



The Honorable Daniel J. McKee  
Governor of the State of Rhode Island

February 17, 2025

The Honorable K. Joseph Shekarchi  
Speaker of the House of Representatives

The Honorable Dominick J. Ruggiero  
President of the Senate

RE: Report on the Science and Technology Advisory Council for Calendar Year 2024

Dear Governor McKee, Speaker Shekarchi, and President Ruggiero,

We are pleased to submit this report pursuant to RI Gen L § 42-143-4.

As initiatives such as the RI Life Science Hub and the Ocean Tech Hub illustrate, science and technology innovation and investment are crucial to the economic vitality of Rhode Island.

In the legislative mandate, the Science and Technology Advisory Council (STAC) is charged to “support the state’s research institutions, promote entrepreneurial development, enable all organizations to become more innovative, and perform any other advisory functions as the legislature may designate.” With this, STAC works to catalyze an ecosystem of innovation centered on the science research and technology development taking place in the state’s institutions, elevated by the state’s economic development goals, and in service of promoting, enhancing and investing in Rhode Island’s innovation economy.

In the following report, you’ll learn about the efforts of STAC in this past year, as well as the impact of our work, alongside the state of Rhode Island’s leaders of economic development. We further outline what’s in store for 2025.

We welcome your questions, thoughts and engagement. Thank you for your continued work and support to ensure a thriving Rhode Island innovation ecosystem.

Sincerely,

A handwritten signature in black ink, appearing to read "J Pipher".

Jill Pipher  
Vice President, Research  
Brown University  
Co-Chair, STAC

A handwritten signature in black ink, appearing to read "Bethany Jenkins".

Bethany Jenkins  
Vice President, Research  
University of Rhode Island  
Incoming Co-Chair, STAC

A handwritten signature in black ink, appearing to read "Lisa Carnevale".

Lisa Carnevale  
VP, Innovation Initiatives  
RI Commerce Corporation  
Executive Director, STAC



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# Overview & Background

The **Science and Technology Advisory Council (STAC)** was launched by executive order in 2005 and sustained by statute in 2006 to make science and technology innovation central to the state's leadership agenda.

STAC assists state leadership in implementing programs and policies that fuel new business growth in Rhode Island through these key drivers:

- (1) **Increase Research and Development** leading to new products, more-efficient production methods, and new business growth in Rhode Island;
- (2) **Encourage Entrepreneurship** through the transfer of new technologies and viable discoveries into the marketplace; and
- (3) **Enable Innovation** through supporting an environment rich in talent, capital and ideas that can solve real world issues and capture the global market.

Council membership consists of leaders in academic, business and public sectors who work collaboratively to advance these important issues. Council members meet on a regular basis to review progress and develop new recommendations for enhancing research and development, supporting entrepreneurial activity, and increasing innovation in Rhode Island.

STAC is the coordinating body for the Rhode Island Science & Technology (S&T) Plan – a five-year strategy that guides how Rhode Island can invest in core S&T domains and complementary assets that will best position the state for economic growth. The S&T Plan is required by the National Science Foundation (NSF) in order for researchers and research institutions to be eligible for particular grant awards.

Rhode Island is an NSF Established Program to Stimulate Competitive Research (EPSCoR) State. This status allows the Rhode Island research community to apply for specific EPSCoR opportunities not available to all states. STAC serves as the NSF-required Jurisdictional Steering Committee for Rhode Island's EPSCoR efforts. STAC works closely with all institutions of higher education in Rhode Island, and especially the University of Rhode Island, who houses the Rhode Island EPSCoR office and is lead on the EPSCoR E-CORE grant from NSF.

Finally, STAC administers two state innovation investment programs: the *STAC Research Alliance Collaborative Research Grants*, which supports RI's EPSCoR efforts, and *Innovate Rhode Island Small Business Fund*, Rhode Island's matching program for the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) federal awards.



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### The Science & Technology Plan Domains

S&T domains are areas of science and technology that address global challenges, demonstrate and build Rhode Island’s leadership and expertise, and offer clear opportunities for collaboration—all of which are important for economic development. The S&T Plan for a state or jurisdiction uncovers and highlights strengths in the region for investments in S&T domains that will support the goals of economic growth and global challenge mitigation.

In the 2009 Science & Technology Plan (S&T Plan), STAC identified three priority S&T domains: **marine sciences, life sciences, and energy and environment**. These domains were again included in the 2014 S&T Plan Update, showing the mainstay strength of these domains in our jurisdiction. In the 2021 S&T Plan Update, STAC included two additional complementary domains (**advanced materials** and **food innovation and technology**), as well as updated focus areas within each domain. As such, the current priority S&T domains are:

1. Marine Sciences
2. Life Sciences and Public Health
3. Energy
4. Advanced Materials
5. Food Innovation & Technology

In 2025, STAC will complete the next five-year S&T Plan.

## Year in Review

**STAC’s** role is to catalyze investments in S&T innovation as a major contributor to Rhode Island’s economic growth. Since inception, STAC’s work has helped the state more deeply understand the Rhode Island innovation ecosystem and establish our innovation priorities; bring millions of dollars of federal and private investment into the state; and concretize Rhode Island as a national and global leader in certain targeted domains. STAC continues to evolve our focus so that our work adds strategic insight into the State’s investments and further catalyzes economic success. Looking ahead, the 2025 S&T Plan Update will further support this.

### In 2024, STAC’s focus was to:

1. Work with the Governor’s Office and General Assembly to improve the *Innovate Rhode Island Small Business Fund* so that offerings for businesses more closely aligned to neighboring states.



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2. Support efforts by RI's Institutes of Higher Education to obtain federal research and innovation dollars, while helping to navigate the shifts experienced at the federal government level.
3. Maintain engagement in the Blue Economy and Life Sciences efforts through support of partners and leaders.
4. Revitalize STAC board membership by bringing on new members to further broaden the knowledge and expertise on the Council.

STAC also continued oversight of two state innovation investments: *Innovate Rhode Island Small Business Fund* and *STAC Research Alliance Collaborative Research Grants*. In 2024, these programs awarded 23 grants totaling \$943.9K in investments towards innovation, research & development (R&D), internships focused on engineering and biosciences, and more.

### 2024 Priorities: Specifics

STAC made progress in each of these focus areas:

1) [Work with the Governor's Office and General Assembly to improve the \*Innovate Rhode Island Small Business Fund\* so that offerings for businesses more closely aligned to neighboring states.](#)

The *Innovate Rhode Island Small Business Fund* (IRISBF) is a state-supported program that matches the federal grants made to small businesses in Rhode Island through *America's Seed Fund* (colloquially known as the SBIR/STTR program<sup>1</sup>). STAC sets parameters and administers IRISBF. In the FY24 Legislative Session, the Governor's Office proposed, and the General Assembly passed, increases to the IRISBF match amounts and a new programmatic element. (More on the specific changes below in the Programmatic Updates for 2024 section below.) This puts Rhode Island more in line with our neighboring states and helps us invest in small business innovation more meaningfully. These policy changes show positive momentum in the State's support for S&T innovation. That said, programmatic funds did not increase to support these policy shifts. STAC is currently reviewing the IRISBF program in order to implement the new funding levels allowed by policy, as well as the new program element created, without additional funding. STAC's goal is to have these new guidelines help us maximize the limited pool of program funds aligned with the new policy, in what will soon be a more competitive and higher-stakes program.

Further, RI Commerce, in support of STAC, applied for and was awarded a grant from the Small Business Administration through its Federal and State Technology (FAST) Partnership Program. These funds are being used to develop the *Innovate Rhode Island FAST* program, an effort led by the Corporation in support of STAC to enhance and elevate the resources and opportunities that are available through the federal SBIR/STTR programs. We are at the start of coordinating the

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<sup>1</sup> SBIR/STTR stands for Small Business Innovation Research/Small Business Tech Transfer and is organized under the U.S. Small Business Administration (SBA) under the *America's Seed Fund* title.



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State's partners for this initiative, including organizations like Southeastern New England Defense Industry Association (SENEA), RIHub, RI APEX, New England Medical Innovation Center (NEMIC), 401 Tech Bridge, and others, to ensure greater awareness of and support for Rhode Island entities related to the SBIR/STTR awards.

[Support efforts by RI's Institutes of Higher Education to obtain federal research and innovation dollars, while helping to navigate the shifts experienced at the federal government level.](#)

In 2023, there were significant changes to the NSF EPSCoR program. At that time, NSF sunset the EPSCoR Research Infrastructure Improvement (RII) Track 1 grants, which were the grants that Rhode Island historically received through the University of Rhode Island (URI). Along with this, NSF introduced two new RII programs to replace Track 1: EPSCoR Collaborations for Optimizing Research Ecosystems (E-CORE) and EPSCoR Research Incubators for STEM Excellence (E-RISE). URI took the lead in applying for an E-CORE grant. STAC supported the effort by giving input on the application and supplying information on the state's Comprehensive Economic Development Strategy. In August 2024, NSF awarded the E-CORE to URI at \$8 million to fund the Rhode Island Network for Excellence in Science and Technology (RI-NEST), a partnership of several institutions including URI, Brown University, Rhode Island College, Roger Williams University, and Rhode Island School of Design. STAC is a key partner in this program as well. RI-NEST's focus will be to utilize the unique capacities of each partner to support workforce development, catalyze research partnerships, strengthen science translation, and administer broad, inclusive, and coordinated S&T activity across Rhode Island. STAC also supported an E-RISE application led by URI. This is pending approval.

In 2024, STAC also supported an effort by the Primarily Undergrad Institutions (PUIs) in Rhode Island to apply for the NSF Growing Research Access for Nationally Transformative Economic Development (GRANTED) program. This program is geared towards improving research support and service capacity at five higher education institutions: Roger Williams University, Providence College, Rhode Island College, Rhode Island School of Design, and Salve Regina University. Named the Rhode Island Research Administration Collaborative, the group will receive \$3 million over three years to support increasing the research capabilities at their individual institutions and building opportunities for students who have not traditionally been exposed to the S&T sector.

These are just a couple of examples of major research initiatives in our state—all pursued collaboratively between Rhode Island's Institutes of Higher Education (IHEs), a key element of STAC's charge and further supported through the *STAC Research Alliance Collaborative Research Grants*. With Rhode Island's large concentration of IHEs, these collaborative efforts are a great contribution to Rhode Island's economic, workforce and technology development.

[Maintain engagement in the Blue Economy and Life Sciences efforts through support of partners and leaders.](#)



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Key research investment domains in Rhode Island’s S&T Plan include the underpinnings of the Blue Economy (Marine Sciences, Advanced Materials, Energy) and Life Sciences. The region’s designation in 2023 by the U.S. Economic Development Administration as a Tech Hub—and the only one focused on ocean technology—has catalyzed meaningful investment in this sector. The Ocean Tech Hub (OTH) is a regional initiative to build a globally recognized Hub to rapidly commercialize research and technology in undersea vehicles, robots, and sensors, along with the advanced materials needed to withstand the harsh undersea environment and the AI/ML that will bring this technology into the future. STAC co-chairs serve on the Ocean Tech Hub consortium and were critical members of advancing OTH efforts. In 2024, EDA further funded the Ocean Tech Hub, convened by RI Commerce, with \$500,000 to continue to build this Hub. Further, in 2024, OTH consortium members reported 90 contracts signed for services, including 19 with the Department of Defense and other national security agencies as well as 24 commercially deployed products and/or services due to collaborations through the OTH. STAC supports this work through RI Commerce, council members and staff collaborations.

The Rhode Island Life Science Hub (RILSH), funded by the state in 2023, is also a bright spot for meaningful investment. This initiative hit the ground running in 2024. STAC’s Council members are engaged in RILSH through institutional research departments and individual advisory and participation, including during the Life Science Summit and STAC meetings.

[Revitalize STAC board membership by bringing on new members to further broaden the knowledge and expertise of the Council.](#)

Throughout 2024, STAC has worked with the Governor’s office and General Assembly to appoint new members to the Council. STAC’s recommendations are the result of a comprehensive review of the STAC current member expertise, the goals of the S&T Plan, current statewide S&T landscape and economic growth activity, and contributions from sector allies and partners for potential member names. This work is aligned to changes in federal funding opportunities and state investments, helping to build the advisory capacity of STAC to meet the mission and goals for Rhode Island. To date, we have seven appointments confirmed with an additional five in process, leaving one spot remaining to be filled.<sup>2</sup>

STAC acts as the Jurisdictional Steering Committee for NSF EPSCoR. The Council is creating a sub-committee for this work to include both members and non-members of the Council to ensure comprehensive depth and input to the work. STAC is also in the process of hiring a consultant to work on the next five-year S&T Plan for the State. This work will also be organized through a sub-committee of STAC. Finally, the STAC Research Alliance Collaborative Research Grants will soon be in review. This Alliance is a collaboration between research institutions as part of STAC who lead the selection of the Collaborative Research Grant awards.

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<sup>2</sup> STAC Statute has conflicting language that has caused confusion on appointments; STAC is working with RI Commerce in 2025 to request clarification from the General Assembly.



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Our work in the past year has been focused on revamping STAC’s membership to enhance the structural operations of this important Advisory Council to the State. These updates and changes are well-timed for the upcoming year for STAC’s engagement and work.

# Programmatic Impact in 2024

STAC oversees the following programs:

### ***Innovate RI Small Business Fund (IRISBF)***

The federal SBIR and STTR Programs represent the largest source of early-stage, high-risk technology financing in the United States. SBIR/STTR stands for Small Business Innovation Research/Small Business Tech Transfer and is organized under the U.S. Small Business Administration (SBA) under the *America’s Seed Fund* title. Eleven federal agencies participate in the SBIR program, with five of these also offering STTR awards. Federal agencies include U.S. Department of Agriculture (USDA), Department of Defense (DOD), Department of Energy (DOE), National Institute of Health (NIH), National Science Foundation (NSF), and others.

Federal agencies participating in this program provide seed capital for early-stage research and development projects leading to commercialization of resulting products or services. The programs are designed to benefit entrepreneurs and small businesses – while increasing the competitiveness of the U.S. economy – by funding the development of innovative products and services. Agencies award grants to explore the technical merit of an idea or technology in response to a specific agency’s topical need.

In 2013, the Rhode Island General Assembly created the IRISBF to make funds available to Rhode Island businesses with 50 or fewer employees to: 1) defray the cost of applying for SBIR/STTR awards, 2) match SBIR/STTR Phase I and Phase II awards, and 3) hire interns in specific fields. The goals of the program are to:

- Leverage state funds to encourage and support Rhode Island entrepreneurial participation in the federal SBIR/STTR programs;
- Increase the amount of federal research dollars received by Rhode Island firms;
- Sustain companies through the early stages of product development;
- Encourage the establishment of high potential, high quality, high growth ventures in Rhode Island; and
- Enhance the talent pipeline in the biosciences and engineering fields.

IRISBF’s four historic granting programs are:

1. Phase 0: Grants of up to \$3,000 to assist small businesses offset the costs associated with preparing a competitive Phase I SBIR/STTR application.



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2. Phase 1: Matching grants of up to \$45,000 (or 30% of award) to encourage recipients of SBIR/STTR Phase I awards to pursue the more substantial Phase II awards.
3. Phase 2: Matching grants of up to \$100,000 (or 10% of award) to assist recipients of SBIR/STTR Phase II awards with commercialization efforts.
4. Internships: Grants of up to \$3,000 to assist companies in the life sciences and engineering sectors defray the cost of providing internships and mentoring to eligible Rhode Island residents attending a Rhode Island college or university and working in a lab-type environment.

### Changes to IRISBF in 2024

In the FY24 legislative session, the General Assembly approved increases and additions to the IRISBF. These changes are as follows:

1. No change to Phase 0.
2. Phase 1 and Phase 2: up to \$200,000 as matching; division between phases and percentages to be clarified in STAC guidelines.
3. Phase 3: up to \$500,000 to support commercialization of the results achieved through SBIR/STTR Phase 1 and Phase 2; final funding disbursement made at the end of a 5-year period.
4. Internship: Up to \$6,500 for bioscience or engineering interns in Rhode Island; Maximum two intern awards per company per year.

### IRISBF Year in Review | 2024 Matching + Internship Grants

Historically, the IRISBF matching grants have been provided non-competitively based on availability of funds. An open call is released up to twice per year for applications to receive the match. Funds are then awarded based on availability. Phase 0 and Internship awards are made on a rolling basis based on fund availability.

The following are the total matching and internship grants awarded in 2024:

- 9 grants under the proposal incentive grant (Phase 0) totaling \$23,637
- 5 grants under the SBIR/STTR Phase 1 Matching grant totaling \$256,849.50
- 8 grants under the SBIR/STTR Phase 2 Matching grant totaling \$663,395.10
- 11 internship grants – totaling \$33,000

*Note: All IRISBF awards (as well as RI Commerce's Innovation Voucher awards) are further detailed in quarterly reports submitted by the RI Commerce Corporation and available at <https://commerceri.com/about-us/open-government-transparency/>.*





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### IRISBF Efficacy Since Inception

Since the launch of the IRISBF in August of 2003, STAC has approved 124 state matching grants totaling \$7,334,659. Companies participating in IRISBF funding have reported they increased staff, expanded facilities, and attracted additional investment. IRISBF funds have leveraged over \$66.2 million in federal funding—over a nine-time return on our state’s investment. To date, 155 internship grants have been awarded.

### **STAC Research Alliance - Collaborative Research Grants**

In 2006, STAC launched the *STAC Research Alliance* (“Alliance”) to create a statewide platform to promote collaboration across the state’s research organizations. The Alliance awards funds through the Collaborative Research Grant Program, which supports projects that focus on building research capacity across institutions, advancing the competitiveness of RI researchers to secure additional funding, and supporting the State’s EPSCoR program. Grants are also awarded to projects that contribute to current or future economic development of the state through technology development and commercialization or that demonstrate strong translational components. Since 2016, the Alliance has awarded over \$3.6 million in state funds through the Collaborative Research Grant Program, with the goal of stimulating cutting-edge cross-institutional research projects.

In late 2024, STAC released a Call for Proposals for the 2025 Collaborative Research Grants. Final submissions for this Call are due on February 10, 2025. A total of \$500,000 will be awarded through this program in 2025.

## Looking Ahead 2025

2025 is off to a strong start for STAC, especially due to the new membership and work of 2024. STAC has released a Request for Proposals to select a consultant that will take us through the S&T Plan development process (required for continued NSF funding to the state), as well as the development of an Ecosystem Framework to support STAC’s continued work as the Jurisdictional Steering Committee for NSF EPSCoR.

This process is expected to take the bulk of the year and will engage stakeholders throughout the state, in various areas of S&T research, innovation, commercialization and economic development. This effort will be bolstered by the fresh perspective of new STAC Council members.

Programmatically, STAC has plans to update the IRISBF program this year to fully maximize the available funds and take advantage of the policy changes made in 2024. STAC has a working timeline for a phased approach for making changes to this program. STAC will spend time reviewing other state programs and talking with stakeholders to determine how to add a



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competitive process to the IRISBF matching program by Q3. This review will also allow us to determine how to best run a Phase 3 matching program element to be introduced at a later date.

STAC will continue its commitment as the Jurisdictional Steering Committee (JSC) for EPSCoR. Rhode Island's federal delegation, especially Senator Jack Reed has vocally advocated for NSF to continue its support for the EPSCoR program opportunities and Rhode Island. The JSC will be composed of a subcommittee of the Council and additional members from the URI EPSCoR office and other institutions involved in EPSCoR grants. This function will ensure we fulfill the NSF EPSCoR needed role and support federal advocacy. The JSC sub-committee is charged with evaluating and tracking the state's research ecosystem. STAC's S&T Plan process will support this sub-committee's work through the Ecosystem Framework.

We expect an active year of strategy, collaboration, and investment.