

Destination 2025: The Next Two Years

THE 11 RECOMMENDATIONS

MEDICAL DEVICES

1. Expand applications of active implantables
2. Establish a leadership role in next generation devices

BIOLOGICS & BIOPHARMACEUTICALS

3. Diagnostics and monitoring
4. Diabetes

ANIMAL HEALTH

5. Vaccines
6. Convergence with human health

FOOD

7. Plant engineering
8. Animal production

RENEWABLE ENERGY

9. Combustion of biomass
10. Biomass management

RENEWABLE MATERIALS

11. Engineering and end product production

It's been six months since The BioBusiness Alliance of Minnesota (BBAM) and Deloitte Consulting LLP released the Destination 2025 results. Since then BBAM has been working on implementing 11 recommendations from the Destination 2025 roadmap.

To help explain the significance of these 11 recommendations, BBAM has put together a special newsletter series, highlighting specific examples that align with the recommendations, to provide our stakeholders with a better understanding of what is to be accomplished.

The series will be divided into four parts. Part one, the newsletter you are currently reading, is an introduction to the Destination 2025 Newsletter Series. Part two, in July, will feature the medical technology cluster. This

newsletter will feature recommendations that exist under the Medical Devices, Biologics/Biopharmaceuticals and Animal Health industries.

Part three will feature the biomass cluster. This newsletter will be released in August and will expand on recommendations from the Food, Renewable Energy and Renewable Materials industries.

Finally, part four will cover convergence and be released in September. It will focus on overlap amongst all six industries.

BBAM is excited to share this important information with you. Thank you to all the companies that participated in this newsletter series. Your time commitment is greatly appreciated. BBAM values your efforts to further develop biobusiness in Minnesota.

A Preview of the Recommendations and the Companies

The following recommendations and companies are samples of the incredible work that will be expanded on in the medical technology cluster newsletter in July and the biomass cluster newsletter in August.

The listed recommendations are not intended to pick "winners and losers." However, based on the extensive research conducted for Destination 2025, they present industrial growth opportunities that build on Minnesota's existing investments and strengths in which Minnesota has the potential to be dominant. There is no intention to discourage investment in other areas of business, and in fact many other opportunities will arise over time, but BBAM believes the recommended areas clearly have high potential for success if appropriate strategies are implemented.

See CONTINUED on page 2.

The Medical Technology Cluster

Medical Devices:

Establish leadership role in next generation devices. Dr. Doris Taylor, Director of the Center for Cardiovascular Repair at the University of Minnesota, is a leader in next generation medical devices. She and her research team developed a beating heart by injecting stem cells from one rat into the heart scaffolding of another rat, and is looking to expand this research to the development of human organs.

Biologics/Biopharmaceuticals:

Diagnostics & Monitoring. Vironova is a Swedish drug company focused on viral diagnostics. Their current focus is developing software for high powered microscopes to identify certain types of viruses. This screening mechanism can prevent the spread of viral diseases. Vironova is currently working with the University of Minnesota on a handful of diagnostics projects.

Biologics/Biopharmaceuticals:

Diabetes. Exsulinc Corporation is dedicated to the development and commercialization of therapies that reverse the fundamental cause of diabetes. Exsulinc is aimed at correcting an underlying cause of diabetes, the loss of insulin producing islets, and is expected to offer Type 1 diabetes patients a path toward improving or normalizing glucose control.

Animal Health: Convergence with Human Health. Syntiron LLC is a human vaccine biotechnology company based in Saint Paul, Minnesota that was incorporated in 2004 by EpiTopix LLC (an animal vaccine company), in conjunction with Willmar Poultry Company. Syntiron's technology platform is a great example of Minnesota's strengths in both the human and animal health industries.

Continued: Part Two & Three of the Newsletter Series

The Biomass Cluster

Plant Engineering: Bruce Tiffany, member of BBAM's Board of Directors, works as an independent farmer in Redwood Falls developing innovative crop-breeding techniques. Some of his recent work includes creating new strains of soybeans and launching a new wildlife feed. The unique set up of his farm also serves as an educational tool for his technologies and expertise.

Biomass Management: For the DNR, renewable energy goals are being united with the state's wildlife and conservation goals. DNR's wildlife managers in southern and western Minnesota partnered with bioenergy facilities to incorporate harvest of dormant grasses into the management of state lands. While the public land base in this area is small, DNR anticipates catalyzing private owners of grasslands to enhance habitat quality while providing biomass as a byproduct.

Engineering and End Product Production: Harold Stanislawski sits as Executive Director on the Fergus Falls' Economic Improvement Commission looking toward renewable materials as a source of economic improvement. Several companies in the area are working towards providing plastics that will be more environmentally sound while remaining cost effective. The next obstacle they aim to conquer is engineering the vast variety of products from green chemistries.

Parts two, three and four of this special series will continue to showcase companies and individuals who are working examples of the 11 recommendations

Also, if you would like more information on the listed recommendations, please go to www.biobusinessalliance.org/destination to review the Destination 2025 roadmap or contact Melissa Kjolsing at (952) 746-3844 or mkjolsing@biobusinessalliance.org.



Support BBAM!

BBAM works to improve the future of Minnesota by stimulating growth in the bioscience industries. If you value Minnesota's quality of life and/or work within its bioscience industries, please contact Alan Spillers to discuss the ways you can support BBAM's mission.

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Destination 2025 Implementation

Part one of the Destination 2025 Newsletter Series has outlined the projects BBAM will be working on over the next 18 months. While it is important to know the long term strategy of BBAM, it is also important to understand what has happened to-date through our implementation efforts.

The following list provides *examples* of these recent implementation projects. The efforts listed below are projects within the renewable energy and renewable materials industries.

- BBAM recently hosted Per Carlsson, Owner of Sweden-based ABioNova and Chairman of Scandinavian Cleantech Export Association. Together with the Area Partnership for Economic Expansion (APEX) located in Duluth, a series of business matchmaking and speaking engagements were arranged as an effort to identify partners for Per's company in Minnesota, highlighting opportunities in solid fuel biomass combustion technology for the production of heat and other thermal energy applications.
- BBAM is leading efforts to conduct interviews with key stakeholders located throughout the state regarding a system dynamics modeling initiative. This ef-

fort will provide business and scenario-planning models focused on evaluating the value chain sustainability of the state's woody and agricultural biomass resources.

- BBAM is partnering with the west central region of Minnesota to explore opportunities for manufacturing end products utilizing renewable materials. There are local manufacturers with significant interest in this area who also have downstream customers looking to become 'green.'

To learn more about BBAM's implementation strategy, contact Jeremy Lenz at (952) 746-3812 or jlenz@biobusinessalliance.org.

The 2009 International Bioenergy Days

The renewable energy conference that took place in Mankato, Minnesota last fall will be held this year in Lidköping and Trollhättan, Sweden on Sept. 28-30, 2009. This is the place where managers, entrepreneurs and decision-makers from Sweden, the rest of Europe and the USA meet to pursue their common interest to turn bioenergy technology into business opportunities. Sign up today at www.bioenergydays.com.