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CrispTek is an example of the commercial viability of ARS-conceived food innovations. CrispTek's ChoiceBatter line builds from ARS innovations to offer rice batter that absorbs less oil when fried and still maintains a crispy texture. The company was formed in 2007, entered into a licensing agreement with the ARS Tech Transfer Office in 2008, and entered into a CRADA with ARS in 2009. It signed an agreement in 2008 with a facility in Iowa to manufacture its products, and sold its first product in 2009. By August 2010, ChoiceBatter was being sold in over 400 stores across the US, including four major grocery store chains, and Year 5 sales are anticipated to be \$4.7 million.

Econsult estimates that the ARS-Crisptek partnership would potentially yield, on an annual basis, a significant total impact in the counties in which economic activity is taking place. Within the five counties where there is significant CrispTek economic activity, total annual potential economic impact reaches about \$8 million in output (i.e. expenditures), including about \$4 million in value-added (i.e. contribution to Gross Domestic Product), supporting about 100 jobs and about \$4 million in earnings (i.e. compensation). In CrispTek's home county, Howard County in the State of Maryland, total annual potential economic impact reaches about \$3 million in output, including about \$2 million in value-added, supporting about 15 jobs and about \$1 million in earnings. Importantly, these annual potential economic impacts occur within a wide range of industries and are not narrowly distributed to just one or two sectors.

- **The ATIP Program is comprised of Ten Economic Development Members.** Eight of these entities each serve as a portal anchored to an ARS Area, and a 9th Partner representing a national organization, the National Association of Seed and Venture Funds. ATIP “Associates” work in conjunction with a proximal Partner. Currently, there is one ATIP Associate. Partners and Associates become members of ATIP through a Partnership Intermediary Agreement (PIA) executed with the Office of Technology Transfer; seven of these entities became ATIP members in 2009-2010.
- **Members of ATIP.** Members include the Maryland Technology Development Corporation (TEDCO), Mississippi Technology Alliance (MTA), Wisconsin Security Research Consortium (WSRC), National Association of Seed and Venture Funds (NASVF), Georgia Research Alliance (GRA), Ben Franklin Technology Development Authority (BFTDA), Kansas Bioscience Authority (KBA), TechComm at the Center for Innovation, Arlington, TX, California Association for Local Economic Development (CALED), and the Center for Innovative Food Technologies, Toledo, OH (CIFT; an ATIP Associate with WSRC).

- **Promotion of entrepreneurship and small business development.** ATIP activities are directed toward innovation-based economic development with small businesses. In 2007, ARS provided a few issued patents to an entrepreneurship class at Howard Community College (MD); two of these resulted in exclusive licensing in 2009, following requisite Federal Register Notice. Currently, most ATIP members have formal links with entrepreneurship schools administered by universities and community colleges. In 2010, USDA began routinely providing issued patents and patent applications to these schools through ATIP members.

**Investments in Broadband Technology for Small Businesses.** Broadband technology is a necessary piece of American infrastructure. However, many areas of the Nation are not able to access this critical technology. These investments will help to remedy that problem and allow rural and small businesses better access to broadband in order to make their enterprises more efficient.

- **National Telecommunications and Information Administration’s (NTIA) Broadband Technology Opportunities Program (BTOP).** NTIA invested approximately \$4 billion in 232 BTOP projects benefitting every state, territory, and the District of Columbia. This BTOP portfolio of projects include:

- **123 Infrastructure Projects.** 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks;
- **65 Public Computer Center Projects.** 65 public computer center (PCC) projects totaling \$201 million in Federal grant funds to provide access to broadband, computer equipment, computer training, job training, and educational resources to the public and specific vulnerable populations; and
- **44 Sustainable Broadband Adoption Projects.** 44 sustainable broadband adoption (SBA) projects totaling \$250.7 million in Federal grant funds to support innovative projects that promote broadband adoption, especially among vulnerable population groups where broadband technology traditionally has been underutilized.

Trillion Communications, Inc. and its several small disadvantaged business partners received a \$59 million BTOP grant to construct over 2,200 miles of new fiber to complement an existing fiber network in an 8-county region in central Alabama. Since Trillion’s founding in 2001, this African-American owned company has grown too large to be considered a small business, but is committed to ensuring opportunities for small minority businesses. Trillion expects to contract with at least 30 small minority firms in the first round of project procurements and many more as the project progresses. In addition, the project’s resulting infrastructure will provide new or improved broadband service to nearly 3,000 businesses, 72,000 households, and 400 anchor institutions, including government facilities, schools and libraries, public safety entities, two Historically Black Colleges and Universities, and health care facilities.

- **Small Businesses Benefit.** Among BTOP’s many beneficiaries, small businesses will benefit not only through improved broadband services from BTOP-funded projects but also as BTOP awardees. Twenty-seven BTOP grant recipients are small businesses, of which three are socially and economically disadvantaged small business concerns (SDBs).
- **USDA’s Rural Utility Services (RUS).** RUS funds projects to increase access to broadband service in rural areas. These investments promote economic development, increase access to healthcare and educational opportunities, help create jobs, and increase rural viability. Telecommunication investments during FY 2010 include:
  - **\$2.5 Billion Invested in Broadband Infrastructure.** By using \$2.5 billion in Recovery Act funding authorized by Congress, USDA leveraged to provide loans and grants of approximately \$3.6 billion to construct 320 broadband infrastructure and satellite projects in 46 states and one territory.
  - **\$690 Million Invested in Communications Technology.** \$690 million in infrastructure loans to deliver improved communications technology, including broadband service, to meet the needs of homes and business in rural America

### Rural Businesses and Broadband Technology

The Great Lakes Bay Region and Thumb Area in Michigan were in need of broadband infrastructure to allow the community to compete in the global marketplace. In addition to lack of broadband services necessary for local businesses to operate, schools needed an internet connection for their students in the classroom and at their homes. Seeing these critical needs missing in the community, Zimco, a family-owned corporation, founded Air Advantage in June, 2002 to offer a broadband solution.

Initially, USDA Rural Development made two Community Connect Grants to Air Advantage: \$219,176 for Port Hope, Michigan and \$214,532 for Unionville, Michigan. The grants provided funding for a wireless infrastructure and community center with 10 computers in both communities where residents could access the Internet using high-speed broadband service.

As the business grew, Air Advantage applied to USDA Rural Development's Broadband Loan Program. In 2004, they received a low interest loan of \$1,500,000 to reach several Michigan communities followed by another loan in late 2005 for \$1,028,000 for additional Broadband expansion in the rural community of Frankenmuth, Michigan.

In 2009, USDA provided an additional loan for \$908,000, so Air Advantage could upgrade and expand its services.

In 2010, Air Advantage was selected for a Rural Development Broadband Initiatives Program (BIP) award under the American Recovery and Reinvestment Act; a \$32.3 million loan and a \$31.9 million grant. These funds will be used to extend broadband services to last-mile consumers in 13 counties that make up an area known as the Great Lakes Bay Region and Thumb Area.

On November 30, 2010, Air Advantage reported delivering broadband services to 4,943 customers in its 3,500 square mile service area using 350 miles of wireless network backbone. The 65 towers transmit information that reaches out to households, six hospitals, and 18 school districts where students have at least 17 distance learning courses at any given time. In addition, Air Advantage also provides service to 21 hospitals and medical facilities, 7 police service, 4 fire facilities, 4 ambulance services and 59 government office locations throughout 75 municipalities.

Students can do research and take distance learning courses without having to travel great distances. And, fifty or more students are now taking advantage of dual enrollment classes to take college and high school level courses at the same time. The program is possible because of broadband.

Businesses are also realizing the benefits that broadband offers. At least 20 Air Advantage customers living in remote Northern Michigan have eliminated long commuting times and enjoy the benefits of working from home 3-5 days a week.

Broadband throughout the region will improve because of the BIP loan and grant. The BIP award will fund additional broadband infrastructure which will pass 279,200 households, approximately 21,000 businesses, and 4,000 community institutions that include hospitals, libraries, universities, schools and government entities.

The project will create or save an estimated 142 jobs and may add many more as users are connected to the system and local businesses expand. Air Advantage is a proud recipient of the US Chamber of Commerce Blue Ribbon Small Business Award. This award is given to companies that have shown excellence in business history and commitment to customers, employees, and the community.

- **Broadband Initiative.** In collaboration with the Federal Communications Commission, SBA engaged SCORE (Counselors to America's Small Business), Women's Business Centers and

Small Business Development Centers to develop training content for materials to assist and advise small business entrepreneurs on improving business access and productivity through technology. These professional counselors within the SBA partner network also educate companies on the small business opportunities arising from developing and expanding broadband technologies. Small business opportunities exist in discovering and delivering the next generation of products and services.

- **The SCORE Broadband Consortium.** This group provides Internet and e-commerce mentoring, training and services to ensure success for entrepreneurs and small business owners. Consortium founders included AT&T, Best Buy, Cisco, Constant Contact, Google, HP, Intuit, Microsoft, Skype and Time Warner Cable Business Class. SCORE is distributing the broadband training curriculum to their partners in all of the 110 Women's Business Centers.

**The Manufacturing Extension Partnership (MEP).** Accelerating opportunities to leverage and adopt technology is the key to long-term business growth and productivity for U.S. manufacturers. MEP serves as the connection between manufacturers and technology opportunities and solutions for growth in the global marketplace.

- **Leveraging Technology to Stimulate Business Growth.** In partnership with other agencies, organizations, universities and Federal labs, MEP provides a wide range of product development and commercialization assistance services to help manufacturers rapidly move new product opportunities and innovations into production and out into the market.
- **National Innovation Marketplace Builds Technology-Based Supplier Networks.** MEP also is connecting manufacturers to technology and business opportunities resulting in new markets and new innovative products necessary for high growth. In partnership with other organizations, the MEP program continues to pilot test the National Innovation Marketplace (NIM), which facilitates connections between technology requestors (OEMs), and potential suppliers, encouraging technology translation and adoption. Additionally, a group of partners is facilitating the building of high-growth technology-based supplier networks.

**Entrepreneurship Programs for Veterans.** The SBA has partnered with Syracuse University on three new training programs for America's veterans and their families.

- **The Entrepreneurship Boot Camp for Veterans (EBV) with Disabilities.** EBV is designed to open the door to business ownership for our veterans. The program delivers entrepreneurship training through a one-year "boot camp" for service-disabled veterans of the wars in Iraq and Afghanistan who want to start or grow small businesses. This year, the EBV program is expanding to a total of seven business schools at universities around the country.

- **Women Veterans Igniting the Spirit of Entrepreneurship (V-WISE).** V-WISE will be open to women veterans beginning in May 2011. The program consists of a three day off-site training program, online training, and network support structures. Classes will be held in six cities, starting with San Antonio and Baltimore in 2011.
- **Operation Endure and Grow.** Operation Endure and Grow provides online and in-person business counseling, training, and mentoring to small business owners and entrepreneurs serving in the National Guard and Reserve. This program also extends to members of their immediate families.

**Science and Technology Directorate (S&T).** The DHS Science and Technology (S&T) Research & Development (R&D) Partnerships Group conducts extensive outreach efforts with members of the Homeland Security Enterprise (HSE) based on the strategic and programmatic needs of the Department and S&T.

- **S&T's Small Business Innovation Research (SBIR) Program Office within the Office of Public-Private Partnerships.** DHS is one of 11 Federal agencies that participate in the SBIR Program. Since 2004, the DHS SBIR Program Office has administered the Federally mandated SBIR Program to strengthen the role of innovative small business concerns (SBCs) in Federally funded research or research and development. Specific program purposes are to:
  - **Stimulate** technological innovation
  - **Use small businesses** to meet Federal R&D needs
  - **Foster and encourage participation** by socially and economically disadvantaged SBCs, and by SBCs that are 51 percent owned and controlled by women, in technological innovation
  - **Increase private sector commercialization** of innovations derived from Federal R&D, thereby increasing competition, productivity and economic growth
- **S&T SBIR Solicitations.** Two solicitations are released each year for which small businesses can submit proposals and compete for approximately \$15 million per year. More information can be found at: <https://sbir2.st.dhs.gov>.
- **SBIR Outreach.** The SBIR Program Office participates in two national SBIR conferences each year, approximately six regional and local conferences and workshops, and monthly vendor outreach sessions to provide the small business community an opportunity to discuss their capabilities and learn of potential procurement opportunities.

- **S&T’s Office of Public-Private Partnerships.** The Commercialization Office within the Office of Public-Private Partnerships actively reaches out to small businesses through conferences, workshops, panel participation, publications and pamphlets, and the “Full Response Package.” The Full Response Package contains a company overview template, which is a vehicle in which companies can describe their products, technologies, and services and how they align to the known capability gaps of DHS and its stakeholders. Companies may request a Full Response Package at [SandT\\_RDPartnerships@dhs.gov](mailto:SandT_RDPartnerships@dhs.gov). These overviews are put into a repository available to Program Managers within S&T to identify relevant technologies that may be applicable to current or future projects.
  - **Company Overviews.** Currently 54 percent of the company overviews received and 70 percent of the business contacts maintained are from small businesses. The Commercialization Office also provides detailed information for small businesses on various opportunities for engagement within S&T, establishing open communications between the public and private sectors.
  - **Public-Private Partnerships.** DHS S&T offers public-private partnership programs that provide opportunities to evaluate and certify products and services related to stakeholder needs. These clearinghouse programs create market differentiators for small business innovators and create other opportunities for strategic partnerships between private sector entities. This fosters entrepreneurship amongst small businesses and provides vehicles for independent review of products and services designed to meet stated requirements and identified potential available markets in the homeland security enterprise. More information can be found online at: [www.dhs.gov/xabout/structure/gc\\_1234194479267.shtm](http://www.dhs.gov/xabout/structure/gc_1234194479267.shtm).
- **Office of National Labs, Technology Transfer Office**
  - S&T and the Center for Innovation (CFI), Arlington, TX, recently entered into a MOU to work towards furthering research, product development, commercialization, and facilitating economic opportunities.
- **One Stop Career Centers’ Small Business Services.** One-stops are administered at the local level within parameters set by ETA and statute. Previous DOL reports on incorporating entrepreneurship services into those provided at One-Stops have discussed changing the culture of the workforce investment system and encouraging Local Workforce Investment Boards (LWIBs) to build partnerships and provide resources necessary to help job-seekers become entrepreneurs. In November 2010, ETA issued TEGl 12-10 to encourage support for entrepreneurship by states and LWIBs, to provide information about the public workforce system’s role in promoting entrepreneurship, and to describe innovative entrepreneurship programs in states and at DOL. The TEGl encourages them “to establish parameters for funding entrepreneurial and self-employment training”. Evidence has suggested that some DOL programs, including those that promote entrepreneurship, are more effective when









and cost savings figures, please visit:

<http://www.sba.gov/sites/default/files/files/10regflx.pdf>.

