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2008 Small Business Outlook

Top 10 Up-And-Coming Tech Cities

By William Pentland, Reprinted from March 10, 2008

Thanks to a potent recipe mixing hearty helpings of money, leadership, commitment and vision, a cadre of small cities is rapidly earning respect as veritable tech hubs.

Where will the next Silicon Valley spring up? Philip Auerswald, professor of public policy at George Mason University, knows where to look. He surveyed regional innovation trends across the U.S. and cobbled a list of up-and-coming tech centers.

"The cities on this list aren't the places you'd expect to be up-and-coming centers for the next generation of technologies," said Auerswald, "But 30 years ago, few would have imagined Las Vegas as the center of a real estate boom."

Auerswald surveyed specific pockets of science—including advanced materials, nano-crystals and quantum dots, polymers and plastics, micro-systems and cell microbiology—that most experts consider today's most promising frontiers of innovation.

Borrowing a method devised by Anthony Breitzman, a researcher at 1790 Analytics, an intellectual-property valuation firm, Auerswald then looked for important relationships among patents within each general technical area. The most important patents are generally referenced by other inventors in the field when they file for their own patents; lesser patents garner fewer citations. The greater the increase in the number of important patents in a given city, the higher it ranked on Auerswald's list.

No. 1: Columbus, Ohio. In 1997, the Battelle Memorial Institute, Ohio's largest research center, based in Columbus, managed a single lab for the U.S. Department of Energy with an annual budget of $1 billion. A decade later, Battelle oversees seven major laboratories for different federal agencies; current budget: $4 billion.

The institute has become a force in almost every area of emerging technology, especially life sciences and energy research. One of its children, Velocys, is working on a way to cut the cost of capturing the 3 trillion cubic feet of the world's stranded natural gas by converting it to easily transportable liquid.

If Columbus seems a surprising choice, consider the up-and-coming tech hotbeds that are Nos. 2 through 5 on Auerswald's list. In order, they are Santa Fe, N.M.; Palm Beach County, Fla.; Houston; and Milwaukee, Wis.

Santa Fe has plenty of dirt roads. It also has major federal laboratories—more within a 100-mile radius than any other city on this list—including Los Alamos Laboratory, the birthplace of nuclear fission and the atomic bomb, and Sandia National Laboratories, a leading solar energy research center.

A growing number of wind and solar energy start-ups have popped up in Santa Fe and Albuquerque, N.M. Bluenergy USA, for example, has created a 6-foot tall wind turbine in the shape of a spiral helix. The turbines use solar energy cells that allow them to convert both solar and wind energy simultaneously and can be used for residential use.

Palm Beach County, playground of the rich, is also becoming a haven for cutting-edge biotech and life science research. Both the Scripps Research Institute (the world's largest private biomedical research center, headquartered in Southern California) and the Max Planck Institute (Germany's leading life sciences center) are building facilities there. In 2006, BioCatalyst International, a major investor in biotechnology start-ups led by **Genzyme** (nasdaq: GENZ) co-founder

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Sheridan Snyder, opened a new office in West Palm Beach to get the first shot at the hottest new prospects.

Houston hasn't exactly earned a reputation as a city teeming with techies. But that's changing. "Fifteen years ago, we had all the assets, but we weren't really developing them," says Walter Ulrich, chief executive of the Houston Technology Center, the state's largest technology incubator. "So all the leaders of Houston got together and recognized that the city needed to diversify its economy. There's been this tremendous transition."

Houston's strategy: Smash different discoveries together. To wit: Houston's itRobotics, founded in 2002, has developed new cost-cutting robots that inspect a variety of boilers and energy pipelines for structural flaws.

Other Houston start-ups are commercializing technologies originally developed at local research institutions. Nanospectra Biosciences, a local drug delivery company, is working on a nano-scale particle (pioneered at Rice University) that destroys cancerous tumors. The particles are injected in the bloodstream and accumulate inside cancerous tumors. When the tumor is exposed to a laser, the particles absorb the near-infrared light and convert it into thermal energy, destroying the tumor.

Globalization and poor training may have gutted America's manufacturing base, but stalwart metal-bender Milwaukee is not backing down. "Some places believe that manufacturing is dead or dying. We don't," says Jim Paetsch, director of corporate relocation, expansion and attraction at Milwaukee 7, an economic development organization. "Manufacturing is certainly different today than it was even 10 years ago. Our strategy is to become the leading global center for the technology-intensive manufacturing enterprises of the future."

Rather than just crank out widgets, local companies are attacking bottlenecks in the manufacturing process itself. For example, **Rockwell Automation** (nyse: ROK) makes snazzy sensors and controls that boost assembly-line productivity. **Johnson Controls** (nyse: JCI), inventor of the thermostat in 1883, has produced energy-efficient heating, air-conditioning and lighting systems running throughout 1 billion square feet of commercial real estate. Chief Executive Stephen Roell plans to expand Johnson's workforce 35%, to 190,000 employees, in the next three to four years.

In 10th place: Yuma, Ariz. This small desert town in southern Arizona has more prisons than patent lawyers. The local chamber of commerce fishes for new business by hyping the tourist flow from Mexico and heavy highway traffic.

So what's Yuma got? The U.S. armed forces. The U.S. Department of Defense runs a testing facility, U.S. Yuma Proving Ground, near the city that spans over 1,300 square miles of desert terrain. As the primary U.S. site for desert warfare research, Yuma is now the third-fastest-growing metropolitan area in the country, according to its Web site. And where the military goes, so does tomorrow's top technology.

Business Development Board
PALM BEACH COUNTY'S BUSINESS RESOURCE

Business Development Board of Palm Beach County
310 Evernia Street
West Palm Beach, FL 33414
T: +1 561.835.1008
F: +1 561.651.4135
E: relocations@bdb.org
W: www.bdb.org