



Location Notebook: Entrepreneurialism Is Riding High in Kentucky

By helping entrepreneurs and small business, Kentucky has managed to regain economic strength sapped by the recession.

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If the recession was hard on most states, it was brutal to Kentucky. According to The State of Working Kentucky, a 2014 report issued by the Kentucky Center for Economic Policy, Kentuckians acutely felt the Great Recession and the state was harder hit than others. "All types of Kentucky workers have been harmed by the shortage of jobs caused by the recession," the report states. "The state's changing mix of employment includes fewer manufacturing, construction, mining, and other jobs that have historically provided employment with decent wages to those without college degrees." But that outlook is changing thanks to proactive leadership and a sharpened focus on entrepreneurship. Today, there is something happening in Kentucky, something otherworldly, high-tech, and even futuristic. Helping Startups and Small Businesses "There are only so many industries we can lure here, so we realized it was important to build within," says Joe Lilly, executive director for the Office of Research and Public Affairs at the Kentucky Cabinet for Economic Development. In 2013, Governor Steve Beshear created the Office of Entrepreneurship within the state's Cabinet of Economic Development. The Office's main objective is to help startups and small businesses with a variety of services and programs, including developing ideas and business plans, and finding loans, tax credits, and other funding sources.

"New companies run into road blocks with access and capital. We try to find solutions to their barriers to keep businesses here," Lilly says. While having the right idea, a solid business plan, and startup money is important for any successful business launch, having access to reliable and worthwhile information and experience is also critical.

To address the need for mentors, the state has developed the Kentucky Innovation Network, a matrix of 12 offices located throughout the state. In 2013, these offices assisted more than 500 companies in gaining access in working directly with state and local business experts and mentors.

"Our role is to be a connector to a resource who knows the community intimately," says Shawn Rogers, executive staff advisor for the Office of Entrepreneurship. "We want to provide fertile ground for new ideas and helped them get launched."

New Initiatives

Kentucky also is serious about attracting high-tech companies to the state. States are able to support federal funding through the competitive Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, but Kentucky has taken the initiatives a step further by matching all or part of those federal grants. Since its inception in 2006, Kentucky's SBIR-STTR programs have awarded nearly \$43 million to support 90 companies. These 90 businesses have leveraged an additional \$75 million in federal funds and created nearly 400 jobs.

The state has also created the Kentucky Small Business Credit Initiative, which allows lenders to use three Kentucky-specific credit enhancement options to strengthen loan requests for businesses that are creditworthy but fall outside acceptable underwriting standards. And the Kentucky Angel Investor Network matches accredited and seasoned "angel" investors with eligible startups and new entrepreneurs from around the state. Currently there are more than 40 angels assisting Kentucky

companies.

All of these initiatives have paid off for a state that has struggled with business growth and shrinking per capita income. In 2013, Kentucky put up some impressive numbers:

- \$1.1 million in small business investment supported by small business tax credits
- 40 Kentucky firms named on Inc. magazine's list of 5000 Fastest-Growing Private Companies
- 281 new location and expansion announcements
- More than 14,000 projected new jobs

Growth in Life Sciences

One of the companies that has benefitted from these programs is NeuroAtlas, a technology startup founded in 2013. The company has developed software that can diagnose and identify a personalized plan for individuals with a neurological condition, such as autism, ADHD, Asperger's Syndrome, or Alzheimer's disease. The company, which started as an idea in a classroom at the University of Louisville, utilizes low-resolution, non-contrast MRI brain scans that turn the images into 3D meshes and then generate easy-to-understand reports that can help target intervention methods.

"Every brain falls on a spectrum of normal and abnormal," says Matthew J. Nitzken, founder of NeuroAtlas. "We look for regions of the brain and track areas for abnormalities. We identify the areas that are most prominent and then focus on three good treatments instead of 50 okay treatments."

Nitzken admits he has had some challenges finding significant venture capital in Kentucky. "We need venture capital to quickly put products in people's hands," he says. "We need venture capital and angels that know the diagnostic space."

Lift3D is another startup, founded in 2013, that collects and tracks data points of the entire body, as people move, and then gives objective feedback in real time. The data can be used as part of an individualized physical therapy program. "There is a lot of love for entrepreneurship here in Kentucky, and there are a lot of resources and support here," says Carl Lewis, founder of Lift3D. "No one has asked me about an exit strategy."

Both companies are part of the state's Nucleus Innovation Park, a \$2 billion project centered on a 210-acre site in downtown Louisville. Nucleus is focused on growing and promoting startup companies in the biotech and life sciences fields.

Aerospace Advances

Kentucky is also generating significant awareness in aerospace. [Kentucky is one of the states leading satellite transformation](#) from large, complex multimillion-dollar satellite technology to satellites that are the size of a loaf of bread and fit in the palm of your hand. These micro-sized satellites, called CubeSats, are being developed as an innovative and cost-effective alternative, one that is revolutionizing aerospace in the state and around the world.

The development of these nano-satellites, and the technology that powers them, is done primarily at Morehead State University's Space Science Center in Morehead, Kentucky. The 45,000-square-foot, \$15.6 million facility provides faculty and staff the opportunity to build and track the satellites and work with some of the leading names in the aerospace industry.

"The idea is rapid development, fail fast, push the edge of technology, so we can take more risks," says Dr. Ben Malphrus, chair of the Department of Earth and Space Science and director of the Space Science Center at Morehead University. "The CubeSats are small and disposable, and cost about \$1 million." That's compared to a traditional satellite, which can cost upwards of \$300 million on top of a \$200 million launch tab. This focus on space technology has had a big impact on the state. Aerospace is now Kentucky's number-one manufactured export, generating \$5.6 billion annually.

Fiberoptics and Media

This kind of technological innovation creates a need for infrastructure: office buildings, bandwidth, computers, etc. [The state is constructing "business incubators" like the Nucleus Innovation Park](#). The state is also making in-roads at becoming the nation's next major site for video

creation and design and is constructing a 3,000-mile fiberoptic statewide network that it hopes to complete by 2016. "It will be our information highway that people can connect to," says Lilly.

Lest you still need to be convinced about Kentucky's leadership in entrepreneurship, consider this: Kauffman Associates reports that in 2013 Kentucky went from 49th to 4th in entrepreneurship — in just one year. "The state has enhanced the idea of 'unbridled spirit,'" Lilly says. Kentucky is on the move.

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