

Options for Near-Term Action on Potential Competitions for Funding

As the IAT and TEconomy continue the assessment and planning, potential action could be taken in the near term to advance the goals and purpose of VRIF and begin to address gaps identified in the study.

TEconomy provided this succinct statement of goals for Virginia:

- Produce more successful start-ups based on commercializing institutional research
- Increase the engagement and investment of industry in innovation-led development with research institutions
- Elevate and create R&D excellence that can catalyze industry collaboration and innovation-led development
- Catalyze robust innovation ecosystems in regions across the state
- Incentivize collaboration and alignment with complementary efforts (i.e. coordinate with GO VA on regional innovation ecosystems)

Below are descriptions of four options, all of which align with the bullet points above. Some or all could be implemented in the near term and then transitioned into alignment with further TEconomy assessments and the progress of the IAT.

1. **EIR-POC:** Entrepreneurs in Residence (EIR) help identify new technologies to compete for proof of concept (POC) funding and wrap-around support for the entrepreneur, the technology, and the research team
2. **Industry-University Partnership Grants (I-U Ps):** Competitive grants for translational research involving two or more industry partners who have identified common needs
3. **Match** for Large-Scale Center Grants: Sequester general fund monies and bond funds for match to large-scale center grant applications
4. **Round 2:** Round 1 re-envisioned to address gaps identified in the study

The Senior Research Officers at Virginia's public institutions of higher education have also suggested an idea for a new VRIF grant program, described at the end of this document.

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1. **EIR-POC:** Entrepreneurs in Residence (EIR) help identify new technologies to compete for proof of concept (POC) funding and wrap-around support for the entrepreneur, the technology, and the research team.

Purpose: A center for innovation and entrepreneurship will increase the rate at which innovations, ideas, intellectual property, and research are translated into products, services, viable companies, and, ultimately, jobs.

Result: A successful program will create a national brand for Virginia – effectively advertising to the industry and investment communities that Virginia's innovation pipeline is more substantially de-risked and investment worthy than is typically found in universities across the nation.

Potential Process: Program would be administered by a vendor selected through a competitive process. The vendor would be responsible for incorporating best practice principles to ensure

each selected technology follows a rigorous, integrated commercialization process, leveraging Virginia’s existing strengths, capabilities, and competitive advantages, as well as local and regional assets and expertise.

Cost: \$2 million to \$4 million annually, depending on number of EIRs and number of technologies granted POC funds and mentoring each year

Statutory Authority: The purpose of a program such as this appears to be authorized by statute, specifically § 23.1-3133. Award from Virginia Research Investment Fund, paragraph B.3., which indicates that the criteria to be considered for use of VRIF funds include: The potential of the **program** or project for which a grant or loan is sought to **(i) culminate in the commercialization of research; (ii) culminate in the formation or spin-off of viable bioscience, biotechnology, cybersecurity, genomics, or similar companies; . . . (iv) promote applied research and development** in the areas of focus identified in the Roadmap; . . . **(vi) result in significant capital investment and job creation . . .**

2. **Industry-University Partnership Grants (I-U Ps):** Competitive grants for translational research involving two or more industry partners who have identified common needs.

Purpose: To spur stronger industry networking and identification of common needs that university partners can work collaboratively with industry to address; grants will support use-inspired, pre-competitive research into important industry-identified topics (new product development, testing and validation, standards development, shared use equipment and facilities, and technical assistance in processes and scale-up); research will be conducted in the context of university partnership with multiple companies.

Result: Increases engagement and investment of industry in innovation-led development with research institutions; enhances knowledge and skills in the partner companies; stronger and lasting connections with industry; shores up early-stage centers and helps position the center to apply for a large-scale center grant; and stronger technology cluster or ecosystem.

Potential Process: Grant program would be administered by SCHEV. Letters of intent could be accepted on a rolling basis, with grants awarded quarterly by VRIC. All projects will advance the innovation ecosystem for the target growth opportunity area, in addition to conducting use-inspired research on behalf of the private-sector partners.

Cost: \$500,000 annually

Statutory Authority: This competition supports the purpose of the Fund and two of the four primary goals outlined in §23.1-3131: (1) foster innovative and collaborative research, development, and commercialization efforts in the Commonwealth in projects and programs with a high potential for economic development and job creation opportunities; and (2) encourage cooperation and collaboration among public institutions of higher education, and with the private sector, in areas and with activities that foster economic development and job creation in the Commonwealth.

3. **Match** for Large-Scale Center Grants: Sequester general fund monies and bond funds for match to large-scale center grant applications; letters of commitment signed by Governor.

Purpose: Commit matching funds for industry-university partnerships pursuing large-scale center grants.

Result: Virginia’s industry-university partnerships will be more competitive in seeking external funding for research centers; those funds support the capacity needed to conduct more translational research involving multidisciplinary teams to address solutions for industry, fund large-scale shared-use laboratories able to support industry users, create new intellectual property, and engage additional industry partners.

Potential Process: VRIC would set guidelines regarding the amount of bond funds and general fund monies that can be sequestered; instructions would be distributed to institutions; when universities identify a large-scale center grant for which they will apply, SCHEV would accept requests for commitment of matching funds on a rolling basis; letter committing Virginia to the match would be signed by the Governor.

Cost: Amount available to be committed would be decided by VRIC. No cost until a university is awarded a large-scale center grant.

Statutory Authority: Using VRIF funds to match a grant awarded by another entity for a large-scale research center supports the purpose of the Fund expressed in § 23.1-3131C.1.(ii) to “position the Commonwealth as a national leader in science-based and technology-based research, development, and commercialization” and aligns with § 23.1-3133. Award from Virginia Research Investment Fund, paragraph B.3., which indicates that the criteria to be considered for use of VRIF funds include the potential to (iii) promote the build-out of scientific areas of expertise in science and technology; . . . (v) provide modern facilities or infrastructure for research and development . . .

4. **Round 2:** Round 1 re-envisioned to address some gaps identified in the study
- Focus on the growth opportunity areas (or subspecialty or domain), as directed by VRIC with advisement from IAT and TEconomy Partners
 - Incorporate principles of ecosystem building that underlie all the study’s recommended actions
 - Incorporate Round 1 peer reviewer suggestions for improved processes
 - Require applicants to include best practices in market-driven commercialization, including technology and market assessments of the product and/or Coulter-like process of analysis and planning for commercialization
 - Maintain VRIC’s Round 1 decision not to include a minimum grant request amount and provide a shorter and less complex proposal option for applicants requesting lower amounts
 - Increase allowable number of proposals per institution, as suggested by VRIC member after Round 1 (perhaps to four)

Cost: \$4 million to \$5 million annually (general fund and bond funds combined)



The Senior Research Officers at Virginia’s public institutions of higher education have also suggested an idea for a new VRIF grant program modeled on the University of Virginia internal grant program called 3 Cavaliers, as well as on University of Michigan’s M-Cubed and the National Science Foundation’s Grant Opportunities for Academic Liaison with Industry (GOALI).

Purpose: To rapidly fund multidisciplinary projects proposed by partnerships of researchers at two or more institutions, working with an external innovator or industry partner with the translational skills to pursue an idea for commercialization.

Result: Creation of a pipeline of innovations.

Potential Process: In order for researchers at different institutions to find each other and in order for private sector partners to find researchers, the portal described in the TEconomy report as Baseline Action 6 would be implemented. Some institutions are in the process of launching their own portals, which perhaps could be linked or integrated to form a statewide portal. Until a portal is available, partners could find each other through other means. The 3 Cavaliers model uses “tokens” that are worth a specific amount of money. The tokens are given to the potential partnering entities and then, as projects are posted to the platform, partners look for projects worth investing their token in. This is a form of peer review and would replace the peer review panels used by SCHEV in Round 1, speeding up the award process. Once the required partners and any additional partners have all committed their tokens to a project, SCHEV would award the funding in the amount of the value of the combined tokens. If too many projects attract the required partners, awards could switch to a random lottery.

Cost: To be determined by VRIC. (At the University of Michigan, for each two-year cycle of MCubed, the Provost's Office contributes \$5 million. This funding stimulates investments by colleges, schools or departments, and participating faculty members that has historically totaled an additional \$10 million.)

Statutory Authority: It appears that partnerships of two institutions and the private sector, formed to commercialize a product, would support the purpose expressed in the statutes for use of VRIF funding. However, further investigation is needed to ensure that the criteria that are required by statute to be considered before the award of funds could be incorporated into an automated rapid award process.