

Briefing on Proposed Budget for Re-envisioned Virginia Partnership for Innovation and Entrepreneurial Development

Summary of Proposed Budget

The re-envisioned approach for establishing a Virginia Partnership for Innovation and Entrepreneurial Development involves eleven specific actions across three strategic objectives, plus the operational cost for a managing organization to implement and administer these actions, under the guidance of a statewide authority, through a network of service providers across the state.

Altogether, the cost is estimated at \$43.55 million for FY 2020. It is important to note that the vast majority of the actions will require recurring, sustained funding in future years to ensure long-term sustainability. The two actions that are non-recurring will still require additional funding in FY 2021. Those two actions are: Develop the database on faculty expertise and IP, which may require up to another \$1 million to complete in FY 2021; and privately managed seed funds with a second and final installment of \$7.5 million to bring the total state matching funds to \$15 million.

There are a variety of resources that can be re-deployed to support the proposed program and operational costs of this re-envisioned effort for innovation-led development in the Commonwealth of Virginia, including:

- Existing General Fund resources in FY 2020 of \$22.8 million, including: \$10 million for the Center for Innovative Technology (CIT); \$9 million for the Virginia Research Investment Fund (VRIF) with carryover funds; and \$3.8 million for the Virginia Biosciences Health Research Corporation (VBHRC).
- The Commonwealth Health Research Board's (CHRB) approximately \$1.4 million in annual funding generated by revenues from its endowment.
- The Virginia Growth and Opportunity Fund might allocate as much as \$5 million in FY 2020 in support of entrepreneurial capacity-building across regions in Virginia.

With the re-deployment of approximately \$29.45 million, this leaves \$14.1 million in new General Funds needed to support the re-envisioned approach for establishing a Virginia Partnership for Innovation and Entrepreneurial Development. State funds will be required to be matched through public/private partnerships for the majority of the actions proposed, further leveraging direct state support.

Table 1 outlines the individual actions under each objective, with an identification of existing FY 2020 funding sources and expected matching funds.

Table 1: Summary Budget Details for Program Actions and Operations Proposed along with Crosswalk of Likely Redeployed Existing Resources and Enhanced Funding Required by Action						
Objective	Action	Proposed FY 2020 General Fund	Proposed FY 2020 Capital Fund	Existing FY 2020 Funds Identified	New FY 2020 Funds Requested	Expected Matching or Repurposed Funds
Objective #1: Improve the pathway for research commercialization at Virginia’s public research universities	Create individual university research commercialization plans	\$4.8 m	--	\$1.1 m from CIT CRCF \$3.7 m from VRIF	\$0	\$4.8 m (largely repurposed)
	Develop a database system on university faculty expertise and IP	\$1 m*	--	\$1 m from VRIF	\$0	\$0
Objective #2: Advance commercialization activities in strategic domain areas within Virginia’s institutions of higher education where Virginia has a competitive advantage and significant assets to be a national leader	Catalyze Opportunity Scouting for each strategic domain area across Virginia’s institutions of higher education by Funding Entrepreneurs-in-Residence for “Market Pull”	\$2 m	--	\$1 m from existing staffing at CIT	\$1 m	\$0
	Create a Commercial Innovation Project Fund targeted to each strategic domain area (note: for the life sciences domain area, VBHRC would continue its ongoing role)	\$9.5 m	--	\$1.7 m from remaining CIT CRCF \$3.5 m from VBHRC \$3.3 m from VRIF	\$1 m	\$9.5 (mix of private sector match and repurposed)
	Domain Specific University R&D Enhancement Funds for faculty recruitment, shared use labs, matching grants for federally funded R&D centers	\$3.5 m	\$20 m**	\$20 m in Capital Funds from VRIF and HEETF \$1.4 m CHBR \$1 m from VRIF	\$1.1 m	\$23.5 (largely repurposed)
	Accelerate New Venture Formation from the Deal Flow Generated by Commercialization Activities of Virginia’s Research Institutions	\$5 m	--	\$0.5 m CIT	\$4.5 m	\$5m (private sector match)
	Engage graduate students, post-docs and faculty in start-up company commercialization planning	\$0.5 m	--	\$0	\$0.5 m	\$0
	Harvest federal funding and other funding source opportunities	\$0.250 m	--	\$0	\$0.250 m	\$0
	Objective #3: Foster regional	Establish within each GO Virginia Region, a	\$5 m	--	Proposed \$5 m	\$0

Table 1: Summary Budget Details for Program Actions and Operations Proposed along with Crosswalk of Likely Redeployed Existing Resources and Enhanced Funding Required by Action						
entrepreneurial development capacity-building and a supporting backbone of statewide entrepreneurial resources to help ensure that the increased deal flow is captured in Virginia	regional quarterback for entrepreneurial development			funding by GO VA		
	Provide Statewide Backbone Services for Entrepreneurial Mentoring, Matching to Investors and Marketing and Coordination	\$1.5 m	--	\$0	\$1.5 m	\$0
	Advance public/private partnerships to create a risk capital climate that supports the development, retention, and attraction of investable traded sector, high-growth companies	\$7.5 m*	--	\$3.1 m CIT GAP Funds	\$4.4 m	\$7.5 m (private sector match)
Objective #4: Stand-up a new organizational approach for innovation and entrepreneurship partnerships	Coordinate and collaborate a statewide network of innovation services	\$3 m	--	\$2.6 m from management costs of CIT \$0.3 from VBHRC \$0.25 from SCHEV	\$0 m (\$0.15 surplus)	\$0
Totals		\$43.55 m	\$20 m	\$29.45 m in General Funds \$20 m in Capital Funds	\$14.1 m in General Funds \$0 in Capital Funds	\$50.3 m

Note: *Non-recurring funding, though some additional funds required in FY 2021

** **The FY 2020 Capital Fund cost is estimated at \$20 million.** This is comparable to existing capital funds allocated annually to VRIF and the research enhancement funding portion to the Higher Education Equipment Trust Fund.

Objective #1: Improve the pathway for research commercialization at Virginia's public research universities

Action: Create individual university research commercialization plans

Specific Activities:

- Develop an individualized plan for each university with specific, measurable goals
- Utilize a best practices template on commercialization stages from bench to licensing
- Seek out opportunities for collaboration between universities (such as sharing networks of mentors and technology experts, conducting due diligence, etc.)
- Effective utilization of faculty expertise and IP database involving industry engagement (see below)
- Pilot innovative approaches (i.e. evaluation periods on licenses, etc.) and share best practices
- Differs from objective #2 since not required to be domain specific, nor to utilize the domain specific resources.

Performance Measures:

- Industry applied R&D funding for university research – in-state/out-of-state
- Invention disclosures
- Market assessments of invention disclosures
- Proof-of-concept projects funded, completed, key milestones achieved
- Patent filings and patent awards
- Licenses executed – total, startups (in-state/out-of-state) and existing businesses (in-state/out-of-state)
- Milestones achieved by products under development in startups or existing business licensees
- Licensing income generated

Proposed Level of Funding: \$4.8 million in FY 20 sustained through the FY 21-22 Biennium and beyond.

Co-invest in each university's research commercialization advancement plan. Virginia universities are generally understaffed and have a much lower legal fee budget for technology transfer and commercialization than leading universities with similar levels of research funding. It is proposed that the state's co-investment be tiered depending on university's research funding, so that larger research universities would get more funding, but that a reasonable bottom match be set for public universities with smaller research levels. One suggested approach to tiering is:

- Up to \$800,000 for large research universities with over \$100m in R&D -- VT, UVA, VCU, GMU
- Up to \$400,000 for medium research universities with \$25-\$100 million in R&D – W&M, ODU
- Up to \$200,000 for small research universities under \$25m – JMU, NSU, VSU, CNU

Comparable Best Practice Funding Levels:

The proposed \$4.8 million is comparable to what GRAVentures, which is the university research commercialization arm of the Georgia Research Alliance, spends each year on commercialization funding and staffing.

Matching Funds: 1:1

Will require participating universities to match state funding 1:1 for specific commercialization and technology transfer activities to be undertaken. This will ensure the university's commitment to the efforts underway.

Existing Programs that Align with Action: Limited effort by CIT's Commonwealth Research Commercialization Fund (CRCF) to provide proof-of-concept grant funding, on a project-by-project basis, to universities. In FY 2017, \$1.1 million out of \$2.6 million total CRCF funding went for 11 proof-of-concept projects across all universities (see action on commercial innovation project fund for more details on funding in current biennium for CRCF).

Action: Develop statewide database system on university faculty expertise and IP

Specific Activities:

Create a database system that can update intelligence on faculty expertise, IP available and shared use labs, and enable software tools that can allow industry to search based on specific technology needs (as developed by NASA EIR pilot program). To ensure the database is kept up-to-date and industry inquiries are promptly engaged, ensure ongoing university industry liaison services to manage industry relationships.

Performance Measures:

- Usage by faculty and industry
- Industry-university collaborations facilitated, including applied research and testing, technical assistance, usage of research labs, licensing, student internships, etc.
- Faculty collaborations facilitated, including research grants pursued and awarded

Proposed Level of Funding: \$1 million in FY 2020 and \$1 million in FY 2021 for Database System Development and \$100,000 in FY 2022 and beyond for ongoing maintenance

Requires upfront investment of \$2 million (similar cost incurred to recently in developing a web-based database system with back-end databases, search and query tools, and high-end user interface. The development process needs to include industry and entrepreneurial input into the design of the system. It will also be important that industry inquiries that result from database searches be handled in a high touch relationship management approach by university industry liaisons, to be supported through the research commercialization advancement plans.

Comparable Best Practice Funding Levels:

The proposed \$2 million two year funding is comparable to what it cost to develop the database system for the recently launched Ohio Innovation Exchange – see <https://www.ohioinnovationexchange.org/>.

Matching Funds: None

No matching funds are expected since a capacity building effort

Existing Programs that Align with Action: None

Objective #2: Advance commercialization activities in strategic domain areas within Virginia’s institutions of higher education where Virginia has a competitive advantage and significant assets to be a national leader

Action: Catalyze Opportunity Scouting within Virginia’s institutions of higher education by Funding Entrepreneurs-in-Residence for “Market Pull”

Specific Activities:

- Entrepreneurs-in-residence (EIRs) will facilitate identification of unmet market needs within strategic domain areas with strong outreach for customer discovery and use of market research
- Partner with universities to walk the halls to mine research innovations within strategic domain areas focusing around unmet market needs

Performance Measures:

- Domain specific unmet market needs identified and validated
- Invention disclosures generated through scouting university labs and faculty research

Proposed Level of Funding: \$2 million in FY 2020 and \$3 million annually for the FY 21-22 Biennium. Funding in the future could increase as the number of EIRs per domain areas increases with demand.

This would support hiring four entrepreneurs-in-residence to cover a combination of the six domain areas, including cybersecurity technologies, big data leveraging fiber and data center assets, life sciences and autonomous and satellite systems applications. The cost of the EIRs and their associated program and administrative expenses is expected to average \$500,000 for each EIR. The program expenses would include market and technical consultants and travel/meetings of approximately \$250,000, as well as administrative support to manage customer relationship databases and scheduling of meetings and site visits of approximately \$60,000.

In the life sciences, VBHRC might take on this scouting responsibility as part of its role as the domain area organization, but this would be a new activity for them. In cybersecurity, opportunities to collaborate with the Commonwealth Cyber Initiative should be explored.

Comparable Best Practice Funding Levels:

The proposed \$500,000 per domain area, for a total of \$2 million, is based on what Oregon’s Signature Research Centers pay for EIRs in each of its three separate domain-focused centers. Direct salaries for the lead EIRs in Oregon’s SRCs range from \$186,000-\$216,000, plus require travel, admin support and resources for consultants.

Matching Funds: None

No matching funds are expected since a capacity building effort.

Existing Programs that Align with Action:

In the life sciences, the Catalyst/Virginia Biosciences Health Research Corporation is led by a serial entrepreneur and is focused on commercialization projects and collaborative applied/translational research in targeted areas of neurosciences. Over the past two years, it has averaged approximately \$262,000 in salary and operating expenses.

In cybersecurity, CIT’s MACH37 cybersecurity accelerator is led by EIRs and a broad mentor network. In 2016, CIT reported in its tax filing expenses of \$1.7 million for MACH37 accelerator against sponsorship income of approximately \$700,000. Three EIRs were reported in the 2016 tax return with combined compensation of \$1.2 million. In 2017, this EIR management team was changed and in 2018 CIT established a new collaboration with Alexandria-based startup consulting firm VentureScope to serve as the day-to-day manager and staff of MACH37 with no funds for its operating costs, but a share in the equity of participating companies. Existing CIT staff do

serve in management roles and offer EIR services as part of MACH37 including its Chief Technology Officer and Chief Investment Officer.

Action: Create a Commercial Innovation Project Fund

Specific Activities:

A competitive strategic investment fund managed by the EIR for each strategic domain area to be used for:

- Applied R&D grants to advance potential solutions around identified unmet market needs
- Proof-of-concept funding for university inventions to de-risk technologies and address initial prototyping involving ongoing mentorship and engagement of early-stage investors
- Pre-seed investments for initial efforts towards new company formation, including business planning, augmenting management team, solidifying IP position and initial raising of venture funding
- In each strategic domain area, the EIRs will create a “strategic investment committee” comprised of technical and market experts, C-level executives, serial entrepreneurs and investors in the selection process.
- For life sciences, the VBHRC will be retained to serve as the domain organization at its current level of funding for such activities. Collaborations should also be explored in advancing commercial innovation project funding in cybersecurity with the Commonwealth Cyber Initiative and, similarly, in Big Data applications with the Global Genomics & Bioinformatics Research Institute.

Performance Measures:

- Number of applied research and proof-of-concept project proposals and pre-seed investment applications received and number of awards.
- Results of applied research and proof-of-concept projects – follow-on funding, IP generated and licenses
- Results of pre-seed investments in startups – investment capital raised, evidence of valuation increases, sales generated, space occupied, employment levels, average salaries, etc.

Proposed Level of Funding: \$9.5 million in FY 20 and \$12 million annually in the FY 21-22 Biennium

For the strategic domain areas of cybersecurity technologies, big data applications, and the combined area of autonomous and satellite systems applications, funding of \$2 million annually is proposed for applied/translational research grants, proof-of-concept grants, and pre-seed investments, for a total of \$6 million annually.

In the life sciences, the commercialization projects and collaborative neurosciences applied/translational research consortium underway by the Virginia Biosciences Health Research Corporation, which comprised approximately \$3.5 million of the state’s \$3.8 million annual funding for the FY 19-20 biennium, would continue.

Comparable Best Practice Funding Levels:

The proposed \$2 million for each domain area is similar what two of Oregon’s SRCs utilize for funding of commercialization grants in areas of micro-electronics and cleantech (the life sciences SRC provides a facility for high throughput drug discovery screening and an incubator instead of commercialization grants).

Matching Funds: \$9.5 million

A 1:1 match will be required from either research universities (including use of repurposed existing resources) or from collaborating industry partners or investors.

Existing Programs that Align with Action:

- In the life sciences, the Virginia Biosciences Health Research Corporation allocated approximately \$3.5 million of its \$3.8 million annual funding for the FY 19-20 biennium for commercialization projects and its neurosciences translational research consortium. This is expected to continue in FY 2020.
- Remaining funding of \$1.7 million in CIT Commonwealth Research Commercialization Fund of \$2.8 million annually for the FY 19-20 biennium to support commercialization funding at universities and industry targeted towards proof-of-concept grants and matching SBIR/STTR grants – of which \$1.1 accounted for as level of past support for university proof-of-concept funding.

- CIT also has \$500,000 annually in the FY 19-20 biennium set out for advancement of unmanned systems companies and development of the unmanned systems industry in the Commonwealth. It is not clear how this funding is applied.

Action: Domain Specific University R&D Enhancement Funds for Faculty Recruitment, Shared Use Lab Facilities, and Matching Grants for Federally Funded R&D Centers.

Specific Activities:

Matching funding for university enhancement in strategic domain areas to meet unmet market needs through recruitment of entrepreneurial-minded eminent scholars and enhancing signature research and development facilities.

These requests from universities will be overseen by the managing non-profit organization as part of its overall management responsibilities, and will engage as appropriate specific EIRs and their strategic investment committees comprised of technical and market experts, C-level executives, serial entrepreneurs and investors to ensure alignment with market opportunities. As needed, review teams may also draw upon selected outside academic experts on a confidential basis.

Performance Measures:

- Research funding generated from enhancements
- Inventions, patent filings and awards, and licenses generated by enhancements

Proposed Level of Funding: \$3.5 million from General Fund for eminent scholar recruitment and \$20 million from Capital Fund for FY 2020. Funding levels sustained in the FY 21-22 Biennium and beyond

Create a major strategic research enhancement fund of \$23.5 million annually from a mix of General and Capital Funds to support large-scale, new, shared-use facilities, entrepreneurial-minded eminent scholars, and matching funds for major federal-research centers in the target domain areas on a competitive solicitation basis.

Comparable Best Practice Funding Levels:

Utah Science Technology and Research (USTAR) program over the 2007-2014 period invested on average \$50m+ annually, including:

- \$140m in startup packages and salary to recruit 45 star research faculty
- \$285 million in facilities and equipment for: U of Utah Sorenson Molecular Biotech Building (with many shared use labs); the USU Innovation Center; Synthetic Biomanufacturing Facility; Nano-fabrication facility

Matching Funds: \$23.5 million

A 1:1 match will be required from the research university (including use of repurposed existing resources).

Existing Programs that Align with Action:

- The Virginia Research Investment Fund has \$15 million in capital funds available each year through the current FY 19-20 Biennium.
- The Higher Education Equipment Trust Fund, administered by SCHEV, has approximately \$5 million annually in the current FY 19-20 Biennium to be dedicated to enhancing the research capacity that can be applied to the target domain areas on a competitive basis.
- Limited CIT funding from CRCF of up to \$250,000 annually for the recruitment of eminent scholars on a matching basis. In FY 18, it provided two eminent scholar grants targeted to cybersecurity, with one going to GMU and the other to VT. Over the FY12-FY18, eight faculty received Eminent Researcher Recruitment awards, with some faculty receiving awards over multiple years. Six of the eminent researchers were in the life sciences, and two were in cybersecurity.
- The Commonwealth Health Research Board supports approximately \$1.4 million annually in health research projects at university, government and non-profit organizations in the state, up to \$100,000 annually per

project for up to two years of funding. The source of income for these research grants is from income generated from an “endowment” resulting from the stock and cash distribution to the Commonwealth of Virginia pursuant to the conversion of Trigon Blue Cross and Blue Shield from a mutual insurance company to a stock corporation. As of December 31, 2015, the estimated value of the CRRF was \$34 million.

Action: Accelerate New Venture Formation from the Deal Flow Generated by Commercialization Activities of Virginia’s Research Institutions

Specific Activities:

On a competitive basis, advance dedicated strategic domain area private-sector managed accelerators with a proven track-record of success and new venture development organizations operated by proven serial entrepreneurs who can create and manage initial phases of new company formation, recruit management teams, bring the mentor, technical network, and investors to support new startups and co-invest in seed funds operated by the accelerator. A match of at least \$2 for every \$1 in state investment would be required, and through use of a public authority the state would benefit as a limited partner in the accelerator and new venture development organization. Both for-profit and non-profit managed organizations would qualify. Funds could bolster operational activities involved in mentoring and networking emerging companies to ensure higher level of success as well as in direct investments in the participating entrepreneurial companies.

Performance Measures:

- Number of startups formed
- Activities from startups: investment capital raised, evidence of valuation increases, sales generated, space occupied, employment levels, average salaries, etc.

Proposed Level of Funding: \$5 million in FY 2020 with additional \$5 million over the FY 21-22 Biennium

To demonstrate the viability of this approach to attract privately managed accelerators and venture development organizations to Virginia, the \$5 million will be used to hold a competitive solicitation with a matching requirement of at least 1:1, so creating a pool of \$10 million to be invested in an accelerator or venture development organization. This approach was used in NYC to attract The Accelerator Corporation, based in Seattle and started by an esteemed scientist (father of systems biology) who co-founded Amgen and many other startups, Dr. LeRoy Hood, and private investors, leveraging support from the evergreen Partnership Fund for NYC.

Comparable Best Practice Funding Levels:

The Massachusetts Life Sciences Center funded the privately managed LabCentral in Cambridge, one of the most successful biosciences venture accelerator/development organizations, with an initial one-time grant of \$5 million and then a follow-up \$5 million upon its expansion.

Matching Funds: \$10 million

A minimum 1:1 match will be required from venture accelerator or venture development organization with state funding having a return-on-investment in proportion to its level of investment.

Existing Programs that Align with Action:

CIT in the past received state funding of \$2.5 million to support program design, recruitment, operations, and seed funding for the first two years to establish MACH37, though ultimately done as a program of CIT and now a joint partnership with VentureScope. In the FY 19-20 Biennium, CIT has \$500,000 annually appropriated for the establishment of an Unmanned Aerial Systems Commercial Center of Excellence and business accelerator in collaboration with the Mid-Atlantic Aviation Partnership and the Virginia Commercial Spaceflight Authority.

Action: Engage graduate students, post-docs and faculty in start-up company commercialization planning

Specific Activities:

Offer a hands-on, boot camp-type entrepreneurial development experience targeted to graduate students, post-docs and faculty, building on the successful NSF iCorps program, that incorporates lean launch, customer discovery and business model innovation methodologies to assess and de-risk the commercialization of research inventions, enhance the business acumen of research faculty and students, expand their entrepreneurial network relationships and systematically build a pipeline of new startups.

Proposed Level of Funding: \$500,000 in FY 2020 and \$1 million annually over the FY 21-22 Biennium and beyond

The initial funding of \$500,000 is to design and pilot the effort with 3-5 universities. Once the program is tailored to the needs and opportunities in Virginia, it would be scaled up to include all Virginia public research universities.

Comparable Best Practice Funding Levels:

This is a new area of focus in state technology development efforts that go beyond one university and one research center. Ohio became national leader in 2015 when it started a statewide program known as I-Corps@Ohio to qualify market entry strategies for new scientific discoveries and provide a boot camp and mentoring for launching university-based startups. It is now supported at a \$1 million level of funding.

Matching Funds: None

No matching funds are expected since a capacity building effort.

Performance Measures:

- Number of faculty/graduate student teams applying and accepted
- Key milestones reached, including inventions, patent filings and awards, licenses, and startup formed
- Results generated by startup companies formed: investment capital raised, evidence of valuation increases, sales generated, space occupied, employment levels, average salaries, etc.

Existing Programs that Align with Action:

While no targeted state funding, individual universities in Virginia are engaged with the NSF iCorps program, including GMU and UVA being designated as I-Corps Sites to support multiple projects at any one time. However, there are only a few active projects awarded to Virginia universities through the competitive process and does not approach the scale of activity taking place in Ohio.

Action: Harvest federal funding and other funding source opportunities

Specific Activities:

Serve as a liaison to garner federal funding and advance commercialization efforts at federal intramural labs and FFRDCs in Virginia associated with strategic domain areas. Activities would include:

- Identify opportunity for enhancements of federal shared use facilities in strategic domain areas
- Identify opportunities for funding by philanthropic and corporate organizations interested in strategic domain areas
- Track major federal lab activities and IP generation in strategic domain areas
- Advance commercialization partnerships with federal labs and FFRDCs

Performance Measures:

- Federal and other funding sources pursued
- Federal and other funding generated
- Industry-federal lab partnerships facilitated, including cooperative R&D agreements, use of federal lab facilities, and licensing of federal lab technology

Proposed Level of Funding: \$250,000 in FY 2020 and \$500,000 annually in the FY 21-22 Biennium and beyond

Support an initial team of 2 to 3 staff that targets 2 or 3 of the strategic domain areas as a pilot effort that can be scaled-up.

Comparable Best Practice Funding Levels:

The Office of Military & Federal Affairs in Maryland serves as an example of how such an office can both help protect and grow the budgets of military and civilian federal assets, and connect state businesses to associated opportunities that will lead to greater economic vitality for the state. It has been funded with nearly \$1 million of state funding annually, and has attracted federal funding around supporting base realignment activities of just under \$1 million annually.

Matching Funds: None

No matching funds are expected since a capacity building effort.

Existing Programs that Align with Action: No current funding program identified.

Objective #3: Foster regional entrepreneurial development capacity-building and a supporting backbone of statewide entrepreneurial resources to help ensure that the increased deal flow is captured and retained in Virginia across Traded Sector Industries

Action: Establish within each GO Virginia Region, a regional quarterback for entrepreneurial development across traded sector industries

Specific Activities:

- Raising within each region an awareness and understanding of regional entrepreneurial activities for traded sector industries, unmet needs, and priorities for future actions
- Ensuring implementation capacity in each region on specific action steps prioritized
- Providing a “front door” in each region for entrepreneurs working within traded sector industries, and developing the capacity to refer entrepreneurs for follow-on services to an established mentor network

Performance Measures:

- Number of entrepreneurial-led companies assisted
- Economic activity generated by entrepreneurial-led companies assisted: investment capital raised, evidence of valuation increases, sales generated, space occupied, employment levels, average salaries, etc.

Proposed Level of Funding: \$5 million for FY 2020 sustained in the FY 21-22 Biennium and beyond

Awards would be available to each region, possibly weighted by population, to help fund priority strategic investments identified through an entrepreneurial ecosystem assessment. Initial funding would be available to help fund the regional quarterback that would be tasked with developing a regional strategic plan and prioritizing strategic investments, with the input from regional entrepreneurial ecosystem stakeholders. Once a regional prioritization investment plan is developed, further funding would be available to fill the gaps identified, including funding for efforts such as: EIRs, incubators, accelerators, mentor networks, etc.

Comparable Best Practice Funding Levels:

Launch Tennessee supports a network of Entrepreneur Centers, located in six cities across the state that provide entrepreneurs access to a mix of support services, including: boot camps, mentorship, co-working space, and initial pre-seed grants. In 2016, Launch Tennessee made grants to its Entrepreneur Centers of \$200,000 to \$375,000 for each center. These centers serve a much smaller area than GO Virginia regions.

Matching Funds: None

No matching funds are expected since a capacity building effort.

Existing Programs that Align with Action: No current funding program identified. This would likely need to be supported through GO Virginia, but funding has not yet been authorized. It will be critical to integrate the VRIC and GO Virginia entrepreneurial efforts moving forward to help ensure that robust regional entrepreneurial ecosystems are created and supported. GO Virginia may determine that awards could be made to fund the regional quarterbacks yet in FY2019 to develop strategic plans identifying priority actions and their implementation steps. Then in FY2020, additional funds could be awarded to fund the plans.

Action: Provide Statewide Backbone Services for Entrepreneurial Mentoring, Matching to Investors, and Marketing and Coordination of Virginia's Traded Sector Entrepreneurial Development Efforts

Specific Activities:

- Provide a statewide team that coordinates with each regional quarterback to provide more in-depth assistance for startups in traded sector industries, focused on the primary industry clusters being targeted across GO Virginia regions, to help ensure these companies grow and scale in Virginia. Services would include advisors able to customize a mix of coaching, technical services and access to capital for entrepreneurs referred to them. These services would involve assessing product-market fit, determining optimal go to market strategies, business planning, determining capital needs and positioning for funding.
- Create a website to serve as a front door for entrepreneurs and investors
- Help match emerging ventures from across the state with sources of capital
- Hold pitch competitions, investor forums, and other events to raise the profile of entrepreneurship statewide

Performance Measures:

- Number of entrepreneurial-led companies assisted
- Economic activity generated by entrepreneurial-led companies assisted: investment capital raised, evidence of valuation increases, sales generated, space occupied, employment levels, average salaries, etc.
- Positive news stories in local markets, national and international
- Number and participation in entrepreneurial events

Proposed Level of Funding: \$1.5 million in FY 2020 and \$3 million annually in the FY 21-22 Biennium and beyond

In 2020, begin to build out the statewide team identifying 3-4 common primary industry clusters from across Virginia's regions, which would be expected to require \$1.25 million in staffing costs, including developing a pool of EIRs for consultation. Also in 2020, place immediate emphasis on web site development that could also be customized to serve and host each region's database development and tools for matching mentors, investors and professional/technical resources with entrepreneurs.

Comparable Best Practice Funding Levels:

I2e, based in Oklahoma, is one of the nation's most successful statewide entrepreneurial development organizations focused on growing innovative small businesses that offers entrepreneurs across the state a customized mix of coaching, technical services and access to capital, plus hosts statewide events and engages and supports angel investor groups. I2e had total operating expenses of \$3.3 million in 2016, this included: \$2.5 million on staffing costs, including employees and consultants; \$250,000 in office related expenses; \$320,000 on entrepreneurial development events; \$112,000 on advertising and promotion and \$30,000 on travel.

Matching Funds: None

No matching funds are expected since a capacity building effort.

Existing Programs that Align with Action:

There are currently no backbone service as proposed herein, but there are fledgling efforts. Virginia is for Entrepreneurs (V4E) is an emerging effort to raise awareness through events and matching investors to promising entrepreneurial businesses. The statewide SBDC network has initiated an Innovation Commercialization Assistance program, with funding in the order of \$250,000 annually, that offers an intensive startup assistance program targeting early-stage, high-growth potential companies to help them identify their initial customers and develop business models that investors will fund.

Action: Advance public/private partnerships to create a risk capital climate that supports the development, retention, and attraction of investable traded sector, high-growth companies in Virginia

Specific Activities:

Catalyze with matching funds the creation of privately-managed, pre-seed and seed funds with an emphasis/preference on funding companies within the strategic domain areas. Encourage GO Virginia regions to create multi-regional, privately-managed pre-seed and seed funds to increase the pool of deal flow and better share management costs. These matching funds are expected to enable the growing number of existing angel investor networks to enhance their fund/operational management/due diligence services by either competing for matching funding or collaborating with newly formed privately-managed pre-seed/seed funds.

Performance Measures:

- Number and direct funding of entrepreneurial-led companies assisted
- Economic activity generated by entrepreneurial-led companies assisted: investment capital raised, evidence of valuation increases, sales generated, space occupied, employment levels, average salaries, etc.

Proposed Level of Funding: \$7.5 million for FY 2020 and another round of \$7.5 million in the FY 21-22 Biennium

\$15 million for pre-seed/seed stage matching grants would be expected to create a pool of at least \$30 million in pre-seed/seed funding that would be expected to generate at least three privately-managed funds that would be distributed across the state. It is important that these seed funds have connections and an active presence within a single or grouping of regional ecosystems in order to better qualify and oversee their deal flow in an efficient manner. It is expected that approximately \$10 million is needed to support the cost of managing due diligence and oversight of investments and to have a sufficient portfolio to generate an overall return on investment for the seed fund. Beyond the 21-22 Biennium we would expect additional rounds of funding.

Comparable Best Practice Funding Levels:

Ohio Third Frontier in its funding of pre-seed/seed funds has invested \$109 million in 34 pre-seed or seed funds on a 1:1 required matching grant basis. So on average, it has invested \$3.2 million in each fund. The OTF funding is not conducted each year, but in tranches as pre-seed and seed funds are drawn down and new commitments are being sought. So, for instance, in recent years, it held funding rounds in 2013, 2015 and 2016.

Matching Funds: \$7.5 m

The initial risk capital funding will go towards creating more privately-managed seed funds in Virginia, and so will be expected to require state co-investments equal to private sector funding.

Existing Programs that Align with Action:

CIT's Growth Accelerator Program (often referred to as the "GAP" fund) is budgeted for \$3.1 million annually in the FY 19-20 Biennium. It is directly managed by CIT unlike the proposed approach to stimulate the formation of privately-managed pre-seed/seed funds in Virginia.

Objective #4: Stand-up a new organizational approach for innovation and entrepreneurship partnerships in Virginia

Action: Coordinate and collaborate a statewide network of innovation services

Specific Activities:

Establish an accountable organizational approach that oversees a “coordinated” continuum of services involving a network of service providers that retains effective existing initiatives that complement goals. This managing non-profit will report to a Governing Authority with its own Board of Directors.

Among the duties of the Governing Authority are to: set policy, objectives, and goals; approve strategic plan; allocate state funding to priority investment areas; evaluate performance; and approve roadmap

Among the duties of the Managing Non-Profit are to: manage day-to-day operations; recommend strategic plan; recommend annual budget; recommend roadmap; and focus on six operational areas that include funding/grant management, strategy/roadmap, infrastructure (i.e., expertise database, accountability measures, etc.), federal and other funding harvesting, EIRs/domain areas and development and monitoring of backbone services.

Performance Measures:

- Progress on implementation of action plan
- Roll up of overall performance measures across actions
- Cumulative return on investment from actions

Proposed Level of Funding: \$3 million FY 2020 and \$3 million annually in FY 21-22 Biennium and beyond

The managing non-profit would have a lean organizational structure, but does require having the ability to manage, contract with, and track performance of a statewide network of activities, along with conduct strategic planning activities. It is expected to have a staff of roughly 6-8 employees to carry out its duties.

Comparable Best Practice Funding Levels:

Given the variations in the roles that various statewide technology organizations play, it is hard to compare specific operating costs on a total organizational level. However, insights on salaries for privately managed non-profits involved in technology-based economic development is possible. A review of a number of leading privately managed statewide technology organizations – such as the Georgia Research Alliance, Connecticut Innovations and Elevate Ventures in Indiana suggests a range of average salaries and benefits from \$169,000 to \$264,000.

Matching Funds: None

No matching funds are expected since a capacity building effort.

Existing Programs that Align with Action:

CIT reported in its FY 2016 tax filing management and general expenses of approximately \$3.9 million that included management staff costs, office expenses, information technology costs, and travel costs. Note that this goes for efforts including broadband and tech infrastructure that are not covered in this plan for commercialization and new business formation.

In the life sciences, the Catalyst/Virginia Biosciences Health Research Corporation over the past two years has averaged approximately \$262,000 in salary and operating expenses.

SCHEV has budget funding of \$250,000 for the strategic roadmap to assess position and needs in technology and research across university, industry and federal labs.