



2011-15 Strategic Agenda Focus on Research, Economic, and Community Development

Goal: Kentucky will be stronger by generating new knowledge and research investments, producing high-demand degrees, increasing the educational attainment of its workforce, and improving its communities.

Policy Objective 6: Increase basic, applied, and translational research to create new knowledge and economic growth.

How to educate our students, encourage their innovative thinking, and channel innovations into commerce is the challenge presented in Policy Objective 6. Despite a difficult economy, Kentucky universities continue to develop and market discoveries in such fields as nano-satellite technologies, space science, medicine (spinal cord, cancer, heart, and pharmaceutical research), energy, and agriculture. Doing so with limited resources requires extensive collaboration with the private sector and a watchful eye on available federal research dollars.

- **Scholar Entrepreneurs** - Job creation in Kentucky's rural and economically depressed areas is a concern of both economic developers and educators. One strategy for facilitating economic growth is the expansion of entrepreneurship programs on campus. Kentucky's postsecondary institutions are taking steps to work with campus researchers and entrepreneurial business leaders to provide coordinated assistance to students hoping to start their own businesses.
- Kentucky's investments in a knowledge-based economy guided by the **Kentucky Science and Technology Corporation (KSTC)** continue to be strong. Even in a severe global recession, Kentucky's research, technology commercialization, and economic development efforts have remained viable and focused. The **Bucks for Brains** and **Small Business Innovation Research-Small Business Technology Transfer (SBIR-STTR) matching grants** have been very effective public investments that continue to pay dividends by creating technology jobs and attracting additional public and private research investment to Kentucky. The additional appropriation of public funds to recruit high-tech researchers, build research labs, and create new businesses in the technology sector is particularly vital.
- Commercialization of research conducted at the universities is a challenge, as the institutions face limited resources to transfer research conducted by faculty and students into private investments in the entrepreneurial and economic chain. The **Kentucky Science and Engineering Fund (KSEF)** infrastructure works to realize the commercial potential of research and development, while The **Kentucky Enterprise Fund (KEF)** provides similar early-stage funding to science and technology-driven companies throughout the Commonwealth. These funds are used to stimulate private investment in Kentucky-based technology companies, spurring growth by addressing specific needs for talent and capital. KEF provides a framework for realizing the commercial potential of R&D by providing peer review and follow-up services with developing technologies to realize their commercial potential.



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- KSTC also supports the unique needs of rural science and technology entrepreneurial companies by providing seed and early-stage funding to emerging enterprises, which is supported by the same best-in-class **STC/Kentucky Enterprise Fund** infrastructure. One of these projects helped Economic Development International, Inc. assist rural communities in expanding their entrepreneurial and economic development capacity using telecommunications-driven technology strategies. The organization's rural development work and success have been featured in a number of national reports, and the project was selected as one of the featured model programs for Central European Leaders.
- **Project Lead the Way (PLTW)**—a program designed to prepare a larger, more diverse group of students for careers in engineering and engineering technology programs—continues to expand throughout the K-12 system. Students interested in math, science, and human anatomy and physiology are finding this program to be a great introduction to the numerous STEM+H fields. PLTW is now offering not only a pre-engineering curriculum but also a career pathway in biomedical areas of study. This nationally approved program is enhanced by the involvement of Kentucky universities and the requirement and commitment of school districts, working with industry, to build and maintain curricula with a strong professional development component.
- **AdvanceKentucky's** mission is to work with local, state, and national partners to dramatically expand high school students' access to and success in rigorous college-level work, particularly among student populations traditionally underrepresented in these courses. The work of AdvanceKentucky has contributed to improvements in Kentucky's ACT scores and has provided opportunities for dual credit and college and career ready student achievement.