



**THE BIOBUSINESS ALLIANCE OF MINNESOTA
FINAL GRANT REPORT DECEMBER 2010
STATE OF MINNESOTA
DEPARTMENT OF EMPLOYMENT AND ECONOMIC DEVELOPMENT
BUSINESS AND COMMUNITY DEVELOPMENT DIVISION
Re: Special Appropriation Grant Agreement
SPAP-09-0001-P-FY10**

Report Date: February 15, 2011
Organization: BioBusiness Alliance of Minnesota

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developing/preparing this report is \$1,100
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AGENCY	VENDOR NUMBER	OBJECT CODE	TOTAL AMOUNT
B22100			\$1,710,000

INTRODUCTION:

The BioBusiness Alliance of Minnesota (BBAM) has fulfilled the agreed upon deliverables. The detailed progress is spelled out in this report. Per the reporting requirements of the contract, the report will cover specific requirements, special conditions regarding use of funds, metrics and match requirements.

To fulfill the agreed upon deliverables, BBAM uses business principles to understand and grow Minnesota’s economy. The three stages are:

- Assess: Accomplished through the Statewide Industry Assessment and through utilization of inventorying tools like BIOMAP
- Plan: Accomplished through developing and implementing a 20-year strategic plan and roadmap, Destination 2025. As will be discussed, this plan became the starting point for many regional strategies throughout Minnesota and across the biobusiness industries
- Implement: Accomplished through the BioBusiness Resource Network

2010 OVERVIEW:

The current partnership with the State of Minnesota, Department of Employment and Economic Development (DEED), has led to several key accomplishments and partnerships which will be expanded upon later in the report:

- Assessment Report Update: In 2006, BBAM released the first Statewide Industry Assessment Report, with the goal of providing factual information to clarify Minnesota’s national competitiveness in the six bioscience industries in which the state participates: (1) Animal Health, (2) Biologics/Biopharmaceuticals, (3) Food, (4) Medical Devices, (5) Renewable Energy and (6) Renewable Materials. This report provided data that pointed out Minnesota negative trend lines and led to the creation of Destination 2025. The 2006 findings were also used to break down barriers between life science businesses, organizations and communities across the state to work together to increase Minnesota’s competitive position.

On February 7, 2011, BBAM released an update of the assessment, *Minnesota's Competitive Position in the Biobusiness Technology Industries*. The independent third party report, conducted by Dr. Kelvin Willoughby, utilized U.S. Census Bureau data from 2002-2007. The report demonstrated a generally strong improvement in Minnesota's biobusiness position nationally and against 10 competitor states.

- **Destination 2025 Implementation:** Destination 2025 (D2025), launched in January 2009, is the overarching strategic plan for BBAM to realize its charter: "The BioBusiness Alliance of Minnesota is an industry-led, action-based 501(c) (3) not-for-profit organization dedicated to the advancement of bioscience-related industries to create jobs for the citizens of Minnesota and to bring together all related areas of the biosciences in a coordinated effort to ensure the long-term health and success of Minnesota's bioscience industry."

The implementation of D2025 gained momentum in 2010 and many of the projects made strong advances to fill critical gaps and better leverage existing assets in Minnesota.

- **The BioBusiness Resource Network:** the BRN connects the state's life science and business resources to help companies start, expand and relocate in Minnesota. The BRN scorecard is the tracking mechanism for the BRN and can be found in the "Use of Funds" section in this report.

2010 DELIVERABLES / GENERAL HIGHLIGHTS:

The current partnership with DEED led to several key accomplishments and partnerships in 2010, many of which are continuations of projects introduced in previous reports.

BIOMAP:

The BIOMAP is an online, interactive map of Minnesota's life science assets that utilizes a common platform and set of definitions. It is a dynamic and living inventory of Minnesota's life science assets and the value chain skills necessary for the development of the industry in the state.

BIOMAP Phase I went live in September, 2008; much was learned from the prototype site, and BIOMAP Phase II was completed in April, 2010 and can be found at:

www.biobusinessalliance.org/biomap.

Phase II includes a data update and interface redesign to make the system more user friendly and to better market Minnesota's life science assets. Phase II provides a more sophisticated search function to better understand the life science market segments and the various capabilities in the value chains necessary to develop these types of organizations in the state.

The initial work that went into discovering the over 2,000 data points in the BIOMAP has helped BBAM and all of our partners across the state better understand regional strengths, capabilities, and opportunities for growth. Currently there are approximately 2,600 data points in the database.

BioBusiness Resource Network: The BioBusiness Resource Network (BRN) is the implementation mechanism for BBAM. As the following will outline, much progress has been made in Minnesota's geographic regions to implement the recommendations laid out by D2025 through the BRN. The BRN continued to provide aid to small start-up companies and a summary of these companies is presented later in the report.

The following updates are in the BRN section:

- Full Spectrum Funding
 - Minnesota Angel Network
- International Business Support Center (IBSC):
- International Renewable Energy Technology Institute-System for Technology Transfer (IRETI-STT)
- Geographic Implementation of Destination 2025
 - Minnesota's West Central Region
 - Minnesota's Northeast Region
 - Minnesota's Southern Region

Full Spectrum Funding:

BBAM has worked with champions across the state to invigorate access to funding systems for all six life science industries; from seed stage through syndication. In 2009, BBAM conducted an assessment of the status of Minnesota's funding system for life science companies. The results showed that venture capital investment in Minnesota is declining and not evolving adequately into new areas of growth.

To invigorate access to funding, BBAM adopted the following strategies:

- (1) Establish supportive public policies
- (2) Help professional Minnesota funds to lead investments in areas of competence and interest, while enabling participation in new growth areas with new fund managers from out of state that are willing to fund new areas of growth such as biomass and biotechnology
- (3) Establish regional seed funds connected to professional due diligence capability and later-stage funding mechanisms (e.g. venture capital funds, investment banking)
- (4) Establish at least two major life science venture capital funds that are professionally managed, experienced in biotechnology, and syndicated nationally and/or internationally

We are pleased to announce some significant outcomes for the Full Spectrum Funding goals in 2010:

- (1) Regarding establishing supportive public policies, BBAM led the efforts to organize the Greater Minnesota community to work with their legislators to pass the Angel Investor Tax Credit legislation. In part because of the statewide support for the legislation, it was passed in 2010, after nearly 10 years of development. According to legislative leaders, over 700 people provided support for this program and we are proud of the role that BBAM played to support this program.

Currently, Minnesota has the most competitive Angel Investor Tax Credit program in the country. In addition, the legislature also expanded Minnesota's R&D tax credit to include more early-stage companies and to increase the amount of the credit to make Minnesota more competitive with other states.

- (2) To help professional Minnesota funds lead investments, participate in new growth areas and establish regional seed funds connected to professional due diligence capability and later-stage funding mechanisms (e.g. venture capital funds, investment banking), BBAM is excited to announce the creation of the Minnesota Angel Network (MNAN).

The Minnesota Angel Network is the result of two years of planning and is supported by BBAM and a consortium of regional investor networks; Minnesota Initiative Foundations, universities and business leaders. The goals are to increase the number of companies funded and increase the dollar amount of angel investments throughout Minnesota. It will also be a

critical companion to boost development of start-up companies and to maximize the utilization of the new Minnesota Angel Investor Tax Credits on a statewide basis.

A seasoned business executive was contracted in November, 2010 to be the Executive Director of this program, and to roll out the program's pilot phase in the first quarter of 2011.

- (3) For the goal of establishing at least two major life science venture capital funds that are professionally managed, experienced in biotechnology, and syndicated nationally and/or internationally, BBAM worked with four funds, two internal to Minnesota and two external, to create seed and syndication capital for the six life science industries. If successful, these efforts could bring over \$1 billion in investment to the state of Minnesota. The funds would help fill some of the life science funding holes that make it difficult to commercialize bioscience products in Minnesota. Currently, only one fund is still actively raising capital for a Minnesota-specific fund. The other three funds have stopped efforts to raise capital due to the difficulty of the financial markets that persists.

However, despite the setback in establishing Minnesota-specific funds, BBAM's work in increasing the visibility of Minnesota biobusiness skill sets and capabilities has led to external investment of approximately \$85 million into Minnesota bioscience companies. This is a significant amount of investment over the course of one year, and we anticipate the investments to continue into the future, based on Minnesota's bioscience capabilities and innovative technologies.

Elk Run Business Park:

The Elk Run Biobusiness Park is a 250-acre campus to house biotechnology companies in various stages of research, development and commercialization. Even though the project is delayed from the original schedule, BBAM continues to strongly support the project. In 2010, BBAM continued its role to provide ongoing support by bringing in potential clients and funders to meet with Tower Investments, the developer of the project.

International Business Support Center (IBSC):

BBAM has formed strategic relationships with regions abroad to exchange strengths and capabilities within the life science industries. These partnerships foster positive business dealings, technology and knowledge transfer and economic expansion. In 2010, BBAM continued to foster relationships with Canada, Japan, and Sweden and launched a new relationship with Saudi Arabia.

- BBAM launched a new relationship in 2010 with Saudi Arabia. The relationship focused on helping Saudi Arabia solve some of their top national priorities using Minnesota technologies and companies. A delegation of five handpicked Minnesota companies went to Saudi Arabia in late 2010. The companies met with high level investors, academia and government officials seeking partnerships. Currently, due diligence is being conducted by the Saudis. We are optimistic that several of the companies will receive critical early-stage investments from this partnership.
- BBAM is partnering with several Swedish organizations to foster technology transfer of the Swedish combustible biomass technology to the Minnesota market, and through Minnesota, to the U.S. A key accomplishment in the relationship with Sweden is the International Renewable Energy Technology Institute.

International Renewable Energy Technology Institute–System for Technology Transfer (IRETI-STT):

There has been exciting progress made with the relationship formed between Sweden and Minnesota regarding renewable energy technologies. As a result of former U.S. Ambassador to Sweden, Michael Wood's initiative the "One Big Thing," the formation of the International Renewable Energy Technology Institute (IRETI) was realized. IRETI has been a successful partnership between Sweden and Minnesota, whose mission is to provide a "landing strip" and academic support to international renewable energy and environmental technology companies seeking to expand into the U.S. market. The goal of IRETI is to help international companies obtain certification for sales into the U.S. market and train workforce for the installation, maintenance, and development of the technologies. Ultimately, it will serve as the place for certification of the world's renewable energy technologies for use in the U.S. market or in other world markets.

In the fall of 2010, the grand opening of the testing and certification laboratory at Minnesota State University, Mankato was held with over 100 stakeholders in attendance. This event was keynoted by BBAM's CEO, Dale Wahlstrom, with prominent state legislators, private-sector clients, and academic professionals on hand to celebrate the occasion.

BBAM's role, since inception of IRETI, has been to lead the private-sector side of the public/private collaboration called IRETI-STT (STT: System for Technology Transfer). IRETI-STT focuses on providing direct support to small and mid-size Swedish companies and other international companies seeking to expand into the U.S. renewable energy and clean technology marketplace. As part of this role, BBAM has worked with over 10 international companies in various aspects of business development and technology transfer efforts, including assistance with intellectual property licenses to local Minnesota-based companies. This effort has translated into jobs in Minnesota and further development of the renewable energy industry in Minnesota and the United States.

Geographic Implementation of Destination 2025:

Minnesota's West Central Region: The West Central Minnesota Biomaterials Coalition is a collaboration of economic development professionals, private companies, state government, academic institutions, and nonprofit entities actively engaged in fostering the growth and innovation of the renewable materials sector in the West Central portion of Minnesota and the Eastern portion of North Dakota. After reading the D2025 strategy and conducting a preliminary assessment of the region's strengths and assets, a group of west central regional economic development champions asked BBAM to work with them to develop a strategy for increasing biobusiness activity in the region.

To this end, local economic development professionals from the area are leading the charge to navigate the well established plastic manufacturing capacity and understand where there are opportunities to benefit from manufacturing products from renewable materials. A loosely organized group known as the West Central Minnesota Renewable Materials Coalition has been formed to support the effort, and includes representatives from BBAM, The Fergus Falls Economic Improvement Commission, The Minnesota Department of Employment and Economic Development (DEED), The Agriculture Utilization and Research Institute (AURI), North Dakota State University (NDSU), and Becker County Housing and Urban Development. Several businesses in the Fergus Falls area are interested in the application of renewable materials, and have invested in research to determine the viability in various applications.

BBAM has begun to create relationships with the public, private, and academic institutions that can provide resources to manufacturers, including product testing and development, resin providers, downstream users, and potential funders. AURI has committed financial and technical assistance to fund a study to understand the technical and market aspects of the industry in order to identify applications likely to be successful. This information will be released in early 2011, and will guide BBAM's activities in the end product manufacturing stage of the renewable materials industry. BBAM has committed staff time to provide technical assistance and administration to directly support companies that are developing products from renewable materials. Assistance in marketing companies and products using renewable materials will be supported through BBAM communication materials and through education of the opportunity and potential applications.

To date, one company is actively developing a product line that uses biobased materials in their product. The company is looking to use biobased foam as an insulator in a current product line. In addition, there is one contract injection molder from Elizabeth, MN that has successfully tested biobased plastics in their machines and is actively seeking customers that require renewable materials in their products. Similar support has been requested outside the West Central Minnesota region, and an expansion of the geographic area to plastic molders across the state will occur as needed.

Minnesota's Northeast Region: Based on the Northeast Minnesota Strategy Study completed by BBAM in 2009, and a further detailed action plan for bioscience development in the Northeast, BBAM is currently working with local leaders to implement five projects: (1) a woody biomass sustainability value chain analysis, (2) a demonstration site for renewable energy technologies, (3) create a sustainable system for the commercialization of biomass combustion technology to provide heat and electricity, (4) provide a pathway for manufacturers to expand their capabilities into the medical device market and (5) expand medical device manufacturing capability.

(1) Woody Biomass Sustainability Value Chain Analysis:

There has been increasing interest in using biomass for products outside of the longstanding pulp and paper, lumber, and engineered products industries in Minnesota and worldwide. This development has brought forth the possibility of competition among these interests for fiber from trees. In order to understand the consequences of the growth of unknown and emerging industries on incumbent industries, overall employment, and wealth creation in the state, BBAM developed a system dynamics model of the forestry industry in cooperation with the Minnesota Department of Natural Resources, Minnesota Forestry Resources Council, University of Minnesota, and an experienced system dynamics modeler.

This model presents possible scenarios of growth or decline in forest products industries, and can show the subsequent impact on other industries relying on the forest for raw feedstock. From these scenarios discussions can begin regarding policies and to inform private sector investment decisions on how to foster emerging industries while avoiding unintended negative outcomes.

The goal of the project was to provide a set of recommendations that industry, academia, and government partners can agree will be effective in maintaining a forestry industry that is sustainable and creates economic wealth. BBAM delivered a forest products/industry white paper in November, 2010 detailing four recommendations:

- Ensure long-term supply of raw materials through forest management and increasing utilization
- Support efficient utilization of wood for heat and power generation
- Pursue emerging high-value opportunities
- Foster cooperation in the implementation of these recommendations

The white paper can be found at:

http://www.biobusinessalliance.org/Northeast_Forest_Biomass.asp.

BBAM's role for the next three years is to implement the recommendations from the white paper.

(2) Demonstration Site for Renewable Energy Technologies:

BBAM is working in collaboration with Will Steger in Ely to create the Steger Center for Global Sustainability, a demonstration and training site for renewable energy technologies. In conjunction with Mr. Steger, BBAM is also collaborating with several Sweden-based bioenergy and environmental technology companies, and a local multi-disciplinary engineering firm to develop a master plan for the Center.

The Center will serve as a multi-purpose facility to educate people of all ages by showcasing renewable energy technologies, ranging from small wind, solar PV, solar thermal, and bioenergy. It will be powered entirely off-grid.

BBAM is serving in the project lead capacity to facilitate discussions and convene necessary supply chain partners to help define, and ultimately finish, development of the Center. Continued development is anticipated throughout the remainder of 2010 and into 2011.

(3) Sustainable System for the Commercialization of Biomass Combustion Technology:

In order to sustain and accelerate biomass thermal technology deployment there is an ever-increasing need for providing skills training and workforce development related to state-of-the-art biomass energy conversion technologies. In addition, workforce training is needed for the value chain skills, such as collection and harvest of woody biomass, logistics, system installation, service, and on-going maintenance. It is also necessary to create awareness and understanding through community outreach efforts to highlight the environmental, economic, and social trade-offs that exist as a result of utilizing biomass thermal energy technology from "forest to fuel."

BBAM and IRETI have partnered to address the need for development and delivery of various biomass thermal energy technology skills training programs to serve unemployed, employed, and incumbent workers in regions throughout Minnesota. This work augments efforts currently being conducted at Itasca Community College (ICC) in Grand Rapids, where project partners aim to demonstrate the effective use of woody biomass as a fuel source for heating the campus while strengthening the regional and state forest products industry through the creation of jobs. BBAM and IRETI's involvement in the ICC project will serve as a regional and statewide model for the effective use of woody biomass thermal technology and workforce development for mid-sized facilities and/or heating districts.

The ICC project is a joint venture between Itasca's engineering and forestry department faculty and students. The project steering committee consists of BBAM staff members,

representatives from the local chamber of commerce, state legislators, The Blandin Foundation, Iron Range Resources, Rajala Forest Products, Itasca Economic Development Corporation, Natural Resource Research Institute (NRRI), University of Minnesota Forestry & Bioproducts and Biosystems departments, and University of Minnesota North Central Research and Outreach Center.

BBAM is currently leading Phase Three of the Four Phase project of development process:

- Phase 1: Development of the current wood-fired boiler for limited applied research
- Phase 2: Research of selected woody biomass product procurement process
- Phase 3: Demonstration of effective use of modern energy conversion technology for statewide mid-sized commercial facilities and education institutions
- Phase 4: Develop an applied research facility for testing and demonstrating usage of regional woody biomass fuel product

To date the major outcomes of the project have been:

- Procurement process investigation findings for mid-sized facilities
- Characterization of regional woody biomass waste products
- Cost analysis and sensitivity study of woody biomass products versus other fuels

(4) *Pursue Emerging High-Value Opportunities Implementation Plan (Advanced Bioprocessing):*

The overall goal of the advanced biofuels and biochemicals project is to develop an understanding and a process for Minnesota's agriculture and forest based infrastructure to develop manufacturing partnerships in advanced biofuels and biochemicals.

Diversification of the high value products that are derived from agriculture and forest products in the state can provide a level of stability in the long term in the face of oscillating demand for ethanol, lumber products, and paper. Furthermore, initial development of this market is the first step to provide another stable market for the logging industry for the long term.

The first step toward solving this issue is to truly understand the opportunity that emerging bioprocessing markets provide. The relevant feedstock competition for advanced forest and agricultural based bioprocessing is the barrel of oil. Refineries that process oil obtain multiple value streams from a barrel of crude oil. Transitioning toward higher value products and multiple income streams can provide stability for bioprocessors and the participants along the value chain, similar to how oil refineries obtain multiple value streams from a barrel of crude oil. In fact, a majority of the revenues in petroleum refineries are from chemical manufacturing, which can be replicated to some extent for biorefineries. The biochemicals market has a projected worth of \$585 billion by 2025, representing up to 17 percent of the petrochemicals market, and providing significant value to Midwest farmers. ^[1]

Over the next year, BBAM will provide project management support to local partners across the state to develop a presentation that is broadly endorsed by relevant stakeholders to educate local leaders on the:

^[1] Nieuwenhuizen, Peter and Aurthr D. Little. (2010) Many Factors Could Affect the Success of Biochemical Production, So We Project a Market Share of 7-17% by 2025. Retrieved on October 23,2010 from <http://www.icis.com/Articles/2010/06.21/9368973/biochemical-market-forecast-suggest-strong-growth.html>

- Overall vision for industry and description of value chain
- Description of the options available for emerging technology
- Economic Information- Quantification of benefits that could be derived for communities that include biochemical manufacturing
- Overview of technical trends concerning biochemical manufacturing
- Identification of Minnesota assets for opportunities and issues

Overall, the next steps will lead to the development of a detailed understanding of issues facing primary forest product manufacturers in the development of a full scale biorefinery through forums and strategic discussions.

In Phase II, BBAM and local partners will develop and implement a strategy for growing biochemical and biofuels opportunities in Minnesota and provide support to companies looking to take advantage of these new opportunities by helping them to establish the partnerships needed to be successful.

Due to increased interest and demand by constituents throughout the state, BBAM is planning to build upon the work done in the forest-based biomass value chain and expand work into the area of agricultural-based biomass. Other funding sources are pending to support the biofuels and biochemicals project in agriculture-based areas. BBAM would again lead a collaborative, statewide effort to understand and formulate strategies and recommendations related to the opportunities that exist within the state's agricultural biomass value chain, while leveraging what the organization and participants learn as part of the forest industry effort. Many connections can be made between these two biomass value chains since they share several challenges and opportunities. This activity is expected to last two years.

(5) Expanding Medical Device Manufacturing Capability:

The Northeast Minnesota Strategy Study identified the medical device industry as an opportunity for the Northeast Region to expand its presence in the bioscience industry. The region has a handful of medical device companies, and many more manufacturing companies that have the ability to diversify their product lines into medical device products. This is also a statewide strategy, as there are manufacturers across the state with capabilities that are applicable to the medical device industry.

Manufacturing medical device products, or components for medical devices, is different than manufacturing for other industries. The medical device industry is a highly regulated environment that requires manufacturers to implement some unique clean facility and quality control/quality assurance programs.

To help manufacturers understand the medical device market, BBAM is partnering with experienced medical device manufacturing executives to work with companies to teach the parameters of manufacturing for the medical device industry. From these initial information/training sessions, BBAM is actively working with interested companies that want to enter the medical device manufacturing market by connecting them to the resources needed for certification to produce the products, and introduce them to medical device companies that might be potential customers. To date, one company has begun the process to become ISO 13485 certified, one of the first steps to being a qualified manufacturer for the medical device industry.

Minnesota's Southern Region: The Southern Minnesota Regional Competitiveness Program is a regional partnership between the 18 counties in Southwest Minnesota and the 20 counties in Southeast Minnesota formed to develop a comprehensive development strategy, while identifying the top priority investments that leverage the region's potential. As a result of 12 months of analytical data collection and roundtable discussions across the 38-county region, individuals and organizations identified six strategic economic development sectors based on community assets which exist in the region: (1) bioscience, (2) renewable energy, (3) high-tech, (4) food/agriculture, (5) healthcare and (6) manufacturing. The Southern Minnesota Regional Competitiveness Program used the statewide roadmap laid out in the D2025 reports as a starting point to help inform the analysis of the region's specific assets and capabilities, and understand what current and future markets would be good matches with the region's capabilities.

As a result of the Southern Minnesota Regional Competitiveness Program, several projects have been initiated to capitalize on the untapped opportunities for development in the 38 counties of Southern Minnesota:

- The Southeast Minnesota BioBusiness Development project
- Regional Debt/Equity Capital Initiatives
- YES! Program
- Further commitment of SMIF resources and initiatives to biobusiness projects

○ *Southeast Minnesota BioBusiness Development (SEMBiD) Project:*

The project of creating a Regional Biobusiness Resource Network (BRN) began with the pilot program in the Southeast region in 2008. Since August 1, 2009, BBAM and partners developed a pilot program to provide business mentoring and support to early stage medical device and pharmaceutical/biologics companies in that region. The goal of the program is to increase human health companies' success rate in commercializing products by providing experienced medical technology leadership support to the early stage companies. Services include thorough examination of the technology, market, business model, executive team, and advisory board to strengthen companies' ability to secure funding and be able to successfully execute a commercialization plan. BBAM, in conjunction with the Southern Minnesota Initiative Foundation (SMIF) and others, is piloting the program with at least two companies over the next year.

○ *Regional Debt/Equity Capital Initiatives:*

As a direct result of the Southern Minnesota Regional Competitiveness Program, there was a clear need identified for more debt and equity capital to support new companies and initiatives in the 38 county region. AgStar Financial Services has taken up the initiative to create regional debt and equity pools to support early-stage through late-stage ventures in the areas of competitive advantage for the region. To date, 44 communities in Southern Minnesota are participating in this new debt capital network. The network has \$95 million that can be lent in increments up to \$7.5M (greater than the \$2 million cap without the regional debt capital network). Since its inception in late 2009, six projects have been financed for a total of \$19.2 million. The next phase of this regional debt capital network is to expand the amount of funds and identify a \$50 million pool for high risk/high reward ventures.

○ *YES! Program:*

The YES! Program is a collaborative partnership led by the Southwest Initiative Foundation (SWIF) that provides youth with hands-on, experiential learning that inspires widespread adoption of renewable energy technology and energy conservation practices that contribute to the environmental and economic health of rural Minnesota communities. As a result of the Southern Minnesota Regional Competitiveness Program, the YES! Program doubled in size in 2009-2010 due to increased cooperation and the addition of new partners to help support the program with financial, human, and other resources.

Nanoscale Science and Engineering:

The D2025 report recommended establishing a nanoscale ecosystem in Minnesota because nanoscale science and engineering is core to material, product and technology features that would greatly impact all of the life science industries in the state.

BBAM has been working with the nanoscale ecosystem concept for a year and a half. Work began in earnest when Seagate Technology's engineering facility became available, which was a good fit for a nanoscience center. Negotiations ensued, but when Seagate's business took an upswing, they decided to keep the space for expansion. Since the Seagate project, the organization, MN Nano, has taken the lead on developing a detailed implementation strategy.

Artwork Titled "Unfolding the Natural History and Science of Life":

In 2010 BBAM commissioned a piece of artwork by artist Lynn Fellman titled "Unfolding the Natural History and Science of Life." The work is a visual representation of life, from the molecular building blocks to life forms. The artwork symbolizes a commitment to the life sciences and BBAM's mission. BBAM hopes it will be a catalyzing image for the life science community.

USE OF FUNDS:

As is demonstrated in the chart below, BBAM's client companies are creating jobs in Minnesota.

In December of each year, BBAM conducts a survey of our client companies. BBAM's 98 client companies (in 2010) created 1989 direct and indirect jobs in Minnesota based on the findings of the 2010 survey. These same companies raised \$116,000,000.

Of the companies supported in 2010, four companies have signed business agreements with local or international companies to manufacture, install, and maintain renewable energy technology. One company is developing a new product utilizing renewable materials, with an expected market release in the first quarter of 2011. Additionally, one manufacturing company is expanding into a new market segment based on the support provided.

Reflecting back on survey results from 2008 through 2010, BBAM supported a total of 193 companies. These 193 companies created 2,707 jobs and raised \$133,000,000 over this timeframe. In the next three years, the companies predicted that they will add 2186 jobs.

Summarizing the actual and predicated jobs created by BBAM client companies, Minnesota will actualize a total of 4893 jobs.

BioBusiness Resource Network Scorecard

Total Companies Supported January 1, 2010 to December 31, 2010

	Medical Device	Pharma / Biologics	Animal Health	Food	Renewable Energy	Renewable Materials	Community Capability	Total
Create								
requests	13	7	0	2	15	6	2	45
companies	12	5	0	2	15	6	2	42
Retain/Expand								
requests	2	1	1	1	14	8	3	30
companies	2	1	1	1	14	8	3	30
Recruit								
requests	5	3	0	0	10	6	3	27
companies	5	3	0	0	10	6	2	26
TOTAL								
requests								102
companies								98
Jobs								1989 Direct and Indirect
Funding (this line item only is for 1/1/09-12/31/10)								+\$116 million

METRICS:

As outlined previously throughout the report, and specifically in the BRN Scorecard, BBAM is making strong progress in growing the biobusiness industry in Minnesota. The two figures below cover a three year time period (2008-2010) and demonstrate the total number of companies 1) evaluated and 2) supported in the state’s six geographic regions.

Figure 1. Number of Companies Evaluated, by Year, Region, and LifeScience Industry

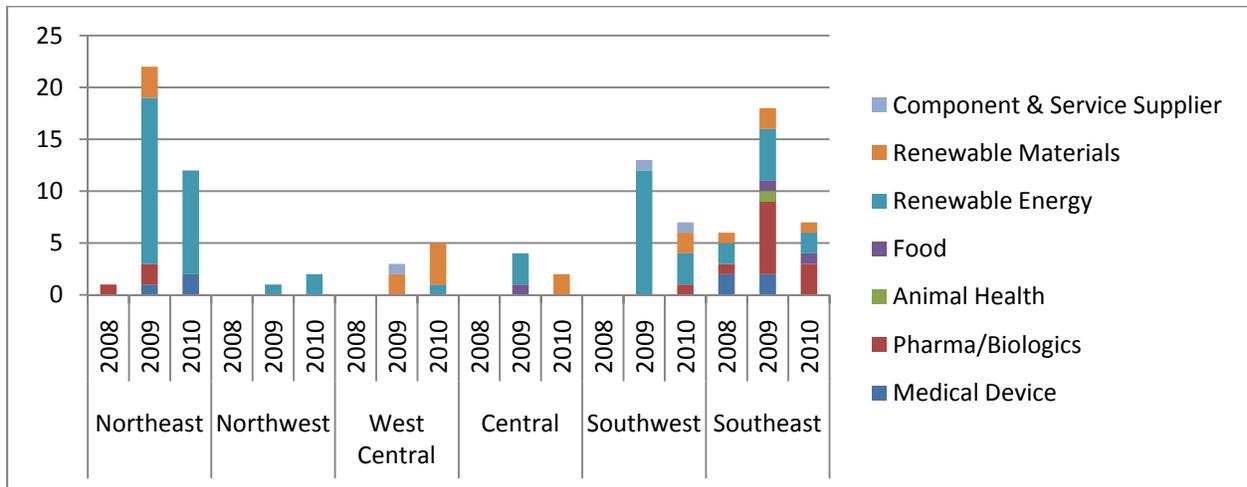
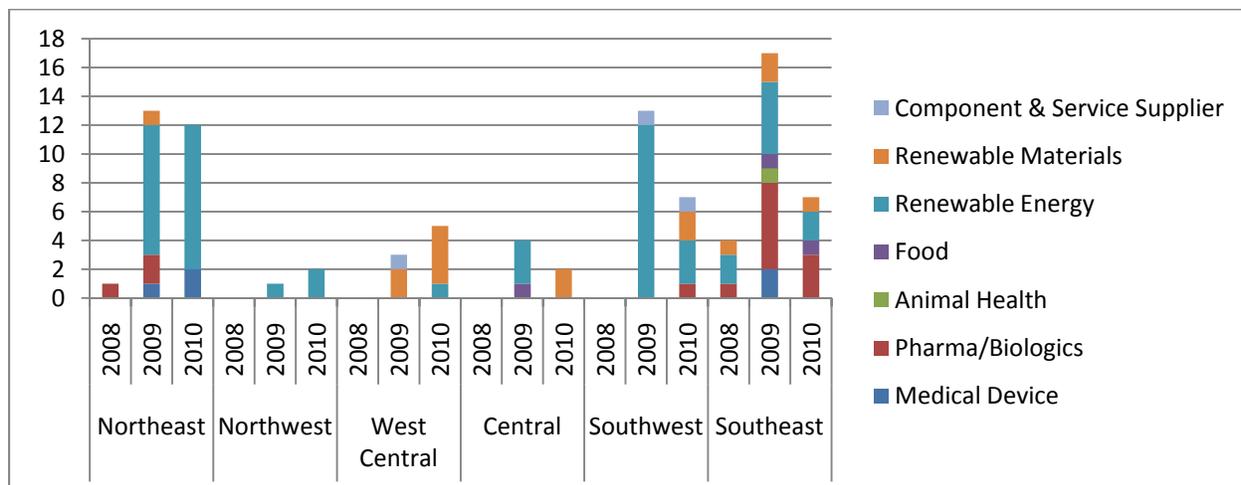


Figure 2. Number of Companies Supported, by Year, Region, and LifeScience Industry



REQUIRED MATCH:

BioBusiness Alliance of Minnesota Cash Donations: July, 2010 through January, 2011

Donor	Amount
Blandin Foundation	\$75,000
Southern Minnesota Initiative Foundation	\$25,000
IBM	\$1,000
Knutson Construction	\$5,000
Mayo Clinic	\$50,000
Short Elliot Hendrickson	\$2,000
Xcel Energy	\$15,000
Individual Donations	\$2,401
TOTAL	\$175,401

BioBusiness Alliance of Minnesota Work-In-Kind: July, 2010 through January, 2011

Volunteer Name	# of Hours	Fair Market Value	Donation Amount
Dan Fisher/ Strategic Pharmaceutical Solutions	32	\$180 per hour	\$5,760
Nilan Johnson Lewis		Per agreement	\$5,711
Dave Wagy	29	\$200 per hour	\$5,800
Kelvin Willoughby		Per agreement	\$8,000
		TOTAL	\$25,271

BioBusiness Alliance of Minnesota Earned Income: July, 2010 through January, 2011

	Amount

Minnesota State University - Mankato	\$3,375
TOTAL	\$3,375

Cash Donations	\$175,401	
Work-In-Kind Donations	\$ 25,271	
Earned Income	\$ 3,375	
	\$204,047	TOTAL MATCHING FUNDS

SUMMARY

We believe this report demonstrates significant progress towards the stated goals in our contract with DEED.

BBAM's work is having impact in every region of the state. Our three stages to our work "assess, plan, implement" approach to economic development is paying off with real jobs being created by the companies we are supporting and through the projects we are leading and supporting.

BBAM continues to find ways to work with our partners across the state. Many organizations and individuals have volunteered their time or have provided significant discounts for their services because they believe in the work BBAM is doing in Minnesota.

We look forward to providing you progress reports in person throughout the year prior to the next official report in February 2011.