EDJ THE IEDC Economic Development Journal

734 15th Street, NW Suite 900 • Washington, DC 20005

Volume 7 / Number 1 / Winter 2008

Non-Traditional Economic Development

By James B. Gambrell and Agata P. Chydzinski

A SOUTHERN CITY TAKES A NEW DIRECTION

During the past few decades, the South has undergone extreme change by becoming one of the world's largest economies. Columbia, the capital of South Carolina, has struggled to keep up with the economic progress of the rest of the region. **In an effort to create new locally owned businesses, the city of Columbia and the University of South Carolina teamed up** to start the USC/Columbia Technology Incubator. Through nurturing and financial support, **the incubator has succeeded in creating 334 new high paying jobs. Because of the economic success, the city of Columbia has received IEDC's 2007 award for Technology Based Economic Development** for Cities of 50,000 to 200,000 residents.

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9 New Categories Added for 2008!

2008 Awards Timeline:

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April 7	Early Bird submission fee deadline (entry fees increase after this date)
May 19	Final submission deadline
June/July	Judging & Notification
Oct. 21	Winners recognized at IEDC's Annual Conference in Atlanta, Georgia

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non-traditional

ECONOMIC DEVELOPMENT

By James B. Gambrell and Agata P. Chydzinski

In many ways, the last five decades have been half a century of the dramatic change in the South. From a major depression that slowed economic growth in the entire country, the South has now grown to become the fourth largest economy in the world. It has also been the nation's fastest growing regional economy throughout the 1990's, with an unemployment rate lower and job growth rate stronger than those of any region in the United States.

South Carolina was historically a leader in this growth, and had one of the nation's most successful economic development programs, attracting large capital investments from both foreign and domestic companies. During the past 10 years, companies have invested more than $30 billion in new or expanded South Carolina facilities.

At the same time, South Carolina has been one of the nation's least successful states in building a base of locally owned, entrepreneurial focused companies. What made it unsuccessful is that until the last half of the 20th century, South Carolina was an agricultural state where the major industry was textile. At the brink of the new century, the state needed to look at new industries to provide jobs for its citizens and to diversify its economy. This became possible with the recognition of the position of South Carolina's research universities.

Before the beginning of the 21st century, South Carolina had successfully lured jobs and investments from other regions with a simple, but proven formula: inexpensive land, low construction costs, cheap labor (not influenced by labor unions), excellent training support, tax incentives, and manufacturing infrastructure. That strategy worked until manufacturers found even lower-cost regions i.e. Mexico, Puerto Rico, China, Korea, and other (off-shore) locations.

The first incubator outside USC's campus was located in Columbia's City Center.

Columbia, the state capital of South Carolina, has continued to attract new jobs and investment to the city, but hasn't made significant progress due to several important factors. One of the main obstacles is the community's lack of an existing industrial base with the infrastructure that is needed to attract additional growth to the area. Columbia's regional economy was mainly based on the government and the finance and insurance sectors. The small industrial base did not have the critical mass of manufacturing workforce. Second, the city's appeal is not centered on a "low cost of doing business" advantage, which is actually higher in the city than in the suburbs or other areas of the county. Finally, due to recent bank mergers, Columbia has lost a significant number of financial

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A SOUTHERN CITY TAKES A NEW DIRECTION

During the past few decades, the South has undergone extreme change by becoming one of the world's largest economies. Columbia, the capital of South Carolina, has struggled to keep up with the economic progress of the rest of the region. In an effort to create new locally owned businesses, the city of Columbia and the University of South Carolina teamed up to start the USC/Columbia Technology Incubator. Through nurturing and financial support, the incubator has succeeded in creating 334 new high paying jobs. Because of the economic success, the city of Columbia has received IEDC's 2007 award for Technology Based Economic Development for Cities of 50,000 to 200,000 residents.

jobs and local and state governments are no longer expanding, creating government jobs. Meanwhile, other regions such as Raleigh (NC), Austin (TX), Birmingham (AL), and nearby Charlotte (NC) have become leaders in creating a large base of rapidly expanding, locally owned firms. And, not by accident, these regions have also experienced well-above-average economic prosperity and growth.

A NEW APPROACH IS NEEDED

In 1999, Bob Coble, mayor of Columbia, formed a "Mayor's Technology Council" to study the problem and find a solution. The council decided a new direction in economic development was needed to keep pace with the other dynamic cities in the region. Columbia, it was felt, should change direction and move away from trying to support an industrial economy, and instead, concentrate efforts on the coming knowledge based economy. To be competitive with cities from the neighboring regions and states, Columbia needed to grow and support its own assets, including: local entrepreneurs, ready to develop knowledge based businesses; a top quality workforce; great technology infrastructure; and a business climate that supports technology-oriented companies.

Clearly, it was determined that small entrepreneurial firms would create the bulk of new jobs and wealth in tomorrow's economy. A great example would be a city like Austin, Texas, that has been extremely successful in efforts to develop an information-based economy. The chart above illustrates just how much of an impact this type of transition can have on a regional economy that in many ways is similar to the Columbia region. Note also, this success did not happen overnight. This growth was the result of years of focused efforts by Austin's business and political leaders.

Columbia's Office of Economic Development, working with the mayor's council, saw the change in Austin over a 20-year period, and recognized the need to develop a long-term strategy to transition the Columbia economy into a growth mode economy and to provide a baseline for a plan to effect that change. The following chart illustrates the same statistics for the Columbia region from 2001 to 2007 as did Austin in 1980 to 2000. Austin experienced 20 years of tremendous growth, as it saw the importance of a technology- based economy at the beginning of the 80's, earlier than many US cities. In contrast, Columbia's economic growth was stagnant until the city realized the importance of a technology driven industry and used Austin as a model.

The target goal was to achieve gains similar to Austin's by the year 2008. In order to accomplish this goal, it was clearly understood that the active participation and engagement of every possible resource in the area was going to be needed, and that a clear "vision" and action plan was going to be necessary.

To achieve this, the Mayor's Technology Council, working through the city of Columbia's Office of Economic Development, embarked upon an extensive outreach program to solicit ideas from key groups and individuals from all sectors of the community. The result of this outreach and subsequent study was a comprehensive strategic plan focused on transforming the Columbia region into a successful high-tech community where a coalition among business, government, and educational institutions would enable the community to develop and capture high-paying, technology-oriented jobs, resulting in significant investment and growth in the local economy.

The goals, strategies, and metrics outlined in this new plan required the support of the business community, the education community, and local governments (including both Richland and Lexington Counties and the city of Columbia). Only through partnerships and cooperation would it be possible to develop and implement the strategies that would unify and energize the efforts. The goal of these efforts was to leverage the assets of the region to meet tomorrow's economic development demands while building a solid foundation for the information-based economy that would be critical to the region's economic future.

It was clearly understood that the successful execution of this plan could not be accomplished by the city alone. It would require the coordinated efforts of the entire community, including local businesses, educational institutions and organizations, and all levels of govern-

ment. The challenge was to sustain the vitality of the current economy, and at the same time aggressively prepare for the strategic use and investment in technology that would drive the region's long-term economic success to higher levels. The city of Columbia and its regional partners – Richland and Lexington Counties and the education community – were all committed to meeting this challenge, and are still committed today. This plan was a first step on the road to securing a more prosperous economic future for the entire area.

To develop this plan, an approach was taken that assumed a vast amount of knowledge and insight was already available within the community and that critical "buy-in" would be needed to make the plan work. Many reports and recommendations had previously been made by consultants that touched on "traditional" aspects of leveraging assets to further develop the region's economy, but now, a new approach was needed. Consequently, more active input was sought. Initially, an electronic survey of business leaders, along with direct interviews, was undertaken. Information was also gathered from numerous technological reports and from meetings of several associated technology groups and committees. Throughout this process the input of key individuals was critical to the buy-in and future success of the plan. Initially, valuable input was certainly missed, and follow-up interviews were incorporated into a "living plan" that was used to guide decision makers into action.

Entrance of the USC/Columbia Technology Incubator

Students at the University of South Carolina have internship opportunities at the USC/Columbia Technology Incubator.

In 1999, the city of Columbia adopted the Regional Technology Strategic Plan as the framework around which to build a new economic development strategy. With an overall goal of achieving long-term social, political, and economic success through the strategic use and investment in technology, the city made a commitment to build and support a coalition among local government, local businesses, and local educational institutions with the singular goal of transitioning the greater Columbia economy into the information age. **A key objective of this plan was to facilitate business creation and growth in order to provide increasing numbers of higher paying jobs for the citizens of Columbia and the surrounding area, and create additional economic activity (wealth) for the region through increased taxes and fees.**

The Columbia City Council embraced the plan and recognized that traditional economic development activities would not achieve a cost benefit return on investment that would make a significant difference in the lives of its citizens. City Council led the charge and set out to effect changes through the implementation of this plan. The city's Office of Economic Development began working with its partners to implement three key recommendations of the plan:

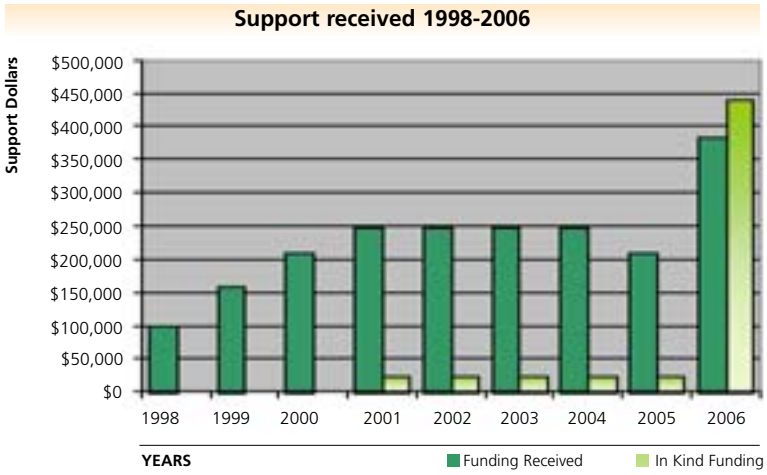
- Embrace a Culture of Innovation,
- Mobilize Higher Education, and
- Facilitate Business Creation and Growth.

THE USC/COLUMBIA TECHNOLOGY INCUBATOR

One of the key elements of the plan was to create new technology-focused, locally owned businesses, using the research and technologies being developed at the University of South Carolina. Following the basic premise that commercializing research leads to the creation of new companies with high paying jobs which benefit the entire state, the USC/Columbia Technology Incubator was born.

This strategy focused on a new business incubator formed at the USC School of Engineering in 1998. The initial investment in the program was made by Donald R. Tomlin Jr., a real estate developer and entrepreneur, in the amount of $200,000. The first incubator company, Kryotech, INC., became a success and when the company graduated from the incubator program in 2001, it relocated with 85 highly paid employees whose salaries ranged from $45K to $125K. The concept of commercializing technology developed at USC through an incu-

Funding Received by the Incubator Since 1998



bator program had been proven, and USC, with a new goal of becoming a major research university, was committed to commercializing its intellectual property into thriving companies that created jobs for its graduates and the Columbia workforce.

Partnering with the city of Columbia, USC hired an executive director and established a business plan and budget. The first incubator outside the university's campus was located in Columbia at 1233 Washington Street in Columbia's City Center. After just 12 months of operation, the incubator had raised $160,000 in local support for operations, occupied 5,000 square feet of office space, and was home to six new technology focused companies employing 115 individuals in high-tech, entrepreneurial-oriented jobs. As new companies continued to be accepted into the program, the incubator soon occupied an additional 10,000 square feet in another building located at 1334 Sumter Street, less than a block away from its initial off-campus location.

By 2004, the incubator had grown to 23 new companies and had graduated 12 for a total of 35 of new companies in the region. These companies created 302 new jobs and $ 18.5 million in new capital was obtained from venture capital firms, angel investment groups, and individual investors to support company operations. The incubator was now completely out of space and needed a larger facility to house more companies. Again, working with the city's Economic Development Department, the Columbia City Council approved a plan to make available a city building that was being vacated. A lease ($1/year) was executed and today the 40,000 square foot, 1225 Laurel Street, office building is home to the USC/Columbia Technology Incubator.

The incubator shares its space with the Columbia International Business Center where foreign-based companies can enter the US market on reasonable terms. The incubator building is being up-fitted with private contributions ($63,750 to date). The rent paid by the companies ($10 per square foot) along with contributions from organizations in the community, both public and private, provide operating funds for the incubator.

Companies are selected to be in the incubator program only if they meet the minimum requirements set by the Incubator's Advisory Council (IAC). To qualify, a company must: have a written business plan, be a technology based company, and need the University of South Carolina or Midlands Technical College to help it grow its business. The company must be willing, and in fact utilize, the resources (students, faculty, staff, and intellectual property) that are available at the USC or at Midlands Tech.

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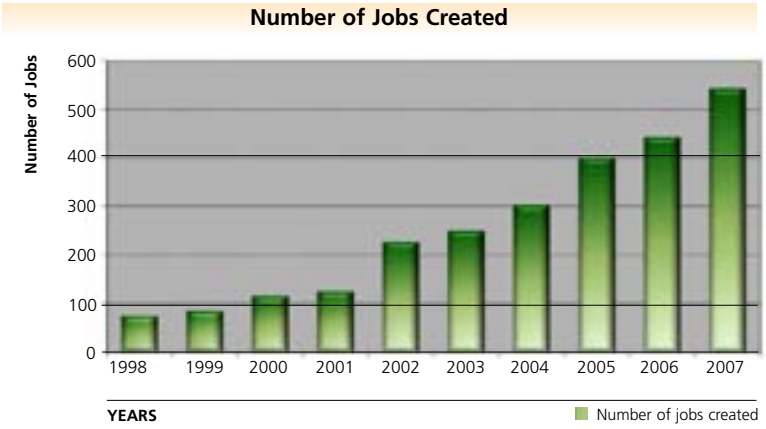
Once the company is deemed ready to apply, the IAC meets to review the business plan and interview the company's principals. After an interactive admission session, the IAC votes for or against admission to the program. The IAC is composed of nine members from both the business and academic community.

The USC/Columbia Technology Incubator project is a wonderful example of how, both public and private entities, working together can succeed in making a significant impact on the local economy. To date, 17 companies have graduated from the incubator program. These companies have created 334 new high paying jobs in the Columbia market with average salaries exceeding

Jobs Created by Incubator Companies Since 1998



$60,000. The incubator's six graduation ceremonies have been highly publicized in the local media and also in the Wall Street Journal. To date, the incubator program has helped create 542 jobs, 118 of which are occupied by minorities. These numbers represent the total number of jobs created by current and post-graduate companies.

At this time, there are 38 companies (10 minority companies) in the program. Statewide, the incubator has been recognized as a cutting-edge business incubator and has been selected by the South Carolina Department of Commerce as a "Best Practices" model to assist other South Carolina communities and organizations in developing their own incubator entities.

University of South Carolina Campus.

IDV: A PERFECT EXAMPLE OF COMMERCIALIZATION

Businesses from the incubator are at the cutting-edge of developing new technologies and creating unique products and services that improve the quality of our lives, granted, on a relatively small scale today, but on a much grander scale tomorrow. As a result, these companies are enhancing the economic development success of South Carolina with highly skilled workers, advanced technology and research, and adding new products and services to the market.

Visualization Software is the "name of the game" for one incubator company graduate, Interactive Data Visualization, also known as IDV. If you've seen the popular movies "Shrek the Third" or "Spider-Man" then you've seen the products developed by IDV. Thousands of scenes call for virtual trees, trees that move with the wind, trees that drop leaves, and trees that diminish in size as the camera zooms out – all created by IDV.

Interactive Data Visualization, Inc., an incubator graduate.

Chris King and Michael Sechrest co-founded IDV in late 1999. IDV was initially formed as a subcontracting entity of a Virtual Test Bed (VTB) research effort, focusing on moving VTB visualization technology to emerging workstation-class PCs so that a growing body of users, with limited equipment budgets, could benefit from VTB's robust visualization technologies. From this project, IDV pursued research and software development efforts aimed at delivering dramatic improvements to the customers' ability to see and understand complex systems. IDV was accepted into the Incubator program in June of 2000, and much like Kryotech, is another great example of successful growth using technology transfer and commercialization.

IDV has also done a considerable volume of business based on military-related research work, including interactive visualization for various Electromagnetic Aircraft Launching Systems (EMALS) designs, an orbit irradiance model for a solar-recharging, satellite and an electrical cabling position system for naval surface vessels.

Apart from its funding from the Office of National Research, IDV has also received Phase I & II SBIR (Small Business Innovative Research) grants from the Navy for the topic "Enhanced Visualization of Modeling and Simulation Processes." The work began in summer 2002 under the authority of the Naval Surface Warfare Center (NSWC) in Dahlgren, Virginia, and was completed in February 2005 with the delivery of a fully functional version of the Eye-Sys visualization software package. Since the day it was founded, Mr. Sechrest and Mr. King have been directly involved in all aspects of IDV's business, research and development activities. They have taken leading roles with the customers both in defining new project requirements and in supporting products with new and innovative adaptation of technology driven systems that are already deployed.

IDV's success, rapid growth, and the award-winning power of its commercial products are a direct reflection on the vision and managerial expertise of their founders and the assistance they received from USC and the incubator staff. As equal owners of IDV, they are committed to growing the firm and expanding their visualization offerings with products that set the standards for ease of use, efficiency, and functionality for their customers around the world. Today, the company has 26 employees whose average compensation is well above $60K.

THE ECONOMIC FUTURE IN COLUMBIA

There are three basic ways to create jobs and wealth for a local economy. First, investment and new jobs can be imported, as in the traditional sense of economic development. Second, existing companies can be supported and grown via business retention and growth programs. Finally, new companies can be started and nurtured via programs like the USC/Columbia Technology Incubator.

Recruiting new companies can be very expensive and not always a successful (long-term) endeavor. Nurturing and growing local companies is an efficient way to accomplish long-range economic growth and is usually very cost effective. In addition, business retention and expansion programs create goodwill in the business community by supporting existing companies. Finally, but certainly not least, new business enterprises can be highly-successful in creating new jobs and investment. The Incubator program established in Columbia is doing just that as evidenced by the results of this still very young program.

The USC/Columbia Technology Incubator continues to grow and will eventually be located in Innovista, the University of South Carolina's exciting new 500-acre Technology Research Campus that will forever change the landscape of downtown Columbia. The impact of USC's research, resulting in marketable new technologies that are commercialized into new companies, will continue to have a significant economic, social, and political impact on Columbia and the surrounding area.

John Weidner and Chuck Holland with their hydrogen powered Segway from H2M - Hydrogen Hybrid Mobility, an incubator company.

For their work, in 2007 the Columbia Office of Economic Development and the USC/Columbia Technology Incubator received a State Award for "Innovative Economic Development" from the Municipal Association of South Carolina. They also received IEDC's 2007 award for Technology Based Economic Development. As the momentum continues, the push for commercialization of intellectual property at the University of South Carolina along with the support of the city of Columbia and the business community will insure that the outlook for successful new companies, creating new jobs, and investment is bright, and the vision for economic growth is clear for the Midlands of South Carolina.

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