

Activation Capital BBBRC Phase I Concept Proposal – Project Narrative

Vision for the Regional Growth Cluster

A coalition of ten entities (Coalition) across the Richmond / Petersburg, Virginia region requests funding through EDA’s BBBRC to scale up its emerging Advanced Pharmaceutical Manufacturing and R&D Cluster (Project). The lead applicant is Virginia Biotechnology Research Partnership Authority DbA Activation Capital. The Project will accelerate the growth of a pharmaceutical manufacturing industry (Cluster) inside the U.S., secure the nation’s supply of essential medicines, and grow the regional economy.

A staggering 73% of Food and Drug Administration (FDA)-registered active pharmaceutical ingredients (API) manufacturing facilities are located outside the United States.¹ Overseas pharmaceutical manufacturing not only poses a security risk but also takes essential jobs away from the U.S. The historically disadvantaged Richmond / Petersburg Metropolitan Statistical Area (MSA) (Region) is such an example. The MSA has been hard hit by COVID-19 and is struggling with high unemployment rates and a slowly recovering gross domestic product (GDP). Petersburg alone is the most economically distressed area in Virginia with an astounding 9.6% unemployment rate – the highest rate for any county or independent city in the state.² Yet, the Region has existing assets, investments, and accomplishments in R&D and manufacturing to help regain the nation’s competitiveness in pharmaceutical production.

This Project is aligned with federal priorities to rebuild supply chains and manufacturing industries in the U.S. The Project proposes six projects that will create investments in infrastructure, workforce development, and education. The projects fill urgent gaps and build long-term competitive advantages while prioritizing impact on underserved populations. Collectively, these projects will: create job growth, capital growth, and wage growth; create an in-demand workforce by building workforce development and higher education pipelines into the Cluster; and advance equity of underserved populations. The long-term impact of U.S.-based pharmaceutical manufacturing could be transformational. The Project will reduce consumer healthcare costs, reduce the environmental impact of pharmaceutical manufacturing, and boost the security and reliability of the medicine supply chain in the U.S.

Economic Opportunity

There is a significant opportunity for the Cluster to make wide-ranging economic impacts in the Region and beyond. The global pharmaceutical market is \$1.265 trillion and grew 6.4% per year between 2001-2020.³ With 73% of FDA-registered active API manufacturing facilities located overseas, the U.S. is failing to corner a market that could create economic growth for distressed communities. Overseas manufacturing also creates a high risk of supply chain disruption and drug shortages across the country, especially during public health emergencies such as the COVID-19 pandemic.⁴ This Project presents a unique opportunity to bring pharmaceutical

¹ [Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth](#), The White House, P. 213 (June 2021)

² U.S. Bureau of Labor Statistics, Local Area Unemployment County Statistics – VA (August 2021)

³ IQVIA, Global Medicine Spending and Usage Trends – Outlook to 2025, P. 36 (April 2021)

⁴ [Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth](#), The White House, P. 213, P. 217 (June 2021)

manufacturing back to the U.S and revitalize the Central Virginia economy while providing other benefits nationwide.

The COVID-19 pandemic hit the region hard. GDP fell 8% from the first to the second quarter of 2020.⁵ While it recovered by the fourth quarter of 2020, the Region expects to experience long-term effects from this sudden decline.⁶ Factories in the region have experienced closures. For example, a Rolls Royce jet engine parts factory in Prince George County closed in summer 2021 due to the historic collapse in civil aviation caused by the pandemic, and the region lost 400 jobs.⁷ During the pandemic, the unemployment rate leaped to 9.6% (June 2020) from 2.6% pre-pandemic (February 2020). Though now improved, the Region's 4.1% unemployment rate (August 2021) is higher than pre-pandemic.⁸ Overall employment in the Region has been down 6.8% since the pandemic's start in 2020 Q1.⁹

Home to over 1.2 million people, the Region has 28 Qualified Opportunity Zones (QOZs) or economically distressed communities across 17 cities and counties.¹⁰ This economic distress disproportionately impacts the Region's low-income and minority populations which often overlap and represent 33% and 27% of the regional population, respectively.¹¹ Both the City of Richmond and the City of Petersburg are classified as Poverty Persistent County (PPCs) equivalents by EDA.¹² Persistent poverty counties are defined as counties (or cities) with 20% or greater poverty rates for at least 30 years. The situation in the City of Petersburg is particularly challenging. The City's per capita income is just 69.2% of the national average and has a 24-month unemployment rate of 11.28%, which is 6.4% above the national average.¹³ Over half of Richmond's census tracts had an unemployment rate of at least 1% greater than the national average and half have capital money income less than 80% of the national average.¹⁴ Petersburg and Richmond also are rated as among localities experiencing the highest levels of fiscal distress in the Commonwealth,¹⁵ making necessary long-term investments difficult. Given these high levels of distress in a Region that has begun to receive significant manufacturing investments and job growth, there is an enormous economic opportunity to revitalize the Region. (For more information, see Appendix 1.4).

The Coalition

The Coalition comprises ten multi-jurisdictional stakeholders actively engaged in the Cluster's R&D, manufacturing, workforce development, and supply chain development. Members include Lead Applicant [Activation Capital](#), [the City of Petersburg](#), [the City of Richmond](#), [the Commonwealth Center for Advanced Manufacturing \(CCAM\)](#), [the Community College Workforce Alliance \(CCWA\)](#), [the Greater Richmond Partnership \(GRP\)](#), [Medicines for All](#)

⁵ Oxford Economics

⁶ Ibid

⁷ <https://doav.virginia.gov/calendar-and-news/news/2020-june/rolls-royce-to-close-engine-components-plant/>

⁸ Bureau of Labor Statistics, Unemployment Rates Not Seasonally Adjusted - Richmond, VA MSA

⁹ 2021 Update, Economic Growth and Diversification Indicators, GOVirginia Region 4, Sept 3, 2021

¹⁰ American Community Survey (2015-2019 5-Year Estimates), Richmond VA, Urbanized Area

¹¹ EPA EJSCREEN Report, VA EPA Region 3 - Richmond Metro Region

¹² FY 2021 Poverty Persistent Counties List

¹³ National Economic Resilience Data Explorer (unemployment data BLS and income data BEA)

¹⁴ EDA StatsAmerica, using U.S. Census Bureau (ACS 5-year PCMI) data

¹⁵ <https://www.dhcd.virginia.gov/sites/default/files/Docx/clg/fiscal-stress/fiscal-stress-final-copy.pdf>

[Institute at Virginia Commonwealth University \(M4ALL\)](#), [Virginia Economic Development Partnership \(VEDP\)](#), [Virginia’s Gateway Region](#), and [Virginia State University](#). Each will play a critical role in scaling the ecosystem and ultimately revitalizing the regional economy.

Since June 2020, the Coalition has been working together to develop the Cluster and generate economic growth. In March 2021, the Coalition completed a strategic study and roadmap for building the infrastructure, workforce, communications, and leadership capacity - “[Building a global cluster of advanced pharmaceutical manufacturing and R&D in Richmond/Petersburg.](#)” This effort was funded by the state’s economic development initiative GO Virginia and coalition members with \$225,000. In September 2021, the Coalition secured \$2.5 million funding from GO Virginia and coalition members to create a permanent “Cluster Accelerator” organization to implement the roadmap. Founding Accelerator members include three companies building pioneering manufacturing facilities in Petersburg - [Phlow Corp](#), [AMPAC Fine Chemicals \(SK pharmteco\)](#), and [Civica Inc](#). These firms also hold leadership roles with the Accelerator and vigorously support this Coalition. (For details on [partner](#) commitments, see Appendices 2 and 4.)

Projects Components

The Coalition proposes to implement a suite of six related projects to maximize Cluster growth:

- 1. Improve water and sewer infrastructure in Petersburg to increase reliability and capacity for current manufacturing sites and future growth.** This Project is projected to create 200 new jobs and assure retention of 1,000 jobs from existing firms.
- 2. Construct a pilot/scale-up facility to accelerate the commercialization of lab discoveries.** This first-of-its-kind development center will spur collaboration, invention, and investment by speeding bench discoveries to commercial scale. This space will demonstrate advanced manufacturing capabilities with raw materials or “key starting materials” (KSMs) for pharmaceuticals and support training. This Project is expected to create 1,080 new jobs.
- 3. Expand wet lab space in Richmond’s VA Bio+Tech Park.** This Project will address the acute need for additional wet lab space to help firms grow in the Region. The Project is projected to create between 943 and 1,443 total new jobs.
- 4. Accelerate development of the Cluster supply chain.** The Coalition will work with economic development agencies and industry partners to recruit providers of goods and services the Cluster needs to thrive in traditional (e.g., GMP lab services) and innovative (developing solutions for gaps in the new processes and manufacturing platforms) ways. This Project is expected to produce 25 new research, sales, service, and manufacturing facilities to the Region adding 1,000 jobs.
- 5. Create an advanced pharmaceutical manufacturing technician certificate program.** This 1-year program will teach in-demand skills identified by the three pioneer manufacturing firms. Led by CCWA in collaboration with VEDP, [John Tyler Community College](#), and the Region’s community college network, the Project will enroll 100 students per year, with a high percentage from distressed and minority communities across the Region.

- 6. Develop new and joint degree and research programs between VCU and VSU and industry.** This program will enroll students primarily from underserved communities in multiple degree programs and experiential learning tracks in fields in demand in the Cluster, such as pharmaceutical engineering. It will be a model for collaborations with other higher education institutions regionwide, including Randolph-Macon College, Richard Bland College, the University of Richmond, and Virginia Union University (HBCU). The Project is anticipated to enroll and graduate 50 students per year with high-wage industry jobs, with a high percentage from distressed and minority communities.

Total Project Impact Estimates: In addition to producing the above 3,473 total new jobs, 1,000 retained jobs, 100 new trained technicians, and 50 new specialized graduates per year, the projects are projected to be catalytic, drawing additional business into the region with an additional 3,000 jobs, for a total of 6,473 new jobs. Of these, it is estimated that 33% will be held by people of color and 44% by women.¹⁶

Metrics for Success

Investment in the Region of up to \$75 million on the proposed projects could yield returns between 8-17 times the initial investment by 2030.¹⁷ Proposed metrics for success are:

- **Job Growth and Unemployment Rates:** This Project will measure the number of initial, direct, indirect, and induced jobs in the Region and unemployment rates, breaking out distressed census tracts.
- **Educational Achievement:** The Project will measure the number of individuals enrolled and the number of individuals completing the pharmaceutical manufacturing technician certificate program and the VCU/VSU collaborative degree programs.
- **Equity and Inclusion Benefits:** This Project will track the number of jobs created for underserved populations, including people of color, women, and low- to moderate-income (LMI) individuals. It will also track their educational achievement through the same metrics mentioned above.
- **Capital Growth:** The Project will track increases in pharmaceutical GDP in the Region, growth in firm, venture capital, and philanthropic investments, and the number of new companies in the Cluster.
- **Wage Growth:** The Project will track the increase in regional household income per year.

In addition, the Project seeks to measure impact on key national and social goals: consumer cost savings, environmental impact, security of the supply chain for medicines. These will not show quantifiable results in the four-year project period but will be tracked long-term.

Accessibility of Matching Funds

The applicants will meet or exceed the 20% match requirement for Phase 2. Roughly \$20 million is available to the City of Petersburg for the water and sewer infrastructure proposed

¹⁶ Impact projections were derived using data from Economic Modeling Specialists International.

¹⁷ Projections estimated based on historical performance of peer states, as reported by Moody's Analytics

Project through set-aside funding appropriated by the Virginia General Assembly and other sources. Support for other proposed projects is available from local, state, and private sources. In addition to matching funds, the Project will also leverage a significant amount of funding from public, industry, and philanthropic sources. This funding includes a four-year, \$354 million Health and Human Services (HHS) Biomedical Advanced Research and Development Authority (BARDA) / Phlow Corporation contract to produce APIs and chemical compounds needed to make medicines, potentially expanding by \$458 million more. Additional investments include Civica Inc (\$125 million to build a fill/finish facility) and AMPAC (multi-million investments in upgrading and expanding its manufacturing facility in the Region.) Additional philanthropic and international global public health support for translational research advancing the technology at M4ALL is also expected. (For more, please see Appendices 1.1 and 1.2).

Barriers to Implementation and Strategies to Mitigate

The largest barrier to implementation is regional cohesion. A project of this magnitude will be inherently difficult to coordinate among the many Coalition members and public and private partners. The Coalition has spent the past 18-months utilizing funding from GO Virginia and Coalition members to develop these partnerships and recently received \$2.5 million more from GO Virginia and Coalition members to create the permanent cluster “Accelerator”. This “head start” and abiding commitments will help mitigate cohesion problems during the Project.

In addition, other players – including governments worldwide, are racing to close the gap with the Cluster in creating an advanced pharmaceutical manufacturing industry. The strategy is to move swiftly with strategic focus and expand strategic collaborations. The Coalition will hire an economic development strategist to constantly refresh strategies, seek strategic investments, and prioritize supply chain growth to attract investment and scale up and equip the Cluster quickly.

Implementation Timeline

