p><b>Expand the capacity of Coastal Virginia research institutions to conduct cyber physical systems security research.</b></p>	<ol style="list-style-type: none"> <li>1. Recruit through regional cluster hire research faculty and research scientists to add to regional capabilities in CPSS/AI</li> <li>2. Develop crossnode research program to promote collaborative interdisciplinary research teams</li> <li>3. Expand the pool of graduate research assistants</li> <li>4. Create inventory of cyber faculty and cyber resources available in regional institutions</li> </ol>
<p><b>Strategy 1.B.</b></p> <p><b>Promote and support diverse and inclusive CPSS research efforts, particularly in areas related to the intersection of artificial intelligence and cybersecurity in maritime, defense, and transportation industries.</b></p>	<ol style="list-style-type: none"> <li>1. Identify and execute collaborative research projects that leverage Node expertise</li> <li>2. Provide support to foster and accelerate commercialization of CPSS innovation in order to grow and diversify the Virginia cyber economy</li> </ol>

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**GOAL 1 – BUILD WORLD LEADING CPSS CAPABILITIES**

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Strategy	Activities
<p><b>Strategy 1.C.</b></p> <p><b>Uplift cybersecurity research infrastructure.</b></p>	<ol style="list-style-type: none"> <li>1. Develop secure connections and shared policies between institutional networks</li> <li>2. Develop 5G test bed that can be used across the region and connected to Hub 5G test bed and available to researchers from the Hub and other nodes</li> <li>3. Build and Support a search research environment (COVA SHARE) which allows faculty, researchers, and students to work in a secure virtual environment</li> <li>4. Develop the COVA Cyber Innovation Park</li> </ol>
<p><b>Strategy 1.D.</b></p> <p><b>Expand connections between government, industry, and higher education to focus CPSS/AI research on topics that will help generate start-ups and products in the maritime, defense, and transportation industries.</b></p>	<ol style="list-style-type: none"> <li>1. Develop inventory of business leaders and government officials who are willing and able to serve on research projects or as adjunct faculty members at one of the regional institutions</li> <li>2. Coordinate with regional business development organizations like ODU's Institute for Innovation and Entrepreneurship, 757 Collab, ICAP, and Virginia Workforce Innovation &amp; Entrepreneurship Center</li> <li>3. Develop regional workshops focused on cybersecurity innovations</li> <li>4. Implement region-wide industry-university cooperative research center model to formalize partnerships between industry, government, and higher education</li> </ol>

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## GOAL 2. ACCELERATE CYBER STARTUP CREATION AND TECHNOLOGY COMMERCIALIZATION.

The Coastal Virginia business community has seen significant growth in the maritime, defense, and transportation sectors. With the Port of Virginia's connection to 374,000 jobs producing 17.5 billion in income across the Commonwealth and Naval Station Norfolk's identity as the world's large naval complex, the maritime, defense, and transportation industries will only continue to grow in Coastal Virginia. As these industries grow, technological changes require that new physical products and cyber initiatives have the security necessary to allow those industries to flourish. The Coastal Virginia Center for Cyber Innovation will build on its research base to promote cyber startups and technology commercialization that will support the maritime, defense, and transportation industries.

### Strategy 2.A. Develop the next generation of cyber entrepreneurs, with a specific focus on promoting growth in the maritime, defense, and transportation industries.

COVA CCI will work with the HUB to create a Commonwealth-wide ecosystem of cybersecurity entrepreneurship. The node will focus specifically on start-ups and commercialization related to CPSS/AI intersections with maritime, defense, and transportation industries. Specific initiatives will include:

#### Initiative 2.A.i Inventory and connect with the existing innovation programs across the Coastal Virginia node.

To leverage the ability of faculty, students and businesses to create cyber start-ups and commercialize their research, COVA CCI will become a part of the regional innovation ecosystem. Specific focus will be given to working each institution's innovation office, regional innovation groups, local governments, the Open Seas Technology Innovation Hub, and Launchpad, 757 Collab, Greater Williamsburg Business Incubator.

#### Initiative 2.A.ii Network and showcase innovations in annual workshops.

COVA CCI will host annual workshops where faculty have the ability to present their cyber innovations.

#### Initiative 2.A.iii Identify entrepreneurial resources across all regional institutions and coordinate their applications.

COVA CCI will solicit information from faculty affiliates to identify institutional resources supporting entrepreneurship and innovation.

### Strategy 2.B. Create processes and structure to support startups and commercialization.





In an effort to formalize the processes guiding cyber start-ups and commercialization, COVA CCI will create processes and an organizational structure that facilitates successful R&D. Coordinating with the HUB, the focus will be primarily on supporting start-ups and technology commercialization that target regional needs and opportunities for economic growth. Specific initiatives will include:

[Initiative 2.B.i Develop node tech transfer processes with a specific expertise in cyber physical systems security and artificial intelligence.](#)

Working with the HUB staff, COVA CCI will create and implement processes supporting commercialization. The processes will include mechanisms to transfer intellectual property, policies to guide the efforts, programs to increase awareness about the processes, and close collaboration with the HUB.

[Initiative 2.B.ii Develop program for showcasing innovations regularly to business leaders and venture capitalists.](#)

Working with the external partnership committee, COVA CCI will develop a formal program to connect business leaders and venture capitalists with cyber innovations occurring in the Hub. The events will include both virtual and in-person presentations as well as technical reports and proceedings and will be held at locations across the node.

[Initiative 2.B.iii Develop fund for patents and proof of concept reviews.](#)

Funds will be designated and made available upon application for patents and proof of concept review. The external partnership committee will coordinate the distribution of the funds with final recommendations made by the leadership council and subject to the approval of the node director.

## [Strategy 2.C. Enhance preparation of faculty and students in commercialization efforts](#)

Commercialization strategies and technological changes have outpaced traditional strategies in the area of faculty development. For faculty to effectively commercialize their cyber work and help develop start-ups, it is important that they have training specifically targeting the tech transfer and start-up processes.

[Initiative 2.C.i Develop a research leave and faculty development program allowing faculty to work in cybersecurity industry on projects leading to commercialization of intellectual property/products.](#)

A program will be developed to better prepare cyber faculty for industry and commercialization. Components of the program will include research leave for faculty seeking to work in industry and gain industry/commercialization experience. In addition, programming (e.g., workshops) will be held better prepare cyber faculty in the



areas of start-ups and commercialization.

Initiative 2.C.ii Develop a workshop training graduate students (as future faculty and entrepreneurs) about commercialization.

COVA CCI will create and implement a regional workshop training cyber graduate students about commercialization and innovation. The workshop will provide students the background they need to apply R&D topics to their future cyber research and commercialization. To provide access to all students, the workshop will be provided at locations across the node.

Initiative 2.C.iii Identify entrepreneurial resources across all regional institutions and coordinate their applications.

Coordinate with regional business development organizations like ODU’s Institute for Innovation and Entrepreneurship, 757 Collab, ICAP, Virginia Workforce Innovation & Entrepreneurship Center, and others.

**GOAL 2 – ACCELERATE CYBER STARTUP CREATION AND TECHNOLOGY COMMERCIALIZATION**



The Coastal Virginia business community has seen significant growth in the maritime, defense, and transportation sectors. With the Port of Virginia’s connection to 374,000 jobs producing 17.5 billion in income across the Commonwealth and Naval Station Norfolk’s identity as the world’s large naval complex, the maritime, defense, and transportation industries will only continue to grow in Coastal Virginia. As these industries grow, technological changes require that new physical products and cyber initiatives have the security necessary to allow those industries to flourish. The Coastal Virginia Center for Cyber Innovation will build on its research base to promote cyber startups and technology commercialization that will support the maritime, defense, and transportation industries.

Strategy	Activities
<b>Strategy 2.A.</b>  <b>Develop the next generation of cybersecurity entrepreneurship with a specific focus on promoting growth in the maritime, defense, and transportation industries.</b>	<ol style="list-style-type: none"> <li>1. Inventory and connect with the existing innovation programs across the Coastal Virginia node</li> <li>2. Network and showcase innovations in annual workshops</li> <li>3. Identify entrepreneurial resources across all regional institutions and coordinate their applications</li> </ol>
<b>Strategy 2.B.</b>  <b>Create processes and structure to support startups and commercialization.</b>	<ol style="list-style-type: none"> <li>1. Develop node tech transfer processes with a specific expertise in cyber physical systems security and artificial intelligence</li> <li>2. Develop program for showcasing innovations regularly to business leaders and venture capitalists</li> <li>3. Develop fund for patents and proof of concept reviews</li> </ol>
<b>Strategy 2.C.</b>  <b>Enhance preparation of faculty in commercialization efforts</b>	<ol style="list-style-type: none"> <li>1. Develop a research leave and faculty development program allowing faculty to work in cybersecurity industry on projects leading to commercialization of intellectual property/products</li> <li>2. Develop a workshop training graduate students (as future faculty) about commercialization.</li> <li>3. Identify entrepreneurial resources across all regional institutions and coordinate their applications</li> </ol>

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**GOAL 3. GROW WORKFORCE-READY CYBERSECURITY AND CYBER PHYSICAL SYSTEM SECURITY TALENT TO MEET TODAY’S DEMANDS AND TOMORROW’S ECONOMY.**

Institutions in the Coastal Virginia node have an established tradition of working



together to respond to industry demand in the area of cybersecurity. The activities of HRCYBER and the VCA create a foundation from which we can scale our efforts to produce a current and future workforce prepared for cybersecurity careers.

### Strategy 3.A. Provide more experiential learning opportunities to students.

Both HRCYBER and the VCA provided experiential learning opportunities to regional cybersecurity students. COVA CCI will build on those experiences and expand the number of cybersecurity interns and the businesses hiring those interns. The experiential learning committee will coordinate the experiential learning activities across the node. Specific initiatives will include:

#### Initiative 3.A.i Work with Virginia Space Grant Consortium to place additional cyber interns.

Having partnership with VSGC in the past on similar projects, the regional institutions are in a good position to leverage the momentum we have in placing cybersecurity interns in our region. Businesses will be asked to pay for 50-75% of the intern's cost, with the additional cost covered by COVA-CCI.

#### Initiative 3.A.ii Provide opportunities for students to engage in zero-credit internship programs.

COVA CCI will develop mechanisms so cyber students can engage in either credit-bearing or zero-credit. The zero-credit option gives students the ability to have the internship noted on their official transcripts without having to pay for the academic credit. For many cybersecurity students who have few elective options in their course plan, such an option opens the door to additional experiential learning opportunities.

#### Initiative 3.A.iii Strengthen business relationships to increase the number of possible internship placements.

COVA CCI will strengthen relationships we have with businesses hosting our interns. In addition to enhancing our evaluation of cybersecurity interns, business partners will be invited to participate in various activities (e.g., workshops and showcase events) held at institutions across the node.

#### Initiative 3.A.iv Create experiential learning opportunities for graduate students by connecting them to institutions without graduate programs.

COVA CCI will also connect our cybersecurity graduate students with students enrolled in community colleges or four-year institutions without graduate programs. Graduate students will be made available to serve as mentors or instructors in those institutions seeking graduate student support.

### Strategy 3.B. Expand undergraduate research opportunities in cybersecurity for students across the node.

Each institution in the node has its own undergraduate research program. To build on



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existing programs, COVA CCI will create a region-wide undergraduate research program for cybersecurity students. Students selected for the program will be supervised by one of the node faculty. Specific initiatives will include:

**Initiative 3.B.i Develop regional request for proposals encouraging undergraduate students and cyber node faculty to submit research proposals.**

Using a common model found across regional institutions, COVA CCI will invite research proposals from cyber students enrolled in institutions in the node. The experiential learning committee will review the proposals and make funding recommendations.

**Initiative 3.B.ii Host regional undergraduate research showcase.**

At the end of the research project, participating students will participate in the node's annual conference. They will be required to develop and present a poster summarizing their research. Students will also be asked to identify opportunities for business start-ups or commercialization that stem from their research findings.

**Strategy 3.C. Increase the number of career-ready students graduating with cybersecurity-related degrees across the node.**

According to Cyberseek.org, Coastal Virginia region has the second highest number of cybersecurity job vacancies in the Commonwealth. To fill this demand, it is not enough to simply graduate more students. Instead, institutions must increase the number of graduates, widen the diversity of cybersecurity graduates, and engage in initiatives to make sure that students are career ready. Specific initiatives will include:

**Initiative 3.C.i Support faculty in their efforts in developing programming for the Virginia Cyber Range.**

Building on the success of the Virginia Cyber Range, COVA CCI will host sessions and support teachers and faculty in their efforts to make full use of the resources available through the Range.

**Initiative 3.C.ii Enhance articulation agreements and transfer pathways to include apprenticeship experience, review apprenticeship training and competencies and align with higher education curriculum.**

Faculty, staff, and industry partners will review the existing transfer agreements and make recommendations for changes. Specific attention will be given to expanding apprenticeships in institutions across the node.

**Initiative 3.C.iii Expand opportunities for students to receive academic credit for workforce training and certifications.**



COVA CCI faculty and staff will review existing policies for awarding prior learning credit. Ways to make the award of credit seamless and in line with industry standards will be suggested.

#### [Initiative 3.C.iv Develop mechanisms to help students obtain appropriate security clearances before they enter the workforce.](#)

Partners will work together to develop processes for getting students in the node necessary clearances as soon as possible.

### [Strategy 3.D. Expand entrepreneurial focus of cybersecurity students.](#)

Preparing the future cybersecurity workforce within an entrepreneurial workforce requires that today's student be prepared for tomorrow's economy. Given the rapid technological changes and increased international focus on innovation, today's students, cybersecurity students in particular, must be prepared as innovators. To expand cybersecurity student's strengths in these areas, the following initiatives will be implemented:

#### [Initiative 3.D.i Build business challenge.](#)

Using the "prize challenge" as a model, COVA CCI will host a challenge incentivizing students in the node to develop a business, product, or initiative related to cybersecurity. Coordinated through the experiential learning committee, industry partners will serve as the judges in the challenge. Students will receive a cash prize.

#### [Initiative 3.D.ii Make an entrepreneurship course available to all students in the node.](#)

Using the resources of the Tidewater Higher Education Consortium, a course titled "Entrepreneurship for Cybersecurity" will be made available to all students in the node each summer. The course focuses on using innovation principles to develop cybersecurity businesses, products, or initiatives.

#### [Initiative 3.D.iii Create a Cybersecurity Innovation certificate program using courses from across the region.](#)

Partnering institutions will develop a for-credit consortium-based certificate in Cybersecurity Innovation. The online certificate program will include graduate courses from across the region, including those offered at Christopher Newport University, ECPI, Norfolk State University, Old Dominion University, and William and Mary. As part of the certificate, students will take a class where they develop a cybersecurity business or product.



**GOAL 3 – GROW WORKFORCE-READY CYBERSECURITY AND CPSS TALENT**



Institutions in the Coastal Virginia node have an established tradition of working together to respond to industry demand in the area of cybersecurity. The activities of HRCYBER and the VCA create a foundation from which we can scale our efforts to produce a current and future workforce prepared for cybersecurity careers.

Strategy	Activities
<b>Strategy 3.A.</b>  <b>Provide more experiential learning opportunities to students.</b>	<ol style="list-style-type: none"> <li>1. Work with Virginia Space Grant Consortium to place cyber interns</li> <li>2. Provide opportunities for students to engage in zero-credit internship programs</li> <li>3. Strengthen business relationships to increase the number of possible internship placements</li> <li>4. Create experiential learning opportunities for graduate students by connecting them to institutions without graduate programs</li> </ol>
<b>Strategy 3.B.</b>  <b>Expand undergraduate research opportunities in cybersecurity for students across the node.</b>	<ol style="list-style-type: none"> <li>1. Develop regional request for proposals encouraging undergraduate students and cyber node faculty to submit research proposals</li> <li>2. Host regional undergraduate research showcase</li> </ol>

**GOAL 3 – GROW WORKFORCE-READY CYBERSECURITY AND CPSS TALENT**



Institutions in the Coastal Virginia node have an established tradition of working together to respond to industry demand in the area of cybersecurity. The activities of HRCYBER and the VCA create a foundation from which we can scale our efforts to produce a current and future workforce prepared for cybersecurity careers.

Strategy	Activities
<b>Strategy 3.C.</b>  <b>Increase the number of career-ready students graduating with cybersecurity-related degrees across the node.</b>	<ol style="list-style-type: none"> <li>1. Support faculty in creating content for the Virginia Cyber Range</li> <li>2. Enhance articulation agreements and transfer pathways to include apprenticeship experience, review apprenticeship training and competencies and align with higher education curriculum</li> <li>3. Expand opportunities for students to receive academic credit for workforce training and certifications</li> <li>4. Develop mechanisms to help students obtain appropriate security clearances before they enter the workforce</li> </ol>
<b>Strategy 3.D.</b>  <b>Expand entrepreneurial focus of cybersecurity students.</b>	<ol style="list-style-type: none"> <li>1. Build business challenge</li> <li>2. Make an entrepreneurship course available to all students in the node</li> <li>3. Create a Cybersecurity Innovation certificate program using courses from across the region</li> </ol>

**GOAL 4. BUILD A COLLABORATIVE NETWORK.**

The Coastal Virginia Center for Cyber Innovation with work with the other nodes and the Hub to create a collaborative network. These efforts will include routine meetings and discussions in the node, participation in Commonwealth-wide activities, collaborative programming, and consortium-based academic coursework and certificate programming.

**Strategy 4.A. Develop collaborative relationships across the Coastal Virginia Center for Cyber Innovation network.**

Using the CCI Blueprint as a guide, participants in the node will reach across the network to participate in activities extending across the network. In doing so, it is expected that the sum of our efforts will be greater than any individual efforts. Specific initiatives will include the following:



**Initiative 4.A.i** Provide a forum for collaboration among academic institutions and industry partners to align IT resources and opportunities with COVA CCI strategy and priorities.

The Institutional IT Cybersecurity Committee will work across the nodes to help align institutional needs with Commonwealth priorities.

**Initiative 4.A.ii** Facilitate dialogue among CIOs and technology SMEs at partner academic institutions to develop the information technology strategy to support the COVA CCI strategy.

COVA CCI will also provide CIOs from participating institutions the opportunity to develop institutional programming and policies that align with the broader Commonwealth Cyber Initiative.

## **Strategy 4.B. Promote collaboration between cybersecurity students**

Building the collaborative network will include a focus on developing a network between cyber students in the Commonwealth of Virginia. The specific initiatives will include the following:

**Initiative 4.B.i** Create COVA Cybersecurity Regional Student Association.

COVA CCI will support the development of the Coastal Virginia Cybersecurity Regional Student Association. Students from each institution in the node will be invited to join. Activities will include seminars, capture the flag events, training workshops for cybersecurity-related certificates, and mentoring initiatives. These events will be held at institutions across the node.

**Initiative 4.B.ii** Help other nodes create regional cybersecurity student associations.

After creating the regional student association, COVA CCI will help the other nodes create similar student associations.

**Initiative 4.B.iii** Help Hub create statewide cybersecurity student association.

Joining the regional associations together, COVA CCI will work with the Hub to create a statewide cybersecurity student association. The node will work with the Virginia Cyber Range to host annual meetings of the Statewide Cybersecurity Student Association.

**Initiative 4.B.iv** Develop process for exposing businesses to students who are a part of the CCI Cybersecurity Student Association.

Working with all partners, COVA CCI will develop strategies to connect members of the student association with cybersecurity businesses.

## **Strategy 4.C. Promote cybersecurity offerings at all CCI institutions.**

COVA CCI will work collaboratively to promote cybersecurity offerings across institutions. Where feasible, joint programming will be offered. Specific initiatives will include the





following:

#### [Initiative 4.C.i Work with Tidewater Higher Education Consortium to promote cross registration](#)

All COVA CCI institutions are members of the consortium, which provides seamless transfer between institutions. The partnering institutions will identify strategies to promote cross- registration.

#### [Initiative 4.C.ii Develop 2+2+1 programs helping community college students to earn graduate degrees.](#)

The four-year institutions will work with the community colleges to provide seamless transfer between courses and, where possible, a pathway to a graduate degree in cybersecurity or a related field.

#### [Initiative 4.C.iii Develop and maintain course listing of all cybersecurity courses offered in regional institutions.](#)

COVA CCI will inventory all cybersecurity courses and programs offered in the node. This information will be made available on the node and hub's website.

#### [Initiative 4.C.iv Continuously provide feedback to the curriculum development process within institutions.](#)

COVA CCI will observe and evaluate the knowledge, skills and abilities required by the partners in the industry, military and government. The feedback from the partners will be utilized to develop new courses and modify the contents of the existing courses in accordance with the demands of the workplace.

### [Strategy 4.D. Develop collaborative research opportunities with other CCI nodes](#)

The success of the COVA CCI lies in the success of the other nodes and the broader network. Recognizing the synergy between nodes, COVA CCI will engage in these initiatives:

#### [Initiative 4.D.i Work with the HUB to promote the CCI Fellows program.](#)

COVA CCI will work the with the CCI HUB to participate in the fellowship program, which is designed to bring faculty from across the nodes together at the HUB location on a regular basis.

#### [Initiative 4.D.ii Participate in workshops held in the other nodes and the HUB.](#)

Representatives from COVA CCI will participate in activities held in the other nodes as well as workshops, summits, or other events held at the HUB.

#### [Initiative 4.D.iii Develop cross-nodes research projects.](#)





The COVA CCI faculty will be encouraged to develop joint research projects and commercialization efforts by leveraging the complementary expertise of faculty and businesses at different nodes and the Hub.



**GOAL 4 – BUILD A COLLABORATIVE NETWORK**

The Coastal Virginia Center for Cyber Innovation with work with the other nodes and the Hub to create a collaborative network. These efforts will include routine meetings and discussions in the node, participation in Commonwealth-wide activities, collaborative programming, and consortium-based academic coursework and certificate programming.

Strategy	Activities
<b>Strategy 4.A.</b>  <b>Develop collaborative relationships across The Coastal Virginia Center for Cyber Innovation network.</b>	<ol style="list-style-type: none"> <li>1. Provide a forum for collaboration among academic institutions and industry partners to align IT resources and opportunities with COVA CCI strategy and priorities</li> <li>2. Facilitate dialogue among CIOs and technology SMEs at partner academic institutions to develop the information technology strategy to support the COVA CCI strategy</li> </ol>
<b>Strategy 4.B.</b>  <b>Promote collaboration between cybersecurity students</b>	<ol style="list-style-type: none"> <li>1. Create and maintain COVA Cybersecurity Regional Student Association</li> <li>2. Help other nodes create regional cybersecurity student associations.</li> <li>3. Help Hub create statewide cybersecurity student association</li> <li>4. Develop process for exposing businesses to students who are a part of the CCI Cybersecurity Student Association</li> </ol>



**GOAL 4 – BUILD A COLLABORATIVE NETWORK**

The Coastal Virginia Center for Cyber Innovation with work with the other nodes and the Hub to create a collaborative network. These efforts will include routine meetings and discussions in the node, participation in Commonwealth-wide activities, collaborative programming, and consortium-based academic coursework and certificate programming.

Strategy	Activities
<b>Strategy 4.C.</b>  <b>Promote cybersecurity offerings at all CCI institutions.</b>	<ol style="list-style-type: none"> <li>1. Work with Tidewater Higher Education Consortium to promote cross registration</li> <li>2. Develop 2+2+1 programs helping community college students to earn graduate degrees</li> <li>3. Develop and maintain course listing of all cybersecurity courses offered in regional institutions</li> <li>4. Continuously provide feedback to the curriculum development process within institutions</li> </ol>
<b>Strategy 4.D.</b>  <b>Develop collaborative research opportunities with other CCI nodes</b>	<ol style="list-style-type: none"> <li>1. Work with the HUB to promote the CCI Fellows program</li> <li>2. Participate in workshops held in the other nodes and the HUB</li> <li>3. Develop cross-nodes research projects</li> </ol>