

Smaller Cities Becoming Hotbeds for High-Tech Growth

By utilizing the strengths of existing business as well as government and academia, smaller cities are becoming hotbeds for the biotech, IT, renewable energy technologies, aerospace/defense, digital media, and a host of other high-tech endeavors.

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Austin, Texas (1/8)



More than 3,700 high-tech firms employ 91,000 people in Austin. The capital city of the Lone Star State draws its work force from the 122,000 students in the area. Higher education, especially the renowned research centers at the University of Texas at Austin, propel the high-tech sector.

How do you build a technology city? Cities such as Los Angeles, San Francisco, New York, Seattle, and Boston already have a substantial technology base and are considered to be vast technological hubs. How can smaller cities hope to rival such tech strongholds?

It's not easy. A technology city is an intricate set of networks and social relationships — simply building a science park isn't going to work. A city needs a comprehensive plan that encompasses the following:

- At least one major success story — A brand name draws world-class talent to a city. It also generates a stream of talented workers who often venture off and start their own spin-offs.
- A major research institution — An example is the Massachusetts Institute of Technology, which over the years has spawned more than 4,000 companies employing more than one million people.
- High-tech talent — Whether from area universities or existing companies, only a place with a rich talent pool can claim to be a tech city.
- Venture capital — Venture capitalists in Austin, Baltimore, Orlando, and other smaller cities are finally starting to understand the high risk/high rewards of the technology industry.
- The proper infrastructure — This includes Web designers, high-speed Internet connections, and law firms, banks, and business services that focus on high tech.
- And collaboration is needed between business, government, and educational institutions.

By incorporating all of these crucial elements, the following cities are making their marks in the high-tech arena:

Austin, Texas

Austin is one of the top emerging hot-technology cities, with more than 91,000 people employed by approximately 3,700 technology firms. Reportedly the second-fastest growing city in the United States, Austin's population is young (70 percent are under 45) and highly educated.

Tech firms have a lot of local talent from which to draw. There are about 122,000 college students in the five-region area attending some nine institutions of higher education. These include the University of Texas-Austin — one of the top research institutions in the country.

Technology firms already are a major economic driving force in Austin, comprising about 25 percent or \$8.3 billion of the regional payroll. As a result, Austin recently formed the Greater Austin Technology Partnership, focused on improving the city's global competitive position for technology innovation.

One of the technical target markets is the semiconductor industry. Samsung Electronics, already a strong base in the region, recently announced a \$3.6 billion expansion of its Austin facility.

The city also is strong in clean energy/renewable energy, biotechnology and medical, software and nanotech, and digital and creative media.

A newcomer to the city, HostGator LLC — a provider of shared, reseller, VPS (virtual private servers), and dedicated web-hosting — just opened its business in Austin in July 2010.

“Because of the nature of reseller hosting, HostGator customers are frequently web designers or developers who have chosen to provide hosting services to their clients,” says Lance Custen, president and CEO of HostGator. “Austin’s deep talent pool provides our company with the skilled work force it needs to assist these clients.”

Baltimore, Maryland

Baltimore may be nestled in the shadow of the nation’s capital, but it is emerging as a technological *tour de force*, particularly in the biotech field. “Baltimore is a great place for a life science company due to the highly educated work force that is heavily skewed toward biotechnology,” says Richard Huguen, vice president of sales, marketing, and business development for CSA Medical, which has been in Baltimore since 2005. The company produces a therapeutic medical device that freezes and kills cancer and pre-cancerous tissue inside the body. Huguen also notes that Baltimore’s “business and political community strongly supports start-up companies.”

Nearly 2.7 million people reside in the region, making it the 20th-largest U.S. metro area. With the region’s population expected to increase by more than 8 percent by 2015, Greater Baltimore is well situated to advance its already vibrant technical community.

According to Vince Buscemi, vice president of operations for Mindgrub Technologies (a technology innovation agency created in 2002 specializing in mobile application development, social media integration, and web development), “We chose the Baltimore area because it is a centralized location that allows us to reach our client base in Washington, D.C.; Virginia; Baltimore; Philadelphia; and New York City with ease. Baltimore is also creating a support system to better incubate its technology initiatives, and we’re proud to be a part of the bigger picture.”

Additionally, according to *Businessweek* and *Forbes*, Greater Baltimore ranks as one of the best U.S. markets for riding out the recession. *Forbes* also ranked Baltimore as one of the best cities for job growth in 2009. These favorable rankings are due in large part to Greater Baltimore’s successful transition over the past decade from an industrial to a knowledge-based economy. Since 2000, the region has experienced the highest rate of growth in high-wage industries, including professional, scientific, and technical services, up 25.3 percent from 2000; education, up 22.6 percent; and healthcare, up 19.6 percent.

Pivotal to this success are the Greater Baltimore area’s 10 nationally recognized research institutions, including Johns Hopkins University, which ranks number-one in R&D expenditures.

Huntsville, Alabama

Most emerging hot-tech cities have a niche, and Huntsville’s reputation as the “Rocket City” highlights its deep roots in the defense and aerospace industry. More than 300 defense and aerospace engineering and technology companies are located here, and more than 50 percent of the jobs in Huntsville/Madison County are related to those industries.

“Huntsville has a great combination of entrepreneurial spirit and history of technical innovation coupled with business-savvy community leaders. This makes it a great place to grow a business,” says Paul Gierow, president of GATR Technologies in Huntsville. The company, which was founded in Huntsville in 2004, develops inflatable satellite communication antennas and systems that can be quickly deployed for high-bandwidth communications in remote, hard-to-reach areas.

Named the “The New Federal City” by *Government Executive* magazine, with some 32,550 federal jobs based in Huntsville, the region is home to the NASA Marshall Space Flight Center and the U.S. Army’s Redstone Arsenal. With a population of more than 400,000, Huntsville plays a key role in the U.S. Army’s technology development programs.

However, Huntsville’s high-tech growth is not limited to defense and aerospace. According to TechAmerica, Huntsville has one of the highest concentrations of high-tech workers in the nation – across all disciplines. Since 2004, more than 18,440 jobs from expanding companies have been created, with more than \$1.5 billion in capital investment. The Huntsville region boasts nine colleges and universities, including UA-Huntsville, a national research university.

Cummings Research Park (CRP), the nation’s second-largest R&D park, is located outside Redstone Arsenal and employs more than 25,000 people. The park, founded in 1962, encompasses 3,843 acres and includes more than 11.5 million square feet of office space. A recent growth engine to the CRP has been the expansion of the biotech industry with the \$130 million, 270,000-square-foot Hudson-Alpha Institute. The institute, which is 100 percent occupied, includes 12 biotech companies and a nonprofit research center.

Orlando, Florida

Mickey Mouse may wield incredible influence in Disney World, but high-tech is making its mark on this booming area, as well. In fact, it may come as a surprise that the second-largest industry in Orlando is technology. The region boasts a \$13.4 billion tech industry that today employs nearly 53,000 people.

Top sectors include film/digital media, optics and photonics, aviation/aerospace, and information technology. With the advent of the University of Central Florida's (UCF) College of Medicine and emergence of the region's new "medical city," Orlando also is gaining a reputation as a thriving life sciences/biotech location.

With a population of more than two million, Orlando is among the nation's fastest-growing regions. It also is surprisingly young, with more than one third of the population between 18 and 44, and has a long history of entrepreneurial activity. Unique resources, such as the Disney Entrepreneur Center — one of only two such centers in the nation — and the UCF Technology Incubator, help keep this community among top locations for innovative companies and entrepreneurs.

Metro Orlando also is home to GrowFL, the state of Florida's pioneering "economic gardening" program, which identifies and nurtures high-potential, mid-sized businesses in the second stage of development.

When it comes to local talent, many of Orlando's educational institutions are geared toward technology research and training. The UCF in Orlando and the University of South Florida in Tampa anchor Florida's high-tech corridor, providing undergraduate and graduate programs in specialties ranging from microelectronics to bio-med.

Commenting on Metro Orlando's talent, Mary Spio, president of Next Galaxy Media, says, "As a video technology, marketing, and production company, we work with major clients like Toyota, Microsoft XBOX, and the Black-Eyed Peas, and have had offices in New York and Los Angeles, but there are so many pluses of being headquartered in Orlando. This place is full of creative talent and energy."

Pittsburgh, Pennsylvania

Pittsburgh, which has a population of about two million, has transformed itself from the City of Steel to a center for high-tech innovation, including green technology, education and training, and R&D. According to President Barack Obama, "Pittsburgh stands as a bold example of how to create new jobs and industries while transitioning to a 21st century economy."

Notes White House Press Secretary Robert Gibbs, "It's an area that has seen its share of economic woes in the past, but because of foresight and investment is now renewed — giving birth to industries that are creating the jobs of the future."

"In Pittsburgh, you can connect and network with the right person at the right time because the region is not too big, but it's certainly not too small," says Pete DeComo, chairman and CEO of ALung Technologies, which produces respiratory assist technologies that provide an alternative to traditional invasive respiratory support. As testament to this, *The Economist* named Pittsburgh the nation's "Most Livable City" in 2009.

DeComo continues: "There is also the will to grow Pittsburgh into a prestigious technology center. ALung has chosen to expand on Pittsburgh's historic Southside, an area once at the heart of the region's steel industry. Representative of Pittsburgh's transformation, the Southside today is becoming a mini-hub for early-stage companies in the life sciences sector because organizations that are part of our support network — the universities and the hospitals — are nearby."

Pittsburgh also is known for its advances in robotics. Dubbed "Roboburgh" by *The Wall Street Journal*, the city is continually changing the face of robotics. World-class R&D, public-private partnerships, and top talent are among the resources making fruitful ground for these companies.

Rated a "Top 10 Up-and-Coming Tech City" by *Forbes*, the region has 1,600 information and communications technology (ICT) firms employing more than 28,000 people. It has invested \$750 million of venture capital in emerging regional businesses over the last five years, becoming the nation's number-one fastest-growing region for venture capital, according to Moneytree.

The region has also shown steady growth in university R&D expenditures, with \$765 million in spending in 2007 — a gain of 26 percent over a five-year period. The city is home to two of the largest research universities in the region, Carnegie Mellon University and the University of Pittsburgh.

Raleigh-Durham, North Carolina

The Raleigh-Durham region, with a population of nearly three million, is referred to as the "Triangle." It is a hotbed of technological activity anchored by North Carolina State University, Duke University, the University of North Carolina at Chapel Hill, and the cities of Raleigh, Durham, and Chapel Hill.

According to Lloyd Yates, president and CEO of Progress Energy Carolinas, "The combination of talented people, an amazing quality of life, and a cooperative spirit between industry, government, and academia makes Raleigh an outstanding location for business. Progress Energy started in Raleigh more than 100 years ago, and we believe the best is yet to come."

The "Triangle" name was cemented in the public consciousness in 1959 with the creation of Research Triangle Park (RTP). One of the oldest and largest science parks in North America, RTP is a globally prominent, high-tech R&D center that serves as an economic driver for the region.

More than 170 companies employing more than 42,000 full-time workers and an estimated 10,000 contract employees call the 7,000-acre RTP home. These companies have generated a combined capital investment of more than \$2 billion in the region. The RTP has more than 22 million square feet of laboratory, office, and high-tech manufacturing space.

RTP is home to a broad spectrum of organizations, from Fortune 100 multinational R&D operations to university spin-offs and start-up operations. The companies are clustered in several industry sectors, including information/communications technology, biotechnology and life sciences, and environmental sciences. In addition, a number of U.S. federal agencies have a presence in the park.

The Research Triangle region also has one of the largest concentrations of college graduates and post-graduate degree holders in the United States. Within the region, the three flagship universities totaled \$1.6 billion in R&D expenditures in 2007. Currently, there are 117,323 students enrolled in 10 Research Triangle universities and colleges. North Carolina also is home to five other top-ranked research universities.

San Antonio, Texas

Another technological bright light in the Lone Star State — particularly in cyber security — is San Antonio. With a population of some 1.3 million, San Antonio has the second-largest concentration of cyber security professionals in the nation, second only to Washington, D.C. Numerous cyber security companies have been formed in San Antonio by people retiring from the U.S. Air Force and taking that expertise into the business world. This talent, as well as a strong local infrastructure and academic programs, all played a role in the U.S. Air Force's decision to locate its new Cyber Command, the 24th Air Force, in San Antonio. The city also has a large and growing National Security Agency presence, as well as the Institute for Cyber Security at the University of Texas at San Antonio.

"The critical mass of security talent in San Antonio has helped drive the growth of our company," said John Dickson, a principal in San Antonio-based Denim Group. Established in 2001, the group develops secure software for clients worldwide. He adds, "The universities and government contractors supporting military missions here, and other private-sector companies, provide the technology community in San Antonio with a strong pipeline of experts in cyber security, software development, and other highly technical skills."

To further promote collaboration among academic, business, and government entities involved in cyber security, the Greater San Antonio Chamber of Commerce created the San Antonio Cyber Action Plan. This group is run by the chamber's IT Committee, which is helping to find additional funding from the state and federal governments for programs at local colleges and universities. In terms of education, San Antonio has some 17 colleges and universities, including the University of Texas at San Antonio's Health Science Center and Texas A&M University-San Antonio.

It should also be noted that San Antonio's IT industry has grown 20 percent since 2005, and has doubled in size over the past decade. In 2008, the sector paid \$882 million in wages and salaries to 15,648 IT employees and had an economic impact of \$8 billion.

Wrapping It Up

As smaller tech cities boom, major U.S. cities can no longer claim to be the sun around which the high-tech world revolves. These smaller cities are finding their technological niche, and carving their way into the high-tech universe.

And with the proper infrastructure in place to support the expansion of these tech firms, and strong partnerships between business, government, and academia, there's no limit to the reach that these smaller cities can have in marking their technological futures.