

Growing Rhode Island's Economy Through Research, Technology & Innovation

Rhode Island Science & Technology Advisory Council *2009 Recommendations*

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Council

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Mission

To recommend to state leadership strategic investments that drive economic development and job creation by maximizing the economic impact of research, technology and innovation. STAC initiatives support the state's research and development activity and promote collaboration across institutions, encourage entrepreneurship and new company creation through the transfer of new technologies and discoveries into the marketplace, and create an environment that enables innovation to flourish.

Research and the technological innovation it produces is not just a goal, it's a necessity. Innovation is the driving force behind a strong economy, one which creates new companies, opens entire new industries and provides opportunities for high quality jobs and careers. Supporting economic growth through the strategic support of research and development must be embraced as an economic development priority. Timely, targeted and transformative investments that support discovery and innovation and its transfer into the marketplace are key to long term economic security and job viability.

Because of our state leadership's commitment to making just these types of investments in science and technology over the past three years, Rhode Island is now poised to benefit from the Obama administration's efforts to direct federal resources to the development and deployment of critical new discoveries and technologies. The President understands that our nation must renew and strengthen its commitment to science and technology and has pledged to invest in the building blocks of innovation by increasing basic research funding, creating a tax and regulatory environment that encourages business innovation to flourish, and developing a skilled STEM workforce.

The type of technological innovation targeted by the President is often a product of the convergence of discoveries and techniques from a variety of disciplines. Through initiatives such as STAC's Research Alliance, Rhode Island has a head start supporting and encouraging collaboration and connectivity. Rhode Island is ready to be part of the President's plan to meet the grand challenges of the 21st century: energy, health, climate change, national security, information technology and manufacturing capacity. We are ready to foster and transfer discoveries that will create new companies and increase jobs and wealth throughout our state economy.

Can we, will we rise to the occasion? Rhode Island has a long legacy as an innovation leader, but our future economic prosperity requires that state leadership continues to build collaborative platforms and maximize the economic impact of research, technology and innovation. Following are STAC's **three priority recommendations** on how the Council can continue to nurture a framework that best leverages scarce resources and prioritizes efforts to produce results both in the "here and now" and well into our future.



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1. Continue the transformation of Rhode Island's science and technology enterprise to improve the quality of life for our citizens.

In 2006, the National Science Foundation awarded Rhode Island a three-year \$6.75 million Experimental Program to Stimulate Competitive Research (EPSCoR) grant to help build our research infrastructure and to develop statewide programs for student training and outreach. The creation of the Rhode Island Research Alliance and the annual infusion of \$1.5 million in support of Rhode Island's researchers fulfill a state match obligation mandated by the federal grant to demonstrate a state's commitment to science and technology.

Through this federal-state partnership, Rhode Island has made major strides in strengthening its statewide research platform. Increased research capacity creates the new knowledge that makes possible product breakthroughs from lasers to MRI equipment to GPS systems, improving overall the quality of life for our citizens. State funding has complemented these activities. Through the Rhode Island Research Alliance, the state has built connections that increase our competitiveness for funding, lead to commercialization of products and engage and train students.

One of the first programs initiated by the Alliance was the Collaborative Research Awards. These grants expand the state's research infrastructure by funding projects that promote inter-organizational, multi-disciplinary collaboration that is positioned to attract follow-on funding from sources such as federal agencies, corporations and foundations. Awards also support clinical trials and the purchase of state-of-the-art instruments that give research teams throughout the state access to the most sophisticated technologies available to conduct their experiments and train students. Since its inception, the program has attracted 140 proposals requesting more than \$22 million in funding from RI investigators at public and private research institutions throughout higher education, medicine, government and industry. Proof of the catalytic nature of the program has been demonstrated by receipt of \$1.6 million in follow-on funding by out-of-state sources and clinical trials that are bringing products from medical devices to chemical and computer imaging technology closer to the marketplace.

Research Alliance funding also supports related activities such as the annual Statewide Research Symposium which brings researchers from the COBRE, INBRE and EPSCoR networks together to share emerging opportunities. Funding also supports the Collaborative Web Portal. Developed in conjunction with the state EPSCoR office, the portal is a one-stop-shop where researchers, entrepreneurs and community leaders can learn about R&D in Rhode Island, register for events, apply for programs and access a searchable database of research equipment and shared facilities. The portal also provides EPSCoR researchers with streamlined access to online reporting and evaluation tools.

Rhode Island is currently applying for renewal of its NSF EPSCoR Research Infrastructure Improvement grant. The new grant is for up to \$20 million over five years and once again requires a state match. The grant-funded programs will build on the success of our first grant and includes every one of Rhode Island's eleven institutions of higher education as full partners as well as new institutional partners such as Lifespan and two state agencies: the Slater Technology Fund and the Department of Environmental Management. It will bring us into the worlds of next generation DNA sequencing and design research as an integral part of how we do science and how we communicate science to the public, to name just two of a number of important emphases. It will continue our outstanding human capital development and entrepreneurship programs and it will initiate new programs in bioengineering and bioinformatics.

STAC recommends that the state renew its \$1,500,000 investment in the Rhode Island Research Alliance. This investment will enable STAC to further develop the suite of Alliance programs to foster connectivity and a culture of collaboration. Funding will also meet the federal mandate for significant state support for science and technology and allow the state to continue its federal-state partnership and deploy the next phase of a \$20 million five-year National Science Foundation grant.

2. Create an Alliance to enable and strengthen business and innovation activities throughout Rhode Island.

Increasing new company creation by enabling entrepreneurship, innovation and the resulting growth of new ventures is key to creating a 21st century economy that provides higher wage jobs for all Rhode Islanders. Strengthening Providence's entrepreneurial platform and creating a city and region that is friendly to innovation was identified by the Greater Providence Chamber of Commerce's recent Knowledge-Based Economy study as critical if Rhode Island is to develop a more robust economy, talented workforce, brand identity and a deeper "bench" of civic leaders and funders upon which the region can depend.

While Rhode Island has enjoyed relative success in attracting federal research funding, it trails national averages in terms of commercializing its research. Moreover, start-up formation and small company growth remain well below the region's potential, especially given the region's strong research base. This situation indicates a need to expand opportunities to connect entrepreneurs from various start-ups and high growth companies and to foster the adaption of new technologies and innovative business solutions to existing mature companies.

STAC's Innovation Tax Credit and the Slater-EPSCoR Fellows program are recent initiatives seeking to make Rhode Island an attractive place to recruit innovative companies and people to the region. We, however, need to do more to accelerate innovation and entrepreneurship.

A key element of expanding this activity would be the creation of a Center for Innovation and Entrepreneurship that supports the development of an entrepreneurial community by providing a central location for early stage enterprise to access the collaboration, support and expertise they need to transfer ideas into successful enterprises. At the Center, scientists, engineers and innovators would select from a wide range of programs that connect them with the resources they need to commercialize their concepts and build successful companies that will generate jobs, create wealth and accelerate the growth of new companies. The Center would provide the physical focal point, the conceptual inspiration and networking opportunities that will bring key people together and create launch-pad conversations for new business initiatives. Such a Center would help facilitate new entrepreneurial efforts by enhancing technology transfer that began at local

institutions of higher education and research. This initiative would be a multi-institutional partnership that connects existing programs and makes it easier to identify and fill gaps where new programs and services are needed. Center programs would support the commercialization of new ideas and create an energetic, resource-rich environment for honing ideas, pursuing personal growth and professional development and exploring innovative business opportunities.

STAC recommends that it work with public and private institutions in the State to strengthen the statewide innovation and entrepreneurship platform and to help create a statewide vision for the development of Rhode Island's entrepreneurial community with the goal of attracting and retaining entrepreneurs in high priority industries, and bring greater visibility to the accomplishments of Rhode Island's most successful entrepreneurs.

3. Strengthen the organizational capacity of STAC.

Since its inception in 2006, STAC has proposed and implemented programs and policies that support the council's mission to grow the Rhode Island economy through research, technology and innovation, including the creation of a URI Commission on Research and Innovation, implementation of an Innovation Tax Credit, launching of the Rhode Island Research Alliance and convening thought leaders to brief leadership on critical issues and methods other states are successfully utilizing. STAC is committed to continuing to play this vital role and to expanding its efforts to meet the historic challenges at hand.

STAC recommends that the state renew its \$100,000 investment in STAC for FY10 and direct it to develop a model which will fully align statewide programs and integrate activities to create a long-term sustainable structure that supports interaction and cooperation. This investment will also enable STAC to continue to implement current initiatives and develop new ones.