

Perspectives

Federal Reserve Bank of Dallas

BANKING & COMMUNITY PERSPECTIVES

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CREATING CRITICAL MASS

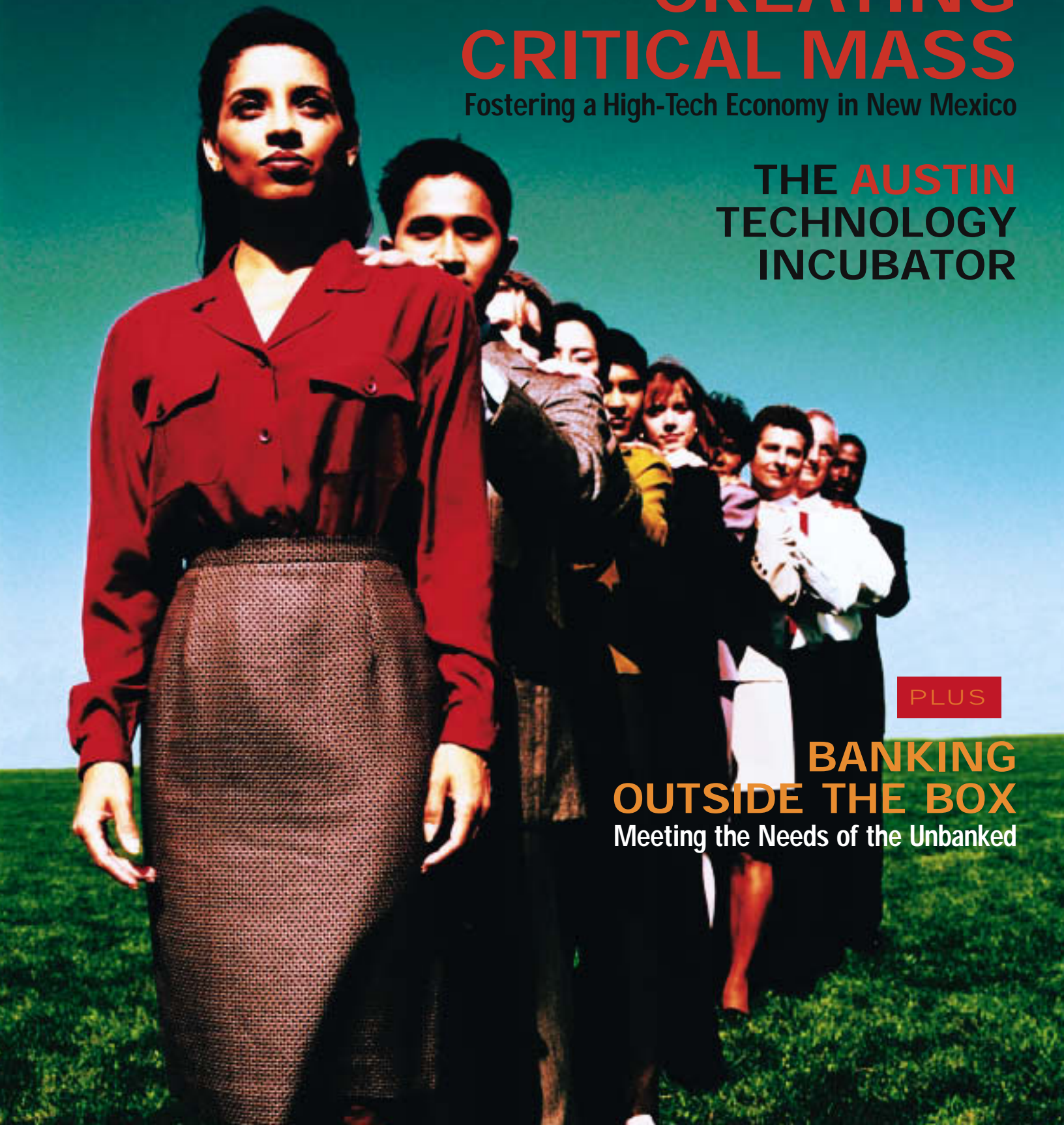
Fostering a High-Tech Economy in New Mexico

THE **AUSTIN**
TECHNOLOGY
INCUBATOR

PLUS

**BANKING
OUTSIDE THE BOX**

Meeting the Needs of the Unbanked



OUR NEW LOOK

The technological innovations of the past few years have transformed our daily lives. The changes are not limited to how we buy airline tickets, trade stocks or check the weather forecast. Our expectations have also changed. We want products, services and information delivered faster than ever, and we want them tailored to our needs.

With that in mind, the Community Affairs Office of the Dallas Fed has changed how it delivers information. In January we published the first issue of our new webzine to better serve our readers by offering quick access to timely information. You'll find a new issue of *e-Perspectives* at www.e-perspectives.org six times a year. Twice a year, we'll publish a print-copy *Perspectives*. Each issue will focus on a major theme in community and economic development.

In the spirit of the driving force behind our changes, the premiere issue in our new format focuses on technology as a tool for economic development and the delivery of financial services. Read "Creating Critical Mass" to discover how a nonprofit is helping reshape New Mexico's economy and "Banking Outside the Box" to learn how companies are extending financial services to those without bank accounts.

I hope our new format meets your expectations. Let us know what you think.



Nancy Vickrey
Assistant Vice President
and Community Affairs Officer
Federal Reserve Bank of Dallas

CREATING CRITICAL MASS

Fostering a High-Tech Economy in New Mexico

With its high poverty rates, low per capita income and intractable pockets of double-digit unemployment, New Mexico often seems to be on the wrong end of state economic rankings. Heavily dependent on federal spending to create jobs, the state's prospects have long been considered limited.

That perception may no longer capture reality, however, thanks in part to an Albuquerque nonprofit. Technology Ventures Corp. (TVC) is forging relationships with state government and venture capitalists to transform New Mexico into a high-tech hot spot like Silicon Valley or Austin. In the process, it has created an economic development model other regions can follow.

TVC, along with the State Investment Council, is attracting millions in equity investment for entrepreneurs seeking to commercialize technologies created at Sandia National Laboratories, Los Alamos National Laboratory and other R&D facilities in the state. TVC also assists and advises researchers and scientists, among others, on how to take their groundbreaking innovations to market.

When the effort began eight years ago, New Mexico had no venture capital firms. Today, it has nine. And TVC has helped establish 46 tech companies that combined have generated 3,125 new jobs and attracted \$295 million in equity investment.

"We are now positioned to create a critical mass of technology firms in New Mexico," says Sherman McCorkle, TVC president and CEO. "TVC's primary goal is creation of high quality, well-paying, long-term jobs. Everything we do is just a mechanism to achieve that goal."

By screening prospective companies and mentoring the cream of the crop, TVC

offers investors access to some of the state's most promising start-ups. If TVC decides a proposal has potential, the organization works with the entrepreneur to refine the business plan and develop marketing strategies. A pro bono advisory committee provides expertise in law, accounting, marketing and business management.

**"Our metric is job creation,"
says Sherman McCorkle.**

Finding the right partners is critical, says McCorkle. "Entrepreneurs and investors need to make sure they can live with each other for the next five-plus years. That is why our guiding principle is the right investor for the right technology."

TVC's efforts are attracting attention. The Association of University Related Research Parks has recognized TVC for its technology commercialization model, and the Small Business Administration has applauded its venture and seed capital development.

A Three-Legged Stool

In 1992, Bill Garcia, then state secretary of economic development, compared the New Mexico economy to a three-legged stool with a missing leg. The state had a strong business infrastructure and the technology produced by the \$3 billion sunk annually into federal R&D. What it lacked, he said, was the investment necessary to capitalize on those assets.

"We took that report and decided to design TVC to be the third leg," says McCorkle.

The organization grew out of Martin Marietta's bid to manage Sandia National



Labs, a defense-related R&D facility headquartered in Albuquerque. Team members—including McCorkle—wanted to give something back to the state and stand out from competitors, so their pitch included an economic development component.

Laying the groundwork for TVC's structure and processes, McCorkle and crew visited emerging technology hubs like Austin and venture capitalists in California and Colorado. They found few models for effective technology transfer from federal R&D labs, but what they did learn convinced them that making the organization nonprofit was the way to go. "Being a nonprofit organization gives credibility on both sides of the street because we get no finders fees or equity position," McCorkle says. "Our metric is job creation."

Martin Marietta—by then Lockheed Martin, due to a merger—pledged \$1 million annually to cover TVC operating costs and \$5 million for a building to house the nonprofit and the start-ups it would foster. In 1993 the research and planning paid off



when the defense contractor won a five-year contract to manage Sandia, and TVC was funded.

Attracting Equity and Start-ups

Not only does New Mexico now have nine venture capital firms, a 2000 Milken Institute report named Albuquerque the country's fastest-growing city in high-tech output. The think tank credited the ranking to Intel's nearby semiconductor fabrication plant, the state's national lead in per capita federal R&D funding and the rise of high-tech start-ups.

Attracting equity investment is a dual effort of the TVC and the State Investment Council, which oversees the state's venture capital program. Since 1995, nearly \$80 million in state funds has been plowed into New Mexico start-ups through limited partnerships with venture capital firms. It was decided that pairing with established firms would be more efficient than creating a new state agency, says council Chairman Gordon Wise. And the council's being a silent investor "insulates the investment process from the political process by putting a layer between the entrepreneur and the money appropriated by the legislature."

To receive state funds, venture capital firms must have an office in New Mexico

and invest or cause to invest an amount of capital equal to what the state is willing to put up. The internal rate of return on the state's investment has been 44 percent.

TVC has played a key role in the amount of revenue dedicated to the state's venture capital fund. The organization led an effort in the legislature to allocate \$25 million to the fund in 1997. A second push in 2000 increased the allocation to \$150 million and boosted the cap on single investments from \$7.5 million to \$15 million.

Profitable Location

Five of the state's venture capital firms take advantage of TVC's offer of free office space in its Albuquerque building. Among them is Murphree Venture Partners, which relies heavily on TVC as a source of deals.

"One of the most impressive aspects of TVC's operation is its understanding of all the elements that make up a successful technology business: technology, management, marketing, operations and finance," says Murphree partner Tom Stephenson, who describes his firm's return on investment as "very profitable."

Murphree, which has invested \$3.5 million in New Mexico start-ups since 1995, recently received \$15 million from the State Investment Council for a new



The Right Investor for the Right Technology

Another firm that benefited from TVC and state venture capital was MicroOptical Devices. While working at Sandia, Tom Brennan used his background in physics and material sciences to develop a low-cost way to manufacture high-quality lasers. In 1995 he teamed with fellow scientist Robert Bryan to commercialize the technology and start MicroOptical.

Brennan and Bryan worked with TVC to secure rights to the technology, then

Continued on page 8

THE AUSTIN TECHNOLOGY INCUBATOR



Aruni Gunasegaram and Erin Defossé got tired of vending machines at the University of Texas–Austin always running out of their favorite drinks. So these entrepreneurial graduate students came up with a solution: enable the machine owner to monitor its contents via the Internet.

Thanks in part to guidance and education from UT's Austin Technology Incubator (ATI), Gunasegaram, a former accountant, and Defossé, an ex-NASA rocket scientist, are putting their ideas into action. Their company, Isochron Data Corp., develops and markets wireless technology for businesses to obtain real-time information on the maintenance and inventory of products from ice and vending machines via web-based browsers.

"Customers sometimes regard incubator companies as less stable, but we've been able to prove that Isochron is a real, high-growth company with a path to profitability," Gunasegaram says.

That's music to Joel Wiggins' ears.

Wiggins, the incubator's executive director, says ATI supports promising early-stage high-tech companies like Isochron by helping them solidify management teams, secure financing, get products to market and compete globally. These companies, in turn, will generate wealth, create jobs, strengthen the city's global reach and add value to UT programs.

"ATI doesn't take credit for the accomplishments, because the companies do the real work," he says. "The incubator's value lies in the networks and contacts, not to mention the cost savings passed on to the companies."

"The resources and support we have received from ATI have enabled us to build our credibility and win customers."

—Kristyne Raley

Numbers Tell the Story

To judge ATI's success over its 12 years, Wiggins looks to the numbers. ATI's graduate companies and current "resident" companies have created more than 2,500 high-tech jobs in Austin, generated more than \$1 billion in revenue and raised more than \$600 million in capital.

ATI is operated by UT's IC² Institute, an internationally recognized research and educational organization that works with the public and private sectors to foster technology-based economic development. George Kozmetsky, an institute founder and former dean of UT–Austin's business school, and Laura Kilcrease started the award-winning, nonprofit incubator.

The original incubator had 4,000 square feet of space and two residents. Today, ATI office space is 10 times that size and home to 19 companies.

Fifty-four companies, including five that have gone public, have graduated from the incubator. Another eight—including Isochron—will graduate this year. The products and services these companies offer represent a range of technology, from Internet-based school curricula to online marketing support for car dealers. ATI also reaches out to early-stage biotech and renewable-energy compa-

nies. "High-tech does not necessarily translate into dot-com," Wiggins says.

ATI covers its operating expenses through space and service fees, along with a 1 percent equity stake in each resident company—far lower than the 40 to 60 percent some for-profit incubators require. As testimony to ATI's local credibility, the city of Austin and the Austin Chamber of Commerce each give the incubator \$25,000 a year. Through ATI's Know-How Network, more than 100 local professional service providers give resident companies discounts on products and services.

Tough Admissions Standards

Because ATI accepts only about 10 percent of all applicants, investors and customers believe a company's admission to the incubator signals a strong potential for success, Wiggins says.

Applicants must submit a business plan for a technology-based product or service that shows promise for creating jobs. They must have six months of working capital and be beyond the R&D stage. They also must demonstrate the potential to generate significant revenues within five to seven years.

B2Gsource Inc. (business to government source) is a perfect example of a company that met the tough admissions criteria. In early 2000, Kristyne Raley, B2Gsource founder and CEO, decided to offer a web portal for governmental units to post requests for bids and receive responses. B2Gsource also provides customers with information on contracting with state and local governments, finding qualified vendors and meeting requirements for doing business in the public sector.

ATI acceptance of B2Gsource as a resident has been critical to the company. "There are nine of us in these two rooms. Our entire business is here," Raley says. "Without the Austin Technology Incubator, I'm not sure B2Gsource would be around. I think many of us would have given up."

INFOGLIDE

Named technology
"Incubator Client of the
Year" by National Business
Incubation Association,
March 1999



Digital imaging technology
given Innovations 2000
Award by Consumer
Electronics Association,
January 2000



Acquired by BMC
Software Inc. for
\$100 million, May
2000



Acquired by Commerce
One for \$78 million,
March 2001



Applied Science Fiction

Received \$55 million in
fifth-round venture funding,
for total of more than \$90
million since 1995 founding,
April 2001

In addition to a banking relationship with J.P. Morgan Chase & Co., Raley has a loan from ACCION Texas, which lends to small businesses that lack financing from commercial sources. B2Gsource has been able to sustain growth with revenue generated by its services.

From Office Space to Venture Capital

B2Gsource and the other ATI residents enjoy a wide array of tangible benefits, including below-market-rate office space, furniture, access to T-1 lines, telecommunications equipment and office supplies. The companies share conference rooms, copy machines and a receptionist.

With the incubator staff's assistance, the companies establish networking and mentoring contacts, recruit professionals and student interns, and obtain help with market research and public relations. Leaders in Austin's high-tech community and ATI professionals counsel business owners on organizational strategy. The companies also gain brand recognition from ATI's positive image and its continued success.

ATI also provides links to venture capitalists, angel investors and other funding sources. Resident companies, for example, receive automatic membership in The Capital Network, which matches entrepreneurs with investors. Resident owners give mock presentations of their business plans to technology business leaders so they can hone their strategies before pitching their ideas to venture capitalists.

A Winning Plan Draws Investors

In May 1998, Isochron entered ATI by winning the International MOOT CORP business plan competition, administered by UT-Austin's graduate business school.

Isochron received \$1 million in seed capital in September 1998, \$2.5 million in 1999 and \$12 million in its first round of venture capital funding last year. Two original investors were Gunasegaram's mother and America Online cofounder Marc Seriff, who now serves on Isochron's board. Current investors include TL Ventures, Sanchez Capital Partners, SAP Ventures, WR Hambrecht & Co., Arkoma Venture Partners, Convergent Investors and Sagebrook Technology Partners.

For winning the MOOT CORP competition, Gunasegaram and Defossé—Isochron's chief strategy officer and chief technology officer, respectively—received a year of free office space at ATI.

Armed with plans and seed capital, the two developed a 5-by-7-inch wireless box that sits inside a vending machine and transmits information to the distributor on the machine's contents, customer use and maintenance needs. The information is stored at Isochron's operation center, then posted on a web site from which the distributor can run its entire vending operation. Gunasegaram says Isochron's technology allows the distributor to manage operation and maintenance more cost-effectively by eliminating the need to manually check every vending machine.

"We are using the Internet to help bricks-and-mortar companies do business better," she's been quoted as saying.

After three years at ATI, where Isochron occupied 4,000 square feet with 44 employees, Gunasegaram and Defossé moved out



"ATI offered us a safe, nurturing place to build our business. The people were wonderful to work with and did everything they could to help us succeed." —Aruni Gunasegaram

in May and almost tripled their office space. Among its clients are Dr Pepper/Seven-Up Corp.; Coca-Cola Bottling Co. of Chicago, the country's largest independent Coca-Cola bottler; and Packaged Ice/Reddy Ice Inc., the country's largest manufacturer and distributor of ice products. ■

BANKING OUTSIDE THE BOX

Meeting the Needs of the Unbanked



Technology is bringing financial services to consumers who lack a banking relationship.

More than 11 million U.S. households have no connection to financial institutions. So when the need arises, they turn to check-cashing outlets and other services that often charge exorbitant fees.

Thanks to new products, the unbanked can get the kinds of financial services available to those who have checking accounts. At the same time, financial institutions are reducing their risks, lowering their costs and providing additional services—plus building trust and confidence—to those who've been unable or chosen not to have a banking relationship.

Debit Cards for the Unbanked

As companies seek to cut costs, direct deposit is increasingly becoming the payroll vehicle of choice. But that means employees need accounts into which that money can be deposited.

Directo Inc. of Atlanta has developed a debit card for people without checking accounts. Direct2Cash works two ways. Companies use Directo to provide a mechanism for these people to receive mandatory direct payroll deposits. And banks can refer people to Directo if they've been turned down for regular checking accounts and their employers offer direct deposit.

Those who sign up for Directo accounts have their paychecks direct deposited into an FDIC-insured account at one of the company's partner banks. Cardholders then use their debit cards to access their money from an ATM or get cash back from point-of-sale transactions. The accounts can also accept ACH credits and debits.

Employers can expand their direct-deposit payroll program, cut costs and improve worker retention because the program is an employee benefit.

In addition to saving on check-cashing fees, employees have immediate, around-the-clock access to their money. They also don't have to stand in long lines to cash checks or carry large amounts of cash.

Twenty companies have hired Directo to handle their pay card direct-deposit payments since its start two years ago. They include Georgia Pacific, a manufacturer/distributor of paper and building products, and OneSource, a janitorial services contractor with 1,300 offices throughout the country.

Many of Directo's client companies sign up for the service because much of their workforce consists of people who don't use checking accounts. "This program has real social value," says Directo CEO Rhen Cain. "It helps underbanked and unbanked people get established in the financial services arena."

A companion product, the Acce\$oCard, allows people to transfer money to designated parties anywhere in the world. These linked accounts are especially appealing to people with family living outside the country. By splitting their deposits among several cards, employees can give family members ATM access to their deposits and avoid costly wire transfers.

Directo recently introduced another product—an electronic paycheck that allows employees to print out their stubs via company intranet or a secured Internet site. The electronic stub, coupled with direct deposit, could ultimately result in paperless payrolls, Cain says.

Smile! You're on Camera

No one will ever accuse Frank Petro, CEO of InnoVentry Corp., of thinking small. In March, Petro declared that the privately held San Francisco-based company fully expects "to change how millions of working Americans handle their personal finances."

InnoVentry plans to accomplish this with its network of RPM kiosks, which use Internet and biometric technology to cash checks and provide standard ATM services.

InnoVentry has enrolled more than 1 million customers and cashed more than \$1.5 billion in checks since the first RPM was introduced in 1999. InnoVentry kiosks can be found in 27 states, in major retail chains that include Kroger, Albertson's, Circle K, Kmart and Wal-Mart. In March, the company installed its 1,000th machine.

Kroger managers say the machines are attractive additions because they reduce the costs and risks associated with grocery-counter check-cashing services and bring in more shoppers. People cash checks for an average of \$250, then often spend some or most of it on groceries, says Gil Roeder, InnoVentry vice president of communications.



E-COMMERCE

Resource Centers

InnoVentry began as a joint venture of Wells Fargo & Co. and Cash America International and now counts Capital One Financial Corp., whose principal subsidiaries offer consumer lending products, among its backers. In February, InnoVentry announced completion of a \$253 million funding package that will enable the company to add 3,000 RPMs. InnoVentry also plans to add electronic bill payment, money order and wire transfer services to its machines by year's end.

Enrolling takes about five minutes. The customer answers questions on the screen, talks directly to a service person from a phone attached to the RPM and keys in his or her Social Security number. The customer's picture is taken, then interpreted by facial recognition software as a unique biometric signature that becomes the source of future identification. Subsequent checks are cashed automatically if the image matches the photo file and the check has no high-risk characteristics. The service center can speak with the customer if there's a question about a check or who's cashing it. Charge varies by region and type of check but typically runs about 2 percent of face value.

Roeder says that although two-thirds of the people who use the machines have bank accounts, InnoVentry's market is the underbanked. "We actually see our market larger than what the Federal Reserve would define as the number of Americans who have no bank accounts—roughly 11 million," he says. "We see our target market as...60 million adults living in households that cash checks outside banks."

Roeder describes the typical RPM user as under 40, male, and Hispanic, African-American or a recent immigrant. Median household income is \$37,000.

"InnoVentry is reaching members of a very large and underserved market who often are choosing not to use banks," Roeder says. "Many of the fringe banking types of outlets have been prone to exploit this group." ■

Businesses seeking federal contracts may want to take the information highway to the customer's door. The government is encouraging its suppliers to use electronic commerce to streamline purchasing procedures and slash paperwork. In fact, the Defense Department requires that vendors go this route.

Of course, not all businesses are Internet savvy. That's why the San Antonio Electronic Commerce Resource Center and its 16 counterparts around the country are helping companies harness the power of computers and the Internet to sell goods and services to the government. E-commerce can be used to send and receive product specs and drawings, bids, purchase orders, invoices and payments.

Created by the Defense Department in 1992, the centers assist small and medium-sized companies interested in doing business with the government. The other Texas centers are in Dallas, Palestine and Orange.

The San Antonio center, which opened in 1993, covers Southwest Texas, New Mexico and Arizona, with the help of a satellite office in Santa Fe, N.M. The center provides information, training, consultation and technical support for all federal e-commerce initiatives.

The free services include 23 classes and workshops with such titles as Getting Started with Electronic Commerce, Marketing on the Internet, Internet Business Operations and Web Page Development. Businesses wrestling with a specific problem can also get one-on-one help.

Bits and Bytes, the center's online newsletter, reports information on upcoming workshops and conferences as well as

business success stories and ideas for addressing specific situations.

To Jon Doherty, deputy program manager in San Antonio, e-commerce is about cutting expenses, saving time, and expanding customer and supplier bases. The ability to invoice online is one big advantage for vendors. When vendors combine online invoicing with direct deposit, they receive payment in as few as seven days, rather than the 30 it could have taken before. This helps vendors improve their cash-flow forecasting and ensure solvency.

Theresa Chavez knows the benefits of e-commerce and the San Antonio Electronic Commerce Resource Center. In 1991, Chavez, her husband and brother-in-law started High Quality Machine Shop in southwest San Antonio with two Air Force contracts for airplane hardware. But the business struggled with only eight full-time employees, and Chavez soon realized the company needed greater operating efficiency—and more business.

Five years ago, she heard about the San Antonio center's services. With the help of several classes and one-on-one technical assistance, Chavez's company now relies on the Internet for securing government contracts. Today, the machine shop has contracts with seven Air Force bases. Chavez employs 16 people full-time and has doubled her revenues, from \$600,000 in 1991 to more than \$1.2 million last year. None of this would have been possible, she believes, without the Electronic Commerce Resource Center. ■

For more information, call Jon Doherty, deputy program manager, (210) 732-1141, or go to www.saecrc.org.

received a \$200,000 seed grant from ARCH II Venture Partners Fund to write a business plan and make a prototype. They moved into the TVC building, where they were supplied with office space, help with the business plan and, says Brennan, moral support.

“Being located...in the same building made a huge difference,” he says. “We all lived and breathed MicroOptical Devices.”

In 1996, Brennan and Bryan attended TVC’s Annual Equity Capital Symposium, which draws venture capitalists from around the world. The pair came away with \$3.1 million in second-round money from several firms, including Murphree and ARCH. MicroOptical also secured a \$2.75 million line of credit.

The following year, New Jersey-based EMCORE Corp. acquired MicroOptical for \$32 million, invested \$60 million in expansion and created EMCORE PhotoVoltaics. EMCORE now employs 220 people but has plans to create up to 600 additional jobs.

EMCORE has become an anchor at Sandia Science & Technology Park, which is managed by a TVC spin-off. The 19-acre complex offers tenants fiber-optic infrastructure and proximity to world-class sci-

entists and engineers, thanks to its location next to Sandia National Labs.

Looking to the Future

Rather than resting on their success, New Mexico’s technology leaders are determined to capitalize on their momentum and forever transform the state’s economy. TVC is seeking a five-year funding extension from parent company Lockheed Martin. MicroOptical’s Brennan recently started Zircle, an equity investment firm based on his own technology commercialization model.

“We are going to show people how well technology commercialization works in New Mexico and in the process improve our education system, our infrastructure and our communities” by expanding the tax base, he says.

Wise, of the State Investment Council, is among those who believe New Mexico is just beginning to see the benefits of technology-based economic development.

“We’ll really see the benefit in five or 10 years, when our economy is more like Austin’s or the Silicon Valley’s,” he says. “The increase in the number of jobs and businesses will boost the well-being of the entire state.” ■

HOW DO THEY DO THAT?

How can Sandia Lab employees and private citizens commercialize and profit from technology developed with federal funding?

A catalog of legislation has made technology commercialization a priority for federal R&D organizations. Of special relevance for Sandia is the National Competitiveness Technology Transfer Act of 1989, which makes technology transfer from federal labs part of the Department of Energy’s mission.

The DOE and federal labs hold intellectual property rights to a variety of technologies and generally make them available for license to applicants with satisfactory plans to commercialize their use. The DOE or the lab negotiates license agreements on a case-by-case basis. The terms and conditions of such agreements include compensation structures that may involve an up-front fee, royalties based on revenues or both.

NEW ROADS & E-ROADS

Market Innovations in Community Development

Federal Reserve Bank of Dallas

2001 Community Affairs Conference, August 23–24

This conference will look at ways the rapidly changing banking environment is affecting low- and moderate-income communities. Current issues, including CRA, will also be discussed. A registration brochure will be coming soon.

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