

GO Virginia Region 2

### **GO Virginia Region 2 Council**

August 2, 2022, 1:00 p.m.-3:00 p.m.

Roanoke Higher Education Center, Room 212, 108 N Jefferson St, Roanoke, VA 24016.

- Introductions (1:00-1:05)
- Financials Review (1:05-1:15)
- Project Proposal (1:15-1:45)
  - "CS/root Entrepreneurial Hub"- VT Department of Computer Science
- Life Sciences/Entrepreneurship Cluster and Strategy Discussion (1:45-2:30)
  - Scott Tate
  - Aileen Helsel (Carilion Clinic)
  - Hal Irvin (Fralin Biomedical Research Institute)
- Council Business (2:30-2:55)
  - Region 2 MOU/Budget Review and Action
  - Quarterly project reporting
  - o Minutes
- Packet information items (2:55-3:00)
  - IT and Emerging Technology in GO Virginia Region 2: Situation, Challenges, and the Road Forward
  - ELITE Internship Program Mitigation Strategy
  - Speaker's Bureau
  - Upcoming Meetings

The meeting will adjourn at 3:00p.m.



GO Virginia Region 2

Public comment is welcome in writing. Please submit to Region 2 staff, John Provo, jprovo@vt.edu or Rachel Jones, <u>rachelcj@vt.edu</u> by 8/1 at 3:00p.m.

#### **Region 2 Allocations**

#### Updated 7/27/2022

#### FY 21 Per Capita Projects

,	EV21 Remaining Balance	\$0.00
Remaining FY21 Fund Balance to be Swept		-\$207,588.17
Project Eagle+		-\$599,437.00
Dearing Ford Industrial Park (Altivista Gas)		-\$506,000.00
Regional Health Sciences Talent Pipeline		-\$100,000.00
Workforce for Industry 4.0		-\$45,360.00
Space Assessment)		-\$99,360.00
Biotech Lab Space Development (Region 2 -	Flexible Laboratory	
Transfer from FY20 Capacity Building		\$14,700.00
Transfers from FY 20 Per capita		-\$2,357.83
FY 21 Original allocation		\$1,545,403.00

#### FY 22 Per Capita Projects

FY 22 Allocation		\$1,542,945.00
Lynchburg Beacon of Hope		-\$97,740.00
Regional Talent Strategy		-\$315,911.00
Workforce & Entrepreneurship Initiatives	in a Regional Makerspace	
(Vector Space)		-\$324,000.00
	FY22 Remaining Balance	\$805,294.00

#### FY 23 Per Capita Projects

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FY23 Re	maining Balance \$1,527,2	28

FY 22/23 Capacity Building (Support)	
Remaining Balance from FY 21	\$86,550.08
FY22 Allocation	\$250,000.00
FY23 Allocation	\$250,000.00
Support Org Services FY22	-\$169,974.41
Transfer to the Central Virginia Training Center Redevelopment Plan	-\$60,000.00
Current Balance	\$356,575.67

#### Applications Under Consideration (Per Capita)

FY22 Balance if All Approved:	\$620,294.00	
Gupton Initiative (Statewide) Region 2 support requested	-\$10,000.00	ECB (Planning)
CS/root	-\$175,000.00	

FY22 Planning Cap	\$52,260.00
Planning applications	\$10,000.00
Percentage of planning cap	19%

Project Status Summary									
	GOVA Funding	GOVA Drawn	GOVA Funds		Match Drawn	Match Funds		Admin Fee	Admin Fee
Project Type & FY	Approved	Down to date	Remaining	Match Funding	Down	Remaining	Admin Fee	Draw Down	Remaining
Per Capita FY18 Projects:	\$1,263,507.00	\$1,086,718.14	\$176,788.86	\$3,252,380.71	\$2,901,110.76	\$353,216.13			
Per Capita FY19 Projects:	\$1,197,486.00	\$1,026,233.12	\$171,252.88	\$1,732,722.00	\$1,466,634.76	\$279,207.72			
Per Capita FY20 Projects:	\$1,782,567.00	\$801,263.29	\$981,303.71	\$1,279,290.00	\$725,216.35	\$570,746.65	\$27,140.00	\$5,183.02	\$21,956.98
ERR FY20 Projects:	\$1,110,700.00	\$1,016,426.01	\$94,273.99	\$566,610.00	\$569,511.77	\$1,231.80	\$23,599.00	\$14,191.00	\$9,408.00
Per Capita FY21 Projects:	\$1,350,157.00	\$119,101.68	\$1,231,055.32	\$948,042.00	\$72,878.39	\$875,163.61	\$25,367.00	\$8,822.35	\$16,544.65
Per Capita FY22 Projects:	\$737,651.00	\$39,640.24	\$698,010.76	\$408,704.00	\$27,335.95	\$381,368.05	\$54,640.00	\$2,936.31	\$51,703.69
TOTAL:	\$ 6,704,417.00	\$4,049,742.24	\$2,654,674.76	\$7,779,044.71	\$5,735,352.03	\$2,079,565.91	\$76,106.00	\$28,196.37	\$47,909.63

#### **Region 2 GO Virginia Council**

Project Title:CS/RootApplicant:Virginia Tech Department of Computer ScienceLocalities covered:Localities actively participating in the program include Floyd County,<br/>Montgomery County, Pulaski County, Botetourt County, and Roanoke County<br/>plus the Cities of Radford, Roanoke, and Salem.

Growth & Diversification Plan Strategy Area (s): Workforce and Entrepreneurship/Innovation **GOVA Funds Requested:** \$175,000 in GOVA funds requested, with a match of \$175,000

<u>Project Description:</u> Through its project, CS/Root, the Virginia Tech Department of Computer Science is requesting \$175,00 in GO Virginia grant funds to be used towards establishment of a computer science focused entrepreneurial hub for pre-launch and new founders in highly specialized areas such as cybersecurity, blockchain, cloud and quantum computing, artificial intelligence, and systems integration.

CS/root would be an entrepreneurial hub led by the Virginia Tech Department of Computer Science in collaboration with the Virginia Tech Office of Research and Innovation, the Virginia Tech Corporate Research Center, and Virginia Tech LINK+LICENSE+LAUNCH; and with outside partners including the Virginia Tech Foundation, and the Roanoke Blacksburg Technology Council. The multi-stakeholder initiative would create a platform for computer science (CS) focused entrepreneurship in the New River and Roanoke Valleys. CS/root will focus on stimulating startups in the pre-launch phase when technical founders need the expertise of technical advisors to move their concept, IP, or ideas from the drawing board to working demonstrations for eventual use in a go-to-market strategy.

CS/root would seek to provide a vital bridge between the expertise and renown of Virginia Tech's Department of Computer Science and the local entrepreneurship ecosystem. In the last six years GO Virginia's Region 2 has not kept pace with state and national job growth in the IT and Emerging Tech sector. CS/root directly addresses this gap by systematically creating a proven track to market for new computer science focused companies. CS/root will help diverse groups of local entrepreneurs, students and faculty generate innovative ideas and entrepreneurial endeavors through the following offerings:

1. Mentorship and Advising from seasoned technical founders;

2. Hands-on Training and Support to brainstorm, encourage, develop and implement new technical ideas;

3. Networking Activities that encourage entrepreneurial mindshare and community among CS-focused entrepreneurs; and

4. Growing the Diversity of ideas and participants in the local entrepreneurial community.

<u>Project Assessment</u>: (Reviewers: Staff review from Susan Baker, Region 7 (Northern Virginia); Council review from Marty Muscatello and Michelle Austin; and Subject Matter Review from Mark Skinner with SSTI (a national technology-based development organization).

#### Strengths

- Very good idea and one that I think is needed and will benefit the area. Excellent description of how this project fits into the Region 2 G & D plan
- Project is worthwhile to community. The demand for a project like this is well-defined and clearly communicated.
- Multiple local organizations involved and supportive (VTF, RBTC, VT CRC, VT Link and Launch). The support letter from Botetourt County is a strong endorsement, especially with their contributions clearly outlined.
- Creates a hub for potential software based companies in Roanoke and New River Valleys
- The diversity aspect is very positive and clearly important part of project
- Like the utilization of partnerships (VTCRC, CoGro, Startup Hokies)
- Very interesting example of success from Carnegie-Mellon.
- Proposal supports the emerging technologies and IT cluster via Virginia Tech's Department of Computer Science
- Average annual salary of \$70,000 greatly exceeds Region 2's minimum salary requirement to meet its definition of a well earning job.
- A significant number of people are attending the blockchain certification course, suggesting interest in that topic, which might spillover into other IT subjects like cybersecurity or AI.

**NOTE:** The reviewers provided a thorough assessment of strengths and weaknesses and identified a number of issues with the initial application materials. We shared that information with applicant in a feedback loop process, and the application provided fully revised materials. The applicant strengthened the ROI, clarified partner relationships, and provided more detail on program specifics. The below comments include some of the original feedback (edited to exclude duplicative comments) and my own commentary related to the REVISED materials is in italics and bold, immediately after the original comment..

#### Weaknesses or Questions

- Not engaging entire region. Any benefit to Lynchburg, Bedford, etc.)? *Project is now covering and including all of Region 2, with active participation of localities including counties such as Botetourt and Pulaski who are providing cash match.*
- Not clear to me what type of person/people will be hired by the money invested. 71% of the requested GO Virginia funds are salaries. *Application has been revised to clarify project personnel and roles.*
- ROI is negative in years 1-3. ROI does not turn positive until the project reaches its 4th and 5th year when the number of jobs created more than doubles. Very weak ROI with no explanation of the timeframe it will take to get a positive return. Please note, in Region 7, we have never had a project approved with a negative ROI, even for entrepreneurship projects. *Project has been revised and ROI is now positive after year 3, with a 257% return after year 5 with a minimum of 60 jobs created of at least \$70,000 annual salary.*
- Why is the project not partnering with ICAP, especially since the target markets are similar? *Unclear if applicant has responded to this question.*
- The execution plan is not clear to me but I am sure with a conversation with those writing the proposal, I may understand it better. *Applicant has clarified implementation plan and personnel.*
- Concerned about sustainability for long haul. I see some money will be raised but these types of projects require long term funding and support. *Applicant provided some context for its*

fundraising track record and clarified a support structure to continue work beyond project period.

- A partnership chart with each of the participants and their roles and responsibilities would be helpful. More support letters needed. *Applicant has secured more support letters, from ecosystem partners such as Verge and localities including Botetourt, Roanoke and Pulaski.*
- Where will the mentors come from? This, in itself is a major effort; finding, developing, and training mentors. Suggest more time and thought be put into the mentor program *The Applicant included names and expertise of existing mentors and advisors and better described the specifics of the program and its cohort model.*
- Will the individuals using CS/root's services have any financial skin in the game? Any other motivator to keep the entrepreneur engaged in the overall mission? *This remains a question for the applicant to address.*
- No specially named potential employers are identified. No other colleges or universities are mentioned for collaboration. Could the Department of Computer Science partner with the local community colleges who also participate in G3 initiatives? *This remains a question for the applicant to address.*
- The low growth rate of the IT sector in the region warranted further discussion of possible reasons for the variation with the state" overall performance. Is it a lack of IT startups? Is it the type and nature of IT jobs in the region? Is it a higher failure rate of local IT firms? These might help suggest there is a market for IT mentoring and entrepreneurial training. *Applicant has provided some context for the regional challenge and how this project seeks to respond.*

# Healthcare and Life Sciences Industry Cluster: And Entrepreneur strategies Component

GOVA Region 2

# Model impacts of entrepreneurship programs



# What does this look like for us so far? 5 entrepreneur focused projects:

Increasing the Birth Rate of High Growth Companies\* RAMP\* Pivot and RAMP Up\* Roanoke SBDC VIC Regional Entrepreneurship Initiative

# **Entrepreneurship Metrics**

- 295 jobs created
- **30** existing businesses expanded
- 29 new businesses created
- 170 businesses served
- 120 entrepreneurs engaged
- 224 mentors engaged

# What have we learned about innovation clusters and entrepreneurship?

It's about a connected "ecosystem" of projects and initiatives.

Life Sciences and Healthcare Cluster Examples:

- Life Sciences Cohort: Regional Accelerator and Mentoring Program (RAMP)
- Talent Pipeline: BlueRidge Partnership for Health Science Careers
- Flex Lab Assessment and J&J Labs Partnership: Virginia Tech Corporate Research Center
- Life Science Hubs Program: VA Bio (statewide competitive funds)

Some Impacts:

- Grantees raised more than \$7.5 million in capital and \$15 million federal funding raised
- Grantees secured state budget support, most recently including \$15 million for lab space

#### Healthcare

Providers of medical services, such as general medical hospitals, nursing care facilities, assisted living facilities

#### Life Sciences

Companies operating in the research, development and manufacturing of pharmaceuticals, biotechnology-based food and medicines, medical devices

#### Research and Education

Includes university and scientific research that assists in development of the other two sectors

NAIC	S:	Description	2021 Employment	2021 Establishments
6221	10	General Medical and Surgical Hospitals	15,601	26
6231	10	Nursing Care Facilities (Skilled Nursing Facilities)	4,813	41
6216	610	Home Health Care Services	2,953	161
6233	311	Continuing Care Retirement Communities	2,012	24
6233	312	Assisted Living Facilities for the Elderly	974	34
6232	220	Residential Mental Health and Substance Abuse Facilities	687	11
6232	210	Residential Intellectual and Developmental Disability Facilities	654	32
6223	622310 Specialty (except Psychiatric and Substance Abuse) Hospitals		569	4
6215	511	Medical Laboratories	510	65
6215	621512 Diagnostic Imaging Centers		135	9
3391	16	Dental Laboratories	47	16
Heal	Ithca	re Total:	28,957	422

	NAICS	Description	2021 Employment	2021 Establishments
	325412	Pharmaceutical Preparation Manufacturing	400	4
	333314	Optical Instrument and Lens Manufacturing	400	2
	339113	Surgical Appliance and Supplies Manufacturing	280	7
	339112	Surgical and Medical Instrument Manufacturing	123	4
	811219	Other Electronic and Precision Equipment Repair and	113	7
Ч		Maintenance		
	325414	Biological Product (except Diagnosis) Manufacturing	30	2
	339115	Ophthalmic Goods Manufacturing	42	4
	Life Scie	nces Total:	1,387	30

	NAICS	Description	2021 Employment	2021 Establishments
	541715	Research and Development in the Physical, Engineering, and Life	380	20
	541714	Research and Development in Biotechnology (except	74	5
		Nanobiotechnology)		
;	541713	Research and Development in Nanotechnology	29	8
	Research and Education Total:		483	33
	TOTAL:		30,827	485



# **General Industry Trends**

#### Life Sciences + Healthcare

- \$2.44B GRP, 1.18 LQ (2020)
- Job Supply (2021): 29,833 (higher than national average)
- Majority of workforce is ages 25-34 (24.8%)
- Annual earnings:
  - Region 2 = \$65,310
  - VA = \$68,972
  - USA = \$77,118
- Expected growth for region is higher than national average

#### Life Sciences

- \$250.1M GRP (2020)
- Job Supply (2021): 1,337 (higher than national average)
- Majority of workforce is ages 55-64 (29%)
- Annual earnings:
  - Region 2 = \$89,970
  - VA = \$110,976
  - USA = \$132,991
- Expected growth for region is higher than national average

EMSI, National average is adjusted for region size

### Top Healthcare and Life Sciences Higher Wage Occupations in GOVA Region 2



# Selected Regional Life Sciences Strengths

Roanoke

 Roanoke Innovation Corridor and VT/Carilion Partnership;FBRI; RAMP; Carilion and Lewis Gale presence; VWCC; Radfor@Carilion

**New River Valley** 

• VTCRCcompanies, wetlabs and JLABS program (VT and RU programs and students;

Lynchburg

• Educational programs, including K12 through XLR8 Academy and community college/four year programs in biotechnology at Central Virginia Community College and Liberty University; CentraHealth

# **Geographic Distribution of Industry**

Businesses in GOVA Region 2 by Size

Includes Life Sciences, Healthcare, and Education

2021 Jobs in GOVA Region 2

 Stauntor Waynesboro City Charlottesville City Waynesboro Greenbrier VIRGINIA Albemarle Fluvanna Rockbridge Nelson Alleghany . White Sulphur Springs Raleigh Buena Vista City Beckley Summers Wyoming Amherst Botetourt Buckingham Cumberland Monroe Craig Mercer **IcDowell** Appomattox Giles Prince Edward Campbell Tazewell Bland Radford City hlands Pulaski Franklin 2021 Jobs Charlotte Lunenburg Wythe 9,922 6.698 to 9.921 **Business Size** Halifax 2.976 to 6.697 5,600 Carroll Pittsylvania Mecklenburg 3.000 1,232 to 2,975 Patrick Henry 🦳 1,200 • Galax 459 to 1.231 Galax City 200 0 to 458 Danville City Danville C MapTiler C OpenStreetMap contributors © MapTiler © OpenStreetMap contributors

MSA	2021 Jobs
Roanoke	16,759
_ynchburg	8,364
New River Valley	4,710

# Sector Companies in GOVA Region 2

### Roanoke

- Healthcare Systems: Carilion Roanoke, Salem Veterans Affairs Medical Center, LewisGale
- Elder Care: Brandon Oaks, Richfield, Medical Facilities of America, Rocky Mount Rehabilitation & Healthcare Center
- Life Sciences:Luna Innovations, Novozymes Biological, Tiny Cargo (ex. of RAMP Cohort companies), Arcpoint Labs, Solstas Lab Partners, Plastics One
- Educational Programs: VT Carilion School of Medicine & Fralin Biomedical Research Institute, Virginia Western Community College, Radford Carilion

### New River Valley

- Healthcare Systems: Carilion New River Valley, LewisGale
- Elder Care: Lakeview Blueridge, English Meadows, Warm Hearth, Heritage Home Health, Wheatland Hills-Christianburg
- Life Sciences: TechLab, Landos Biopharma, Techulon, Nanosonic Inc., Intrexon
- Educational Programs: Virginia Tech, Radford University, New River Community College

### Lynchburg

- Healthcare Systems: Centra Health, Johnson Health Center
- Elder Care: Prince Charles Home Care, Westminster-Canterbury, Bedford County Nursing Home, Runk & Pratt
- Life Sciences: Bausch & Lomb, Abbott Laboratories, Fleet Laboratories, Barr Laboratories, NanoTouch Materials, Teva Pharmaceuticals, Tri Tech Laboratories, BlueRidge Optics
- Educational Programs: University of Lynchburg, Liberty University, Central Virginia Community College

# Sector Support Organizations

- Roanoke Innovates
  - Innovation Corridor -Collaborative community of entrepreneurs, businesses, government, and higher education
- VTC Ventures
  - Invests in early-stage life science companies through VTC Innovation Fund and VTC Seed Fund
- Regional Accelerator and Mentoring Program (RAMP)
  - Connects startups to regional resources by offering mentorship services, monthly Pitch & Polish clinics, \$20,000 in equity free funding, and gaining knowledge on how to sustain business
- Roanoke-Blacksburg Technology Council
  - Building relationships in the sector through focused programming on a regional innovation ecosystem
- Virginia Tech Corporate Research Center/JLABS
  - Collaboration between VTCRC and Johnson & Johnson to create wet lab space, selection of 5 companies into the JLABS virtual residency program to expand startups and biotech companies
- Central Virginia Community College
  - XLR8 Lynchburg Regional Governor's STEM Academy: offers programs for high school students in biotech and health sciences to connect them to postsecondary programs after graduation

# Life Science Cluster Strengthening

### Indianapolis, Indiana MSA

- 16 Tech Innovation District
  - By 2030, will have over 3 million square feet of office and lab space, more than 3,000 jobs, and more than \$500M invested into projects
  - Building housing in the district to better connect people to their jobs
  - Still developing, but currently has the Indiana Biosciences Research Institute, IU School of Medicine, and Central Indiana Community Partnership that anchor the district
- BioCrossroads
  - Advances life science sector by collaborating with research institutions, global companies, philanthropic organizations, and government to innovate the sector beyond the region
  - Launched life science businesses and frequently connects with stakeholders to strengthen communication and the commitment to advancement for the industry

### Winston -Salem, North Carolina MSA

- Innovation Quarter
  - Office space, retail space, and research space
  - Placemaking of innovative partnerships in one space
    - Over 3,600 workers, 5 academic institutions, over 1,000 apartments, and 90 companies in one space

# Connecting Research Universities to the Commercial/Entrepreneurial Ecosystem

### Pittsburgh, PA MSA

- Health IT
  - Creates connections between companies related to the healthcare industry with university research and start-up companies
  - Lists over 90 companies commercializing the industry, workforce training programs, university programs conducting research
- Pittsburgh Health Data Alliance
  - Collaboration between Carnegie Mellon, University of Pittsburgh, and UPMC
  - Facilitates the pipeline of university research to actionable solutions within the hospital

### Grand Rapids-Kentwood, MI MSA

- Medical Mile, West Michigan Science & Technology Initiative
  - Involved Van Andel Institute, Michigan State, community colleges, Spectrum Health
  - "Branded" this stretch

# Workforce Development

### Indianapolis, Indiana MSA

- Raising the rate of postsecondary graduates is a key focus by attracting them to programs and connecting them to job opportunities after graduation
  - In 2020, 3% of all degrees at the associate's and higher levels were in the life science sector, which has grown by 7% since 2015
- Roche Diagnostics
  - "Roche Academy" partnership with the University of Indianapolis, creating a custom pipeline for biomedical equipment technicians. This includes a paid internship, custom curriculum, and a job offer after graduation
- Eli Lilly Company
  - Provides internships for medical students, especially in areas of clinical trial development, preclinical research, and more in the pharmaceutical industry
  - The Lilly Endowment promotes educational pathways, such as a \$40 million grant in 2019 to Purdue Research Foundation to help create Purdue's Engineering and Polytechnic Gateway Complex, which has helped attract STEM students

### Pittsburgh, PA MSA

- Health IT
  - 8-week training program to connect underserved communities to the Healthcare field
  - Earn \$15/hr, once completed will work remotely with UPMC Health Plan

# Mass Bio 2022 Life Science Workforce Analysis Report

- Short-Term Recommendations
  - Firms are increasing wages, improving benefits packages, adding tuition and relocation assistance, and offering more remote work due to skills gap. Firms often hire even if workers do not match the skills the job may require. Much competition here for talent.
  - Add biopharma-specific modules to existing 4 year degree programs (accounting as example)
  - Investment into physical spaces to increase laboratory access and opportunities for experiences, will increase hands-on training opportunities in apprenticeships
  - Increase role-specific certification programs, especially in manufacturing roles
- Long-Term Recommendations
  - Move away from four-year degrees and more to apprenticeship-style programs. More focus on the "job" aspect and less on the "training" so employees can "earn as they learn."
  - Develop a central organizing workforce institute to increase efficiency,
  - Partner with minority serving institutions to increase access and outreach to those populations

## References

#### Slides 2-6

- EMSI 2021

#### Slide 7

- EMSI 2021
- https://www.yeslynchburgregion.org/data-center/major-employers/
- https://www.dnb.com/business-directory/company-profiles.centra\_health\_inc.296abcdfb36b006cf3ec540352dfb9de.html
- <u>https://roanoke.org/targets/life-sciences/</u>

#### Slide 8

- <u>https://roanokeinnovates.com/</u>
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- <u>https://ramprb.com/</u>
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- https://www.xlr8academy.com/about-xlr8/

# References

#### Slide 9

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- <u>https://16tech.com/</u>
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- <u>https://www.innovationquarter.com/about/</u>
- https://www.winstonsalem.com/economic-development/real-estate/innovation-quarter/

#### Slide 10

- <u>https://healthitpittsburgh.com/</u>
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#### Slide 11

- <u>https://biocrossroads.com/wp-content/uploads/2021/08/TEConomy-BioCrossroads-Essential-fullreport-Final-August-2021.pdf</u>
- https://uindy.edu/roche-academy/
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#### Slide 12

 $-https://ssti.org/blog/ma-life-sciences-workforce-grows-131-percent-recommendations-outlined-continue-momentum?utm_source=SSTI+Weekly+Digest$ 

#### Introduction

The Virginia Tech Center for Economic and Community Engagement (CECE) and office of Continuing and Professional Education (CPE) are assisting the GO Virginia Region 2 Council. This Council is one of nine bodies organized around the state in response to a program administered by the Virginia Department of Housing and Community Development (DHCD). The Council is charged with advancing economic growth and diversification in the New River Valley, Roanoke-Alleghany, and Lynchburg regions.

CECE will provide planning, research, marketing, and other administrative staff services to the Council as described in this document. The center, which has provided these services since the council's creation, has a breadth of planning, research, and evaluation expertise, serving as a contractor to many federal, state, and local agencies and as a partner for the private sector. Experience highly relevant to GO Virginia includes labor market demand and skills mapping projects, targeted industry studies, and coordination of access to university technical expertise. CECE will provide a designated project lead and support staff, while also drawing on a team of specialists with expertise in regional planning, economic development research, and program evaluation.

CPE will serve as the fiscal agent for all funds. CPE manages a multi-million-dollar portfolio of contracts for federal, state, and local agencies, as well as the private sector. CPE will provide a designated project manager and accountant to provide services that attend to the specialized needs for the funds received by Virginia Tech. This will include logistical support, contractual services, technical assistance, and financial services. A full-cost accounting summary will be provided as needed along with all other reporting required by the state.

### Staffing plan

Dedicated staff, CECE and CPE:

- John Provo, Director (Program manager)
- Quina Weber-Shirk, Project Coordinator (Program management, marketing, and outreach)
- Rachel Jones, Program Coordinator (General administration and planning, council support)
- Alyssa McKenney, Contracts Program Specialist (Contracts management)
- Tracie Smith, Fiscal Specialist (Accounting)
- Julia Kell, Communications Specialist (Communications, marketing, and website)

Specialized staff, CECE:

- Scott Tate, Associate Director (Applicant technical assistance)
- Elli Travis, Economic Development Specialist (Project and program evaluation)
- Sarah Lyon-Hill, Associate Director for Research Development (Planning and research)

### Budgets

Year One - FY23

Fixed Budget					
	Source: Annual State Allocation	\$250,000			
Administration	Administration (General)	\$35,000			
	Marketing and Outreach	\$20,000			
	Meetings and Workshops	\$20,000			
	Other Administrative Salaries	\$30,000			
	Supplies & Equipment	\$3,000			
	Taxes and Insurance	N/A			
	Travel	\$3,000			
	Administration Total:	\$111,000			
Planning	Technical Assistance (pre- and post-award)	\$10,000			
Services	Growth and Diversification Plan Development, Program Evaluation,	\$45,000			
	and Related Research				
	Planning Grants/ Council Contingency Fund	\$84,000			
	Planning Services Total:				
	Variable Budget				
	Source: Administrative fee to applicants, up to 8% of grant amount	\$104,688			
Contract Services	s: fiscal and accounting services	\$104,688			
	Items Provided to Council at No Cost				
	Source: Provided at no cost by support organization	\$95 <i>,</i> 600			
Unrecovered cor	stract, fiscal, and accounting services, including management of pre-	\$60 <i>,</i> 000			
fee projects					
Audit and Legal services					
Rent		\$10,000			
Website/ webina	Vebsite/ webinar hosting and licenses \$10,000				

#### Year Two – FY24

Fixed Budget						
	Source: Annual State Allocation	\$250,000				
Administration	Administration (General)	\$35,000				
	Marketing and Outreach	\$20,000				
	Meetings and Workshops	\$20,000				
	Other Administrative Salaries	\$30,000				
	Supplies & Equipment	\$3,000				
	Taxes and Insurance	N/A				
	Travel	\$3,000				
	Administration Total:	\$111,000				
Planning	Technical Assistance (pre- and post-award)	\$10,000				
Services	Growth and Diversification Plan Development, Program Evaluation,	\$45,000				
	and Related Research					
	Planning Grants/ Council Contingency Fund	\$84,000				
	Planning Services Total:	\$139,000				
Variable Budget						
Source: Administrative fee to applicants, up to 8% of grant amount \$104,688						
Contract Services	s: fiscal and accounting services	\$104,688				
Items Provided to Council at No Cost						
Source: Provided at no cost by support organization \$9						
Unrecovered contract, fiscal, and accounting services, including management of pre-						
fee projects						
Audit and Legal services \$15,60						
Rent		\$10,000				
Website/ webina	Website/ webinar hosting and licenses \$10,000					

#### **Budget Narrative FY23 and FY24**

#### Fixed Budget

#### **Administration**

#### 1. Admin (General)

Manage the application process with clients. Onboard approved projects. Monitor project progress, ensure accurate and complete reporting of outcomes to the Council. Complete all contractual project reporting obligations in accordance with state guidelines.

#### 2. Marketing and Outreach

Design and circulate project solicitations. Respond to information requests and conduct outreach to potential applicants. Develop website content, content for newsletters, and other outreach materials.

#### 3. Meetings and Workshops

Support Council and Executive Committee meetings. This includes agenda development and meeting facilitation. Solicit participation in and provide notice on Council and committee meetings. Coordinate and monitor remote meeting accommodations for members of the council and public attendees. Organize and implement other activities to help the Council fulfil its duties (e.g., speakers bureau, cluster conversations).

#### 4. Other Administrative Salaries

Support for project applicants with completion of responses to council solicitations and paperwork required for submissions to the state. Analysis of project reporting data to provide ongoing evaluation of project and program impacts to the Council.

#### 5. Supplies & Equipment

Materials and supplies for meetings, workshops, and marketing or outreach activities.

#### 6. Taxes and Insurance

Not applicable.

#### 7. Travel

Expenses for travel to and from Council and Executive Committee meetings, state program activities, Region 2 meetings and workshops, meetings with current grantees and potential applicants, and other stakeholders.

#### **Planning Services**

#### 1. Technical Assistance

Provide *pre-award technical assistance* for potential grantees or stakeholders with concept development for projects, and matching efforts to strategic priorities of the Council. Offer *post-award technical assistance* for grantees with modifying project plans to meet target metrics.

#### 2. Growth and Diversification Plan Development, Program Evaluation, and Related Research

Produce, in line with state guidelines, annual updates to the Region 2 Growth and Diversification plan guidelines. This involves conducting original research on economic development practices, collecting data on economic conditions and engaging with experts and regional stakeholders to inform the process. As a part of the plan update process, develop and produce a report assessing the impact of the program, and progress on goals and objectives articulated in the Growth and Diversification Plan. Conduct analysis of gaps between Growth and Diversification Plan goals versus the impact of projects funded.

#### 3. Planning Grants, Council Contingency Fund

Available for special activities at the direction of Council.

#### Variable Budget

#### **Contract Services: Fiscal and Accounting**

Serve as the contract manager and fiscal agent for all funds. Establish and ensure all fiscal management procedures are in accordance with state regulations. Compile quarterly financial data and facilitate council review of Region 2 allocations and project drawdown by subgrantees. Fulfill financial reporting requested by the Council or required by the state. Facilitate legal review of all contracts and agreements, as well as remittances for applicants.

#### Items Provided to Council at No Cost

1. Unrecovered contract, fiscal, and accounting services, including management of pre-fee projects

Fulfill additional financial reporting requested by the Council.

#### 2. Audit and Legal Services

Facilitate legal review of all contracts and agreements, as well as remittances for applicants. Audit and legal expenses are provided at no cost by support organization.

#### 2. Rent

Office space provided at no cost by support organization.

#### 3. Website/ webinar hosting and licenses

Web presence and related services provided at no cost by support organization.

### <u>GO Virginia Region Two MOU – DRAFT 6/3/22</u>

#### Memorandum

The budget included in this memo was approved by the Region 2 Council at its meeting on August 2, 2022. This new budget operates as a part of a two-year contract approved by the council on August 2, 2022. Per administrative rules of the GO Virginia program, Virginia Tech will be appended this document to a support contract between the University and the Virginia Department of Housing and Community Development in order to receive funds to implement the scope of work described above during a performance period extending from July 2022-June 2024.

Dr. Ray Smoot, Chair

GO Virginia Region 2 Council

Dr. William Amos, Vice Chair

GO Virginia Region 2 Council

Period: April – June, 2022

Total Projects Funded	Total Funds Allocated	Jobs Created to Date	External Investment Generated
37 (24 Projects Completed)	\$7,484,068	681	\$7,816,844

### Area One: Talent development, attraction, and retention

	Talent: Aggregated Metrics (from beginning of project – present)								
	Project Title		Metrics						
Sr	(grey	Internships	Business	New	Jobs	Students	Upskilled	Credentials	Dual
	indicates	completed	es	jobs	retained	trained	employees	awarded	enrollment
tatı	closed		served	created					
SI	project)								
	Blockchain	-	84	4	-	365	-	23	-
	Ecosystem								
	Catalyst								
	ELITE	15	3	6	-	-	-	-	-
	Internship								
	Program								
	Classrooms to	5	4	-	-	73	-	129	69
	Careers								
	CVCC-CTE	-	100	-	-	160	-	288	216
	Academy								
	AMPL (also in	-	34	75	-	500	-	-	-
	sites)								
	Project Eagle	N/A	-	-	-	N/A	-	N/A	N/A
	+								
	Developing a	217	52	150	-	217	-	-	-
	Destination								
	for Talent								
	Ignite	12	6	-	-	12	-	-	-
	Internship								
	Expansion								
	(ECB)					_			
	Drone Zone	7	4	2.5	0	7	0	0	17
	Talent	-	45	-	-	-	141	-	-
	Collaborative								
	CERE	N/A	78	98	-	-	-	-	-
	Current	256	410	335.5		1334	141	440	285
	Project Totals								

Period: April – June, 2022

#### ECB Progress Notes:

BRPHSC - Carilion	Developed logic models for each task force and began documentation for a blueprint that will outline the need, purpose, and plan for BRPHSC within GO Virginia Region 2. Continued Talent Pathways Task Force monthly meetings.
Future Centers Expansion	Lynchburg Beacon of Hope launched their 4 <sup>th</sup> Stay Close, GO Far Scholarship program; 450 students between the two Lynchburg City High Schools will be attending college or technical programs on a Beacon of Hope Scholarship. In Spring 2022, Beacon partnered with 12 different major employers in the Lynchburg Region to launch the Stay Close, Go Far Internships Program, a first-of-its-kind experiential internship program for high school juniors and seniors. 88 rising juniors from HHS and ECG applied for the program, with 36 students selected. The program was 4 weeks long; students worked a total of 80 hours during the month of June. Participating students received an \$1100 stipend. 35/36 students successfully completed the program. All business sites invited more LCS students to return next summer. Students felt fulfilled and many changed their educational or career pathways as a result of the program.
Industry 4.0	Student Experiential Learning Project teams presented at the 2022 ISE Senior Design and Undergraduate Research Symposium on April 26, 2022. This event was held at the Inn at Virginia Tech and Skelton Conference Center and attended by company representatives. As a follow-on to the Regional I4.0 Workforce Education Meeting, hosted a review/writing session with 10 attendees (industry, community colleges, workforce representatives, K-12, and university participants) at the Hotel Roanoke and Conference Center on June 2, 2022. The grant team finalized the industry 4.0 draft curriculum deliverable based on output from the draft curriculum review session. The final product was circulated to the review session participants and no additional input was received.

#### **Implementation Progress Notes:**





**Blockchain Ecosystem Catalyst:** Two new businesses were created during quarter 2: NFT42 and Kayan Finance. NFT42 has been a successful company founded in partnership by Greg Lee. Greg is an affiliated alumni, entrepreneur, and adjunct professor in the Blockchain Certificate program. Kayan Finance has been advised by members of the certificate program and have applied to the RAMP accelerator program in Roanoke.

#### Period: April – June, 2022

#### Staff Action:

**ELITE Internship Program:** Roanoke-Blacksburg Technology Council has proposed a mitigation strategy to amend the project model and timeline due to multiple impacts on internships including Covid-19, staffing changes within RBTC and the alliance, and a need to increase technology company and student participation beyond the original student discipline of software development. This amendment is currently under review with state staff (DHCD).

#### Period: April – June, 2022

#### Area Two: Collaborative Sites and infrastructure

	Collaborative Sites and Infrastructure Implementation Projects: Aggregated Metrics							
		Metrics						
		Acres	Increased	Prospect	Businesse	Linear feet of	Acres	
sr	Project	advance	locality	S	s	sewer/water/ga	develope	
tatı		d	engagemen		attracted	S	d	
Š			t					
	AMPL – see	N/A	Yes	Yes	4	N/A	N/A	
	talent							
	metrics							
	Amherst	N/A	-	N/A	N/A	N/A	N/A	
	Site							
	Readiness							
	CERE – see							
	talent							
	metrics							
	Woodhave	110	Yes	20	0	1150/375/0	110	
	n							
	Lynchburg	6 sites	Yes					
	Due							
	Diligence							
	Totals	Unknow	Yes	20+	4	Unknown	110+	
		n						

#### Implementation Progress Notes:

**Amherst Site Readiness:** Project received no-cost extension through March 31, 2023 due to delays caused by the Department of Environmental Quality (DEQ) the milestones have been pushed back. The consultant firms are working their way through the DEQ process, responding to DEQ's detailed comments. The mass grading project for the Amelon site is very complicated considering the adjacent waters and surrounding creeks, which has complicated the stormwater management design.

#### Period: April – June, 2022

#### Area Three: Entrepreneurship and Business Development

	Entrepreneurship: Aggregated Metrics from Implementation Projects								
			Metrics						
Status	Project Name	Jobs created	Existing businesses expanded	New businesses created	Businesses served	Entrepreneurs engaged	Mentors engaged		
	VIC-REI	-	-	-	-	-	-		
	TAF – Increasing the Birth Rate of High Growth Companies 2	19	-	-	50	22	30		
	TAF – Increasing the Birth Rate of High Growth Companies	-	17	-	51	51	29		
	RAMP	210	13	2	45	36	93		
	Roanoke SBDC	66	-	27	-	-	-		
	Pivot and RAMP Up	TBD	TBD	TBD	24	11	72		
	Project Totals	295	30	29	170	120	224		

#### **Progress Notes:**

 VIC Regional Entrepreneurship Initiative: All project deliverables have been completed including 3 sub-regional and 1 cross-regional I+E Investment Plans, 3 sub-regional and 1 crossregional Resourcing Plans, 2 Ecosystem in Review Reports, 1 regional entrepreneurship summit, and deployment of the entrepreneur resource matching platform. Project closed at the end of Q1.

#### Area Four: COVID Response

	COVID (ERR) Response: Aggregated Metrics						
		Metrics					
Status	Project Name	Businesses engaged	Businesses served	Jobs retained	Jobs created		
	Roanoke Regional	44	-	-	-		
	Recovery (ECB)						
	NRV BCT 2	3606	618	52283			
	VT Covid-19	-	1000+	-	51		
	Response						
	NRV BCT 1	39	182	-	-		
	PHRE Mobile App	-	10	70	-		
	Current Totals	3689	1810	52353	51		

Progress Notes: None.

Period: April – June, 2022

### Projects in Process of Contracting:

Regional Talent Strategy Implementation

Workforce and Entrepreneurship Initiatives in a Regional Makerspace

Dearing Ford Industrial Park- Gas Extension



### **GO Virginia Region 2 Council Meeting Minutes**

#### May 5, 2022, 3:00p.m.- 5:00p.m,

#### Carilion Children's Tanglewood Center, Mill Mountain Conference Room, 4348 Electric Road, Roanoke, Virginia, 24018.

Council members in attendance: Michelle Austin, John Capps, Janice Crawford, Beverley Dalton, Paul Denham, John Dooley, Don Halliwill, Pat Huber, Fourd Kemper, Floyd Merryman, Kim Payne, Debbie Petrine, Ray Smoot (Chair), Luke Towles, Justin Yalung.

Council members attending remotely: Sandy Davis, Nathaniel Bishop, Vince Hatcher, Michael Friedlander, John Putney.

Council members not in attendance: Eddie Amos, Kenneth Craig, Mike Hamlar, Victor Iannello, Marty Muscatello.

Staff in attendance: Sara Dunnigan, John Provo, Scott Tate, Elli Travis, Quina Weber-Shirk, Alyssa McKenney, Rachel Jones, Julia Kell.

Public in attendance: Thatcher Stanley, Beth Simms, Marjette Upshur, Megan Lucas, Mary Zirkle.

The meeting convened at 3:07p.m. and adjourned at 5:01p.m.

### **Financials Review**

John Provo led the council through the review of Region 2 allocations. Council has a remaining balance of \$1,002,882.65 in per-capita funds. Alyssa McKenney then reviewed drawdown status of all active Region 2 projects per fiscal year.

### Intentional Project Development Discussion

#### Project Pipeline Review

Scott Tate provided an overview of the current Region 2 project pipeline, stating the Vector Space proposal previously approved by the regional council has been deferred at the state level and will be reviewed by the state board at its next meeting following guidance from state staff. A proposal led by Virginia Tech computer science faculty is expected to come before the council, this proposal will focus on a pre-launch entrepreneurship tech assistance in areas such as cybersecurity, blockchain, cloud, quantum computing, AI, and systems design. Virginia Tech, Virginia State University, GenEdge, and additional partners will submit a statewide application related to the continued development of a coalition around the transportation and logistics sector in southwest and southern Virginia. Additional discussions held include a statewide proposal, expansion of GOTECH, that would include Franklin County in Region 2, a proposal from the Town of Bedford regarding a partnership program, a machining training



center, with Central Virginia Community College, and a targeted worker training program from VA Career Works, central region.

#### Growth and Diversification Plan Messages

John Provo and Quina Weber-Shirk began by presenting important information from the updated Region 2 Growth and Diversification Plan (2021). This plan is a roadmap for utilizing GO Virginia funding for regional projects focused on industries with high growth potential, featuring in-demand occupations with higher wages. John Provo continued by sharing key takeaways from the 2021 updates, highlighting the 4 target industry clusters of Transportation and Autonomy, Life Sciences and Healthcare, Materials and Machinery Manufacturing, and IT and Emerging Tech. With projected data (2021-2026) of 32 highwage occupations and 3,716 regional annual job openings, these 4 interrelated clusters offer the greatest potential for sustainable, scalable, future growth in the region. Quina Weber-Shirk continued by sharing core strategies related to each cluster and how this information can be useful to prospective applicants. John Provo then discussed previous council activities such as a speaker's bureau, which played an essential role in awareness of the program and encouraged local government participation. The state board recently voted to extend the relaxed match policy of a \$1:2 match, with local match waived, however, more than one locality must be active participants.

### Special Updates

#### Cluster Conversations: Internships (Regional Internship Collaborative)

Quina Weber-Shirk provided the committee with an overview of the Regional Internship Collaborative, stating the driving priority of the initiative is to give students deep roots in our business community prior to graduation so they choose to live and work here. The Regional Internship Collaborative is funded by the State Council of Higher Education in Virginia (SCHEV). SCHEV funded the Virginia Talent + Opportunity Partnership, which is a statewide initiative looking to increase the readiness of both employers and students around internships and work-based learning. The Virginia Talent + Opportunity Partnership is funding internship initiatives in each GO Virginia region. Chairman Smoot inquired if the internships are paid. Quina responded the program is emphasizing paid internships as the quality of the experience tends to be higher for both the employer and intern. Beverley Dalton stated paid internships also encourage employers to ensure they are receiving the quality of work that they are paying for, as well as potential future talent. Quina Weber-Shirk continued by stating the framework is about recognizing that there are strong programs and initiatives around internships- workforce development and talent development already exist in Region 2, SCHEV aims to build a network to better share information across these groups so there are no duplications. The Regional Internship Collaborative will link and leverage existing efforts and scale these efforts across our region through increased awareness and access to work-based learning experiences, improve connections and internship placements, and increase the placement or retention of students in full-time jobs. Quina Weber-Shirk then shared highlights of the recently held virtual employer roundtable discussions in the focused clusters of IT and Emerging Tech and Materials and Machinery Manufacturing. Key takeaways from these conversations include the real importance of growing talent through creating clear career pathways and providing



VIRGINIA INITIATIVE FOR GROWTH & OPPORTUNITY

multiple entry points for perspective employees comprising of high school students, college students, and career-changers.

#### Project Evaluation Highlight: Developing a Destination for Talent

Catherine Amelink, Project Manager, Developing a Destination for Talent, presented project outcomes as the grant entered closeout phase. During the 2-year grant timeline, the Developing a Destination for Talent program provided 217 internships, connecting Virginia Tech students with 52 local employers who had not previously engaged with the university. In addition to the 217 internships facilitated through GO Virginia funds, an additional 102 interns were funded exclusively by employers. Over the course of the project, interns had the opportunity to apply for 150 new jobs. Eight of the employers hired interns into full-time positions. The Developing a Destination for Talent program model was used to secure additional funding through State Council for Higher Education and Strada Education Network to further sustain the program's efforts.

#### Statewide Program Update

Sara Dunnigan, Deputy Director, GO Virginia and Economic Development, Virginia Department of Housing and Community Development, shared state program updates. Since inception, the program has reached 209 investments, with around \$88M in state funds deployed, and \$94M contributed in matching funds from participating localities. The successful 2-day GO Virginia State Board Retreat was held in April, inviting members of the regional councils and support staff to engage with members of the state board. Program achievements were celebrated. Reaching a new level of maturity, 2021 was the first year in which the state program has obligated its full \$31M appropriation. Following roundtable discussions, an economist's presentation reviewed matters such as the state's slow job growth, changes in Northern Virginia, and the effects of the Federal Reserves' increasing federal funds target rate. The Talent Pathways Initiative was highlighted through discussion on the importance of talent attraction, development, and retention. The Governor's proposed budget plan includes an amendment that would allocate an additional \$75M specifically for talent development within the GO Virginia program. The proposed senate budget would be more conservative with the program receiving baseline funding. The third option, the proposed house budget would allocate a baseline funding of \$31M, with \$9M infusion for the Talent Pathways Initiative, however, also includes a recapture provision of \$27.5M of unobligated funds balances from fiscal years 19, 20, and 21. Once the state budget is approved, more information will be circulated from state staff.

### **Council Business**

#### **Quarterly Project Reporting**

Elli Travis reviewed quarter 1 project progress reporting, noting one project is listed in red, ELITE Internship Program, due to a mismatch between the model and how many internships Region 2 employers are currently able to provide. Region 2 staff are working with the project manager on a



revised workplan, including the addition of more vendors in their model, as well as an outreach plan to match more interns with employers.

#### Minutes

Council reviewed meeting minutes from the GO Virginia Region 2 Council Meeting, held on February 4, 2022. Chairman Smoot asked if there were any corrections, additions, or questions regarding the minutes; there were none.

John Dooley motioned to approve the minutes, with Don Halliwill seconding. All were in favor and none opposed.

The meeting adjourned at 5:01p.m.

### IT and Emerging Technology in GO Virginia Region 2: Situation, Challenges, and the Road Forward

In this short whitepaper, we discuss the present conditions and performance of the IT and emerging technology industries in Region 2. We begin with an overview of the sector, discussing both IT occupations, and IT companies. In section two, we present two key issues: capital and talent, before concluding with a discussion of talent attraction and retention and higher education-based solutions. This document is meant to guide the IT and Emerging Technology GO Virginia Region 2 working group in the identification of additional strategies and programs to improve high wage jobs in that sector.

### **Regional Sector Overview**

Region 2's IT Cluster generated \$1.1B in earnings and \$1.4 B in GRP in 2021<sup>1</sup>. The cluster contributed \$3.5M in taxes in 2021<sup>2</sup>. Growth in GRP has slowed, but remained fairly consistent through multiple periods of economic volatility, as detailed in the figure below:



<sup>&</sup>lt;sup>1</sup> EMSI GOVA Region 2 IT Industry Snapshot Report. 2022. EMSI.

<sup>&</sup>lt;sup>2</sup> EMSI GOVA Region 2 IT Industry Snapshot Report. 2022. EMSI.

Cluster growth generally tracks growth throughout the entire state of Virginia, though both Region 2's cluster growth and Virginia's cluster growth lag that exhibited throughout the United States, as detailed in the figure below:



### Occupations, Jobs, and Earnings,

IT jobs are found in a number of sectors. Computer and Mathematical Occupations, Architecture and Engineering Occupations, Production Occupations, Office and Administrative Support Occupations, and Business and Financial Operations Occupations represent the five biggest categories employing IT professionals<sup>3</sup>. This variety suggests that Region 2's IT and Emerging Tech cluster activity supports that of other clusters. With this in mind, our focus on cluster development should consider not just the needs of IT-specific firms, but also the needs of firms in other clusters that utilize Region 2's IT talent.

GO Virginia (GOVA) Region 2 supports over 11,000 jobs in IT; earnings per job are approximately \$95,000<sup>4</sup>. Region 2 employment declined by approximately 4% from 2016-

<sup>&</sup>lt;sup>3</sup> EMSI. 2021.

<sup>&</sup>lt;sup>4</sup> EMSI Industry Snapshot Report. GOVA Region 2. June 2022

2021, while nationally, cluster employment grew by 17%<sup>5</sup>. However, Region 2 IT employment is expected to grow by 2% from 2021-2026<sup>6,7</sup>. Region 2's projected cluster hiring growth lags that of the United States (11%), the whole of Virginia (7%), and the peer economies of Baltimore-Columbia-Towson (12%), Pittsburgh (7%), and Raleigh-Cary (8%)<sup>8</sup>. Present unemployment is approximately 4,100 in Region 2's IT Cluster<sup>9</sup>.

IT jobs in our region see lower earnings than those in other areas. Region 2's earnings per job are approximately \$95,000 in the IT cluster, whereas IT jobs in peer economies, such as the Pittsburgh, Baltimore-Columbia-Towson, and Raleigh-Cary MSAs see earnings of approximately \$136,000 to \$156,000 per job<sup>10</sup>. Region 2's jobs pay less than those in Virginia and the United States, where earnings per job are approximately \$149,000 and \$164,000<sup>11</sup>. Region 2's low earnings per job in the IT and Emerging Tech cluster may contribute to the region's low cluster specialization (0.57) and correspondingly low cluster workforce availability<sup>12</sup>.

Region 2's IT and Emerging Tech cluster has more workers approaching retirement and less diversity than would be expected for the cluster in an area of this size — 2,749 vs. 2,197 employees age 55 or older and 2,090 vs. 3,778 racially-diverse employees<sup>13</sup>. Though Region 2's IT cluster is more diverse than the national average from a gender standpoint, it is still predominantly male (62.9%)<sup>14</sup>. These diversity considerations should be kept in mind when engaging in regional talent recruitment and retention.

### Regional variation, major employers, and supply chains

Regional IT and Emerging Tech employers are most concentrated in Montgomery County, Roanoke County, and the City of Lynchburg and are least concentrated in Floyd County, Appomattox County, Craig County, and Allegheny County<sup>15</sup>. The emerging role of remote work may relax hiring constraints and allow these employers to access talent from more remote areas of the region, and beyond.

Figure 3: Map detailing Region 2 IT and Emerging Tech Cluster Jobs

<sup>&</sup>lt;sup>5</sup> EMSI. Industry Snapshots for GOVA Region 2 and for the United States. 2022. EMSI.

<sup>&</sup>lt;sup>6</sup> EMSI Industry Snapshot Report. GOVA Region 2. May 2022

<sup>&</sup>lt;sup>7</sup>EMSI Region 2 Business Case. May 2022.

<sup>&</sup>lt;sup>8</sup> EMSI; respective reports for each MSA.

<sup>&</sup>lt;sup>9</sup> EMSI GOVA Region 2 IT Cluster Snapshot Report. June 2022. EMSI.

<sup>&</sup>lt;sup>10</sup> EMSI Industry Snapshots for Pittsburgh MSA, Baltimore-Columbia-Towson MSA, and Raleigh-Cary MSA. June 2022. EMSI.

<sup>&</sup>lt;sup>11</sup> EMSI Industry Snapshots for Virginia and the United States. June 2022. EMSI.

<sup>&</sup>lt;sup>12</sup> EMSI Business Case. 2022. EMSI.

<sup>&</sup>lt;sup>13</sup> EMSI GOVA Region 2 Industry Snapshot Report. May 2022. EMSI.

<sup>&</sup>lt;sup>14</sup> EMSI GOVA Region 2 Snapshot Report. May 2022. EMSI.

<sup>&</sup>lt;sup>15</sup> EMSI.



Image source: EMSI GOVA Region 2 IT and Electrical Cluster Industry Snapshot. 2022. EMSI.

Proprietary data suggests the five largest firms in our region in this cluster are AECOM Design (314 employees), GE Digital (300 employees), GE Drives and Controls Inc. (141 employees), Hurt and Proffitt (149 employees), and In Motion US LLC (85 employees)<sup>16</sup>.

Employers in Region 2's IT cluster posting the most jobs include Leidos, Delta Star, Optical Cable Corporation, Array Information Technology, and Medical Staffing Options<sup>17</sup>. Specific job titles with the most postings include software engineers, cloud and cloud network engineers, Lync engineers, and QuickBooks Bookkeepers<sup>18</sup>. The top 5 skills currently indemand include automation, Python, Linux, Scripting, and Azure skills, though in-demand skills shift over time<sup>19</sup>.

<sup>&</sup>lt;sup>16</sup> EMSI Business Map, which uses data from DatabaseUSA.com.

<sup>&</sup>lt;sup>17</sup> EMSI GOVA Region 2 IT Industry Snapshot Report. May 2022. EMSI.

<sup>&</sup>lt;sup>18</sup> EMSI GOVA Region 2 IT Industry Snapshot Report. May 2022. EMSI.

<sup>&</sup>lt;sup>19</sup> EMSI Industry Snapshot Report: GOVA Region 2 IT and Electrical Cluster. June 2022. EMSI.



Customer Service Representatives, Computer User Support Specialists, General and Operations Managers, and Project Management Specialists and Business Operations Specialists (All other), and Computer and Information Systems Managers are predicted to be among the most numerous occupations through 2026<sup>20</sup>.

The majority (approximately 60%) of the IT Cluster's Supply Chain needs are sourced from outside of Region 2. We detail the breakdown of supply chain spending in each cluster in the chart below:



Data Source: EMSI GOVA Region 2 IT Cluster Business Case

Overall, just over 40% of the cluster's supply chain requirements come from within Region 2. Most notable is that approximately 97% of engineering , 81% of Temporary Help, and 65% of commercial banking service needs come from within Region 2<sup>21</sup>. Use of supply

<sup>&</sup>lt;sup>20</sup> EMSI Business Case 2022.

<sup>&</sup>lt;sup>21</sup> EMSI Business Case. 2022. EMSI.

chain inputs from both within and outside Region 2 renders the region's IT and Emerging Tech Cluster susceptible to both micro- and macro-economic shocks. This should be kept in mind during periods of economic volatility to prevent supply chain disruption.

### **Regional Sector Challenges and Solutions**

At face value, the lack of IT activity in Region 2's periphery may seem to motivate targeted outreach and intervention to further the spread of IT activity. However, literature details that directing intervention and development to the already-developed areas most likely to support change is an effective industry development strategy; such a strategy has been used in Detroit to support redevelopment and talent attraction<sup>22</sup>. This suggests that efforts to grow IT in Region 2 should focus on increasing specialization in the locations already seeing strong cluster performance, though we caution that concentration of development activity may have equity implications worth considering.

Furthermore, it may be the case that future 'spread' to less centralized regions will occur organically, as during the pandemic, there was a nationwide shift away from intense concentration of IT activity<sup>23</sup>. The exodus of IT and Emerging Tech businesses from more expensive regions may further support cluster spread throughout the region. Areas from which recruitment may be most effective include Chicago-Naperville-Elgin, IL-IN-WI; Carson City, NV; and Russellville, AR; these locations presently exhibit loss in payrolled businesses and earnings per job over \$120,000<sup>24</sup>. Region 2's comparatively inexpensive labor may be attractive to businesses looking to relocate. GOVA Region 2 could be very attractive to businesses relocating from these regions in search of more affordable talent.

#### Access to capital

Access to capital remains a challenge for Region 2's firms<sup>25</sup>. Site development investment in Virginia lags that of surrounding states, some of which exceed Virginia's investment by over an order of magnitude<sup>26</sup>. Similarly, there are "3-5 times more VC investments each in Charlottesville, Chattanooga & Birmingham than Region 2" and "3-11 times more angel investments in peer regions than Region 2"<sup>27</sup>. GOVA Region 2 Councilmember Fourd Kemper explains that our region's lack of C-level networks may complicate efforts to

<sup>&</sup>lt;sup>22</sup> Berglund 2020.

<sup>&</sup>lt;sup>23</sup> Muro and You 2022.

<sup>&</sup>lt;sup>24</sup> EMSI Business Recruitment: GOVA Region 2 IT and Electrical Cluster. 2022. EMSI.

<sup>&</sup>lt;sup>25</sup> GO Virginia Region 2 Entrepreneurship Working Group discussions, as well as conversations with GOVA Region 2 Councilmember Fourd Kemper.

<sup>&</sup>lt;sup>26</sup> Yancey 2022. 12 potentially transformative items in the rival budgets.

<sup>&</sup>lt;sup>27</sup> Capital Ecosystem Landscape Report: Go Virginia Region 2. 2019.

attract capital to our region over others. Investment should be a priority for Region 2's IT and Technology Cluster's continued growth.

However, though grant awards have weakly declined over time (2014-2017), our region does attract substantially more grant funding, notably SBIR and STTR Grants, than its peers<sup>28,29</sup> and Region 2's entrepreneurs remain optimistic about future funding, in spite of perceived current funding shortages<sup>30</sup>.

#### Lack of Talent

One challenge Region 2's IT cluster faces is a shortage of talent. In response, firms have worked to hire students before graduation to secure affordable talent. Literature suggests this to be a valid strategy, as "firms place too much weight on a four year college degree and, in doing so, ignore other skilled and competent workers without this credential"<sup>31</sup>. At the same time, GOVA Region 2 Councilmember Marty Muscatello has noted that area employers prefer those with graduate degrees, as these workers are more likely to develop monetizable technologies and software. Without ability to retain or attract these professionals, IT firms and startups may have difficulty generating profitable output.

Talent shortages may be explained by lack of on-the-job training stemming from 'shifting goalposts': more and more, companies expect workers to be able to immediately perform at full capacity, whereas in the past, companies may have provided more on-the-job training than they currently do<sup>32</sup>. Providing employees with greater training or potential employees with clear direction regarding desired skills will support talent success<sup>33</sup>.

Regional examples of efforts to 'bring talent to the table' include the Roanoke-Blacksburg Technology Council's partnership with employers, hosting of annual events and providing job-support designed "to grow the region's innovation economy, technology sector, life sciences/biotech, and professional communities"<sup>34</sup>.

<sup>&</sup>lt;sup>28</sup> Capital Ecosystem Landscape Report: Go Virginia Region 2. 2019.

<sup>&</sup>lt;sup>29</sup> Capital Ecosystem Landscape Report: Go Virginia Region 2. 2019.

<sup>&</sup>lt;sup>30</sup> Capital Ecosystem Landscape Report: Go Virginia Region 2. 2019.

<sup>&</sup>lt;sup>31</sup> Parilla and Liu 2019.

<sup>&</sup>lt;sup>32</sup> Parilla and Liu 2019.

<sup>&</sup>lt;sup>33</sup> Parilla and Liu 2019.

<sup>&</sup>lt;sup>34</sup> The Roanoke-Blacksburg Technology Council. 2022.

#### Talent Attraction and Retention Difficulties

Capital attraction and retention is a major challenge for the region. Research suggests efforts to establish and maintain a 'brand' to be an effective development strategy<sup>35</sup>. Reports on IT in our region suggest a need for continued focus on establishing the amenity values of our region, particularly to continue attracting talent in a post-pandemic economy<sup>36</sup>. For this reason, establishing the area as a livable, affordable region with a plethora of outdoor amenities is vital to attract Tech talent. GOVA Region 2 Councilmember Fourd Kemper details that talent attraction could similarly be improved by addressing the fact that our region fails to command the appeal of other cities like Asheville.

While our region is one that prides itself in offering employers affordable talent, we should consider that this leads to a tradeoff in the form of increased difficulty in attracting employees. Region 2's IT and Emerging Technology cluster salaries are markedly lower than those offered by peer economies. For instance, salaries in Computer Occupations (SOC 15-1200) can be nearly 20% lower than the national average<sup>37</sup>, hardly offset by the 3.5% lower cost-of-living the region offers relative to the United States as a whole<sup>38</sup>. With salary considerations potentially overriding amenity values for employees, particularly highly-skilled employees, looking to relocate<sup>39,40</sup>, Region 2's amenities and cost of living may be insufficient to attract desired talent to the region.

This is particularly true because while competing peer economies engage in similar branding as low-cost areas to live, they offer salaries that are substantially higher than those in Region 2<sup>41</sup>. For instance, peer economy Pittsburgh, PA aggressively advertises in classic IT hotbeds on the West Coast<sup>42</sup>, while also developing niche luxury housing to further recruit high-earning professionals<sup>43</sup>. This suggests that our branding as an area with a low cost of living may not be as strong, or as convincing, as we would like.

Talent recruitment is a pressing issue, as IT workers in our region tend to be older than the national average, meaning "retirement risk is high in [our] area": nearly 3,000 workers are

<sup>42</sup> Kendall 2018.

<sup>&</sup>lt;sup>35</sup> Cleave et al. 2016.

<sup>&</sup>lt;sup>36</sup> Yancey 2022.

<sup>&</sup>lt;sup>37</sup> EMSI Occupation Snapshot Report: Computer Occupations in GOVA Region 2. June 2022. EMSI.

<sup>&</sup>lt;sup>38</sup> Regional Comparison Report: GOVA Region 2 vs. The United States. June 2022. EMSI.

<sup>&</sup>lt;sup>39</sup> Lepawsky et al. 2017.

<sup>&</sup>lt;sup>40</sup> Arntz 2007.

<sup>&</sup>lt;sup>41</sup> EMSI Industry Snapshots for Pittsburgh MSA, Raleigh-Cary MSA, and Baltimore-Columbia-Towson MSAs. EMSI.

<sup>&</sup>lt;sup>43</sup> Hendrickson.

over 54, which is substantial, given there are a total of approximately 11,000 workers in this industry group in our area<sup>44</sup>.

#### Universities as a Solution to Talent Concerns

Region 2's heavy university presence is vital to regional talent retention, as literature details that universities present attractive resources and support to companies in the IT sector looking to commercialize technology<sup>45,46,47</sup>. Virginia Tech, for instance, offers extensive support through its Link, License, and Launch Program <sup>48</sup>. This program helps those within or those choosing to partner with the University with commercializing intellectual property navigate contracting, property rights, and other hurdles that may otherwise complicate rollout of technology to the market<sup>49</sup>. University resources in our region can also help with developing "Proof-of-Concepts" for startups<sup>50</sup>, an important consideration for those looking to attract potentially risk-averse investors and resources like Virginia Tech's Corporate Research Center offers access to university-affiliated business development consultation, as well as events geared toward business development<sup>51</sup>. In general policies supporting commercialization and partnership between industry and academia are well-established by the Bayh-Dole Act<sup>52</sup>. Overall, this means that Region 2's strong university presence is a strong resource to be leveraged for cluster success.

Other areas have implemented policies designed to leverage university presence to support emerging business development. University-provision of flexible faculty work policies is one such strategy. Universities may guarantee faculty their positions for 5 years, if they wish to exit academia to engage in startup activity. They may also allow faculty to use part of their contracted time to engage in startup advising, among other activities<sup>53</sup>. Our region could draw from such policies to support IT and Emerging Tech activity in Region 2.

The IT cluster in our region is one that is worthy of investment. The jobs within the IT cluster, as well as jobs outside the cluster that are of an IT-nature are high-quality jobs. IT in our region saw competitive growth during the Pandemic, partially due to the rise of remote work, though future growth prospects are less optimistic. Challenges we face include human capital attraction and retention, as well as access to other forms of capital, such as startup, or angel-investing, capital. If we are able to successfully leverage our

<sup>&</sup>lt;sup>44</sup> EMSI Industry Snapshot Report for GOVA Region 2. June 2022. EMSI.

<sup>&</sup>lt;sup>45</sup> Huffman and Quigley 2022.

<sup>46</sup> Qian 2010

<sup>&</sup>lt;sup>47</sup> Bramwell and Wolfe 2008

<sup>&</sup>lt;sup>48</sup> Resources for Inventors. 2022.

<sup>49</sup> Resources for Inventors. 2022.

<sup>50</sup> Proof of Concept (POC) Grant Program. 2022.

<sup>51</sup> Virginia Tech Corporate Research Center.

<sup>52</sup> Bayh-Dole Act. 2022.

<sup>53</sup> For Faculty: Best Practices for Start-ups.

university connections and amenity values, while also working to overcome the capitalretention and acquisition challenges detailed above, we will continue to see our industry blossom into one that not only provides high quality jobs itself, but also supports other industry clusters throughout the region.

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Note: EMSI is a proprietary labor market subscription service to which CECE has access. EMSI reports make use of official U.S. government data sources, such as the Census, as well as of proprietary business data sources and job postings.



#### GO Virginia Contract Completion Date Extension Form

Please complete the information below requesting a completion date extension for a GO Virginia contract. Your request will be reviewed by the Department of Housing and Community Development, and if approved, the agency will sign the request and send it through Docusign for the appropriate parties. A copy will also be sent to you via email.

Contract Number	
GRANTEE Organization:	
GRANTEE Contact	
Project name:	
SUBGRANTEE	
SUBGRANTEE Contact:	

Please explain the reasons for needing an extension.

What is the requested amended completion date?

Please provide an updated set of quarterly milestones between now and the requested amended completion date:

By what date do you anticipate requesting your next remittance? (If applicable).



#### GO Virginia Contract Completion Date Extension Form

Please acknowledge your agreement to this amendment by signing below. This amendment to extend the contract will be attached to the original contract. The effective date of this amendment is

	(SUBGRANTEE)
BY: <u>JBLackey</u>	DATE: 07/24/2022
Name:	
Title:	
	(GRANTEE)
ВҮ:	DATE:
Name:	
Title:	
	(REGIONAL COUNCIL)
BY:	DATE:
Name:	
Title:	
VIRGINIA DEPARTMENT OF HOU	SING AND COMMUNITY DEVELOPMEN
BY:	DATE:
Name:	

Title: \_\_\_\_\_

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### GO Virginia Region 2 Speaker's Bureau

It is of interest to attend area Chambers of Commerce, Boards of Supervisors, and other regional and local organization's scheduled meetings to share highlights from the GO Virginia initiative in order to encourage localities to set aside funding for our local match requirements.

To express interest in attending on behalf of the GO Virginia Region 2 Council, please contact Region 2 staff, John Provo, <u>jprovo@vt.edu</u>, Quina Weber-Shirk, <u>quina@vt.edu</u>, or Rachel Jones, <u>rachelcj@vt.edu</u>.



GO Virginia Region 2 Upcoming Meetings- Fall 2022

GO Virginia Region 2 Executive Committee

• October 17, 1:00-3:00p.m.\*

GO Virginia Region 2 Council

• November 2, 1:00-3:00p.m.

\*Executive Committee Fall Meeting pending all Executive Committee member approval.