

VIRGINIA INNOVATION REPORT: Recommendations for 2020 General Assembly Session

Need: To support the entire life cycle of innovation, from translational research, to entrepreneurship, to pre-seed and seed stage funding, to acceleration, growth and commercialization, enhancing Virginia’s tech-based economic development. A collaborative, consistent, and consolidated approach will assist the Commonwealth in identifying its entrepreneurial strengths, including the identification of talents and resources that make the Commonwealth a unique place to grow new innovation-based businesses.

It was well documented in TEconomy’s January 2018 report, *Research-Asset Assessment Study*, that Virginia is behind peer states and the country in commercialization of research, technology innovation, and overall high-growth tech-enabled entrepreneurial success. Some of the critical findings from TEconomy were Virginia’s limited funding for de-risking university technologies, the conflicts universities face between “revenue maximization” and “value creation”, lagging in formal venture capital funding at seed and early stage, and lack of scale of coordinated regional innovation efforts to name a few.

For the past two decades in Virginia there has not been a single entity, but many agencies and various programs working to fill the above stated need. Of those agencies, the two with the most significant impact are the Innovation and Entrepreneurship Investment Authority (IEIA), created in 2009, and the Virginia Research Investment Committee (VRIC), created in 2016. Both work to de-risk university technologies, but insignificant funding levels yield limited returns compared to other states. Only the IEIA addresses seed and early stage funding, however it has been subject to significant budget reductions over the last decade. Neither entity in statute is responsible for coordinating and supporting regional innovation economies. In both cases, it is the structure of the statute and the appropriation level that most hinder their progress and success. **The time for structural legislation of a new, consolidated Authority for innovation and new tech-based economic development is now!**

Virginia Innovation Partnership Authority – is a hybrid of best practices from across the nation and Virginia’s unique assets, including our world-renowned higher education system and diverse regional economies. This structural legislation was drafted following:

- 11 town halls all across the state with 481 participants;
- 264 respondents to a survey on the needs of Virginia’s innovation economy;
- Meetings with 65 organizations, from chambers and tech councils to accelerators and angel networks;
- 3 significant work sessions with 172 business and education leaders;
- Input from every major research university, tech transfer offices, private universities, and community colleges;
- Ensured alignment with proposals from the 2019 General Assembly Session; and
- Consultation with the existing Boards and staff of CIT, SCHEV, Senate Finance Committee, and House Appropriations Committee.

This report lays out the transparent process by which the Secretariat of Commerce and Trade organized and executed a workgroup to write legislation that consolidates, restructures, and transitions programs and articulates the legislative recommendations related to commercialization and venture-backed, research-driven entrepreneurship.

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1.0 BACKGROUND

1.1 General History of Virginia’s Innovation Agencies and Programs

In 1984, the General Assembly created the Innovative Technology Authority (ITA) in the executive branch of government as the entity charged with overseeing technology research and development in the Commonwealth. Additionally, the non-profit Center for Innovative Technology (CIT) was created to conduct the day-to-day operations of the ITA. Many years later in 2001, the Virginia Research and Technology Advisory Commission (VRTAC) was created in the executive branch to advise the Governor on research and technology strategies to enhance the competitive advantage of research institutions and technology-based commercial endeavors. CIT was instructed to staff VRTAC, just as it did for ITA.

In 2009, Governor Kaine and the General Assembly merged the goals and missions of VRTAC into the work of the ITA and created a single entity with a focus both on guiding the research and development as well as accelerating innovation and supporting the development of emerging technology.

This merging took effect just at the tail end of the Great Recession and during down budgetary years. Consequently, CIT’s funding would slowly decrease year after year while new research and entrepreneurship entities would be created in the ten years following the consolidation in 2009. Those entities include: the Commonwealth Center for Advanced Manufacturing (2012), the Virginia Bioscience Health Research Consortium (2013), the Growth & Opportunity Virginia Fund (2015), and the Virginia Research Investment Fund (2016).

1.2 Impact of Article X, § 10 of the Constitution of Virginia on Certain Investments

It had been questioned by some stakeholders whether Article X, § 10 of the Constitution of Virginia limited the authority of the Innovation and Entrepreneurship Investment Authority (IEIA) or its non-stock auxiliary, the Center for Innovative Technology (CIT), to make equity investments in private companies.

Secretary Brian Ball requested an official opinion of the Attorney General. In a letter dated August 16, 2019, Attorney General Mark Herring concluded that “based on the foregoing, it is my opinion that equity investments made by CIT utilizing appropriated GAP funds for the purposes stated in the Act do not violate Article X, § 10 of the Constitution of Virginia.”¹ The full letter can be found under addendum 7.7.

1.3 TEconomy Report 2018: The Solution—Re-Envision Virginia’s Approach to Innovation-led, Advanced Industry Development²

In 2018, Mitch Horowitz and the team at TEconomy Partners did a tremendous amount of work and research for the Virginia Research Investment Committee. The results of his study generated many good ideas and a feasible structure based off best practices. It is NOT our goal to repeat his work. Our goal is to consider and refine these ideas based on inputs from the broad community of stakeholders. TEconomy's full report can be found at www.schev.edu/vric. Here is a short excerpt from the report:

To overcome Virginia’s lagging innovation-based economic indicators requires a bold solution—the creation of the Virginia Innovation, Commercialization, and Entrepreneurial

¹ Page 6, Section: Conclusion – August 16, 2019 letter from the Attorney General of Virginia – Addendum 6.7
² TEconomy – Draft Prospectus Brief – 9/13/18

Partnership, an organization that directly enhances the capacities for research commercialization and regional entrepreneurial development while investing in public-private partnerships to advance Virginia's growth and leadership in strategic domain areas with high-growth potential where Virginia has a competitive advantage and a critical mass of innovation and research assets. This solution requires a realistic pivot in how Virginia marshals its existing resources and enhances its efforts to foster and invest in innovation-led development.

The intent of the Virginia Innovation, Commercialization, and Entrepreneurial Partnership is to create a continuum of services and investments for innovation-led development that will collectively be of scale to drive economic change and generate measurable benefits, including:

- *Broadening the funnel of commercialization ideas and inventions in targeted technology domain areas, leading to a critical mass of innovation-led companies in Virginia that can catalyze the development of more robust clusters*
- *Producing more successful start-ups based on commercialization from research institutions*
- *Elevating and creating R&D excellence that can catalyze industry collaboration and innovation-led development*
- *Fostering a robust innovation ecosystem in regions across the state.*

The end result will be to create a critical mass of successful innovation-led, product-oriented companies serving commercial markets. The Virginia Innovation, Commercialization, and Entrepreneurial Partnership (VICEP) will be focused on three major functional elements:

- *Improve the pathway for research commercialization by building university capacity*
- *Focus on strategic domain areas for research commercialization and acceleration services, including cybersecurity, Big Data applications, unmanned systems, space and satellite systems, life sciences and other opportunities that present themselves in the future*
- *Develop a backbone of statewide resources that each region can tap into to ensure there is capacity across the state to form quality new start-ups positioned for growth.*

2.0 PROCESS

2.1 Mission

By establishing a new Authority to provide oversight and designating a lead managing non-profit for innovation-led development in Virginia, the individual strategic components of existing and new program activities come together in a functional approach through which the whole is greater than the sum of the individual strategic components. The design will provide for a governing board that can provide oversight and accountability to ensure that transformative and measureable results are generated.

This is envisioned as an organization that can provide funds to existing organizations to carry out programmatic activities (outsourcing the service delivery mechanism, as appropriate) while also delivering some key services when needed in strategic domain areas that existing organizations are not currently serving.

Major goals include:

- 1) Creating a continuum of services and investments for innovation-led development that will collectively be of scale to drive economic diversification, economic growth and generate measurable benefits, including:
 - a) Broadening the funnel of commercialization ideas and inventions in targeted technology domain areas, leading to a critical mass of innovation-led companies in Virginia that can catalyze the development of more robust clusters
 - b) Producing and investing in a larger number of successful start-ups based on commercialization from research institutions
 - c) Elevating and creating R&D excellence that can catalyze industry collaboration and innovation-led development
 - d) Fostering a robust innovation ecosystem in regions across the state.
- 2) Investing in and creating a critical mass of successful innovation-led companies serving commercial markets.
- 3) Emphasizing four major functional elements:
 - a) Improving the pathway for research commercialization by building university capacity
 - b) Focusing on strategic domain areas for research commercialization and acceleration services, including cybersecurity, data analytics, unmanned systems, space and satellite systems, personalized medicine, life sciences and other opportunities that present themselves in the future
 - c) Developing a backbone of statewide resources that each region can tap into to ensure there is capacity across the state to form quality new start-ups positioned for growth.
 - d) Defining and prioritizing strategic domain areas of research and research commercialization.
- 4) Generating measurable economic development benefits, such as taxable events at corporate and employee levels

The following discussion document provides governance and programmatic framework that could help achieve the goals articulated above utilizing the following Guiding Principles:

- Consolidate and integrate innovation, entrepreneurship, university research commercialization and emerging industry development programs under one Authority

- Align scope of programs to Administration and General Assembly priorities, feedback from regional town halls, TEconomy report, and currently funded programs
- One Managing Not-For-Profit will carry out operations and day-to-day decision making over lines of business and business functions based on the policies and priorities established by the Authority
- Broad legislative language to authorize and empower new Authority to define policies, decision processes, etc.
- Board of Not-For-Profit will be a subset of Authority Board to provide for business-like operation, speed in decision making, and flexibility in quorum thresholds while facilitating oversight and coordination with the new Authority
- Authority Board sets policies and boundaries guiding management actions, processes and decisions
- Managing Not-For-Profit structured to minimize transition complexity, leverage existing resources and infrastructure of CIT, VRIC, VBHRC, etc., and facilitate continuity of certain programs and rapid startup of new programs

2.2 Town Halls, Statewide Survey, and Workgroup Series

Both prior to and during the 2019 General Assembly Session, significant effort was made to address concerns expressed by many stakeholders affected by the proposed legislation. Although there was universal support for legislative reform and more efficient use of state resources, concerns were often fueled by misinterpretation, misunderstanding and unintended consequences. This eventually led to a preference for caution over expediency and decision to delay any legislation pending an effort led by the Secretary of Commerce and Trade to define a measured path to the desired outcomes.

To avoid a repeat in the coming session, those stakeholders identified as directly or indirectly affected by this proposal, were identified (Addendum 7.3) and included in a three part set of workgroup sessions where attendees analyzed data, considered recommendations, and offered feedback and solutions. (Addendums 7.1 and 7.2 are the list of organizations and their geographical locations - these lists were fluid and grew throughout the summer).

Data gathering and feedback from these stakeholders was critical to the conclusion of the series in late August, at which time the statewide data was consolidated to identify key problem statements that needed to be answered before a final version of the legislation was created.

A bottom-up approach was maintained throughout the entire process. Transparency and inclusion were the keys to our success and that started with the eleven Town Halls hosted throughout Virginia this spring.

481 Virginians Participated in Eleven Town Halls:

1. TomTom Festival (Kick-off), April 11
2. Blacksburg, May 7
3. Staunton, May 8
4. Wise, May 15
5. Danville, May 16
6. Fairfax, May 22
7. Charlottesville, June 13
8. Abingdon, June 13
9. Lynchburg, June 14
10. Gloucester, June 18
11. Norfolk, June 18
12. Richmond, June 21

246 Statewide Survey Respondents:

In addition to Town Halls and stakeholder one-on-one meetings, the Secretariat organized a statewide survey which was completed by 246 members of Virginia's innovation economy. The percentage breakdown of those respondents was as follows: Founder/Entrepreneur (40%), Community Builder (26%), Researcher (8%), Vendor/Service Provider (8%), Investor (5%), and Other - primarily government official or regional economic developer (15%). Data from the survey was used during the three workgroup sessions and was a primary contributor to the findings in the report (section 3.0). A summary of the statewide survey can be found in Addendum 7.5.

142 Stakeholders Participated in Three Workshops:

Once all Town Halls were completed and survey data analyzed in the month of July, the next step was to host data jams for high profile issues that arose throughout the summer. There were three main issues that needed additional debate:

August 13 - Investment Workgroup - 33 participants

- Topics covered during this session included: Direct and Indirect Investments, Grants for Entrepreneurial Ecosystems Infrastructure & Commercialization, Investor Networks & Due Diligence, and Review of Tax Credits & Incentives

August 20 - Entrepreneurial Ecosystem Building - 41 participants

- Topics covered during this session included: Infrastructure & Capacity Building, Research Commercialization, Data Management, and Marketing State & Regional Efforts

August 27 - University Engagement - 68 participants

- Topics covered during this session included: Research Commercialization, Workforce Development, Infrastructure, and Tech Transfer Offices

2.3 Timeline

- March 11* Post-session meeting with House Appropriation Committee staff, Senate Finance staff, SCHEV, GO Virginia Foundation and Robby Demeria, Deputy Secretary of Commerce and Trade for Technology, to discuss the outcome of the session and next steps to continue collaborating on legislation for the 2020 session.
- April 1* Announce Listening Tour and Data Jam Series Schedule
- April 12* Deputy Secretary Demeria to kick-off Virginia's Innovation Data Jam Series in Charlottesville at TomTom Festival.
- April – June* Data Jam Series around the Commonwealth. See specific dates and locations under section 2.1
- July* Data consolidation work internally. Taking the raw data from the different regions and determining common denominators for big problem questions
- August* Host several workgroup sessions related to the data jams with specific people/organizations (Addendum 7.3). These workgroup sessions are intended to zero-in on specific big problem/questions that have been discussed with stakeholders and were identified during the statewide series.
- September* Internal legislation drafting within the Secretariat of Commerce and Trade with input from Money Committee staff, SCHEV, and the Center for Innovative Technology
- November* Host open legislative review sessions with stakeholders in four locations across the state (Arlington, Roanoke, Virginia Beach, and Richmond)
- December* Present final legislative proposal to key General Assembly members, the Governor, and secure legislative Patrons for pre-filing.

2.4 Terminology

Throughout the stakeholder engagement process, participants used a broad range of terminology and nomenclature to describe otherwise similar ideas and concepts. In this report, it is important to connect those ideas and concepts to terminology that tracks with definitions and meanings understood by many in the investment and entrepreneurial ecosystem space, including other states which also engage in ecosystem building activities.

Investment vs Grant:

Investment

Two main features characterize an investment: (1) an investment results in “equity” or an ownership position in an asset, and (2) an investment is undertaken with the expectation of a financial return in the form of income or price appreciation.

Investopedia notes that the expectation of a return in the form of income or price appreciation is the core premise of investing. In the finance context, Investopedia defines an “investment” as a monetary asset purchased with the idea that the asset will provide income in the future or will later be sold at a higher price for a profit. While public entities may view increased economic activity and tax revenues as an outcome, benefit and return on specific programs and financial funding streams, we should be mindful that the use of the term “investment” connotes to investors and other private sector stakeholders in Virginia’s entrepreneurial ecosystem that funding is provided with an expectation that there will be a return in the form of income or price appreciation. As a matter of public policy, a public investor may consider a break-even return on an equity investment as a positive metric of success provided leverage or other desired outcomes are achieved. The current CIT GAP Funds program, run by the Center for Innovative Technology, is an example of such an investment program.

Grant

Unlike an Investment, a grant does not result in an ownership position in an asset and does not enable a financial return in the form of income or price appreciation.

Investopedia notes that a grant is an award, usually financial, given by one entity (typically a company, foundation, or government) to another, often an individual or a company, to facilitate a goal or incentivize performance. Grants are essentially gifts that do not have to be paid back, under most conditions. The current Commonwealth Research and Commercialization Fund (CRCF), administered by the Center for Innovative Technology, is an example of such a grant program.

In this discussion, grants are not considered direct investment for the reasons noted above. In discussing grants, it may be clearer to specify to whom grants would be directed (i.e. entrepreneurs, businesses, entrepreneur support organizations, universities, other entities) rather than trying to characterize a grant as “direct” or otherwise.

Investment → Funding provided in anticipation of income or appreciation

Grant → Funding provided as incentive to facilitate goal

Direct Investment vs Indirect Investment

When discussing investment models employed by various states the term “direct investment” is typically used and understood as a mechanism through which a state provides equity investment capital, i.e., capital in exchange for an ownership position in an entity such as a business without use of an intermediary organization. It is often contrasted with an “indirect investment” model by which state funds are deployed through one or more third-party investment intermediaries.

Direct Investment Models

- **Public Sector-Driven Investment:** In direct investment funds, state program managers serve in the role of venture capital (VC) fund managers; they actively network with entrepreneurs, source deal flow, perform due diligence, assist in the recruitment of co-investors and may set terms of the investment transaction. Pennsylvania’s Ben Franklin Program/InnovationWorks, Connecticut’s Connecticut Innovations, and Virginia’s CIT GAP Funds are acknowledged as national leaders in this practice.
- **Private Sector-Led Investment:** There are two private sector-driven approaches to the deployment of public equity investment – Co-Investment and Side-Car Funds.
 - **Co-Investment:** In co-investment funds, state VC programs invest alongside private sector investors in deals meeting certain requirements, and the state program manager’s role focuses on compliance rather than actively performing subjective evaluations of a company’s investment potential.
 - *This is not a particularly valuable use of state funds given that private capital already is being invested in companies where co-investment would be utilized.*
 - **Side-Car Fund:** In a side-car fund formation, one investor or a pool of investors allows a second investor to control where and how to invest capital. The non-controlling (“Side-Car”) investor invests reflexively in the belief that the controlling investor can make better decisions than the passive investor.
 - *Note: While not widely used by states at this time as an economic development measure, a variant of this tool may be useful for seed stage fund formation.*

Indirect Investment Models

- **Fund-of-Funds:** In a fund-of-funds model, state VC program managers allocate capital to more than one VC fund which manages the processes of investing in businesses while the program manager monitors compliance with state program restrictions. This model has been used primarily to support in-state investment by existing institutionally-backed VC funds.
 - *Note that we believe that a variant of this tool may be useful to catalyze seed stage fund formation in the Commonwealth.*
- **Third-Party Managed Funds:** In third-party managed funds, the state contracts with a single external private firm to manage the investment process using a single fund structure that may or may not comprise private funds.

Consider the following:

- A February 2012 report³ prepared for the U.S. Department of the Treasury entitled “Information and Observations on State Venture Capital Programs”, noted that:
 - “As of September 30, 2012, thirty states had VC programs approved by the U.S. Department of the Treasury (Treasury).... Direct investment funds and fund-of-funds programs were the two most commonly selected program structures for capital deployment, each representing just over one-third of the total State Small Business Credit Initiative (SSBCI) capital allocated to VC programs. Two other investment structures, 3rd-party managed funds and co-investment funds, collectively represent just over one-quarter of the SSBCI VC program option funds.”
- The Center for American Entrepreneurship has a post⁴ on their website which notes:
 - “Two of the most popular structures for government-sponsored venture capital programs are fund-of-funds (where the government invests into venture funds) and co-investing (where the government invests into companies). The first is a form of indirect investing where the latter is direct investing.”
- New York Ventures notes⁵:
 - “New York Ventures supports innovations through both direct investments and through a “fund-of-funds” structure.”
 - “New York Ventures administers more than \$100 million in capital allocated toward direct equity investments into promising startups. The direct investment program focuses on Series A investments, but will selectively consider seed rounds.”
 - “New York Ventures fund-of-funds investment programs are typically targeted at specific investment stages, industry sectors or founder groups, and are administered by third-party investment managers selected on a competitive basis.”

Direct Investment → State VC Fund Managers actively network with entrepreneurs, source deals, perform diligence, recruit co-investors and may set terms OR co-invest alongside private funds that meet prescribed requirements OR establish sidecar funds

*Indirect Investment → Fund-of-Funds, 3rd Party Managed Funds
Equity (Dilutive) Financing vs. Grants (Non-dilutive) Financing*

An equity investment is a dilutive financing model, whether made through a direct investment model, a fund-of-funds model, a co-investment model or a 3rd Party Managed Fund model. A company receives an equity investment in exchange for an allocation of a percentage of ownership to investors.

Loans, grants, licensing agreements, and tax credits, by contrast, are non-dilutive to the company. A company may receive financing through these mechanisms without allocating shares or providing an equity stake in their business.

³ Information and Observations on State Venture Capital Programs Report for the U.S. Department of the Treasury and Interested Parties in the State Small Business Credit Initiative (SSBCI) - February 2013

⁴ Center for American Entrepreneurship blogpost on January 23, 2019: Some Considerations for Governments Interested in Public Venture Capital Programs

⁵ <https://esd.ny.gov/doing-business-ny/venture-capital>

3.0 FINDINGS

During the process to develop legislation for the new innovation authority there were several topics that were raised by stakeholders in all regions. In some cases the new authority should lead the charge on these findings and in other cases be a staunch supporter, but either way the Secretariat feels these needs can be met without having to include them in the structural legislative recommendations in section 4.

The following five were the most heard recurrent themes/needs expressed:

1. Universal Broadband
2. Access to Capital
3. Founder Friendly Policies Related to University Spin-Offs
4. Coordinated Marketing Campaign for Innovation and Entrepreneurship
5. Centers of Excellence

3.1 Universal Broadband

In many parts of Virginia, communities without broadband access – both business and home – are limited, if not eliminated, from engaging in the innovation economy. This is particularly true on the eastern shore, middle peninsula, and communities along US Route 58 and west of Interstate 77. In eight of the eleven town halls, broadband was a major theme. The Governor and General Assembly have made significant investments in broadband expansion over the past year through the Virginia Telecommunications Initiative program (VATI). Support for this program and others are essential if Virginia expects to grow our economy equitably.

3.2 Access to Capital

Virginia is not unique to the national trend of staggeringly low numbers of women and minority founders and barriers they face in access to private capital. Although the Commonwealth cannot mandate private investment, we can prescribe that state funds be invested equitably and support organizations that work to decrease barriers and increase exposure like the non-profit Women in Venture or Black Girl Ventures Foundation which offers “comprehensive education and advisory services that outline a road map for the growth and success of minority and/or veteran women entrepreneurs.”⁶

A current example of increasing access to funding can be found in Virginia’s Founders Fund (VFF) which the Governor announced in April 2018. The fund actively seeks investment in companies with founders in underserved populations including women, minorities, veterans and geographical areas with limited access to private venture capital. Although VFF is a good example of increasing access, more needs to be done to eliminate barriers to accessing major funds in addition to specific programs.

3.3 Founder Friendly Policies Related to University Spin-Offs

The term “founder-friendly” has been routinely used to suggest universities provide special terms and conditions for university spin-offs. Nationwide, founder-friendly policies range from free licensing to low royalty percentages upon exit. There is significant debate on the right approach and in Virginia - with a decentralized system - each university takes a different approach to founder-friendly terms.

⁶ blackgirlventures.org/our-story

In October of 2005, following proposed legislation during the previous General Assembly session, an 'Intellectual Property Advisory Committee' was established and met to determine the appropriate balance between private and public interests in the ownership and licensing of intellectual property developed at state research universities. In the notes from the meeting, it was stated that "the committee agreed that the current framework for technology transfer and intellectual property rights was confusing." The committee later stated "another problem with the current system is the funding for Technology Licensing Offices at the state universities. Because these offices operate on revenue generated by licensing, they are susceptible to large swings in funding and therefore cannot maintain a steady marketing and outreach program." This is relative because nearly fifteen years later we are still having similar conversations related to tech transfer offices. Additionally, the concerns with how universities handle IP transactions with university spin-offs predates this 2005 advisory committee by nearly two decades.

In Virginia research universities, tech transfer offices have at least two primary customers. The first is the established, mature businesses who license technology or partner with the university through industry-sponsored research. The second is university-based startups who license technology with varying special benefits depending on the university. It has never been the Secretariat's intention to disrupt any university activities or partnerships with existing business. Our concerns have been solely related to university spin-offs based on direct feedback from the investor community and multiple studies that show Virginia lagging nationally (TEconomy's report from January 2018, specifically).

Since traveling the state and listening to the concerns of entrepreneurs, investors, and university leaders, it is the Secretariat's recommendation that the new authority work in partnership with the Virginia Innovation Alliance (a network of Virginia Tech Transfer Offices) and make all attempts to avoid legislation. During a recent meeting in October 2019, several ideas of best practices were discussed. Some of those ideas include, but not limited to: 1) Universities with smaller research portfolios using common(shared) terms that are transparent, easy to explain to outside investors, and favor the founder; 2) R1 Universities with well-staffed TTOs offering services to smaller universities especially in cases where the R1 TTO has significant expertise and mentor networks for specific industries or domains; 3) a central, state tech transfer office that could be utilized by any university that chooses or does not need a full-time tech transfer team; 4) responding to *Virginia Research Investment Fund – Round 4 Comprehensive Supportive Services For Proof Of Concept And Commercialization* as a group rather than individual schools to develop a central platform for commercialization.

These mentioned opportunities can and should be accomplished without directive legislation. Additionally, Virginia universities with the means for tech transfer offices and significant research dollars have been engaged and are responding by leading the statewide discussion. Following approval of this new Authority for Innovation, the new Commercialization Division and the Authority Board will be significant stakeholders in the years to come and will need to be an advocate for university founders.

3.4 Coordinated Marketing Campaign for Innovation and Entrepreneurship

In addition to needing a new brand for the Authority, it was stated in many communities across Virginia that a coordinated marketing campaign was essential to the state's collective success. Storytelling has never been a strong asset regionally, and statewide our economic development entities like the Virginia Economic Development Partnership, the Innovation Entrepreneurship Investment Authority, Department of Small Business and Supplier Diversity, and the Virginia Tourism Corporation (VTC) have rarely coordinated advertising

inside or outside the Commonwealth. These state agencies do share resources and messaging from time-to-time, but not consistently and in some cases have no communications or marketing full-time employees.

With the formation of this new Authority and the limited resources regionally for marketing entrepreneurial and innovation ecosystems, now is the opportunity for a coordinated campaign. This would be possible through an inter-agency MOU and not require additional general fund appropriation. Other states who have adequately marketed their innovation economy and did so through seamless user experience. In Colorado for example, the user (business owner, investor, community organizer, etc) does not know when they have transferred from one agency to another allowing the user full access to state programs with no barriers.

3.5 Centers of Excellence

Virginia has several “Centers of Excellence.” There are five centers focused on innovation-led economic development that receive General Fund dollars from the state. Those institutions are:

- a. Virginia Center for Unmanned Systems
- b. Commonwealth Center for Advanced Manufacturing
- c. Virginia Bioscience Health Research Consortium
- d. Virginia Smart Communities Initiatives and Smart City Works Actuator
- e. Commonwealth Cyber Initiative

Under the new authority a process to evaluate and measure current and future centers should be developed that aligns with the Virginia Innovation Index. This evaluation of metrics would be helpful for future administrations and the General Assembly. As opportunities have arisen in past years, there has been no single coordinating body to launch and oversee these centers resulting in either mediocre performance or an inability to scale in some cases. Having a single authority following milestones and key metrics will help the state eliminate well intended, but under performing initiatives and double down on high performers that align with the Commonwealth's innovation assets.

- (v) ensure promotion and marketing of Virginia's statewide innovation economy and support and coordinate regional marketing efforts to align local and statewide brand and objectives; and
- (vi) close Virginia's support gap between proof-of-concept and commercialization through pre-seed and seed investments, coordination of private investor networks, shared due diligence research, and resources.

C. To achieve the objectives set forth in subsection B, there is created and constituted a political subdivision of the Commonwealth to be known as the Commonwealth of Virginia Innovation Partnership Authority. The Authority's exercise of powers conferred by this article shall be deemed to be the performance of an essential governmental function and matters of public necessity for which public moneys may be spent and private property acquired.

Powers of the Authority

The Authority is granted all powers necessary or convenient for the carrying out of its statutory purposes, including, but not limited to, the following rights and powers to:

- 1. Sue and be sued, implead and be impleaded, and complain and defend in all courts.*
- 2. Adopt, use, and alter at will a corporate seal.*
- 3. Acquire, purchase, hold, use, lease, or otherwise dispose of any project and property, real, personal or mixed, tangible or intangible, or any interest therein necessary or desirable for carrying out the purposes of the Authority, and, without limitation of the foregoing, to lease as lessee, any project and any property, real, personal or mixed, or any interest therein, at such annual rental and on such terms and conditions as may be determined by the Board and to lease as lessor to any person, any project and any property, real, personal or mixed, tangible or intangible, or any interest therein, at any time acquired by the Authority, whether wholly or partially completed, at such annual rental and on such terms and conditions as may be determined by the Board, and to sell, transfer, or convey any property, real, personal or mixed, tangible or intangible or any interest therein, at any time acquired or held by the Authority on such terms and conditions as may be determined by the Board of the Authority.*
- 4. Plan, develop, undertake, carry out, construct, improve, rehabilitate, repair, furnish, maintain, and operate projects.*
- 5. Adopt bylaws for the management and regulation of its affairs.*
- 6. Establish and maintain satellite offices within the Commonwealth.*
- 7. Fix, alter, charge, and collect rates, rentals, and other charges for the use of projects of, or for the sale of products of or for the services rendered by, the Authority, at rates to be determined by it for the purpose of providing for the payment of the expenses of the Authority, the planning, development, construction, improvement, rehabilitation, repair, furnishing, maintenance, and operation of its projects and properties, the payment of the costs accomplishing its purposes set forth in § 2.2-2351, the payment of the principal of and interest on its obligations, and the fulfillment of the terms and provisions of any agreements made with the purchasers or holders of any such obligations.*
- 8. Make and enter into all contracts and agreements necessary or incidental to the performance of its duties, the furtherance of its purposes, and the execution of its powers under this article, including agreements with any person or federal agency.*

9. *Employ, in its discretion, employees and agents as may be necessary, and fix their compensation to be payable from funds made available to the Authority.*
10. *Receive and accept from any federal or private agency, foundation, corporation, association or person contracts and grants to be expended in accomplishing the objectives of the Authority, and receive and accept from the Commonwealth or any state, and any municipality, county, or other political subdivision thereof and from any other source, aid or contributions of either money, property, or other things of value, to be held, used, and applied only for the purposes for which such grants and contributions may be made.*
11. *Render advice and assistance, and provide services, to institutions of higher education and to other persons providing services or facilities for scientific and technological research or graduate education, provided that credit towards a degree, certificate, or diploma shall be granted only if such education is provided in conjunction with an institution of higher education authorized to operate in Virginia.*
12. *Develop, undertake, and provide programs, alone or in conjunction with any person or federal agency, for scientific and technological research, technology management, continuing education and in-service training, provided that credit towards a degree, certificate, or diploma shall be granted only if such education is provided in conjunction with an institution of higher education authorized to operate in Virginia; foster the utilization of scientific and technological research information, discoveries, and data and to obtain patents, copyrights, and trademarks thereon; to coordinate the scientific and technological research efforts of public institutions and private industry and collect and maintain data on the development and utilization of scientific and technological research capabilities.*
13. *Pledge or otherwise encumber all or any of the revenues or receipts of the Authority as security for all or any of the obligations of the Authority.*
14. *Receive, administer, and market any interest in patents, copyrights, and materials that were potentially patentable or copyrightable developed by or for state agencies, public institutions of higher education, and political subdivisions of the Commonwealth.*
15. *Develop the Virginia Innovation Index to use to identify research areas worthy of institutional focus and Commonwealth investment in order to promote commercialization and economic development efforts in the Commonwealth.*
16. *Foster innovative partnerships and relationships among the Commonwealth, the Commonwealth's state institutions of higher education, the private sector, federal labs, and not-for-profit organizations to improve research and development commercialization efforts.*
17. *Receive and review annual reports from state institutions of higher education regarding the progress of projects funded through the Authority. The Authority shall develop guidelines, methodologies, and criteria for the reports. The Authority shall aggregate the reports and submit an annual omnibus report on the status of research and development initiatives in the Commonwealth to the Governor and the Chairmen of the House Committee on Appropriations, the House Committee on Science and Technology, the Senate Committee on Finance, and the Senate Committee on General Laws and Technology.*
18. *Administer grant, loan, and investment programs as authorized by this article. The Authority shall develop guidelines, subject to the approval of the Board, for the application, review, and award of grants, loans, and investments under the provisions of this article. These guidelines shall address, at a minimum, the application process and, where*

appropriate, shall give special emphasis to fostering collaboration between institutions of higher education and partnerships between institutions of higher education and business and industry.

19. Establish and administer, through any nonstock, nonprofit corporation established by the Authority, investment funds that may accept funds from any source, public or private, to support venture capital activities in the Commonwealth. The administration of any such investment fund shall be advised by the Advisory Committee on Investment

20. Exclusively, or with any other person, form and otherwise develop, own, operate, govern, and otherwise direct the disposition of assets of, or any combination thereof, separate legal entities, on any such terms and conditions and in any such manner as may be determined by the Board, provided that such separate legal entities shall be formed solely for the purpose of managing and administering any assets disposed of by the Authority. These legal entities may include limited liability companies, limited partnerships, charitable foundations, real estate holding companies, investment holding companies, nonstock corporations, and benefit corporations. Any entities created by the Authority shall be operated under the governance of the Authority. The Board shall be provided with quarterly performance reports for all governed entities. The articles of incorporation, partnership, or organization for these entities shall provide that, upon dissolution, the assets of the entities that are owned on behalf of the Commonwealth shall be transferred to the Authority. The legal entity shall ensure that the economic benefits attributable to the income and property rights arising from any transactions in which the entity is involved are allocated on a basis that is equitable in the reasonable business judgment of the Board, with due account being given to the interest of the citizens of the Commonwealth and the needs of the formed entity. No legal entity shall be deemed to be a state or governmental agency, advisory agency, or public body or instrumentality. No director, officer, or employee of any such entity shall be deemed to be an officer or employee for purposes of the State and Local Government Conflict of Interests Act (§ 2.2-3100 et seq.). Notwithstanding the foregoing, the Auditor of Public Accounts or his legally authorized representatives shall annually audit the financial accounts of the Authority and any such entity, provided that the working papers and records of the Auditor of Public Accounts relating to such audits shall not be subject to the provisions of the Virginia Freedom of Information Act (§ 2.2-3700 et seq.).

21. Do all acts and things necessary or convenient to carry out the powers granted to it by law.

Designation of Staff of Not-For-Profit

The Board of the Authority may designate the President and staff of the Not-For-Profit to carry out the day-to-day operations and activities of the Authority and to perform such other duties as may be directed by the Board.

Notes used for above legislative language for Structure of Authority and Non-profit:

- One Authority
- IEIA, VRIC to be sunset
- Falls under purview of Commerce and Trade Secretariat
- Authority Board would serve as the Board of the Managing Not-For-Profit (NewCo)
- Roles and Responsibilities of Authority to include:
 - Providing oversight of NewCo
 - Setting policies, objectives, guidance *
 - Approving strategic plan*
 - Recommending to the Governor and General Assembly appropriate funding levels to support each line of business
 - Reallocating operating funds among business lines as necessary and appropriate in consultation with Governor and General Assembly to enable quick response to market conditions and maximize ROI and other desired impact
 - Receiving and reviewing annual reports from higher education institutions regarding the progress of funded projects
 - Additional roles and responsibilities to be recommended by Authority once constituted and approved by Governor and General Assembly
- NewCo will utilize, leverage and build on existing CIT and VRIC staff resources, expertise and infrastructure as its core and provide continuity for the lines of business and programs that would be retained.
 - One option could be to rebrand CIT under a new name that is consistent with the name of the Authority and provide for necessary restructuring, reorganization, and additional staff and resources to best align with, support, and run statutorily mandated lines of business. Another option could be to create a new successor Managing Not-For-Profit that acquires CIT and absorbs CIT's existing staff, expertise and infrastructure. By acquiring CIT, CIT's assets remain on the books of the new entity and provide for a more seamless transition.
 - Assets would transition from IEIA, CIT, VRIC and other impacted entities to the new Authority. This is a highly complex process and would need to be addressed by the Board and counsel during the transition.
 - NewCo shall be a Not-For-Profit organization, rather than an agency, and shall be governed by the Authority Board.
 - NewCo will be headquartered in Richmond while maintaining a geographically distributed workforce and satellite offices elsewhere in the Commonwealth.
- Needs and Resources Alignment and Prioritization
 - Virginia's regions and universities have diverse resources and levels of need and have experienced varying levels of progress in growing and driving innovation. The new Authority and NewCo will establish a process and criteria to evaluate the relative strengths, weaknesses, and needs and development challenges of constituent stakeholders in key areas to help tailor program activity and support, so as to ensure that funding and resources are prioritized and deployed to maximize impact.

* Indicates TEconomy Recommendation

4.3 Board Composition

A. The Partnership shall be governed by a board of directors consisting of 9 members as follows: (i) the Secretary of Commerce and Trade, or his designee; and (ii) eight nonlegislative citizen members appointed by the Governor and approved by the Joint Rules Committee.

B. Nonlegislative citizen members shall be appointed as follows: (i) two citizens from the investor community with experience as a partner in a venture capital fund with a minimum of \$35 million under management or experience qualifying as an accredited investor, as defined by the federal Securities and Exchange Commission (SEC), who has experience investing, as an individual or as part of an angel group, in 10 or more early stage companies; (ii) two citizens from the technology sector with experience as a founder of a science or technology-based business and who has raised equity capital or a senior executive in a science or technology company or organization with operations in Virginia and with annual revenues in excess of \$100 million; (iii) two citizens with experience directly acquiring or commercializing intellectual property from a university or other research institution or experience working at an organization that has acquired or commercialized intellectual property from a university or other research institution; (iv) two citizens with experience in entrepreneurial development or entrepreneurial community and network development.

In making appointments, the Governor shall consider the geographic and demographic diversity of the Board.

B. 1. After an initial staggering of terms, members of the Board shall serve terms of four years. No member shall be eligible to serve more than two terms. Any appointment to fill a vacancy shall be for the unexpired term. A person appointed to fill a vacancy may be appointed to serve two additional terms. Nonlegislative citizen members shall be citizens of the Commonwealth.

2. Ex-officio members shall serve terms coincident with their terms of office.

C. Members of the Board shall receive such compensation for the performance of their duties as provided in § 2.2-2813. Members shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§ 2.2-2813 and 2.2-2825. Funding for the costs of compensation and expenses of the members shall be provided by the Partnership.

D. The Board shall elect a chairman from the nonlegislative citizen members of the Board, and the Secretary of Commerce and Trade shall serve as the vice-chair. The Board shall elect a secretary and a treasurer, who need not be members of the Board, and may also elect other subordinate officers, who need not be members of the Board. The Board may also form advisory committees, which may include representatives who are not members of the Board, to undertake more extensive study and issues before the Board.

E. A majority of the members shall constitute a quorum for the transaction of the Partnership's business, and no vacancy in the membership shall impair the right of a quorum to exercise the rights and perform all duties of the Partnership. The Board shall meet at least quarterly or at the call of the chairman.

F. The Board shall appoint the chief executive officer of the Partnership, who shall not be a member of the Board who shall serve at the pleasure of the Board and carry out such powers and duties conferred upon them by the Board.

G. The Board may appoint such advisory committees as it deems necessary to assist with carrying out the powers and duties of the Partnership.

Notes used for above legislative language for Board Composition:

- A smaller Board is easiest to achieve a quorum but provides for narrower representation from Commonwealth and stakeholders
- Service on the Board by University Presidents has proven challenges relating to attendance, active participation, conflicts of interest, recusal on votes and even subject matter expertise on matters that fall under the purview of Vice Presidents of Research

4.4 Divisions (ORANGE OF ORG CHART)

The Authority and NewCo oversee three lines of business:

- Entrepreneurial Ecosystem
- Investment
- Higher Ed Engagement/Research/Commercialization

Each Division shall have an Advisory Committee. Identifying and appointing the advisory committee would be a responsibility of leadership of NewCo. There are lessons learned based on experience with the current Research and Technology Investment Advisory Committee (RTIAC), and also by the Virginia Catalyst (VBHRC) in establishing its Project Management and Oversight Panel (PMOP), that can be very instructive. It is important to ensure a match between the advice and feedback needed, the composition, skill sets and experience of the appointed advisors and the program.

There have been instances in the past where the composition of the RTIAC, whose members are, in part, gubernatorial and legislative appointees, and the timing challenges associated with the appointment process and the four-year appointment cycle, have hampered streamlined and effective operation.

Virginia Catalyst, on the other hand, retains the ability through its bylaws to nominate and appoint members to its PMOP based on the needs it may have in terms of feedback and advice, knowledge, skill sets and experience. Through this process, the Catalyst achieves more streamlined operation while maintaining the flexibility to respond to its programmatic responsibilities without the impact on PMOP timing and expertise associated with gubernatorial and legislative appointment processes.

4.4-1 Division of Entrepreneurial Ecosystem

Division of Entrepreneurial Ecosystem

A. Within the Partnership shall be created a Division of Entrepreneurial Ecosystem Building established to (i) connect regional entrepreneurial support services; (ii) administer a competitive grant fund for regional technology and infrastructure assistance; (iii) coordinate marketing efforts between statewide and regional campaigns; (iv) establish entrepreneurs in residence to align local needs with state initiatives and funds; (v) compile, maintain, and promote an information portal of available public and private funding vehicles. An Advisory Committee on Entrepreneurial Ecosystem shall be created by the Board to advise staff of the managing non-profit.

B. The Division shall develop, in consultation with the Advisory Committee on Entrepreneurial Ecosystems and subject to approval by the Board, guidelines, procedures, and criteria for the application for grants and loans from the Regional Innovation Fund.

C. the Division may (i) build networks between regional entrepreneur support services, (ii) provide a statewide convening function to facilitate information sharing and exchange of ideas and best practices, (iii) provide a one stop resource portal and highlight the availability of regional entrepreneurial support services, (iv) aggregate information from national, regional and local sources and promote available public and private funding vehicles.

D. The Division may participate in and add value to the GO Virginia regional councils by offering an ecosystem building perspective, actively participating in GO Virginia regional

council activities, providing expertise, identifying multi-regional initiatives that can come together, and sharing challenges, successes and lessons learned across regional councils.

Regional Innovation Fund, created

A. There is hereby created in the state treasury a special nonreverting, permanent fund to be known as the Regional Innovation Fund (Fund) to be administered by the Authority pursuant to the guidelines. The Fund shall be established on the books of the Comptroller. Interest earned on moneys in the Fund shall remain in the Fund and be credited to it. Any moneys remaining in the Fund at the end of each fiscal year, including interest thereon, shall not revert to the general fund but shall remain in the Fund. Expenditures and disbursements from the Fund, which may consist of grants or loans, shall be made by the State Treasurer on warrants issued by the Comptroller upon written request bearing the signature of the chairman or the vice-chairman of the Authority, or, if so authorized by the Authority, bearing his facsimile signature, and the official seal of the Authority.

B. Awards from the Fund shall be made by the Authority, pursuant to the guidelines and upon the recommendation of the Advisory Committee on Entrepreneurial Ecosystem.

C. 1. Moneys in the Fund shall be used primarily for and competitively awarded to (i) advance regional ecosystem development activities; (ii) support enhanced capacity building projects; (iii) assist in creating and maintaining appropriate infrastructure for the execution of innovation and startup programming; (iv) provide technical assistance to startups in regional ecosystems.

2. Moneys in the Fund may be used to pay administrative fees assessed by the Board for its services in investing Fund moneys pursuant to § 51.1-124.38.

Notes used for above legislative language for Entrepreneurial Ecosystem:

- **Support for Regional Activities and Initiatives through Competitive Grants**
 - Provide competitive grants to support operating funds, capacity building, technical assistance, and infrastructure.
 - By establishing a new Authority to provide oversight and designating a lead managing non-profit for innovation-led development in Virginia, the intent is to bring the individual strategic components of existing and new program activities together in a functional approach through which the whole is greater than the sum of the individual strategic components, and designed so that a governing board can provide oversight and accountability to ensure transformative results are generated. This is envisioned as an organization that can provide funds to existing organizations to carry out programmatic activities (outsourcing the service delivery mechanism, as appropriate), while also delivering some key services when needed in strategic domain areas that existing organizations are not currently serving.
 - Given the above rationale, it is important to clearly define that GO Virginia is focused on regional economic growth and collaboration with an eye toward workforce and job creation while the new Authority and NewCo are focused on building and supporting entrepreneurial ecosystems across the Commonwealth. It will be important to achieve the consolidation goals that programs focused on regional entrepreneurial ecosystems migrate to the new Authority and NewCo over time.

- The Regional Entrepreneurship Initiative is an example of a program that should be moved from GO Virginia to the new Authority and NewCo. Absent this consolidation, there will be at least two organizations providing ecosystem support and grant funding, resulting in confusion in the marketplace and also among policymakers. It will be especially challenging for policymakers to provide oversight, require accountability and track outcomes in an environment where multiple organizations are pursuing similar programs and initiatives intended to achieve similar results in providing ecosystem support.
- **GO Virginia Regional Advisory Service**
 - NewCo should participate in and add value to the GO Virginia regional councils by offering an ecosystem building perspective, actively participating in GO Virginia regional council activities, providing expertise, and identifying multi-regional initiatives that can come together to share challenges, successes and lessons learned across regional councils. This could lead to the initiation of additional cross-regional or multi-regional initiatives like the Virginia Angel Network and the Virginia Accelerator Network.
 - NewCo could deploy “boots on the ground” in every region by designating staff to serve on each GO Virginia Regional Council
 - NewCo could provide for connectivity of regional GO Virginia entrepreneurial, research and commercialization activity, and statewide initiatives administered by NewCo
- **Connect Regional Entrepreneurial Support Services**
 - Build networks between regional entrepreneur support services.
 - Provide a statewide convening function to facilitate information sharing and exchange of ideas and best practices.
 - Provide a one stop resource portal and highlight the availability of regional entrepreneurial support services.
 - Provide shared services.
 - Reinforce and support the model established with the Virginia Accelerator Network and the Virginia Angel Network. The model includes the ability to bring together stakeholders with similar businesses or business approaches, e.g., angel investing or accelerator operations, to identify and take actions to amplify their results by leveraging each other’s resources, sharing best practices and information and identifying public policies that support their business models.
- **Maintain Information Portal**
 - Aggregate information from national, regional and local sources and promote available public and private funding vehicles.
 - Provide information that enables Virginia private and public organizations to leverage federal and private sector funding and investment opportunities, such as EDA I6 Grants and SBIR/SSTR grants.

4.4-2 Division of Investment

Division of Investment

A. Within the Partnership shall be created a Division of Investments established to foster the development of Virginia technology-based companies through (i) direct investment in early stage financing; (ii) indirect investment in Fund of funds, sidecar funds, and support of Virginia's Angel network; (iii) validating, certifying, and benchmarking state tax incentive programs. An Advisory Committee on Investments shall be created by the Board to advise staff of the managing non-profit.

B. The intent of this Division is to give Virginia a competitive advantage with an array of funding mechanisms provided under section § 2.2-2221 related to direct and indirect investments. The Division in consultation with managing non-profit staff and in alignment with the Virginia Innovation Index investment recommendations shall make biennial recommendations to the Governor on an investment strategy.

Notes used for above legislative language for Investments:

- **Direct Investment options for NewCo**
 - Continue the GAP Fund concept of identifying investment opportunities and providing for equity investments with the intention of attracting additional private investment.
 - CIT's experience has demonstrated that companies behave and interact differently when provided equity rather than grants.
 - Build on the success of the GAP Fund model in identifying investment opportunities and providing for equity investments with the intention of attracting additional private investment.
 - Provide for continuity and predictability for companies currently in CIT GAP Funds portfolio.
 - Provide legislative language to allow for a scaled up program which would include a three-stage pipeline model to support companies through their seed stage progression.
 - Seed Stage I: Innovation
 - (Pre-GAP)
 - Commonwealth Funded
 - \$25K-100K Investments
 - 20-60 per Year
 - Expedited Process/Light Touch Monitoring
 - Coupled with One-to-Many Training
 - Seed Stage II: CIT GAP Funds
 - Commonwealth Funded
 - Up To \$250K Investments
 - 8-10 per Year
 - Substantial Diligence and Bandwidth Required
 - Decision-making with outside advisory panel
 - Seed Stage III: CIT GAP Funds Spin-Out
 - Privately-Funded/Privately Managed
 - \$500k-\$1M Investment
 - Builds on CIT Strategic Sector Track Record
 - Governance Model
 - The Authority would establish policy and guidelines for administration of public funds.

- NewCo management would operate and make investment decisions for the disposition of public funds under the policies and guidelines set by the New Authority. Investment decisions would be maintained on the management level so NewCo will be able to act and respond quickly. This also avoids models like Texas where potential conflicts existed with elected officials or members of the Authority appointed by elected officials and charged with determining grant and investment recipients.
 - NewCo management would work with an outside advisory committee of experts, similar to the current Investment Advisory Board, when conducting diligence and evaluating investment opportunities. These experts should be investors, serial entrepreneurs or similarly experienced individuals.
 - The nonprofit Board would periodically review management program-level decisions and outcomes.
- **Indirect & Capacity Building Investment options for NewCo**
 - Fund of Funds Investment
 - Would provide state investment to help increase and grow mission-aligned private investment funds.
 - The benefit of state funding (and the credibility it connotes) may help private funds calibrate their missions to meet eligibility so that they provide additional benefit to the Commonwealth.
 - Eligibility considerations would ensure alignment of funding vehicles with Commonwealth goals and priorities.
 - Governance Model
 - The Authority would establish eligibility policies and guidelines that ensure alignment with the Commonwealth's goals and priorities.
 - NewCo management would determine eligibility using the policies and guidelines established by the New Authority.
 - The new nonprofit Board would periodically review management decisions and outcomes.
 - Angel Investment Support
 - NewCo should leverage the experience, relationships and expertise of the current CIT GAP Funds team to conduct diligence to encourage more angel investment in the Commonwealth. Networks which utilize these services must sign non-reliance agreements (Angel Treaty) and be a certified and measured by NewCo bi-annually.
 - Harmonize investment criteria which is currently uneven across entrepreneur investment organizations.
 - Utilize a Universal Application Form or CIT's Executive Summary Form that is currently used in Investment Advisory Committee meetings.
 - Adapt Angel Capital Association "Angel Treaty" model to provide for a hold harmless agreement for diligence sharing and harmonize knowledge base on diligence, valuation and deal terms.
 - Organize statewide Angel Network for deal-sharing, needs refinement and education.
 - Recruit new angel investors and stimulate the formation of new angel networks.

- Leverage the experience, relationships and expertise of the current CIT GAP Funds team in building and providing these diligence services.
- Sidecar Fund to NewCo
 - NewCo could serve as controlling investor and make investment decisions.
 - NewCo could leverage the experience, relationships and expertise of the current CIT GAP Funds team and employ similar governance, structure, and oversight.
 - Governance Model: The Authority would establish policy and guidelines. NewCo management would operate and make investment decisions under the policies and guidelines set by the Authority. They would work with an outside advisory committee of experts, similar to the current Investment Advisory Board, when conducting diligence and evaluating investment opportunities. These experts should be investors, serial entrepreneurs or similarly experienced individuals. The Authority would periodically review management decisions and outcomes.
- NewCo Sidecars to Regional Funds
 - NewCo could infuse additional capital into investments made by regional and statewide investment organizations and potentially enhance regional fund formation.

4.4-3 Division of Commercialization

Division of Commercialization

A. Within the Partnership shall be created a Division of Commercialization established to (i) promote research and development excellence in the Commonwealth; (ii) provide guidance, and coordination as deemed necessary, to existing efforts to support research in the Commonwealth with commercial potential; (iii) review and advise on the Virginia Innovation Index; (iv) evaluate and award grants and loans from the Translational Technology and Commercialization Fund pursuant to the provisions of this article. An Advisory Committee on Commercialization shall be created by the Board to advise staff of the managing non-profit.

B. The Division shall develop, in consultation with the Advisory Committee on Commercialization and subject to approval by the Board, guidelines, procedures, and criteria for (i) the application for grants and loans from the Translational Technology and Commercialization Fund.; (ii) the review, certification of scientific merits, and scoring or prioritization of applications for grants and loans from the Fund; and (iii) the evaluation, recommendation, and approval of grants and loans from the Fund.

The guidelines, procedures, and criteria shall include requirements that applicants demonstrate and the Authority consider:

- 1. Other grants, awards, loans, or funds awarded to the proposed program or project by the Commonwealth;*
- 2. Other applications from the applicant for state grants, awards, loans, or funds currently pending at the time of the application; and*
- 3. The potential of the program or project for which a grant or loan is sought to (i) culminate in the commercialization of research; (ii) culminate in the formation or spin-off of technology-based companies; (iii) promote the build-out of scientific areas of expertise in science and technology; (iv) promote applied research and development in the areas of focus identified in the Virginia Innovation Index; (v) provide modern facilities or infrastructure for research and development; (vi) result in significant capital investment and job creation; or (vii) promote collaboration among the public institutions of higher education.*

C. The Division shall forward any application for a grant or loan from the Fund to an entity with recognized science and technology expertise for a review and certification of the scientific merits of the proposal, including a scoring or prioritization of applicant programs and projects deemed viable by the reviewing entity. Such entities include the Virginia Biosciences Health Research Corporation; the Virginia Academy of Science, Engineering and Medicine; or any other entity deemed appropriate by the Division, including a scientific advisory committee created by the Division for the sole purpose of reviewing one or more applications received pursuant to this article.

Translational Technology and Commercialization Fund, created

A. There is hereby created in the state treasury a special nonreverting, permanent fund, to be known as the Translational Technology and Commercialization Fund (Fund) to be administered by the Authority pursuant to the guidelines. The Fund shall be established on the books of the Comptroller. Interest earned on moneys in the Fund shall remain in the Fund and be credited to it. Any moneys remaining in the Fund at the end of each fiscal year, including interest thereon, shall not revert to the general fund but shall remain in the Fund. Expenditures and disbursements from the Fund, which may consist of grants or loans, shall

be made by the State Treasurer on warrants issued by the Comptroller upon written request bearing the signature of the chairman or the vice-chairman of the Authority, or, if so authorized by the Authority, bearing his facsimile signature, and the official seal of the Authority.

B. Awards from the Fund shall be made by the Authority, pursuant to the guidelines and upon the recommendation of the Advisory Committee on Commercialization. Awards from the Fund may be made to applications that further the goals set forth in the Virginia Innovation Index.

C. 1. Moneys in the Fund shall be used primarily for grants and loans to (i) foster innovative and collaborative research, development, and commercialization efforts in the Commonwealth in projects and programs with a high potential for economic development and job creation opportunities; (ii) position the Commonwealth as a national leader in science-based and technology-based research, development, and commercialization; (iii) attract and effectively recruit and retain eminent researchers to enhance research superiority at public institutions of higher education; (iv) encourage cooperation and collaboration among public institutions of higher education, and with the private sector, in areas and with activities that foster economic development and job creation in the Commonwealth.

2. Moneys in the Fund may be used to pay administrative fees assessed by the Board for its services in investing Fund moneys pursuant to § 51.1-124.38.

Notes used for above legislative language for Commercialization:

- **Support Tech Transfer Offices**
 - Convene University Vice Presidents for Research and leaders of university intellectual property foundations to facilitate information exchange and the sharing of best practices.

- **NewFund (working title)**
 - NewFund would absorb VRIF and CRCF. While VRIF would remain mostly intact, the fund also could incorporate and continue the SBIR/STTR matching funds program which has been a priority for the biosciences community
 - Moneys in the Fund shall be used primarily for grants and loans to (i) foster innovative and collaborative research, development, and commercialization efforts in the Commonwealth in projects and programs with a high potential for economic development and job creation opportunities; (ii) position the Commonwealth as a national leader in science-based and technology-based research, development, and commercialization; (iii) attract and effectively recruit and retain eminent researchers to enhance research superiority at public institutions of higher education; and (iv) encourage cooperation and collaboration among public institutions of higher education, and with the private sector, in areas and with activities that foster economic development and job creation in the Commonwealth.
 - SBIR/STTR matching funds component of NewFund should continue to allow for awards to private sector SBIR/STTR awardees

4.5 Authority Functions (PURPLE PORTION OF ORG CHART)

- Marketing Virginia's statewide and regional Innovation Economy
- Innovation Exploration
- Virginia Innovation Index
- External Affairs and Innovation Policy
- Finance & Administration

Specific legislative language for this section will be drafted by Legislative Services. It is possible that several functions of the Authority do not need to be spelled out in statute and are covered under the Powers of the Authority section. The Virginia Innovation Index (rebooted Commonwealth Research Roadmap) is an exception.

4.5-1 Marketing Virginia's statewide and regional Innovation Economy

- Storytelling has never been a strong asset regionally or statewide.
- NewCo should support regional marketing efforts and participate in an inter-agency, coordinated marketing campaign.

4.5-2 Innovation Exploration

- Provide leadership for strategic initiatives that explore and shape programs designed to attract and grow innovation in Virginia.
- Seek or support others in seeking and executing against Federal funding (grants or contracts) or other funding sources that advance the NewCo Innovation Exploration mission.
- Assume responsibility for forward-looking technology assessment and market vision around strategic initiatives and partnerships with federal and local government
- Take a lead role in defining, promoting, and implementing forward-looking technology market and industry development policies and processes that advance innovation and entrepreneurial activity and the assimilation of technology.
- Contract with federal and private entities to further innovation, commercialization and entrepreneurship in the Commonwealth.
 - Examples of such contracting could include IEIA and CIT contracts with the Federal Aviation Administration in unmanned aviation systems, with the Dept. of Homeland Security for IOT and Smart Communities technologies and with the US Small Business Administration for SBIR/STTR training and support
- Drive thought leadership across strategic initiatives and other areas of interest in the Commonwealth.

Current initiatives already in-progress to be included under this function:

- Virginia Smart Communities Initiatives and Smart City Works Actuator
- Virginia Unmanned Systems Center
- The Commonwealth Center for Advanced Manufacturing (CCAM) and the Commonwealth Center for Advanced Logistics Systems (CCALS)
- Commonwealth Cyber Initiative (CCI)
 - More definition is required to determine the relationship between the authority, NewCo and these programs. For example, CCI reports to the Vice President of Research at Virginia Tech but currently maintains some accountability under VRIC. The Authority should receive and review reports and status updates on these programs
 - These programs also could potentially compete with other funding opportunities for resources under the NewFund. It may be desirable to move

these programs to their own line items in the budget during the restructuring process so that the NewFund can focus on competitive opportunities as determined under the NewFund's charter and guidelines.

- The Virginia Catalyst
 - The Virginia Catalyst to remain intact operationally
 - The Virginia Catalyst model to be considered for other industries as the relationship between Universities and intellectual property is unique.

4.5-3 Virginia Innovation Index (VI²)

Authority and NewCo would seek to identify critical domain areas where Virginia has assets and opportunity to lead industry innovation and development, primarily through the Virginia Innovation Index (VI²).

- Virginia Innovation Index (VI²)
 - The connotation of a roadmap is to assist in starting at one point and getting to another point. By renaming the Commonwealth Research and Technology Strategic Roadmap, we could instead emphasize the importance of prioritization and provide new relevance and importance. The plan would include identification of high potential technology sectors as well as strategies for capitalizing on opportunities in such sectors. The strategies can be taken down into specific action plans by Newco.
 - Virginia Academy of Science, Engineering, and Medicine to be the coordinating entity that contracts with the Authority and works with the private sector, public sector and university stakeholders across the Commonwealth to develop and propose for Authority approval the VI²
 - VI² will provide a comprehensive and strategic view of research areas worthy of economic development and institutional focus across Virginia.
 - VI² will identify and prioritize key industry sectors in which investments in technology should be made by the Commonwealth; identify the Commonwealth's strengths and weaknesses in these sectors, identify applied research opportunities in these sectors that exhibit significant commercial promise; encourage commercialization and economic development activities in the Commonwealth in these sectors; and help ensure that all investments of public funds in the Commonwealth in applied research are made prudently in focused areas for projects with significant potential for commercialization and economic growth in the Commonwealth.
- Aggregate and convene the domain area ecosystem to connect and leverage capabilities. This could include entrepreneurs, startups, scaleups, mature businesses, researchers, investors and funders, customers and potential customers.
- Establish and build centers with goal of eventually spinning them off to other managing entities.
- Work closely with the Virginia Economic Development Partnership to develop the Commonwealth's strategy for new business attraction for those industries identified by the VI² as high value opportunities for economic growth in the Commonwealth.
- Collaborate with Virginia's workforce development leaders to define required skill sets and workforce enhancement plans supporting industries identified by the VI² as high value opportunities for economic growth in the Commonwealth.

4.5-4 External Affairs and Innovation Policy

- Monitor state and federal policy developments and investments related to entrepreneurship and investment and serve as a resource and subject matter expert for the Virginia Office of Intergovernmental Affairs in evaluating and prioritizing federal initiatives.
- Track and benchmark tax incentive programs offered in other states and by the federal government.
- In partnership with regional stakeholders, recommend policy, legislation and investment that advance innovation and entrepreneurship in Virginia.
- Collaborate with stakeholders and regional ecosystems to develop and promote a common brand and statewide outreach strategy that raises visibility for collective efforts in building Virginia's new economy.
- Coordinate with the Virginia Tourism Corporation and the Virginia Economic Development Partnership to leverage and inform their external communications efforts to encourage a common brand and ensure the incorporation of highlights, successes, and data about Virginia's statewide and regional economy.
- Maintain an internal corporate communications and government relations function.

4.5-5 Finance & Administration

- Provide for all financial, legal, and administrative functions of the corporation, including the design and operation of a federal and state compliant financial management system.
- Independently evaluate the quantitative and qualitative return on investment of the programs administered by NewCo.
- Ensure that programs operate within an established and agreed upon financial envelope.
- Ensure ongoing communications and information sharing with the financial oversight organizations of the Commonwealth.

5.0 ACKNOWLEDGEMENTS

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Collaboration during this process has been the key to our success. It has been the Secretariat's intention from day one to identify a comprehensive solution that was built through an inclusive process to stand the test of time.