



September 30, 2024

K.C. Belitz
Director
Nebraska Department of Economic Development
245 Fallbrook Blvd., Suite 002
Lincoln, NE 68521

RE: iHub Annual Progress Report

Dear Director Belitz,

Per Section 1.03 of the Nebraska Innovation Hub Memorandum of Understanding between the Nebraska Department of Economic Development (“DED”) and The Fermentation Collaborative (“Collaborative”), I submit to you the Collaborative’s annual progress report for the first year of its iHub designation.

The Collaborative is a partnership between Bio Nebraska, Invest Nebraska and Southeast Community College (“SCC”). Over the past year, the partners have worked together to make considerable progress toward achieving the Collaborative’s stated purpose, “...to grow a precision fermentation workforce, cultivate the entrepreneurship innovation fermentation ecosystem, and sustain a vibrant fermentation industry in Nebraska,” as submitted in the Collaborative’s iHub application.

Advisory Committee

Upon receiving the iHub designation, the Collaborative established an advisory committee (“Committee”) to help formulate and shape the Collaborative’s efforts to develop, coordinate, and promote an emerging precision fermentation workforce and industry. The Committee is comprised of the following individuals:

- Rob Owen, Executive Director, Bio Nebraska
- Dan Hoffman, Chief Executive Officer, Invest Nebraska
- Tracy Niday, Co-Chair, Biotechnology Program, Southeast Community College
- Misty Wehling, Co-Chair, Biotechnology Program, Southeast Community College
- Tim Brummels, Chief Executive Officer & President, Synbiotic Health
- Paul Caldwell, Site Director-Blair, Evonik
- Josh Johnson, Director of Biologic Operations, Huvepharma
- Vanessa Rising, Director, Enzyme Operations & General Manager, Novonesis
- Reid Wagner, Executive Director, Nebraska Ethanol Board
- Jared Wenger, Chief Science Officer & Co-Founder, Bluestem Biosciences
- Bob Wilhelm, Vice Chancellor for Research and Economic Development, University of Nebraska-Lincoln



The Committee met twice over the last year (November 2023 and May 2024). The November meeting was the initial Committee meeting where the iHub’s purpose and Committee’s role were discussed. At the May meeting, the Committee was provided a status report on the Collaborative. The Committee is tentatively scheduled to convene in November 2024.

External Funding

In addition to creating the Committee, the Collaborative, through Bio Nebraska, Invest Nebraska and SCC, accepted inclusion in three federal grant applications in the hopes of receiving funding to further the Collaborative’s purpose:

- **U.S. Small Business Administration Regional Innovation Cluster Program**
Led by Invest Nebraska and includes Bio Nebraska and SCC as partners.
- **National Science Foundation (“NSF”) Regional Innovations Engines**
Led by Iowa State University and includes Invest Nebraska, SCC, Bio Nebraska, University of Nebraska-Lincoln and DED as partners. The application, titled RuralSTAMINA: Ascending Rural communities through Sustainable, Transformative Advanced Manufacturing INnovations and Alliances, focuses on advanced manufacturing in rural communities.
- **U.S. Economic Development Administration Good Jobs Challenge**
Led by DED and includes Bio Nebraska, SCC and Central Community College as partners. The application focuses on workforce training in the manufacturing sector including biomanufacturing.

Each grant application is at a different stage in the solicitation process. Regardless, if any of the grant applications are accepted, it would not be until calendar year 2025 before any funds would be disseminated. In the meantime, the Collaborative will continue to look for external funding opportunities.

Five-Year Plan

Year 1

As stated in the Collaborative’s iHub application, Year 1 goals for the Collaborative are the following:

- Convene meetings between industry and academic institutions to discuss applicable curriculum.
- Discuss high school fermentation awareness programs with academic institutions.

The Collaborative, through Bio Nebraska, convened meetings throughout the year for industry and academic institutions to meet and discuss industry workforce needs and the institutions’ current academic offerings.

- **February 2024** – Representatives from Metro Community College, SCC and Bio Nebraska met with Novonesis and Evonik officials at their facilities in Blair, Nebraska.

- **April 2024** -- Representatives from University of Nebraska -Lincoln, Metro Community College, SCC and Bio Nebraska met to discuss the Collaborative, academic offerings from the respective institutions and opportunities for the institutions to work collaboratively.
- **June 2024** -- Representatives from University of Nebraska -Lincoln, Metro Community College, SCC and Bio Nebraska met with Cargill, Zoetis, Synbiotic Health, Huvepharma, Merck, ADM and MTE officials to discuss workforce needs.

In addition to the scheduled meetings, the Collaborative arranged meetings and introductions for Metro Community College representatives with various industry officials. Metro Community College is scheduled to launch a biotechnology program in the fall of 2026 at its Elkhorn campus in Elkhorn, Nebraska, and will use industry input to shape the curriculum.

SCC currently offers a Certificate, a Diploma and Associate of Science in its Biotechnology program. Fermentation and biomanufacturing are components in the Introduction to Biotechnology classes. SCC is scheduled to open the Sandhills Global Technology Center on its Lincoln campus in early 2025. This new facility will contain lab space that will allow for expanded biotechnology class offerings, including benchtop fermenters and a large floor centrifuge. Additionally, SCC received an NSF Global Center grant to do outreach on the future of the food bioeconomy where SCC will implement a feedstock yeast fermentation experiment into its class offerings and disseminate the experiment to area high school teachers.

The University of Nebraska-Lincoln offers various fermentation/bioprocessing academic offerings through its many departments – Chemical & Biomechanical Engineering, Food Science & Technology, Biological Systems Engineering and Chemistry – but there is not a Fermentation Sciences and/or Bioprocessing Manufacturing degree offered.

Awareness will be essential to Collaborative’s success. As additional funding becomes available, creating an awareness campaign that highlights the fermentation/bioprocessing industry and available careers for Nebraska high school students, parents and teachers will be of the utmost importance. The awareness campaign would be designed with input from industry and academic institutions. The Collaborative foresees using the pipelines already created by the academic institutions to share the awareness campaign.

Year 5

As stated in the Collaborative’s iHub application, the Year 5 goal for the Collaborative is the following:

- Host annual fermentation/biotech conference.

With DED at the lead, the Collaborative, through Bio Nebraska, partnered with DED and BioMADE to bring Bio Innovations Midwest to Omaha, Nebraska, in September 2024. Over 300 individuals from across the world descended upon Omaha for two days of meetings, presentations and networking opportunities all focused on the commercialization in the biomanufacturing sector.

The event exceeded all expectations and as such, Bio Innovations Midwest is scheduled to return to Omaha September 15-16, 2025. It is still the Collaborative's goal to host an annual fermentation/biotech conference in Nebraska in future years.

As the Collaborative's designated management individual, per the Collaborative's iHub application, I submit this annual progress report for your consideration.

Sincerely,



Rob Owen
Executive Director