2025 SENATE EDUCATION

SB 2328

2025 SENATE STANDING COMMITTEE MINUTES

Education Committee
Room JW216, State Capitol

SB 2328
1/29/2025

Relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide for a transfer; and to declare an emergency.

9:00 a.m. Chairman Beard called the meeting to order.

Members Present: Chairman Beard; Vice-Chairman Lemm; Senators: Axtman, Boschee, Gerhardt, and Wobbema.

Discussion Topics:

- Life science research council
- Proposed amendment
- Life science development fund
- Industrial Commission

9:00 a.m. Senator Wanzek testified in favor and submitted testimony #32550.

9:10 a.m. Doug Goehring, Agriculture Commissioner, testified in favor and submitted testimony #32515 and #32668.

9:24 a.m. Randy Schneider, President Bioscience Association of ND, testified in favor and submitted testimony #32527.

9:46 a.m. Jordan Kannianem, Deputy Director Industrial Commission, testified neutral.

9:55 a.m. Chairman Beard closed the hearing.

Susan Helbling, Committee Clerk

COMMISSIONER
DOUG GOEHRING

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Testimony of Doug Goehring
Agriculture Commissioner
Senate Education Committee
Room 216
January 29, 2025

Chairman Beard and members of the Senate Education Committee, I am Agriculture Commissioner Doug Goehring, here in support of SB 2328, as amended. Which relates to the life science research council and bioscience innovation grant program.

The proposed bill will create a new chapter in title 54 to implement a bioscience grant program. It establishes a life science research council with members appointed from the medical, pharmaceutical, and biotechnology fields and designates the industrial commission with oversight authority; and it provides an appropriation of $12,000,000. We have several years of experience with this program. I believe the state, our communities, nation, and global population have benefited from this program.

Chairman Beard and committee members, thank you for your consideration of SB 2328 as amended. I would be happy to answer any questions you may have.

BioND

Bioscience Association of North Dakota
4200 James Ray Drive, Suite 500, 503
Grand Forks ND
Richard Glynn, Exec. Director
Ph: 701-738-2431
richard@ndbio.com

January 28, 2025

Dear Chairman Beard and Members of the Senate Education Committee.

The following is testimony to this Committee in support of SB 2328, "A BILL for an Act to create and enact a new chapter 54 of the North Dakota Century Code, relating to a life science research council, to repeal section 4.1-01-20.1 of the North Dakota Code relating to the bioscience innovation grant program, and to provide a continuing appropriation.

I am the Executive Director of the Bioscience Association of North Dakota. The goal of the Bioscience Association is to expand the Bioscience Industry in North Dakota either by recruiting companies from outside the State or by helping companies located in the State develop their technology and commercialize their products. The Bioscience Association expanded the Bioscience Industry in North Dakota through the Bio Innovation Grant program by making grants to companies either recruited from outside the State or by helping companies located in the State develop their technology and commercialize their products.

As Stated in an article published by the Greater Fargo Moorhead Economic Development Corp., December 19, 2022, by Meghan Feir Walker; "the Gross Regional Product (GRP) contributed by the bioscience industry in the Fargo-Moorhead MSA (alone) has grown from less than $50 million dollars in 2011 to over $208 million in 2021. The growth of bioscience occupations in the FM metro has grown 40.9 percent in that same period, eclipsing the national growth rate of 23.4 percent.

In the 15 years since BIOND was established in 2010, the statewide GDP from the bioscience sector has
grown from 52.6 million to more than 418.6million in 2023 (a nearly tenfold in growth in 13years). The bioscience industry employes approximately 1,467 with an average earning of $111,516 per employee. Statewide job growth in the sector of 58% over the last 5 years has pushed jobs from 927 in 2018 to 1,476 in 2023 which far outpaces the national bioscience job growth rate 22%.

The Bio Innovation Grant program has been highly successful tool in helping to expand the Bioscience Industry in this State. But we think this "tool" can be improved upon and be more effective in our recruitment efforts. And that is why we are in front of you today.

While this is a departure from the status quo, this new process will allow for requests for grants to the

BioND

Bioscience Grant Innovation program to be more accurately assessed and evaluated by outside peer-review. This enhances the likelihood of successful implementation of the funded project and downstream commercialization success. The multiple strategies this legislation deploys permits a broader array of projects to be considered, enabling a greater expansion of the bioscience industry from early-stage companies to those that are more mature and with products in commerce. These two separate but equally advantageous strategies still accelerate the growth of the bioscience industry in North Dakota.

By deploying Bio as the commercialization arm of the Life Sciences Research Council it will provide an active partner to stimulate growth by enhancing funding opportunities across a variety of mechanisms as well as enabling a partner to actively recruit companies to come from North Dakota from other states and from non-adversarial nations. This will aid in growing the bioscience industry from with North Dakota as from hew external entities.

While this represents a change from our current practice, the new process will ensure that grant request for the Bioscience Grant Innovation program undergoes a more rigorous and impartial assessment through external peer review. This approach increases the probability of successful project implementation and subsequent commercialization. Additionally, the diverse strategies outlined in this legislation will expand the range of eligible projects, fostering growth across the bioscience industry -from early-stage companies to those with established products in the market. Together, these two distinct yet complementary strategies will accelerate the expansion of North Dakota' bioscience sector.

Furthermore, by designating ND Bio as the commercialization arm of the life sciences Research Council, we establish an active partner to stimulate growth. This partnership will enhance funding opportunities through various mechanisms and enable active recruitment of companies to North Dakota from other States and non-adversarial nations. Ultimately, this will facilitate the growth of the bioscience industry both from within North Dakota and through the attraction of external entities.

We should ask the Committee to give a DO Pass recommendation for SB 2328.

Respectfully submitted,
Richard Glynn
Executive Director
Bioscience Association of North Dakota
richard@ndbio.com
701-317-2483

25.1162.01000

Sixty-ninth
Legislative Assembly
of North Dakota

Introduced by

Proposed Amendments to
SENATE BILL NO. 2328

A BILL for an Act to create and enact a new chapter to title 54 of the North Dakota Century Code, relating to a life science research council; to repeal section 4.1-01-20.1 of the North Dakota Century Code, relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide an appropriation; to provide for a transfer; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new chapter to title 54 of the North Dakota Century Code is created and enacted as follows:

Definitions.

As used in this chapter, unless the context otherwise requires:

1. "Biotechnology" means a scientific field of study involving crop genetics, biofuels, biomaterials, biosensors, and biotechnology in relation to food, nutrition, animals, humans, equipment, medical and health products and services medical diagnostics, medical therapeutics and farm-based pharmaceuticals.
2. "Life science" means the scientific study of living organisms and their processes.
3. "Medical devices" means a medical instrument, apparatus, implant, software, or other equipment developed or manufactured for medical purposes.
4. "Pharmaceuticals" means the practice of discovery, development, and production of drugs and vaccines that can prevent, treat, and cure diseases.

Life science research council - Membership - Meetings.

The industrial commission shall consult with the life science research council in matters of policy affecting the administration of the life science development fund.

1. The life science research council consists of:
   a. The commissioner of commerce or the commissioner's designee.

b. Two members with a substantial interest in medical devices appointed by the attorney general.

c. Two members with a substantial interest in pharmaceuticals appointed by the governor.

d. Two members with a substantial interest in biotechnology appointed by the agriculture commissioner.

2. Subject to subsection 6, the term of office for members of the council is three years but of those first appointed, two serve for one year, two serve for two years, and two serve for three years.

3. The commissioner of commerce shall serve as chairman.

4. The council shall have at least one regular meeting each year and such additional meetings as the chairman determines necessary at a time and place to be fixed by the chairman. A special meeting must be called by the chairman on written request of any three members. Four members constitute a quorum.

5. The council shall recommend to the industrial commission the approval of grants, loans, or other financial assistance necessary or appropriate for funding, research, development, marketing, and educational projects or activities and any other matters related to this chapter.

6. Members of the council serve at the pleasure of the governor.

Access to council records.

1. Materials and data submitted to, or made or received by, the council or industrial commission, to the extent the council or industrial commission determines the materials or data consist of trade secrets or commercial, financial, or proprietary information of individuals or entities applying to or contracting with the commission or receiving council or industrial commission services under this chapter, are subject to section 44-04-18.4.

2. A person shall file a request with the council or industrial commission to have material designated as confidential under subsection 1. The request must contain any information required by the council or industrial commission and must include:

a. A general description of the nature of the information sought to be protected.

b. An explanation of why the information derives independent economic value, actual or potential, from not being generally known to others.

c. An explanation of why the information is not readily ascertainable by proper means by others.

d. A general description of a person that may obtain economic value from disclosure or use of the information, and how the person may obtain that value.

e. A description of the efforts used to maintain the secrecy of the information.

3. The information submitted under subsection 2 is confidential. The council or industrial commission shall examine the request and determine whether the information is relevant to the matter at hand and is a trade secret under the definition in section 44-04-18.4 or 47-25.1-01. If the council or industrial commission determines the information is either not relevant or not a trade secret, the council or industrial commission shall notify the requester and the requester may ask for the return of the information and request within ten days of the notice. If no return is sought, the information and request are a public record.

4. The names or identities of independent technical reviewers on a project or program and the names of council members making recommendations are confidential, may not be disclosed by the council, and are not public records subject to section 44-04-18 or section 6 of article XI of the Constitution of North Dakota.

Industrial commission powers.

1. The industrial commission may:

a Make a grant or loan, and provide other forms of financial assistance as necessary or appropriate, to a qualified person for funding research, development, marketing, and educational projects or activities, feasibility studies, applied research and demonstrations, venture capital investments, and low-interest loans and loan buydowns to foster the development of the life science industry. Any financial assistance the commission awards to a project may not be the project's sole support. Any financial assistance the commission awards must be conditioned on the assurance the applicant or a third party will support the project by either monetary or nonmonetary means. The amount of the additional support is at the commission's discretion.

b. Provide incentives to expand the life science industry in the state.

c. Provide incentives for scaleable technologies.

d. Provide incentives to increase research and utilization of the life science industry in the state.

e. Execute contracts and all other instruments necessary or convenient for the performance of its powers and functions under this chapter.

f. Accept aid, grants, or contributions of money or other things of value from any source, to be held, used, and applied to carry out this chapter, subject to the conditions upon which the aid, grants, or contributions are made, including aid, grants, or contributions from any department, agency, or instrumentality of the United States for any purpose consistent with this chapter.

g. Establish interest buydown programs for equipment needed to development the life science industry in the state.

h. Fund technical assistance from the university system and private entities to producers.

2. The industrial commission may contract with the department of commerce to provide technical assistance to the life science research council and the industrial commission to carry out the purposes of this chapter, including pursuit of aid, grants, or contributions of money or other things of value from any source for any purpose consistent with this chapter. The department may contract with a public or private third party to provide the technical assistance necessary to implement the purposes of this chapter.

Life science development fund - Continuing appropriation.

The life science development fund is a special fund in the state treasury. All funds in the life science development fund are appropriated to the industrial commission on a continuing basis for the purpose of carrying out this chapter. Interest earned by the fund must be credited to the fund. B10

SECTION 2. REPEAL. Section 4.1-01-20.1 of the North Dakota Century Code is repealed.

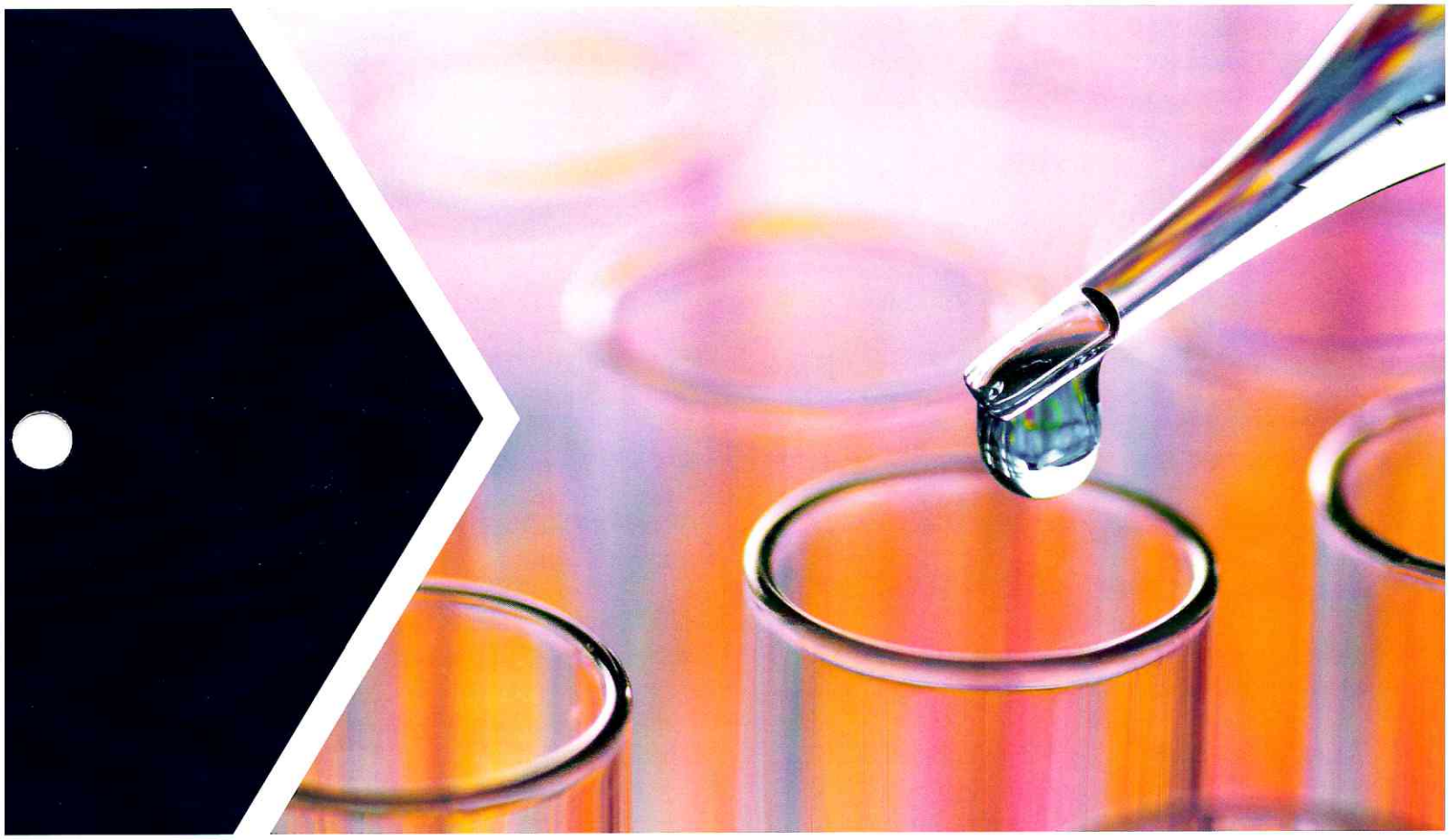
SECTION 3. TRANSFER - BIOSCIENCE INNOVATION GRANT FUND TO LIFE SCIENCE DEVELOPMENT FUND. The office of management and budget shall transfer any balance in the bioscience innovation grant fund to the life science development fund on June 30, 2025.

SECTION 4. APPROPRIATION - TRANSFER TO LIFE SCIENCE DEVELOPMENT FUND. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of $12,000,000, which the office of management and budget shall transfer to the life science development fund, for the period beginning with the effective date of this Act, and ending June 30, 2027.

SECTION 5. EMERGENCY. Sections 1, 3, and 4 of this Act are declared to be an emergency measure.

BIOSCIENCE INNOVATION GRANT (BIG) PROGRAM

GRANT REPORT 2023-2024



NORTH DAKOTA DEPARTMENT of AGRICULTURE

Agriculture Commissioner
Doug Goehring

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ADMINISTRATION

The purpose of the BIG program is to foster the growth of the bioscience industry in the state. Grants focus on one or more of the following areas:

- Supporting biotechnology innovation and commercialization in areas including:
  - Crop genetics
  - Biofuels;
  - Biomaterials;
  - Biosensors and biotechnology in relation to food, nutrition, animals, humans, equipment, medical and health products and services;
  - Medical diagnostics;
  - Medical therapeutics; and
  - Farm-based pharmaceuticals;
- Promoting the creation of bioscience jobs in the state to be filled by graduates from institutions under the control of the state board of higher education;
- Encouraging the development of new bioscience technologies and bioscience startup companies in the state;
- Leveraging the agriculture industry in the state to support the development of bioscience technologies impacting livestock operations and crop production;
- Promoting bioscience research and development at institutions under the control of the state board of higher education;
- Encouraging coordination and collaboration among other entities and programs in the state to promote bioscience innovation goals.

BIOSCIENCE INNOVATION GRANT PROGRAM STAFF

JOHN F. SCHNEIDER
Business, Marketing & Information Division Director

HEATHER LANG
Ag Business Development Coordinator

TALEY DAVIS
Ag Development Specialist

2023-24 PROJECTS

North Dakota bees and honey

EXPANSION OF ETHICAL GENETIC MEDICINES
Agathos Biologics, LLC
James Brown, Fargo

Grant Amount: $300,000

The project aims to develop products and services for expanded access to genetic medicines to help patients with unmet medical needs. A pre-clinical gene therapy treatment is set to enter clinical trials with additional research to be completed on other cells for identification of potentially useful candidates. Successful trials will allow Agathos Biologics to commercialize, expand the biotechnology industry and have a positive impact on patients, providers, and pharmaceutical developers.

DEVELOPMENT OF MEDICAL GRADE HONEY PRODUCTS
Biomed Protection North Dakota, LLC
Michelle Berg, West Fargo

Grant Amount: $100,000

Research will be conducted to investigate the therapeutic potential of antioxidant-rich honey from North Dakota for medical use in improving health and well-being. Commercialization efforts will include marketing honey-based nutritional supplements and specialty honey products.

ADVANCEMENT OF SIGNATURE: AI POWERED BIOMETRICS SYSTEM FOR NEURONAL HEALTH DIAGNOSIS
BraLN, Inc. DBA BrainTX
Robert Konopacz, Bismarck

Grant Amount: $310,000

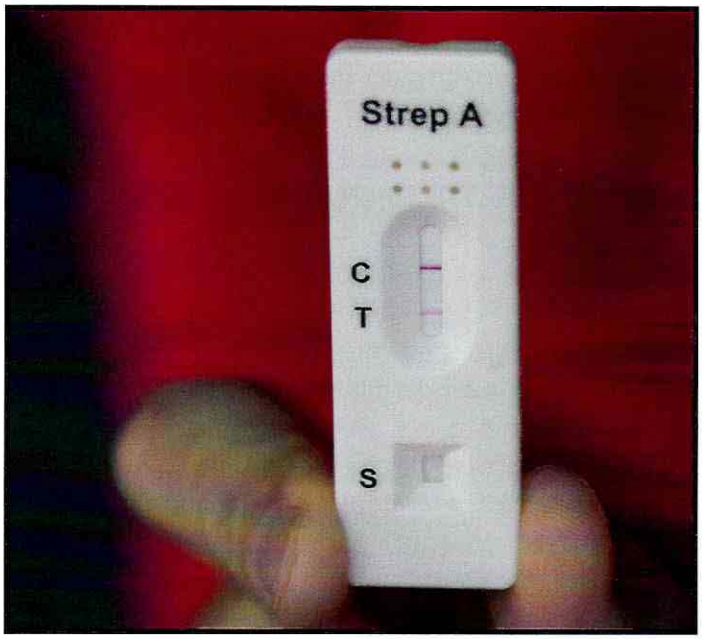
Artificial Intelligence Powered Theronostic Technology is a significant innovation in medicine. The project will design proprietary platforms to provide novel drug discovery, rapid development of genetically engineered neurons, and precise biometric endpoints to accelerate clinical approvals. With Artificial Intelligence Deep Learning Powered Technology, BrainTX's Theranostics could provide life-changing or life-saving benefits for patients with severe disease. Future therapies represent a shift in approach to treating brain disorders with less

focus on rectifying "chemical imbalances" and more emphasis on selective modulation of neural circuits.

AT-HOME STREP TEST ANALYSIS
Checkable Medical Incorporated
Patty Post, West Fargo

Grant Amount: $232,300

An analysis of the Checkable at-home strep test and its mobile application will be completed with serial testing in an attempt to pinpoint the optimal time to perform an at-home rapid strep test when symptoms occur. Application features such as routine implementation, reminders, and telehealth follow-ups will be reviewed. Information gathered will allow improvement of the technology and further education for consumers as pertaining to at-home testings and the ability for access to healthcare services from the comfort of home.



A sample at-home strep test

RESPOND II VENTILATOR COMMERCIALIZATION
CorVent Medical, Inc
Travis Murphy, Fargo

Grant Amount: $50,000

The RESPOND II Ventilator is anticipated to be a revolutionary ICU quality ventilator that offers greater reliability, no maintenance, and lower cost. Design and software configuration have been completed and work will move to a necessary verification and validation process for FDA 510(k) clearance. CorVent Medical will be moving operations from California to Fargo, North Dakota.

BUILDING AN END-TO-END TRANSPORTATION SOLUTION
Cotasys Inc.
Jeremy Vrchota, Fargo

Grant Amount: $123,000

The bioscience and biotechnology industries are subject to challenges when transportation of goods is delayed. The project aims to reduce those challenges by bringing customs, warehouses, and real-time tracking all into one user interface for ground, air, and water transportation. Users will be able to view end-to-end transit times and all associated costs from shipping, port usage, customs, and warehousing.

ELEVATING THE FAMGENIX DIGITAL PLATFORM
FamHis, Inc. DBA FamGenix
Michael Brammer, Delray Beach, FL

Grant Amount: $240,000

The FamGenix digital platform strives for a preventative approach to medicine, commonly

referred to as Precision Medicine, through storing networks of family health history. Population screening will be utilized to identify individuals with high risk of hereditary health complications. Integration with genetic testing companies will be sought to store genetic data on patients within the platform.

ACCELERATING SINGLE CELL DISCOVERY AND ANTIBODY ENGINEERING
Genovac Antibody Discovery LLC
Brian Walters, Fargo

Grant Amount: $642,667

In collaboration with The Massachusetts Institute of Technology, North Dakota State University, PhenomeX, and Enpicom, aims to develop machine learning (ML) tools for antibody engineering. The project focuses on engineering antibodies and nanobodies with improved properties for research, diagnostics, and potential therapeutics. By leveraging ML techniques, Genovac aims to design antibodies that are cost-effective, stable, and exhibit enhanced biological functionality compared to parental antibodies.

HIGH QUALITY SYNTHETIC TARGETED VECTORS
Lilium Therapeutics Inc.
Yonatan Lipsitz, Fargo

Grant Amount: $200,000

Lilium Therapeutics is building synthetic targeted (STAR) vectors for specific, safer, higher capacity, and efficient delivery vehicles to make gene therapies. The STAR vectors are planned to bring genetic medicines to the masses by unlocking new diseases and new patient populations for these curative therapies. Development will target cancer and cardiac diseases.

INTEGRATED BATTLEFIELD ANALGESIA TOOLKIT (I-BAT)
Lincoln Therapeutics, LLC
Michael Burke, Fargo

Grant Amount: $136,000

Currently, opioids are the standard treatment for battlefield injury pain management. They can cause death due to respiratory depression or result in addiction of wounded military personnel. The goal is to develop intranasal ketamine as a safer, fast acting, non-addicting far forward battlefield pharmaceutical. Three registration quality intranasal multi-dose ketamine product batches will be manufactured and packaged. Product produced will be utilized by Department of Defense clinical researchers conducting a PK/BA study at the Uniformed Services University in Bethesda. The study is necessary in obtaining FDA approval. Final release of the products will be at the Fargo GMP pharmaceutical packaging and finishing facility.

VARIETY IDENTIFICATION SYSTEM OF DURUM: THE DURUMFILER
National Agricultural Genotyping Center, Inc. (NAGC)
Megan O'Neil, Fargo

Grant Amount: $109,065

Variety identification for many crops relies on professional inspections of visual traits defined for each variety. However, varieties are increasingly complex with traits that may not be obvious while looking at the crop in the field or kernel characteristics. For wheat, further discrimination of specific crops into market classes, such as durum, requires genetic-based biotechnology with fine-scale resolution. The National Agricultural Genotyping Center will increase its testing capacity and create an innovated variety identification system,

DurumFiler, to assist the U.S. durum industry in monitoring the varietal purity of seed within the market.

A NOVEL SOLUTION FOR TINNITUS
Peacenquiet, Inc.
Kurtis Goos, Minnetonka, MN

Grant Amount: $250,000

Pnq Health was created to fill a market gap in the treatment of tinnitus. It strives to provide patients access to effective treatment support that is easily accessible and safe with a clinical care model driven by an intelligent treatment mobile application. An individualized acoustic solution involving pattern recording will automatically determine the optimal treatment for each patient.

Durum

DUETTE™ DUAL BALLOON INDWELLING CATHETER
Poiesis Medical LLC
Charlene Johnson, Jupiter

Grant Amount: $480,000

Poiesis Medical will establish operational facilities in North Dakota to support the "Made in the USA" movement. This project will utilize allocated funds to relocate operations and manufacture procedural trays locally, which will create employment opportunities and stimulate population growth, all while ensuring a U.S.-controlled supply chain for critical medical innovations. Poiesis aims to provide advanced technology to U.S. veterans and governments contracted facilities, while fostering collaboration with already existing North Dakota biotech companies to enhance the state's biosciences ecosystem.

PRESSURE INJURY PREVENTION ASSESSMENT: PILOT STUDY
SafetySpect Inc.
Kenneth E. Barton, Grand Forks

Grant Amount: $70,000

SafetySpects innovative project, the Pressure Injury Prevention Assessment (PIPA), is an advanced medical device that employs multimodal spectroscopy and artificial intelligence for non invasive early detection of pressure injuries across all skin tones. Key objectives include developing user interface software, securing IRB approval, collecting and analyzing data from high-risk subjects, and creating a risk scoring system for timely interventions. By standardizing skin assessments and increasing monitoring frequency, PIPA aims to improve patient outcomes and quality of life, while also paving the way for successful commercialization of the technology.

PINGOO - AI-POWERED PATIENT EDUCATION COACH
Silverberry Group, LLC
Shayan Mashatian, Grand Forks

Grant Amount: $25,000

Pingoo is an AI-driven health coaching platform that provides users with personalized health evaluations and advice aimed at enhancing health outcomes and preventing complications. Utilizing machine learning and advanced technology, including ChatGPT engine, Pingoo delivers an exceptional experience for patients undergoing surgery or managing chronic diseases. The platform has garnered positive feedback and successfully signed its first enterprise client. Silverberry is looking to further develop the product, expand market research while growing its team through sales professionals, business developers, and customer support services.

BIOFUEL AND BIOMATERIAL PRODUCTION FROM NORTH DAKOTA BIOMASS USING THE SANDWICH GASIFIER
Singularity Energy Technologies, LLC
Dr. Nikhil Patel, Grand Forks

Grant Amount: $150,000

SET's project leverages patented sandwich gasifier technology to revolutionize agricultural and municipal waste management and renewable energy production. This technology converts waste into clean syngas for biofuel and biomaterial synthesis, offering a sustainable alternative to fossil fuels with high efficiency and near-complete carbon conversion. The goal is to optimize feedstock and equipment, enhance the existing gasification system, and assess scaling up to a 25 TPD capacity. A marketing plan will identify potential markets and partnerships, supporting a circular economy in North Dakota's agricultural and biotech industries while fostering job creation and environmental solutions.

MIST - U.S. DESIGNED AND MANUFACTURED MEDICAL GRADE NEBULIZER
TailWind MedTech Inc.
Richard Walsh, Fargo

Grant Amount: $170,000

TailWind MedTech aims to address the reliance on foreign manufacturing by designing and producing a cost-effective high-quality vibrating mesh nebulizer in the United States. Objectives will be to support the nebulizer's design, testing, mold development for manufacturing, and marketing efforts.

THERATEC NEXT GENERATION PLATFORM
TheraTec, Inc.
Tony Hyk, Horace

Grant Amount: $100,000

TheraTec's next generation platform project aims

A mesh nebulizer

to enhance remote care for physical therapists, particularly in rural and underserved areas, while relocating the production of its sensor from China to North Dakota. The new platform will enable rapid feature updates and incorporate advanced security measures to protect patient data. The engineering team and external software partners will be supported in developing software, as well as the design and production set-up for the new wearable sensor and assisting marketing efforts to educate and gather feedback from existing and potential customers.

THERMASOLUTIONS STERILIZATION
ThermaSolutions Sterilization, LLC
Steven Davis, White Bear Lake, MN

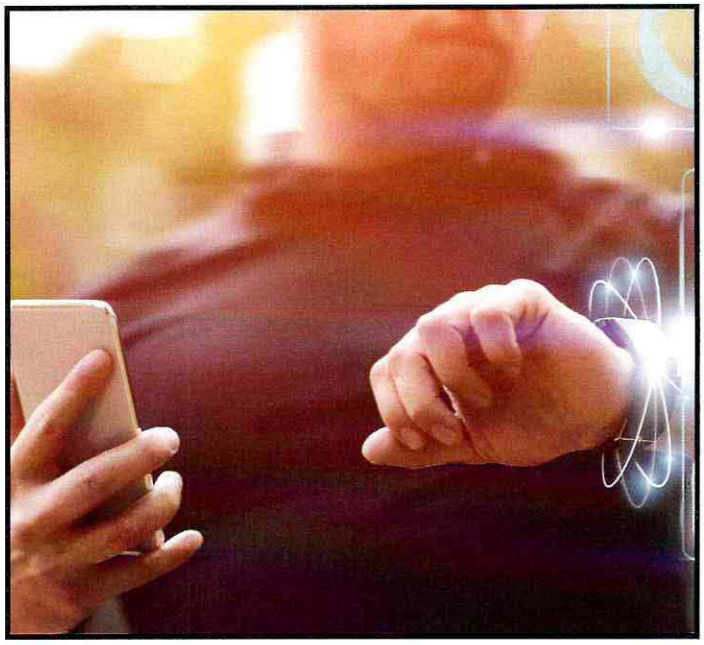
Grant Amount: $700,000

ThermaSolutions aims to establish the world's most environmentally friendly medical device sterilization plant. The project aims to utilize sterilization equipment, sterilization chambers, and catalytic abators, ensuring sustainable practices in the sterilization process.

THINAIR EXPANDS PRODUCT PORTFOLIO
Thin Air Surfaces, LLC
Jim Albrecht, Wahpeton

Grant Amount: $300,000

ThinAir, a medical device start-up based in North Dakota, is expanding its product portfolio to include portable stretcher/gurney utilizing patented small cell pressure redistribution technology. This innovation aims to address the 12-20% prevalence of pressure injuries in emergency departments, where 40% of admitted patients initially receive care, averaging 6.5 to 15.4 hours. ThinAir plans to be positioned as a leading supplier of support surfaces, enhancing national recognition through collaboration with



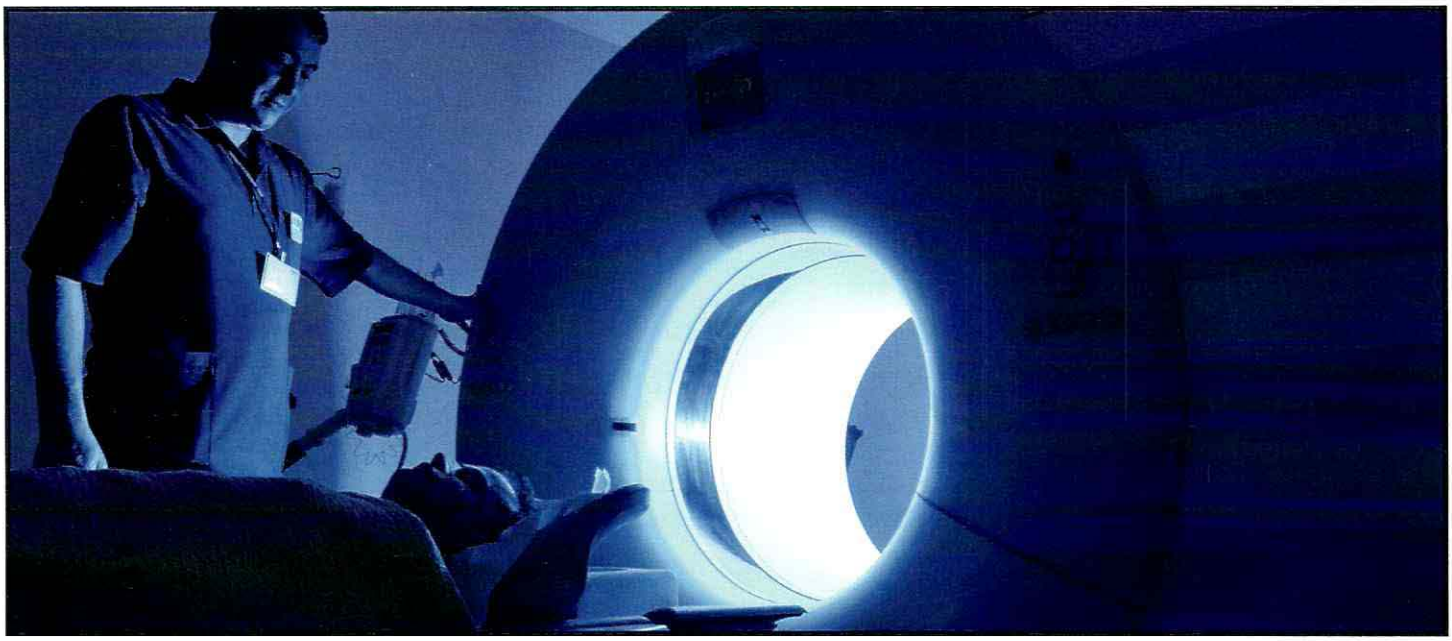
A wearable health sensor and app

key stakeholders. The project is supported by the National Science Foundation and UND's nursing and biomedical engineering programs, will establish evidence-based practices for widespread adoption, significantly improving patient outcomes and creating high-quality job opportunities for graduates in North Dakota.

RAPID MULTIPLEX POINT-OF-CARE PATHOGEN TESTING TO SUPPORT FAR FORWARD MILITARY NEEDS
Thrixen LLC
Ben Boedeker, Fargo

Grant Amount: $180,000

Thrixen aims to achieve several key goals including onshore novel thrice biotechnology from Singapore to Fargo, enhancing U.S. - based research, development, and production. Developing compact, lightweight point of care infectious disease testing capabilities for forward deployed combat teams, will enable advanced care during prolonged evacuation times typical in peer-to-peer conflicts. By utilizing Thrice platform



MRI machine

technology to address testing gaps in military medicine, ensuring 100% transference to civilian healthcare applications. Establishing innovative educational systems that bring together Department of Defense, industrial and academic scientists will assist in training students in real world problem solving integrating them into the company's leadership upon graduation.

TWL PHARMAPAC GMP PHARMACEUTICAL BLISTER PACKAGING OPERATIONS START-UP AND QUALIFICATION

TWL Pharma Pac, LLC
Michael Burke, Fargo

Grant Amount: $110,000

The primary objective of this project is to ensure that the Fargo pharmaceutical packaging facility meets the standards for final packaging and product release in accordance with Good Manufacturing Practices (GMP). This will involve conducting both an internal quality review and a third-party evaluation by a major Contract Development and Manufacturing Organization (CDMO), Catalent. The registration batch of pharmaceutical products will be packaged in unit-dose intranasal delivery devices and will undergo GMP blister packaging at the new Fargo facility. This operation will validate the site and the established GMP Standard Operating Procedures (SOPs), enabling TWL Pharma Pac to offer pharmaceutical packaging services to third-party pharmaceutical companies and CDMOs. This initiative represents a significant step in establishing North Dakota's first GMP pharmaceutical product packaging operation.

WHEELWISE AND WALKWISE FOR CANES VALIDATION, INTEGRATION, AND COMMERCIALIZATION

WalkWise, Inc.
Peter Chamberlain, Fargo

Grant Amount: $175,000

The grants will be utilized to commercialize this patented technology, enabling healthcare providers nationwide to enhance senior health and safety while reducing overall care costs. The new devices will undergo comprehensive testing, and the resulting data will be fully

integrated into the existing WalkWise system. To educate the market about this groundbreaking device for senior care, WalkWise will engage in various outreach efforts, including participation in numerous conferences and content marketing initiatives. Additionally, they will provide robust support for healthcare professionals using this new technology, offering customer support materials, training resources, how-to videos, and other content focused on best practices with the new system.

REAL-TIME MRI-GUIDED CARDIAC ABLATIONS
Imricor Medical Systems, Inc.
Steve Wedan, Burnsville, MN

Grant Amount: $1,158,000

The project titled "Real-time MRI-guided Cardiac Ablations" represents the final steps in commercializing a groundbreaking technology for cardiac ablation procedures in the United States. Cardiac ablation is a minimally invasive procedure in which a catheter is guided into the heart to deliver energy that modifies heart tissues responsible for irregular heartbeats, thereby restoring normal rhythm. Common conditions treated with ablation include atrial fibrillation, atrial flutter, and ventricular tachycardia. Traditional ablation procedures rely on x-ray guidance, which provides limited visibility of the heart. Imricor's patented technology enables cardiac ablations to be performed under real-time MRI guidance, offering a clear view of the heart. This innovative approach aims to achieve higher first-time success rates, reduce procedure times, and lower treatment costs per patient, all while eliminating radiation exposure for patients, physicians, and medical staff. Having been under development for 16 years, Imricor's technology is already approved and commercially available in Europe. This project will facilitate a pivotal clinical trial, with the intention of submitting the results and necessary design and testing data to obtain FDA approval for the technology in the U.S.

EXPLORATION INTO PHARMACEUTICAL APPLICATIONS FOR BILLIE'S SOAP FORMULATIONS
Billie's Soap & Spa Products, Inc. DBA Billie's Soap
Billie Kellar, Grand Forks

Grant Amount: $260,000

Billie's Soap is a certified primary sector manufacturing and sales company that specializes in value-added, agriculturally derived skincare products. Founded in 2007, the company has primarily focused on developing formulas in the cosmetic skincare sector. The success of three of these formulations has paved the way for Billie's Soap to expand into the pharmaceutical skincare product space, as any product making claims in the U.S. must be registered as a drug and undergo proven clinical testing. This project aims to explore initial pharmaceutical applications for the three current formulations, advancing them toward Investigational New Drug (IND) application pathways. Additionally, the project will establish an FDA-qualified pharmaceutical research and production facility that will be accessible to all North Dakota companies in need of these services.

PROJECT SPIRITWOOD
Chapul Farms ND One LLC
Todd Severson, McMinnville, OR

Grant Amount: $90,000

Chapul, LLC (Chapul Farms) is in the process of developing an insect bioconversion facility designed to transform agricultural byproducts into high-value animal feed (insect larvae) and soil health products (insect frass), exemplifying

a model of future circular food systems. The industrial-scale insect agriculture facility will be situated near Jamestown, ND, within the Spiritwood Energy Park (Project Spiritwood). This location is strategically co-located with its primary feedstock, spent wet distillers grains from Dakota Spirit Ag Energy, a corn bioethanol facility owned by HarvestOne. Currently, the project is in the final Front End Loading Phase 3 (FEL3), with development efforts supported by the North Dakota Department of Agriculture, the North Dakota Department of Economic Development, Nexus PMG, and Chapul.

FRONTIER BIOFORGE BESPOKE GENETIC ENGINEERING PLATFORM
Frontier Bioforge LLC
Wyatt Warkenthien, Horace

Grant Amount: $180,000

Frontier Bioforge's project seeks to reduce the barriers to genetically modifying non-model organisms. They aim to establish a genetic screening and engineering service line that enables researchers to send non-model microbes for genetic engineering. Traditionally, this process involves hiring a research assistant and spending a year developing methods in the lab; however, this service can return an engineered microbe within approximately one month. This initiative will empower researchers across the U.S. and around the world to efficiently and effectively make edits to organisms that are typically difficult to modify, thereby accelerating advancements in their respective fields.

Electrolyte powder

CLINICAL STUDY AND KRAMPADE ORIGINAL ZERO, AND KRAMPADE 2.0 ZERO
Krampade, LLC
Eric Murphy, Grand Forks

Grant Amount: $25,000

This project marks the initiation of the first clinical study aimed at documenting the effectiveness of Krampade 2K in alleviating menstrual cramps. Utilizing a double-blinded, crossover study design, they intend to provide the gold standard of clinical evidence that Krampade can mitigate menstrual pain by assessing its effectiveness across the pain spectrum. The second component of this project involves expanding zero-sugar selections within the Krampade Original and Krampade 2.0 product families. These products are among the top sellers, and customer feedback indicates a strong demand for additional flavors. The introduction of new flavors, such as orange and fruit punch, will enhance our product offerings and help us attract new customers. Their products are widely used by individuals following a keto diet and serve as a key source of potassium, helping to prevent what is commonly referred to as "keto flu." The marketing efforts will be implemented on a nationwide scale, with a strong international presence primarily through our Amazon store.

ACCURATE CONTINUOUS AMBULATORY BLOOD PRESSURE MEASUREMENT
Krisara Engineering LLC
Dave Jorgenson, Fargo

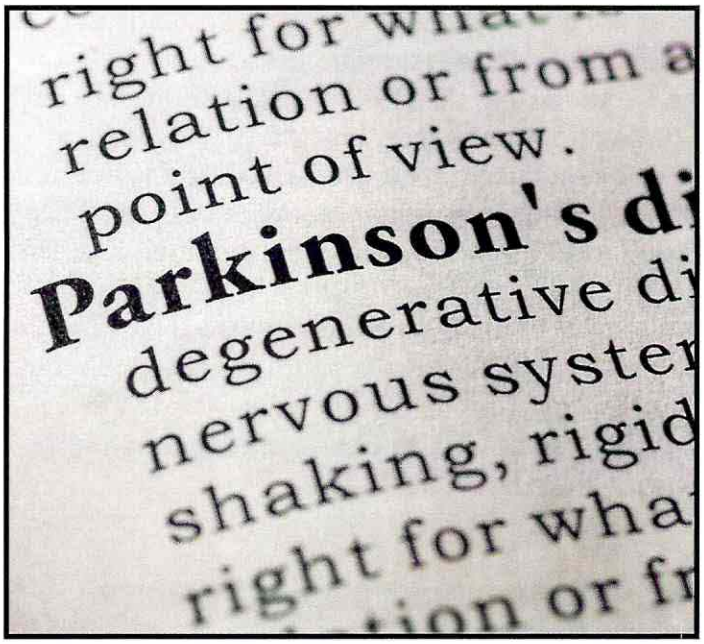
Grant Amount: $110,000

It is widely recognized that blood pressure is a critical indicator of cardiovascular health and disease. However, relying solely on traditional blood pressure measurements during clinical visits, or even on home monitoring, is insufficient due to the infrequent measurements and discomfort associated with cuff inflation. What is needed is a system that enables continuous blood pressure measurement during movement. The primary challenge in achieving ambulatory continuous blood pressure monitoring is the discomfort and noise generated by cuff inflation. Currently, there is no clinically relevant solution available for comfortable ambulatory continuous blood pressure measurement. While this is a complex problem to solve, the market potential is significant, with an estimated value of $4.7 billion in 2023 and continuing to grow.

MINDMEND BIOTECH LLC
MindMend BioTech LLC
Mercedes Terry, Hobbs, NM

Grant Amount: $60,000

MindMend Biotech LLC is dedicated to developing innovative technology for the treatment of Parkinson's disease, aiming to address current gaps and limitations in PD management and therapy by seeking to slow the progression of the disease. This project will involve rigorous research, prototyping, and testing to ensure the technology's efficacy and safety. They plan to secure intellectual property protection and share research findings while maintaining transparent communication with stakeholders. MindMend Biotech LLC intends



to commercialize this technology through collaborations with healthcare professionals and institutions, following regulatory approval. Through these efforts, they aim to enhance Parkinson's disease treatment and improve the quality of life for the millions of individuals affected by this condition. In pursuit of this mission, MindMend Biotech plans to collaborate with the University of North Dakota's Biomedical Engineering Innovations-Based Learning program, offering employment opportunities to UND BME students and providing them with real-world experience in biomedical engineering.

TERSA SAVA
Modern Hygiene, Inc. DBA Tersa
Ray Kelly, Fargo

Grant Amount: $17,000

The project is focused on the development and commercialization of a cutting-edge therapeutic solution aimed at enhancing sports recovery, mental health, and trauma therapy outcomes. Utilizing advanced technology, the therapy pod is designed to provide non-invasive and culturally

sensitive therapeutic interventions for a diverse range of users. Proposed commercialization efforts include partnering with academic institutions, Indigenous communities, and high-profile stakeholders to conduct research, refine the product, and effectively market it to target audiences. Through comprehensive marketing strategies, strategic partnerships, and a commitment to quality and efficacy, the project seeks to achieve widespread adoption and impact, ultimately improving the well-being of individuals across various demographics and communities.

NEXT GENERATION OPTICAL NAVIGATION FOR SPINAL SURGERY
PathKeeper, Inc. DBA Pathkeeper Surgical
Erez Lampert, Norwich, CT

Grant Amount: $600,000

The Pathkeeper System is a proprietary 3D optical navigation system that leverages AI algorithms and optical imaging to provide real-time, high-resolution imaging. This technology assists spine surgeons in navigating complex anatomical structures with enhanced precision during the placement of spinal devices. The combination of precise navigation, efficient workflow, and radiation-free imaging contributes to superior surgical outcomes. The Pathkeeper project proposed for this grant aims to create a high-quality toolkit to complement the navigation system. The steps to achieve this goal include ideation, safety and efficacy testing, accuracy assessments, acquisition of FDA clearance for the new kits, and a full market release of these enhanced tools.

Model of a spine

CORVENT RESPOND II VENTILATOR COMMERCIALIZATION AND NEXT GENERATION PRODUCT FEASIBILITY
CorVent Medical, Inc.
Travis Murphy, Fargo

Grant Amount: $750,000

The project is focused on obtaining FDA 510k clearance for the RESPOND II Ventilator, with submission targeted for late 2023. Corvent has completed design and software configuration and will begin verification and validation in mid-June. The company is also negotiating a move to a new headquarters in Fargo, transferring manufacturing and warehousing from California, with plans to be operational by early fall. Manufacturing will comply with FDA Good Manufacturing Practices and the company's Quality Management System.

NAGC equipment

UPGRADING THE GENOTYPING TECHNOLOGY AT THE NATIONAL AGRICULTURAL GENOTYPING CENTER (NAGC)
National Agricultural Genotyping Center, Inc.
Megan O'Neil, Fargo

Grant Amount: $135,000

NAGC aims to address the growing demand for large-scale genotyping projects in agriculture by acquiring new high-throughput genotyping instrumentation. The upgrade will enhance capacity, reduce turnaround times, and expand service offerings, meeting the needs of clients across North Dakota and the U.S. The proposed commercialization efforts include partnering with agricultural stakeholders, offering advanced genotyping tests, and actively disseminating project outcomes through various media channels.

MULTIMODE SPECTROSCOPY FOR ENHANCED COMMERCIALIZATION IN FOOD AND AGRICULTURAL PRODUCT QUALITY AND TRACEABILITY
SafetySpect Inc.
Kenneth E. Barton, Grand Forks

Grant Amount: $600,000

SafetySpect, a Grand Forks-based company specializing in multimode optical sensors with AI capabilities, is advancing technology to address key challenges in agricultural, food, and environmental safety. The company's current project focuses on the development of Quality, Adulteration, and Traceability (QAT) technology, which combines three modes of spectroscopy enhanced by fusion AI. This technology enables non-invasive, real-time analysis of food and agricultural products throughout the supply chain, improving product quality, traceability, and safety.

BELLA BLOOD AND FLUID WARMER
TailWind MedTech Inc.
Richard Walsh, Fargo

Grant Amount: $750,000

This project aims to test the feasibility of a chemically energized blood and fluid warmer, a critical technology currently unavailable to U.S. warfighters and first responders. In addition to military applications, the technology has numerous civilian uses, expanding the total addressable market (TAM) to over $1 billion in the U.S. alone. The commercialization process will include both U.S. government and military contracts, as well as commercial partnerships with multiple distribution channels. As a veteran-owned company, Tailwind will receive prioritization in government contracting opportunities. The Tailwind commercial sales team, with over 30 years of medical device experience, will also pursue large purchasing

groups like Premier, Vizient, and HealthTrust, which contract with major health systems such as Sanford Health, Altru, Essentia, and Mayo Clinic, among others.

THINAIR MEDICAL DEVICE COMMERCIALIZATION
Thin Air Surfaces, LLC
Jim Albrecht, Wahpeton

Grant Amount: $500,000

Thin Air Surfaces LLC (thinAIR), a North Dakota-based medical device start-up, is preparing to introduce its patented small-cell pressure redistribution technology to the medical device market. The immediate application focuses on improving patient safety and comfort on operating room tables, particularly for long procedures that put patients at risk for pressure injuries. Pressure injuries affect 2.5 million patients annually and are the second most common diagnosis in U.S. health system billing records (NPIAP, 2021 Fact Sheet).

Grant funding will support the company's commercialization efforts through collaboration with key partners, including the College of Nursing and Professional Disciplines, the Biomedical Engineering Department at the University of North Dakota, and medical device manufacturer ComDel Innovation. These efforts will validate the efficacy of the technology and ensure the delivery of a commercially viable, FDA-registered medical device. This work positions thinAIR for rapid expansion beyond the operating room, allowing for the development of a diverse product portfolio in additional markets.

FUNDING SOURCES

The appropriation for the Bioscience Innovation Grant Program for the 2023-2025 biennium totaled $12 million and was provided from the following sources:

- Strategic Investment & Improvements Fund (SIIF) $5,500,000
- General Fund $6,500,000

NORTH DAKOTA DEPARTMENT OF AGRICULTURE
Bioscience Innovation Grant (BIG) Program
600 E. Boulevard Ave., Dept. 602
Bismarck, ND 58505-0020
701-328-2231
800-242-7535
FAX 701-328-4567
www.ndda.nd.gov/big

2025 SENATE STANDING COMMITTEE MINUTES

Education Committee
Room JW216, State Capitol

SB 2328
1/29/2025

Relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide for a transfer; and to declare an emergency.

10:59 a.m. Chairman Beard called the hearing to order.

Members Present: Chairman Beard; Vice-Chairman Lemm; Senators: Axtman, Boschee, Gerhardt, and Wobbema.

Discussion Topics:

- Proposed Amendment
- Committee Action

10:59 a.m. Committee discussion

11:15 a.m. Senator Lemm moved a Do Pass on amendment LC #25.1162.01001.

11:15 a.m. Senator Wobbema seconded the motion.

Senators	Vote
Senator Todd Beard	Y
Senator Randy D. Lemm	Y
Senator Michelle Axtman	Y
Senator Josh Boschee	Y
Senator Justin Gerhardt	Y
Senator Mike Wobbema	Y

Motion Passed 6-0-0

11:18 a.m. Chairman Beard closed the hearing.

Susan Helbling, Committee Clerk

25.1162.01001
Title.02000

Adopted by the Education Committee

January 29, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO

1-29-25
J 3
1 of 5

SENATE BILL NO. 2328

Introduced by

Senators Wanzek, Erbele

Representatives Brandenburg, Headland

A BILL for an Act to create and enact a new chapter to title 54 of the North Dakota Century Code, relating to a life science research council; to repeal section 4.1-01-20.1 of the North Dakota Century Code, relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide an appropriation; to provide for a transfer; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new chapter to title 54 of the North Dakota Century Code is created and enacted as follows:

Definitions.

As used in this chapter, unless the context otherwise requires:

1. "Biotechnology" means a scientific field of study involving ~~cellular~~crop genetics, biofuels, biomaterials, biosensors, and biomolecular processes ~~to develop technologies~~in food, nutrition, animals, humans, equipment, medical and health products ~~that help fight diseases, reduce environmental harm, and grow food~~services, medical diagnostics, medical therapeutics, and farm-based pharmaceuticals.
2. "Life science" means the scientific study of living organisms and their processes.
3. "Medical devices" means a medical instrument, apparatus, implant, software, or other equipment developed or manufactured for medical purposes.
4. "Pharmaceuticals" means the practice of discovery, development, and production of drugs and vaccines that can prevent, treat, and cure diseases.

JB 2 of 5

Life science research council - Membership - Meetings.

The industrial commission shall consult with the life science research council in matters of policy affecting the administration of the life science development fund.

1. The life science research council consists of:
   a. The commissioner of commerce or the commissioner's designee.
   b. Two members with a substantial interest in medical devices appointed by the ~~governor~~attorney general.
   c. Two members with a substantial interest in pharmaceuticals appointed by the governor.
   d. Two members with a substantial interest in biotechnology appointed by the ~~governor~~agriculture commissioner.
2. Subject to subsection 6, the term of office for members of the council is three years but of those first appointed, two serve for one year, two serve for two years, and two serve for three years.
3. The commissioner of commerce shall serve as chairman.
4. The council shall have at least one regular meeting each year and such additional meetings as the chairman determines necessary at a time and place to be fixed by the chairman. A special meeting must be called by the chairman on written request of any three members. Four members constitute a quorum.
5. The council shall recommend to the industrial commission the approval of grants, loans, or other financial assistance necessary or appropriate for funding, research, development, marketing, and educational projects or activities and any other matters related to this chapter.
6. Members of the council serve at the pleasure of the governor.

Access to council records.

1. Materials and data submitted to, or made or received by, the council or industrial commission, to the extent the council or industrial commission determines the materials or data consist of trade secrets or commercial, financial, or proprietary information of individuals or entities applying to or contracting with the commission or receiving council or industrial commission services under this chapter, are subject to section 44-04-18.4.

JA 3485

2. A person shall file a request with the council or industrial commission to have material designated as confidential under subsection 1. The request must contain any information required by the council or industrial commission and must include:
   a. A general description of the nature of the information sought to be protected.
   b. An explanation of why the information derives independent economic value, actual or potential, from not being generally known to others.
   c. An explanation of why the information is not readily ascertainable by proper means by others.
   d. A general description of a person that may obtain economic value from disclosure or use of the information, and how the person may obtain that value.
   e. A description of the efforts used to maintain the secrecy of the information.
3. The information submitted under subsection 2 is confidential. The council or industrial commission shall examine the request and determine whether the information is relevant to the matter at hand and is a trade secret under the definition in section 44-04-18.4 or 47-25.1-01. If the council or industrial commission determines the information is either not relevant or not a trade secret, the council or industrial commission shall notify the requester and the requester may ask for the return of the information and request within ten days of the notice. If no return is sought, the information and request are a public record.
4. The names or identities of independent technical reviewers on a project or program and the names of council members making recommendations are confidential, may not be disclosed by the council, and are not public records subject to section 44-04-18 or section 6 of article XI of the Constitution of North Dakota.

Industrial commission powers.

1. The industrial commission may:
   a Make a grant or loan, and provide other forms of financial assistance as necessary or appropriate, to a qualified person for funding research, development, marketing, and educational projects or activities, feasibility studies, applied research and demonstrations, venture capital investments, and low-interest loans and loan buydowns to foster the development of the life science industry. Any financial assistance the commission awards to a project

may not be the project's sole support. Any financial assistance the commission awards must be conditioned on the assurance the applicant or a third party will support the project by either monetary or nonmonetary means. The amount of the additional support is at the commission's discretion.

b. Provide incentives to expand the life science industry in the state.

c. Provide incentives for scaleable technologies.

d. Provide incentives to increase research and utilization of the life science industry in the state.

e. Execute contracts and all other instruments necessary or convenient for the performance of its powers and functions under this chapter.

f. Accept aid, grants, or contributions of money or other things of value from any source, to be held, used, and applied to carry out this chapter, subject to the conditions upon which the aid, grants, or contributions are made, including aid, grants, or contributions from any department, agency, or instrumentality of the United States for any purpose consistent with this chapter.

g. Establish interest buydown programs for equipment needed to development the life science industry in the state.

h. Fund technical assistance from the university system and private entities to producers.

2. The industrial commission may contract with the department of commerce to provide technical assistance to the life science research council and the industrial commission to carry out the purposes of this chapter, including pursuit of aid, grants, or contributions of money or other things of value from any source for any purpose consistent with this chapter. The department may contract with a public or private third party to provide the technical assistance necessary to implement the purposes of this chapter.

Life science development fund - Continuing appropriation.

The life science development fund is a special fund in the state treasury. All funds in the life science development fund are appropriated to the industrial commission on a continuing basis for the purpose of carrying out this chapter. Interest earned by the fund must be credited to the fund.

SECTION 2. REPEAL. Section 4.1-01-20.1 of the North Dakota Century Code is repealed.

SECTION 3. TRANSFER - BIOSCIENCE INNOVATION GRANT FUND TO LIFE SCIENCE DEVELOPMENT FUND. The office of management and budget shall transfer any balance in the bioscience innovation grant fund to the life science development fund on June 30, 2025.

SECTION 4. APPROPRIATION - TRANSFER TO LIFE SCIENCE DEVELOPMENT FUND. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of $12,000,000, which the office of management and budget shall transfer to the life science development fund, for the period beginning with the effective date of this Act, and ending June 30, 2027.

SECTION 5. EMERGENCY. Sections 1, 3, and 4 of this Act are declared to be an emergency measure.

2025 SENATE STANDING COMMITTEE MINUTES

Education Committee
Room JW216, State Capitol

SB 2328
1/29/2025

Relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide for a transfer; and to declare an emergency.

2:48 p.m. Chairman Beard called the hearing to order.

Members Present: Chairman Beard; Vice-Chairman Lemm; Senators: Axtman, Boschee, Gerhardt, and Wobbema.

Discussion Topics:

- Committee Action

2:48 p.m. Senator Axtman moved a Do Pass as amended with LC# 25.1162.01001 and rereferred to Senate Appropriations.

2:48 p.m. Senator Wobbema seconded the motion.

Senators	Vote
Senator Todd Beard	Y
Senator Randy D. Lemm	Y
Senator Michelle Axtman	Y
Senator Josh Boschee	Y
Senator Justin Gerhardt	Y
Senator Mike Wobbema	Y

Motion Passed 6-0-0

Senator Axtman will carry the bill.

2:52 p.m. Chairman Beard closed the hearing.

Susan Helbling, Committee Clerk

REPORT OF STANDING COMMITTEE
SB 2328

Education Committee (Sen. Beard, Chairman) recommends **AMENDMENTS (25.1162.01001)** and when so amended, recommends **DO PASS** and **BE REREFERRED** to the **Appropriations Committee** (6 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2328 was placed on the Sixth order on the calendar. This bill does not affect workforce development.

2025 SENATE APPROPRIATIONS

SB 2328

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Human Resources Division
Harvest Room, State Capitol

SB 2328
2/5/2025

Relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide an appropriation; to provide a transfer; and to declare an emergency.

2:59 p.m. Chairman Dever opened the hearing.

Members Present: Chairman Dever, Senators Cleary, Davison, Magrum, and Mathern

Discussion Topics:

- Bioscience Innovation Grant Program
- Department of Agriculture
- Industrial Commission
- Creation of Life Science Council
- Life Science Research Opportunities
- Corvent Medical

2:59 p.m. Senator Terry Wanzek, District 29, testified in favor.

3:17 p.m. Randy Schneider, President, ND Bioscience Association, testified in favor and submitted testimony #35560, #35820, #35826, #35827, and #35828.

3:40 p.m. Tom Bodine, Deputy Commissioner, Department of Agriculture, testified in favor.

3:53 p.m. Larry Martin, Fiscal Management Analyst, OMB, testified neutral and referred to the purple sheet.
.
3:54 p.m. Levi Kinnischtzke, Senior Fiscal Analyst, LC testified neutral and referred to the purple sheet.

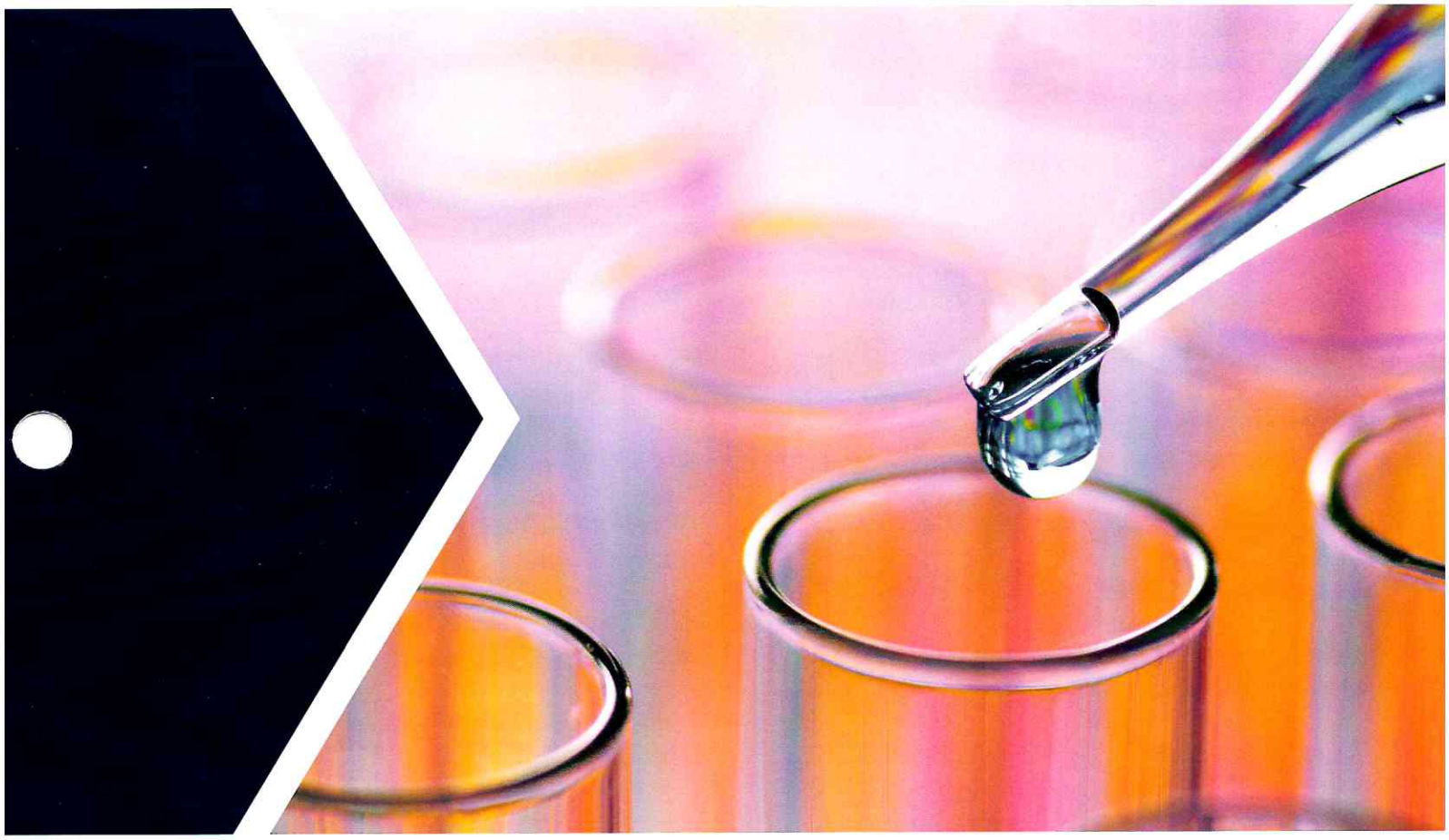
4:01 p.m. Jordan Kannianen, Deputy Director, ND Industrial Commission, testified neutral.

4:08 p.m. Senator Dever closed the hearing.

Joan Bares, Committee Clerk

BIOSCIENCE INNOVATION GRANT (BIG) PROGRAM

GRANT REPORT 2023-2024



NORTH DAKOTA DEPARTMENT of AGRICULTURE

Agriculture Commissioner
Doug Goehring

TABLE OF CONTENTS

ADMINISTRATION

The purpose of the BIG program is to foster the growth of the bioscience industry in the state. Grants focus on one or more of the following areas:

- Supporting biotechnology innovation and commercialization in areas including:
  - Crop genetics
  - Biofuels;
  - Biomaterials;
  - Biosensors and biotechnology in relation to food, nutrition, animals, humans, equipment, medical and health products and services;
  - Medical diagnostics;
  - Medical therapeutics; and
  - Farm-based pharmaceuticals;
- Promoting the creation of bioscience jobs in the state to be filled by graduates from institutions under the control of the state board of higher education;
- Encouraging the development of new bioscience technologies and bioscience startup companies in the state;
- Leveraging the agriculture industry in the state to support the development of bioscience technologies impacting livestock operations and crop production;
- Promoting bioscience research and development at institutions under the control of the state board of higher education;
- Encouraging coordination and collaboration among other entities and programs in the state to promote bioscience innovation goals.

BIOSCIENCE INNOVATION GRANT PROGRAM STAFF

JOHN F. SCHNEIDER
Business, Marketing & Information Division Director

HEATHER LANG
Ag Business Development Coordinator

TALEY DAVIS
Ag Development Specialist

2023-24 PROJECTS

North Dakota bees and honey

EXPANSION OF ETHICAL GENETIC MEDICINES
Agathos Biologics, LLC
James Brown, Fargo

Grant Amount: $300,000

The project aims to develop products and services for expanded access to genetic medicines to help patients with unmet medical needs. A pre-clinical gene therapy treatment is set to enter clinical trials with additional research to be completed on other cells for identification of potentially useful candidates. Successful trials will allow Agathos Biologics to commercialize, expand the biotechnology industry and have a positive impact on patients, providers, and pharmaceutical developers.

DEVELOPMENT OF MEDICAL GRADE HONEY PRODUCTS
Biomed Protection North Dakota, LLC
Michelle Berg, West Fargo

Grant Amount: $100,000

Research will be conducted to investigate the therapeutic potential of antioxidant-rich honey from North Dakota for medical use in improving health and well-being. Commercialization efforts will include marketing honey-based nutritional supplements and specialty honey products.

ADVANCEMENT OF SIGNATURE: AI POWERED BIOMETRICS SYSTEM FOR NEURONAL HEALTH DIAGNOSIS
BraLN, Inc. DBA BrainTX
Robert Konopacz, Bismarck

Grant Amount: $310,000

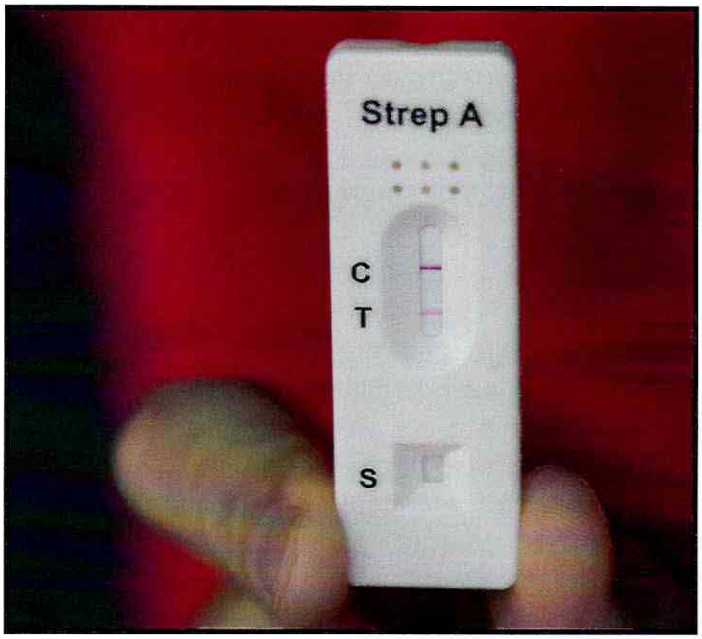
Artificial Intelligence Powered Theronostic Technology is a significant innovation in medicine. The project will design proprietary platforms to provide novel drug discovery, rapid development of genetically engineered neurons, and precise biometric endpoints to accelerate clinical approvals. With Artificial Intelligence Deep Learning Powered Technology, BrainTX's Theranostics could provide life-changing or life-saving benefits for patients with severe disease. Future therapies represent a shift in approach to treating brain disorders with less

focus on rectifying "chemical imbalances" and more emphasis on selective modulation of neural circuits.

AT-HOME STREP TEST ANALYSIS
Checkable Medical Incorporated
Patty Post, West Fargo

Grant Amount: $232,300

An analysis of the Checkable at-home strep test and its mobile application will be completed with serial testing in an attempt to pinpoint the optimal time to perform an at-home rapid strep test when symptoms occur. Application features such as routine implementation, reminders, and telehealth follow-ups will be reviewed. Information gathered will allow improvement of the technology and further education for consumers as pertaining to at-home testings and the ability for access to healthcare services from the comfort of home.



A sample at-home strep test

RESPOND II VENTILATOR COMMERCIALIZATION
CorVent Medical, Inc
Travis Murphy, Fargo

Grant Amount: $50,000

The RESPOND II Ventilator is anticipated to be a revolutionary ICU quality ventilator that offers greater reliability, no maintenance, and lower cost. Design and software configuration have been completed and work will move to a necessary verification and validation process for FDA 510(k) clearance. CorVent Medical will be moving operations from California to Fargo, North Dakota.

BUILDING AN END-TO-END TRANSPORTATION SOLUTION
Cotasys Inc.
Jeremy Vrchota, Fargo

Grant Amount: $123,000

The bioscience and biotechnology industries are subject to challenges when transportation of goods is delayed. The project aims to reduce those challenges by bringing customs, warehouses, and real-time tracking all into one user interface for ground, air, and water transportation. Users will be able to view end-to-end transit times and all associated costs from shipping, port usage, customs, and warehousing.

ELEVATING THE FAMGENIX DIGITAL PLATFORM
FamHis, Inc. DBA FamGenix
Michael Brammer, Delray Beach, FL

Grant Amount: $240,000

The FamGenix digital platform strives for a preventative approach to medicine, commonly

referred to as Precision Medicine, through storing networks of family health history. Population screening will be utilized to identify individuals with high risk of hereditary health complications. Integration with genetic testing companies will be sought to store genetic data on patients within the platform.

ACCELERATING SINGLE CELL DISCOVERY AND ANTIBODY ENGINEERING
Genovac Antibody Discovery LLC
Brian Walters, Fargo

Grant Amount: $642,667

In collaboration with The Massachusetts Institute of Technology, North Dakota State University, PhenomeX, and Enpicom, aims to develop machine learning (ML) tools for antibody engineering. The project focuses on engineering antibodies and nanobodies with improved properties for research, diagnostics, and potential therapeutics. By leveraging ML techniques, Genovac aims to design antibodies that are cost-effective, stable, and exhibit enhanced biological functionality compared to parental antibodies.

HIGH QUALITY SYNTHETIC TARGETED VECTORS
Lilium Therapeutics Inc.
Yonatan Lipsitz, Fargo

Grant Amount: $200,000

Lilium Therapeutics is building synthetic targeted (STAR) vectors for specific, safer, higher capacity, and efficient delivery vehicles to make gene therapies. The STAR vectors are planned to bring genetic medicines to the masses by unlocking new diseases and new patient populations for these curative therapies. Development will target cancer and cardiac diseases.

INTEGRATED BATTLEFIELD ANALGESIA TOOLKIT (I-BAT)
Lincoln Therapeutics, LLC
Michael Burke, Fargo

Grant Amount: $136,000

Currently, opioids are the standard treatment for battlefield injury pain management. They can cause death due to respiratory depression or result in addiction of wounded military personnel. The goal is to develop intranasal ketamine as a safer, fast acting, non-addicting far forward battlefield pharmaceutical. Three registration quality intranasal multi-dose ketamine product batches will be manufactured and packaged. Product produced will be utilized by Department of Defense clinical researchers conducting a PK/BA study at the Uniformed Services University in Bethesda. The study is necessary in obtaining FDA approval. Final release of the products will be at the Fargo GMP pharmaceutical packaging and finishing facility.

VARIETY IDENTIFICATION SYSTEM OF DURUM: THE DURUMFILER
National Agricultural Genotyping Center, Inc. (NAGC)
Megan O'Neil, Fargo

Grant Amount: $109,065

Variety identification for many crops relies on professional inspections of visual traits defined for each variety. However, varieties are increasingly complex with traits that may not be obvious while looking at the crop in the field or kernel characteristics. For wheat, further discrimination of specific crops into market classes, such as durum, requires genetic-based biotechnology with fine-scale resolution. The National Agricultural Genotyping Center will increase its testing capacity and create an innovated variety identification system,

DurumFiler, to assist the U.S. durum industry in monitoring the varietal purity of seed within the market.

A NOVEL SOLUTION FOR TINNITUS
Peacenquiet, Inc.
Kurtis Goos, Minnetonka, MN

Grant Amount: $250,000

Pnq Health was created to fill a market gap in the treatment of tinnitus. It strives to provide patients access to effective treatment support that is easily accessible and safe with a clinical care model driven by an intelligent treatment mobile application. An individualized acoustic solution involving pattern recording will automatically determine the optimal treatment for each patient.

Durum

DUETTE™ DUAL BALLOON INDWELLING CATHETER
Poiesis Medical LLC
Charlene Johnson, Jupiter

Grant Amount: $480,000

Poiesis Medical will establish operational facilities in North Dakota to support the "Made in the USA" movement. This project will utilize allocated funds to relocate operations and manufacture procedural trays locally, which will create employment opportunities and stimulate population growth, all while ensuring a U.S.-controlled supply chain for critical medical innovations. Poiesis aims to provide advanced technology to U.S. veterans and governments contracted facilities, while fostering collaboration with already existing North Dakota biotech companies to enhance the state's biosciences ecosystem.

PRESSURE INJURY PREVENTION ASSESSMENT: PILOT STUDY
SafetySpect Inc.
Kenneth E. Barton, Grand Forks

Grant Amount: $70,000

SafetySpects innovative project, the Pressure Injury Prevention Assessment (PIPA), is an advanced medical device that employs multimodal spectroscopy and artificial intelligence for non invasive early detection of pressure injuries across all skin tones. Key objectives include developing user interface software, securing IRB approval, collecting and analyzing data from high-risk subjects, and creating a risk scoring system for timely interventions. By standardizing skin assessments and increasing monitoring frequency, PIPA aims to improve patient outcomes and quality of life, while also paving the way for successful commercialization of the technology.

PINGOO - AI-POWERED PATIENT EDUCATION COACH
Silverberry Group, LLC
Shayan Mashatian, Grand Forks

Grant Amount: $25,000

Pingoo is an AI-driven health coaching platform that provides users with personalized health evaluations and advice aimed at enhancing health outcomes and preventing complications. Utilizing machine learning and advanced technology, including ChatGPT engine, Pingoo delivers an exceptional experience for patients undergoing surgery or managing chronic diseases. The platform has garnered positive feedback and successfully signed its first enterprise client. Silverberry is looking to further develop the product, expand market research while growing its team through sales professionals, business developers, and customer support services.

BIOFUEL AND BIOMATERIAL PRODUCTION FROM NORTH DAKOTA BIOMASS USING THE SANDWICH GASIFIER
Singularity Energy Technologies, LLC
Dr. Nikhil Patel, Grand Forks

Grant Amount: $150,000

SET's project leverages patented sandwich gasifier technology to revolutionize agricultural and municipal waste management and renewable energy production. This technology converts waste into clean syngas for biofuel and biomaterial synthesis, offering a sustainable alternative to fossil fuels with high efficiency and near-complete carbon conversion. The goal is to optimize feedstock and equipment, enhance the existing gasification system, and assess scaling up to a 25 TPD capacity. A marketing plan will identify potential markets and partnerships, supporting a circular economy in North Dakota's agricultural and biotech industries while fostering job creation and environmental solutions.

MIST - U.S. DESIGNED AND MANUFACTURED MEDICAL GRADE NEBULIZER
TailWind MedTech Inc.
Richard Walsh, Fargo

Grant Amount: $170,000

TailWind MedTech aims to address the reliance on foreign manufacturing by designing and producing a cost-effective high-quality vibrating mesh nebulizer in the United States. Objectives will be to support the nebulizer's design, testing, mold development for manufacturing, and marketing efforts.

THERATEC NEXT GENERATION PLATFORM
TheraTec, Inc.
Tony Hyk, Horace

Grant Amount: $100,000

TheraTec's next generation platform project aims

A mesh nebulizer

to enhance remote care for physical therapists, particularly in rural and underserved areas, while relocating the production of its sensor from China to North Dakota. The new platform will enable rapid feature updates and incorporate advanced security measures to protect patient data. The engineering team and external software partners will be supported in developing software, as well as the design and production set-up for the new wearable sensor and assisting marketing efforts to educate and gather feedback from existing and potential customers.

THERMASOLUTIONS STERILIZATION
ThermaSolutions Sterilization, LLC
Steven Davis, White Bear Lake, MN

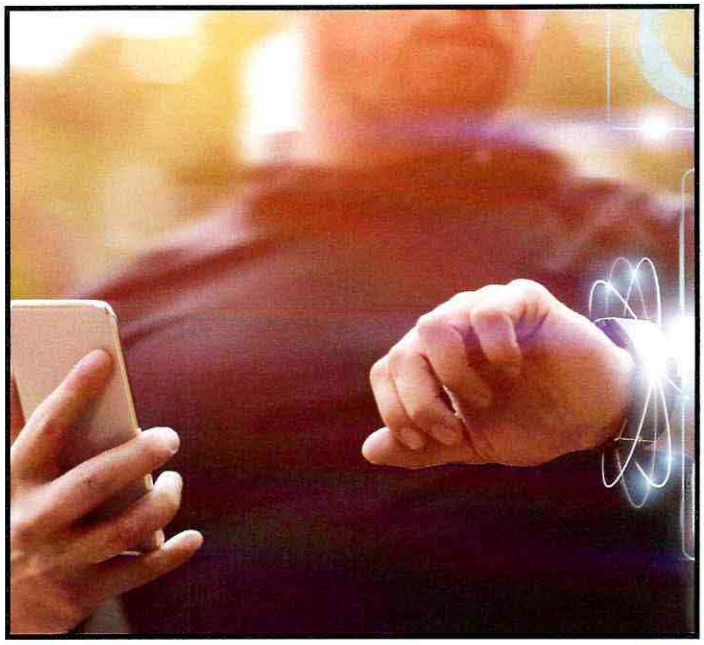
Grant Amount: $700,000

ThermaSolutions aims to establish the world's most environmentally friendly medical device sterilization plant. The project aims to utilize sterilization equipment, sterilization chambers, and catalytic abators, ensuring sustainable practices in the sterilization process.

THINAIR EXPANDS PRODUCT PORTFOLIO
Thin Air Surfaces, LLC
Jim Albrecht, Wahpeton

Grant Amount: $300,000

ThinAir, a medical device start-up based in North Dakota, is expanding its product portfolio to include portable stretcher/gurney utilizing patented small cell pressure redistribution technology. This innovation aims to address the 12-20% prevalence of pressure injuries in emergency departments, where 40% of admitted patients initially receive care, averaging 6.5 to 15.4 hours. ThinAir plans to be positioned as a leading supplier of support surfaces, enhancing national recognition through collaboration with



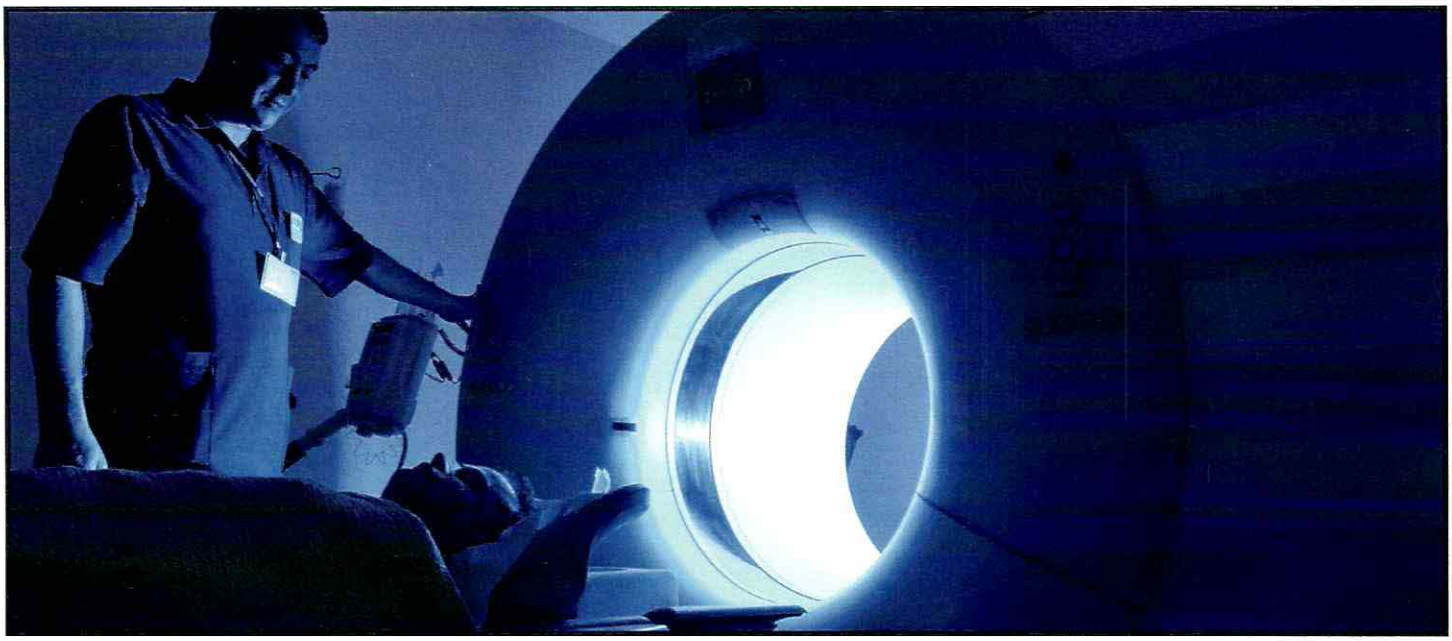
A wearable health sensor and app

key stakeholders. The project is supported by the National Science Foundation and UND's nursing and biomedical engineering programs, will establish evidence-based practices for widespread adoption, significantly improving patient outcomes and creating high-quality job opportunities for graduates in North Dakota.

RAPID MULTIPLEX POINT-OF-CARE PATHOGEN TESTING TO SUPPORT FAR FORWARD MILITARY NEEDS
Thrixen LLC
Ben Boedeker, Fargo

Grant Amount: $180,000

Thrixen aims to achieve several key goals including onshore novel thrice biotechnology from Singapore to Fargo, enhancing U.S. - based research, development, and production. Developing compact, lightweight point of care infectious disease testing capabilities for forward deployed combat teams, will enable advanced care during prolonged evacuation times typical in peer-to-peer conflicts. By utilizing Thrice platform



MRI machine

technology to address testing gaps in military medicine, ensuring 100% transference to civilian healthcare applications. Establishing innovative educational systems that bring together Department of Defense, industrial and academic scientists will assist in training students in real world problem solving integrating them into the company's leadership upon graduation.

TWL PHARMAPAC GMP PHARMACEUTICAL BLISTER PACKAGING OPERATIONS START-UP AND QUALIFICATION

TWL Pharma Pac, LLC
Michael Burke, Fargo

Grant Amount: $110,000

The primary objective of this project is to ensure that the Fargo pharmaceutical packaging facility meets the standards for final packaging and product release in accordance with Good Manufacturing Practices (GMP). This will involve conducting both an internal quality review and a third-party evaluation by a major Contract Development and Manufacturing Organization (CDMO), Catalent. The registration batch of pharmaceutical products will be packaged in unit-dose intranasal delivery devices and will undergo GMP blister packaging at the new Fargo facility. This operation will validate the site and the established GMP Standard Operating Procedures (SOPs), enabling TWL Pharma Pac to offer pharmaceutical packaging services to third-party pharmaceutical companies and CDMOs. This initiative represents a significant step in establishing North Dakota's first GMP pharmaceutical product packaging operation.

WHEELWISE AND WALKWISE FOR CANES VALIDATION, INTEGRATION, AND COMMERCIALIZATION

WalkWise, Inc.
Peter Chamberlain, Fargo

Grant Amount: $175,000

The grants will be utilized to commercialize this patented technology, enabling healthcare providers nationwide to enhance senior health and safety while reducing overall care costs. The new devices will undergo comprehensive testing, and the resulting data will be fully

integrated into the existing WalkWise system. To educate the market about this groundbreaking device for senior care, WalkWise will engage in various outreach efforts, including participation in numerous conferences and content marketing initiatives. Additionally, they will provide robust support for healthcare professionals using this new technology, offering customer support materials, training resources, how-to videos, and other content focused on best practices with the new system.

REAL-TIME MRI-GUIDED CARDIAC ABLATIONS
Imricor Medical Systems, Inc.
Steve Wedan, Burnsville, MN

Grant Amount: $1,158,000

The project titled "Real-time MRI-guided Cardiac Ablations" represents the final steps in commercializing a groundbreaking technology for cardiac ablation procedures in the United States. Cardiac ablation is a minimally invasive procedure in which a catheter is guided into the heart to deliver energy that modifies heart tissues responsible for irregular heartbeats, thereby restoring normal rhythm. Common conditions treated with ablation include atrial fibrillation, atrial flutter, and ventricular tachycardia. Traditional ablation procedures rely on x-ray guidance, which provides limited visibility of the heart. Imricor's patented technology enables cardiac ablations to be performed under real-time MRI guidance, offering a clear view of the heart. This innovative approach aims to achieve higher first-time success rates, reduce procedure times, and lower treatment costs per patient, all while eliminating radiation exposure for patients, physicians, and medical staff. Having been under development for 16 years, Imricor's technology is already approved and commercially available in Europe. This project will facilitate a pivotal clinical trial, with the intention of submitting the results and necessary design and testing data to obtain FDA approval for the technology in the U.S.

EXPLORATION INTO PHARMACEUTICAL APPLICATIONS FOR BILLIE'S SOAP FORMULATIONS
Billie's Soap & Spa Products, Inc. DBA Billie's Soap
Billie Kellar, Grand Forks

Grant Amount: $260,000

Billie's Soap is a certified primary sector manufacturing and sales company that specializes in value-added, agriculturally derived skincare products. Founded in 2007, the company has primarily focused on developing formulas in the cosmetic skincare sector. The success of three of these formulations has paved the way for Billie's Soap to expand into the pharmaceutical skincare product space, as any product making claims in the U.S. must be registered as a drug and undergo proven clinical testing. This project aims to explore initial pharmaceutical applications for the three current formulations, advancing them toward Investigational New Drug (IND) application pathways. Additionally, the project will establish an FDA-qualified pharmaceutical research and production facility that will be accessible to all North Dakota companies in need of these services.

PROJECT SPIRITWOOD
Chapul Farms ND One LLC
Todd Severson, McMinnville, OR

Grant Amount: $90,000

Chapul, LLC (Chapul Farms) is in the process of developing an insect bioconversion facility designed to transform agricultural byproducts into high-value animal feed (insect larvae) and soil health products (insect frass), exemplifying

a model of future circular food systems. The industrial-scale insect agriculture facility will be situated near Jamestown, ND, within the Spiritwood Energy Park (Project Spiritwood). This location is strategically co-located with its primary feedstock, spent wet distillers grains from Dakota Spirit Ag Energy, a corn bioethanol facility owned by HarvestOne. Currently, the project is in the final Front End Loading Phase 3 (FEL3), with development efforts supported by the North Dakota Department of Agriculture, the North Dakota Department of Economic Development, Nexus PMG, and Chapul.

FRONTIER BIOFORGE BESPOKE GENETIC ENGINEERING PLATFORM
Frontier Bioforge LLC
Wyatt Warkenthien, Horace

Grant Amount: $180,000

Frontier Bioforge's project seeks to reduce the barriers to genetically modifying non-model organisms. They aim to establish a genetic screening and engineering service line that enables researchers to send non-model microbes for genetic engineering. Traditionally, this process involves hiring a research assistant and spending a year developing methods in the lab; however, this service can return an engineered microbe within approximately one month. This initiative will empower researchers across the U.S. and around the world to efficiently and effectively make edits to organisms that are typically difficult to modify, thereby accelerating advancements in their respective fields.

Electrolyte powder

CLINICAL STUDY AND KRAMPADE ORIGINAL ZERO, AND KRAMPADE 2.0 ZERO
Krampade, LLC
Eric Murphy, Grand Forks

Grant Amount: $25,000

This project marks the initiation of the first clinical study aimed at documenting the effectiveness of Krampade 2K in alleviating menstrual cramps. Utilizing a double-blinded, crossover study design, they intend to provide the gold standard of clinical evidence that Krampade can mitigate menstrual pain by assessing its effectiveness across the pain spectrum. The second component of this project involves expanding zero-sugar selections within the Krampade Original and Krampade 2.0 product families. These products are among the top sellers, and customer feedback indicates a strong demand for additional flavors. The introduction of new flavors, such as orange and fruit punch, will enhance our product offerings and help us attract new customers. Their products are widely used by individuals following a keto diet and serve as a key source of potassium, helping to prevent what is commonly referred to as "keto flu." The marketing efforts will be implemented on a nationwide scale, with a strong international presence primarily through our Amazon store.

ACCURATE CONTINUOUS AMBULATORY BLOOD PRESSURE MEASUREMENT
Krisara Engineering LLC
Dave Jorgenson, Fargo

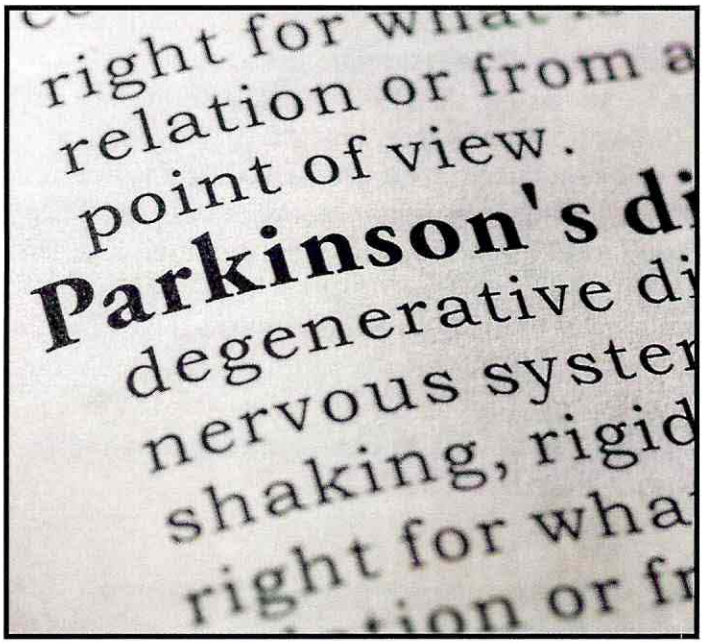
Grant Amount: $110,000

It is widely recognized that blood pressure is a critical indicator of cardiovascular health and disease. However, relying solely on traditional blood pressure measurements during clinical visits, or even on home monitoring, is insufficient due to the infrequent measurements and discomfort associated with cuff inflation. What is needed is a system that enables continuous blood pressure measurement during movement. The primary challenge in achieving ambulatory continuous blood pressure monitoring is the discomfort and noise generated by cuff inflation. Currently, there is no clinically relevant solution available for comfortable ambulatory continuous blood pressure measurement. While this is a complex problem to solve, the market potential is significant, with an estimated value of $4.7 billion in 2023 and continuing to grow.

MINDMEND BIOTECH LLC
MindMend BioTech LLC
Mercedes Terry, Hobbs, NM

Grant Amount: $60,000

MindMend Biotech LLC is dedicated to developing innovative technology for the treatment of Parkinson's disease, aiming to address current gaps and limitations in PD management and therapy by seeking to slow the progression of the disease. This project will involve rigorous research, prototyping, and testing to ensure the technology's efficacy and safety. They plan to secure intellectual property protection and share research findings while maintaining transparent communication with stakeholders. MindMend Biotech LLC intends



to commercialize this technology through collaborations with healthcare professionals and institutions, following regulatory approval. Through these efforts, they aim to enhance Parkinson's disease treatment and improve the quality of life for the millions of individuals affected by this condition. In pursuit of this mission, MindMend Biotech plans to collaborate with the University of North Dakota's Biomedical Engineering Innovations-Based Learning program, offering employment opportunities to UND BME students and providing them with real-world experience in biomedical engineering.

TERSA SAVA
Modern Hygiene, Inc. DBA Tersa
Ray Kelly, Fargo

Grant Amount: $17,000

The project is focused on the development and commercialization of a cutting-edge therapeutic solution aimed at enhancing sports recovery, mental health, and trauma therapy outcomes. Utilizing advanced technology, the therapy pod is designed to provide non-invasive and culturally

sensitive therapeutic interventions for a diverse range of users. Proposed commercialization efforts include partnering with academic institutions, Indigenous communities, and high-profile stakeholders to conduct research, refine the product, and effectively market it to target audiences. Through comprehensive marketing strategies, strategic partnerships, and a commitment to quality and efficacy, the project seeks to achieve widespread adoption and impact, ultimately improving the well-being of individuals across various demographics and communities.

NEXT GENERATION OPTICAL NAVIGATION FOR SPINAL SURGERY
PathKeeper, Inc. DBA Pathkeeper Surgical
Erez Lampert, Norwich, CT

Grant Amount: $600,000

The Pathkeeper System is a proprietary 3D optical navigation system that leverages AI algorithms and optical imaging to provide real-time, high-resolution imaging. This technology assists spine surgeons in navigating complex anatomical structures with enhanced precision during the placement of spinal devices. The combination of precise navigation, efficient workflow, and radiation-free imaging contributes to superior surgical outcomes. The Pathkeeper project proposed for this grant aims to create a high-quality toolkit to complement the navigation system. The steps to achieve this goal include ideation, safety and efficacy testing, accuracy assessments, acquisition of FDA clearance for the new kits, and a full market release of these enhanced tools.

Model of a spine

CORVENT RESPOND II VENTILATOR COMMERCIALIZATION AND NEXT GENERATION PRODUCT FEASIBILITY
CorVent Medical, Inc.
Travis Murphy, Fargo

Grant Amount: $750,000

The project is focused on obtaining FDA 510k clearance for the RESPOND II Ventilator, with submission targeted for late 2023. Corvent has completed design and software configuration and will begin verification and validation in mid-June. The company is also negotiating a move to a new headquarters in Fargo, transferring manufacturing and warehousing from California, with plans to be operational by early fall. Manufacturing will comply with FDA Good Manufacturing Practices and the company's Quality Management System.

NAGC equipment

UPGRADING THE GENOTYPING TECHNOLOGY AT THE NATIONAL AGRICULTURAL GENOTYPING CENTER (NAGC)
National Agricultural Genotyping Center, Inc.
Megan O'Neil, Fargo

Grant Amount: $135,000

NAGC aims to address the growing demand for large-scale genotyping projects in agriculture by acquiring new high-throughput genotyping instrumentation. The upgrade will enhance capacity, reduce turnaround times, and expand service offerings, meeting the needs of clients across North Dakota and the U.S. The proposed commercialization efforts include partnering with agricultural stakeholders, offering advanced genotyping tests, and actively disseminating project outcomes through various media channels.

MULTIMODE SPECTROSCOPY FOR ENHANCED COMMERCIALIZATION IN FOOD AND AGRICULTURAL PRODUCT QUALITY AND TRACEABILITY
SafetySpect Inc.
Kenneth E. Barton, Grand Forks

Grant Amount: $600,000

SafetySpect, a Grand Forks-based company specializing in multimode optical sensors with AI capabilities, is advancing technology to address key challenges in agricultural, food, and environmental safety. The company's current project focuses on the development of Quality, Adulteration, and Traceability (QAT) technology, which combines three modes of spectroscopy enhanced by fusion AI. This technology enables non-invasive, real-time analysis of food and agricultural products throughout the supply chain, improving product quality, traceability, and safety.

BELLA BLOOD AND FLUID WARMER
TailWind MedTech Inc.
Richard Walsh, Fargo

Grant Amount: $750,000

This project aims to test the feasibility of a chemically energized blood and fluid warmer, a critical technology currently unavailable to U.S. warfighters and first responders. In addition to military applications, the technology has numerous civilian uses, expanding the total addressable market (TAM) to over $1 billion in the U.S. alone. The commercialization process will include both U.S. government and military contracts, as well as commercial partnerships with multiple distribution channels. As a veteran-owned company, Tailwind will receive prioritization in government contracting opportunities. The Tailwind commercial sales team, with over 30 years of medical device experience, will also pursue large purchasing

groups like Premier, Vizient, and HealthTrust, which contract with major health systems such as Sanford Health, Altru, Essentia, and Mayo Clinic, among others.

THINAIR MEDICAL DEVICE COMMERCIALIZATION
Thin Air Surfaces, LLC
Jim Albrecht, Wahpeton

Grant Amount: $500,000

Thin Air Surfaces LLC (thinAIR), a North Dakota-based medical device start-up, is preparing to introduce its patented small-cell pressure redistribution technology to the medical device market. The immediate application focuses on improving patient safety and comfort on operating room tables, particularly for long procedures that put patients at risk for pressure injuries. Pressure injuries affect 2.5 million patients annually and are the second most common diagnosis in U.S. health system billing records (NPIAP, 2021 Fact Sheet).

Grant funding will support the company's commercialization efforts through collaboration with key partners, including the College of Nursing and Professional Disciplines, the Biomedical Engineering Department at the University of North Dakota, and medical device manufacturer ComDel Innovation. These efforts will validate the efficacy of the technology and ensure the delivery of a commercially viable, FDA-registered medical device. This work positions thinAIR for rapid expansion beyond the operating room, allowing for the development of a diverse product portfolio in additional markets.

FUNDING SOURCES

The appropriation for the Bioscience Innovation Grant Program for the 2023-2025 biennium totaled $12 million and was provided from the following sources:

- Strategic Investment & Improvements Fund (SIIF) $5,500,000
- General Fund $6,500,000

NORTH DAKOTA DEPARTMENT OF AGRICULTURE
Bioscience Innovation Grant (BIG) Program
600 E. Boulevard Ave., Dept. 602
Bismarck, ND 58505-0020
701-328-2231
800-242-7535
FAX 701-328-4567
www.ndda.nd.gov/big

SB2328
2-5-25

BioND
Bioscience Association of North Dakota
4200 James Ray Drive, Suite 500, 503
Grand Forks ND
Richard Glynn, Exec. Director
Ph: 701-738-2431
richard@ndbio.com
Bio
February 5, 2025

Dear Chairman Dever and Members of the Senate Appropriations - Human Resources Division; I am here to give testimony in favor of passage of SB 2328 which is , "A BILL for an Act to create and enact a new chapter 54 of the North Dakota Century Code, relating to a life science research council, to repeal section 4.1-01-20.1 of the North Dakota Code relating to the bioscience innovation grant program, and to provide a continuing appropriation. What SB 2328 does is take the Bio Innovation Grant Program (and all its facets) and IMPROVES them.

We are requesting in "SECTION 4" of SB 2328 an "APPROPRIATION - TRANSFER TO LIFE SCIENCE DEVELOPMENT FUND", the sum of $12,000,000, which the office of management and budget shall transfer to the life science development fund, for the period beginning with the effective date of this Act, and ending June 30, 2027." This money will be used "to carry out the purposes of this chapter" and "to foster the development of the life science industry in North Dakota".

This is the exact amount of money the Association received from the Legislature last year. In fact, the total amount of money that the Association has received from the legislature since the inception of the Bio Innovation Grant program in 2019 to the present is $23,200,000.00. The State of North Dakota has invested $23,200,000 in expanding the Bioscience Industry in North Dakota. What has it received back from its investment?

All of its money.

Now attached to this "testimony" is a letter from the Fargo Moorhead Economic Development Corporation. The Association works closely with them, as well as the Grand Forks Region Economic Development Corporation to bring businesses to their communities or help biotech industries in their communities grow and expand.

As Stated in an article published by the Greater Fargo Moorhead Economic Development Corp., December 19, 2022, by Meghan Feir Walker; "the Gross Regional Product (GRP) contributed by the bioscience industry in the Fargo-Moorhead MSA (alone) has grown from less than $50 million dollars in 2011 to over $208 million in 2021. The growth of bioscience occupations in the FM metro has grown 40.9 percent in that same period, eclipsing the national growth rate of 23.4 percent.

Further, there has been filed a letter from Ryan Aasheim of the Fargo Moorhead EDC, stating that

BioND

"In the 15 years since BIOND was established in 2010, the statewide GDP from the bioscience sector has grown from 52.6 million to more than 418.6million in 2023 (a nearly tenfold in growth in 13years). The bioscience industry employes approximately 1,467 with an average earning of $111,516 per employee. Statewide job growth in the sector of 58% over the last 5 years has pushed jobs from 927 in 2018 to 1,476 in 2023 which far outpaces the national bioscience job growth rate 22%.

Mr. Aasheim goes on to say.

> "BioND continues to be a critical partner in telling the story of the North Dakota bioscience sector and attracting bioscience and medical device companies to consider investing in their growth in North Dakota. Since 2019, GFMEDC has engaged with more than 30 bioscience and medical device companies in collaboration with BioND. Many of these engagements have developed into exciting success stories such as Agathos Biologics, Aldevron, Checkable Medical, CorVent Medical, FamGenix, Genovac Antibody Discovery, TailWind MedTech, Theratec Inc., TWL Pharma Pac, Walkwise, and many more.
>
> The GFMEDC has most recently partnered with BioND to organize two critical industry enhancing BioScience Summits, in 2023 and 2024 and is looking forward to continuing this annual partnership with our third Summit later this fall. The 2nd annual BioScience Summit, held in Fargo on September 17 and 18, 2024 welcomed more than 275 attendees from 16 states and countries like Israel, Norway and Singapore and has led to a number of ongoing project opportunities and strategic partnership conversations."

I have attached articles from three different companies describing their commitment and work in North Dakota. The first of these is CorVent Medical, LLC. They recently had a "Ribbon Cutting" at their New 17,000 square foot manufacturing facility located in the Prax Building in Fargo. Richard Walsh described how they came here from California and have raised and spent more than 21 million dollars in private money bringing their new product to market.

I have also attached a sheet describing how Lincoln Therapeutics is developing "intra nasal ketamine and ketamine" in partnership with the department of defense. This is going to be of use for pain in far forward battlefield conditions. They are also engaged in a joint partnership with Thrifty White Drug Building, a packaging facility in Fargo which, when completed will employ about 100 people.

Also attached is an information sheet furnished by SafetySpect, Inc, a company located in Grand Forks who produces a Contamination and Sanitation Inspection device. They are now entering the commercial market.

Further, I have attached the "Bioscience Innovation Grant (BIG) Program", Grant Report 2023-2024". This program was prepared by the Department of Agriculture. What it shows are all of the projects funded through the Bio Innovation Grant fund. It tells the company receiving the grant; the amount of the grant and what the money is being used for. This is basically where the money was expended.

BioND

The Bio Innovation Grant program has been a highly successful tool in helping to expand the Bioscience Industry in this State. But we think this "tool" can be improved upon and be more effective in our recruitment efforts. And that is why we are in front of you today. We ask the Committee to give a DO Pass recommendation for SB 2328 and the $12,000,000 requested therein.

Thank you for your time and attention to this matter.

Respectfully submitted,

Richard Glynn
Executive Director
Bioscience Association of North Dakota
richard@ndbio.com
701-317-2483

SB 2328
2-5-25

LT LINCOLN THERAPEUTICS

TWL Pharma Pac

Thursday, January 23, 2025

To: Chair Monson and Members of the House Appropriations Government Operations Committee
From: Michael Burke, CEO/Manager - Lincoln Therapeutics and TWL Pharma Pac

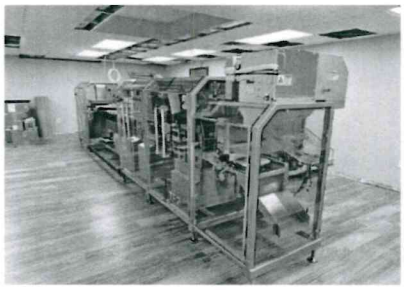
Dear Chair and Members,

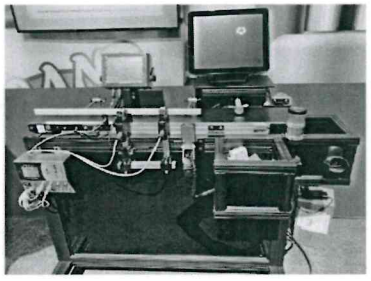
Lincoln Therapeutics is a pharmaceutical company developing intra nasal ketamine and esketamine in partnership with the Department of Defense for pain uses including Far Forward Battlefield Injury and mental health conditions including Post Traumatic Stress Disorder. TWL Pharma Pac is a joint venture between Lincoln and Thrifty White Pharmacy with a GMP manufacturing facility in Fargo. Lincoln is developing pharmaceutical products and TWL is final manufacturing and packaging pharmaceutical products for Lincoln and other pharmaceutical and healthcare customers. TWL Pharma Pac is the first GMP final dosage form pharmaceutical packaging business operating under Federal FDA requirements in North Dakota. Both businesses are part of the growing biopharmaceutical ecosystem in North Dakota.

We received two BIG Grants (Grant #23-369/ Grant #23-357) in the amount of $136,000 and $110,000 respectively. Total BIG Grant award was $246,000. The two BIG Grants were to help with the building of a manufacturing facility space in Fargo including the purchase of equipment. To date, the total spend for this project is $2,002,582.

Expense Items	$ Amount
GMP Room Modification	$204,388
Blister Machine	$1,661,740
Video Jet (Packaging Equipment)	$136,454
Total Spend	$2,002,582

BIG Grants (Grant #23-369/ Grant #23-357)
The first grant was used for the purchase of the Blister Machine "Pharmaworks TF2 Blister Line" which manufactures cold formed and thermoformed blister packs and the second grant was used for the purchase of carton and printing equipment used to print lot number, expiration date, and GTIN Serial # and barcode on FDA approved pharmaceutical products final packaging.





The BIG program has been instrumental to our business in North Dakota. Thank you for your commitment to growing the biopharmaceutical ecosystem and for supporting these programs.

Best Regards,

Michael Burke
CEO/Manager
Lincoln Therapeutics
TWL Pharma Pac

SB2398
2-5-25

CORVENT MEDICAL HOSTS RIBBON CUTTING ON NEW MANUFACTURING FACILITY IN FARGO, NORTH DAKOTA

Corvent Medical, the maker of the "RESPOND VENTILATOR", used in providing mechanical ventilation for diseases such as COVID, board and collaborators are shown cutting the ribbon on their new 17,000 square foot Headquarters and Manufacturing facility located in what is known as the "Prax Building" at 4897 Amber Valley Parkway , Suite 2, Fargo, North Dakota.

Pictured is Richard Walsh, CEO of of Corvent Medical, who spoke of how he and his team came from California at the behest of a friend and business acquaintance. How he was told what a great place (just a little cold) North Dakota was and what a great business climate there was here. How he was met at the airport by Richard Glynn and then toured around the State meeting people who would be important in developing and then commercializing their product.

That Richard moved the company from California to Fargo, in January 0f 2021 and how he, and the company, thrived here and raised and spent more than 21 million dollars of private investment money along with 4 million dollars from various agencies of the North Dakota government to help with the development and commercialization of their product. That the company has hired 25 workers now and intends to hire another 10 by the year's end. That next year they expect to be up to 100 people. How his experience in bringing his company to North Dakota has been nothing but positive. But that would not have been possible without the help and guidance of the Bioscience Association of North Dakota. And that he looks forward to the years ahead.

SB2338
2-5-25

FARGO MOORHEAD
ECONOMIC DEVELOPMENT

51 Broadway, Suite 500
Fargo, ND 58102
www.gfmedc.com
www.liveinfargo.com

January 13, 2025

Commissioner Doug Goehring
Office of the Agriculture Commissioner
600 E Boulevard Ave Dept. 602
Bismarck, ND 58505-0020

Honorable Commissioner Doug Goehring:

The Greater Fargo Moorhead Economic Development Corporation (GFMEDC) is writing to affirm our support for any upcoming funding considerations for the Bioscience Association of North Dakota (BioND).

As a regional economic development organization, the GFMEDC is laser focused on industries that hold great promise for the state's economic future, strengthen the composition of local industry clusters, and support continued economic diversification. The bioscience industry, with its vast applications, is one of the targeted sectors we believe holds significant potential for the region and state's future economic prosperity. Because of this, we value the close partnership with BioND to drive positive impacts in this high growth industry sector.

BioND has been an extremely consequential and impactful force in growing the North Dakota bioscience industry since its formation in 2010. The association has been instrumental in marketing the state, attracting companies, creating partnership, attracting investment, and advocating for policies that make our state more competitive and attractive to emerging bioscience and medical device innovators.

BioND continues to be a critical partner in telling the story of the North Dakota bioscience sector and attracting bioscience and medical device companies to consider investing in their growth in North Dakota. Since 2019, the GFMEDC has engaged with more than 30 bioscience and medical device companies in collaboration with BioND. Many of these engagements have developed into exciting success stories such as Agathos Biologics, Aldevron, Checkable Medical, CorVent Medical, FamGenix, Genovac Antibody Discovery, TailWind MedTech, Theratec Inc., TWL Pharma Pac, Walkwise, and many more.

The GFMEDC has most recently partnered with BioND to organize two critical industry enhancing BioScience Summits, in 2023 and 2024 and is looking forward to continuing this annual partnership with our third Summit later this fall. The 2nd annual BioScience Summit, held in Fargo on September 17 and 18, 2024 welcomed more than 275 attendees from 16 states and countries like Israel, Norway and Singapore and has led to a number of ongoing project opportunities and strategic partnership conversations.

In the 15 years since BioND was established in 2010, the statewide GDP from the bioscience sector has grown from $52.6 million to more than $418.6 million in 2023 (a nearly ten fold in growth in 13 years). The bioscience industry employes approximately 1,467 with an average earning of $111,516 per employee. Statewide job growth in the sector of 58% over the last 5 years has pushed jobs from 927 in 2018 to 1,476 in 2023 which far outpaces the national bioscience job growth rate of 22%. *(Source: Lightcast Q4 2024 Data Set)*

We have tremendous momentum in this space with world class research capabilities and talent production from our colleges and universities; powerful capital access programs for technology innovators through the Bioscience Innovation Grant (BIG), LIFT, PACE, and North Dakota Development Fund; and major ecosystem anchors like Aldevron and CorVent that are already attracting other biotech partners and collaborators to relocate to be near them. In recent years, the GFMEDC has seen increased interest from biotech and medical device companies from other states with several new firms locating here over the last few years.

We believe strongly in the potential of the biotechnology industry to become a future driver of North Dakota's economy and further believe that BioND is positioned to continue to be a major contributor to this success. As such, we would like to urge you to strongly consider supporting any upcoming funding requests for BioND.

Sincerely,

Ryan Aasheim
Chief Business Development Officer

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Education and Environment Division
Sakakawea Room, State Capitol

SB 2328
2/10/2025

A BILL for an Act to create and enact a new section to chapter 4.1-01 of the North Dakota Century Code, relating to creating a farm management program within the department of agriculture; to amend and reenact section 15-20.1-03 of the North Dakota Century Code, relating to the powers and duties of the state board of career at technical education; and to provide an appropriation.

3:14 p.m. Chairman Sorvaag called the meeting to order.

Members Present: Chairman Ronald Sorvaag, Senator Cole Conley, Senator Scott Meyer, Senator Donald Schaible, Senator Paul J. Thomas.

Discussion Topics:

- Sources and Distributions of Funding.
- Reporting Requirements.

3:14 p.m. Senator Cleary, District 35, introduced the bill and testified in favor and submitted testimony #36841.

3:18 p.m. Doug Goehring, ND Agriculture Commissioner, testified in favor.

3:36 p.m. Karen Tyler, Executive Director, Industrial Commissioner, testified in favor.

3:38 p.m. Randy Schneider, President, ND BioScience Assoc., testified in favor and submitted testimony #36839.

3:40 p.m. Chairman Sorvaag adjourned the meeting.

Steven Hall, Committee Clerk

BIOSCIENCE INNOVATION GRANT (BIG) PROGRAM

GRANT REPORT 2023-2024

NORTH DAKOTA DEPARTMENT of AGRICULTURE

Agriculture Commissioner
Doug Goehring

TABLE OF CONTENTS

ADMINISTRATION

The purpose of the BIG program is to foster the growth of the bioscience industry in the state. Grants focus on one or more of the following areas:

- Supporting biotechnology innovation and commercialization in areas including:
  - Crop genetics
  - Biofuels;
  - Biomaterials;
  - Biosensors and biotechnology in relation to food, nutrition, animals, humans, equipment, medical and health products and services;
  - Medical diagnostics;
  - Medical therapeutics; and
  - Farm-based pharmaceuticals;
- Promoting the creation of bioscience jobs in the state to be filled by graduates from institutions under the control of the state board of higher education;
- Encouraging the development of new bioscience technologies and bioscience startup companies in the state;
- Leveraging the agriculture industry in the state to support the development of bioscience technologies impacting livestock operations and crop production;
- Promoting bioscience research and development at institutions under the control of the state board of higher education;
- Encouraging coordination and collaboration among other entities and programs in the state to promote bioscience innovation goals.

BIOSCIENCE INNOVATION GRANT PROGRAM STAFF

JOHN F. SCHNEIDER
Business, Marketing & Information Division Director

HEATHER LANG
Ag Business Development Coordinator

TALEY DAVIS
Ag Development Specialist

2023-24 PROJECTS

North Dakota bees and honey

EXPANSION OF ETHICAL GENETIC MEDICINES
Agathos Biologics, LLC
James Brown, Fargo

Grant Amount: $300,000

The project aims to develop products and services for expanded access to genetic medicines to help patients with unmet medical needs. A pre-clinical gene therapy treatment is set to enter clinical trials with additional research to be completed on other cells for identification of potentially useful candidates. Successful trials will allow Agathos Biologics to commercialize, expand the biotechnology industry and have a positive impact on patients, providers, and pharmaceutical developers.

DEVELOPMENT OF MEDICAL GRADE HONEY PRODUCTS
Biomed Protection North Dakota, LLC
Michelle Berg, West Fargo

Grant Amount: $100,000

Research will be conducted to investigate the therapeutic potential of antioxidant-rich honey from North Dakota for medical use in improving health and well-being. Commercialization efforts will include marketing honey-based nutritional supplements and specialty honey products.

ADVANCEMENT OF SIGNATURE: AI POWERED BIOMETRICS SYSTEM FOR NEURONAL HEALTH DIAGNOSIS
BraLN, Inc. DBA BrainTX
Robert Konopacz, Bismarck

Grant Amount: $310,000

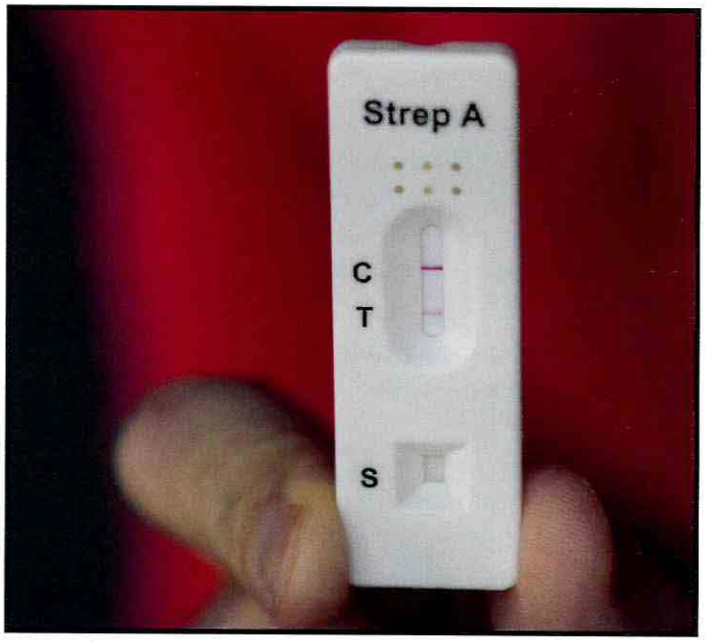
Artificial Intelligence Powered Theronostic Technology is a significant innovation in medicine. The project will design proprietary platforms to provide novel drug discovery, rapid development of genetically engineered neurons, and precise biometric endpoints to accelerate clinical approvals. With Artificial Intelligence Deep Learning Powered Technology, BrainTX's Theranostics could provide life-changing or life-saving benefits for patients with severe disease. Future therapies represent a shift in approach to treating brain disorders with less

focus on rectifying "chemical imbalances" and more emphasis on selective modulation of neural circuits.

AT-HOME STREP TEST ANALYSIS
Checkable Medical Incorporated
Patty Post, West Fargo

Grant Amount: $232,300

An analysis of the Checkable at-home strep test and its mobile application will be completed with serial testing in an attempt to pinpoint the optimal time to perform an at-home rapid strep test when symptoms occur. Application features such as routine implementation, reminders, and telehealth follow-ups will be reviewed. Information gathered will allow improvement of the technology and further education for consumers as pertaining to at-home testings and the ability for access to healthcare services from the comfort of home.



A sample at-home strep test

RESPOND II VENTILATOR COMMERCIALIZATION
CorVent Medical, Inc
Travis Murphy, Fargo

Grant Amount: $50,000

The RESPOND II Ventilator is anticipated to be a revolutionary ICU quality ventilator that offers greater reliability, no maintenance, and lower cost. Design and software configuration have been completed and work will move to a necessary verification and validation process for FDA 510(k) clearance. CorVent Medical will be moving operations from California to Fargo, North Dakota.

BUILDING AN END-TO-END TRANSPORTATION SOLUTION
Cotasys Inc.
Jeremy Vrchota, Fargo

Grant Amount: $123,000

The bioscience and biotechnology industries are subject to challenges when transportation of goods is delayed. The project aims to reduce those challenges by bringing customs, warehouses, and real-time tracking all into one user interface for ground, air, and water transportation. Users will be able to view end-to-end transit times and all associated costs from shipping, port usage, customs, and warehousing.

ELEVATING THE FAMGENIX DIGITAL PLATFORM
FamHis, Inc. DBA FamGenix
Michael Brammer, Delray Beach, FL

Grant Amount: $240,000

The FamGenix digital platform strives for a preventative approach to medicine, commonly

referred to as Precision Medicine, through storing networks of family health history. Population screening will be utilized to identify individuals with high risk of hereditary health complications. Integration with genetic testing companies will be sought to store genetic data on patients within the platform.

ACCELERATING SINGLE CELL DISCOVERY AND ANTIBODY ENGINEERING
Genovac Antibody Discovery LLC
Brian Walters, Fargo

Grant Amount: $642,667

In collaboration with The Massachusetts Institute of Technology, North Dakota State University, PhenomeX, and Enpicom, aims to develop machine learning (ML) tools for antibody engineering. The project focuses on engineering antibodies and nanobodies with improved properties for research, diagnostics, and potential therapeutics. By leveraging ML techniques, Genovac aims to design antibodies that are cost-effective, stable, and exhibit enhanced biological functionality compared to parental antibodies.

HIGH QUALITY SYNTHETIC TARGETED VECTORS
Lilium Therapeutics Inc.
Yonatan Lipsitz, Fargo

Grant Amount: $200,000

Lilium Therapeutics is building synthetic targeted (STAR) vectors for specific, safer, higher capacity, and efficient delivery vehicles to make gene therapies. The STAR vectors are planned to bring genetic medicines to the masses by unlocking new diseases and new patient populations for these curative therapies. Development will target cancer and cardiac diseases.

INTEGRATED BATTLEFIELD ANALGESIA TOOLKIT (I-BAT)
Lincoln Therapeutics, LLC
Michael Burke, Fargo

Grant Amount: $136,000

Currently, opioids are the standard treatment for battlefield injury pain management. They can cause death due to respiratory depression or result in addiction of wounded military personnel. The goal is to develop intranasal ketamine as a safer, fast acting, non-addicting far forward battlefield pharmaceutical. Three registration quality intranasal multi-dose ketamine product batches will be manufactured and packaged. Product produced will be utilized by Department of Defense clinical researchers conducting a PK/BA study at the Uniformed Services University in Bethesda. The study is necessary in obtaining FDA approval. Final release of the products will be at the Fargo GMP pharmaceutical packaging and finishing facility.

VARIETY IDENTIFICATION SYSTEM OF DURUM: THE DURUMFILER
National Agricultural Genotyping Center, Inc. (NAGC)
Megan O'Neil, Fargo

Grant Amount: $109,065

Variety identification for many crops relies on professional inspections of visual traits defined for each variety. However, varieties are increasingly complex with traits that may not be obvious while looking at the crop in the field or kernel characteristics. For wheat, further discrimination of specific crops into market classes, such as durum, requires genetic-based biotechnology with fine-scale resolution. The National Agricultural Genotyping Center will increase its testing capacity and create an innovated variety identification system,

DurumFiler, to assist the U.S. durum industry in monitoring the varietal purity of seed within the market.

A NOVEL SOLUTION FOR TINNITUS
Peacenquiet, Inc.
Kurtis Goos, Minnetonka, MN

Grant Amount: $250,000

Pnq Health was created to fill a market gap in the treatment of tinnitus. It strives to provide patients access to effective treatment support that is easily accessible and safe with a clinical care model driven by an intelligent treatment mobile application. An individualized acoustic solution involving pattern recording will automatically determine the optimal treatment for each patient.

Durum

DUETTE™ DUAL BALLOON INDWELLING CATHETER
Poiesis Medical LLC
Charlene Johnson, Jupiter

Grant Amount: $480,000

Poiesis Medical will establish operational facilities in North Dakota to support the "Made in the USA" movement. This project will utilize allocated funds to relocate operations and manufacture procedural trays locally, which will create employment opportunities and stimulate population growth, all while ensuring a U.S.-controlled supply chain for critical medical innovations. Poiesis aims to provide advanced technology to U.S. veterans and governments contracted facilities, while fostering collaboration with already existing North Dakota biotech companies to enhance the state's biosciences ecosystem.

PRESSURE INJURY PREVENTION ASSESSMENT: PILOT STUDY
SafetySpect Inc.
Kenneth E. Barton, Grand Forks

Grant Amount: $70,000

SafetySpects innovative project, the Pressure Injury Prevention Assessment (PIPA), is an advanced medical device that employs multimodal spectroscopy and artificial intelligence for non invasive early detection of pressure injuries across all skin tones. Key objectives include developing user interface software, securing IRB approval, collecting and analyzing data from high-risk subjects, and creating a risk scoring system for timely interventions. By standardizing skin assessments and increasing monitoring frequency, PIPA aims to improve patient outcomes and quality of life, while also paving the way for successful commercialization of the technology.

PINGOO - AI-POWERED PATIENT EDUCATION COACH
Silverberry Group, LLC
Shayan Mashatian, Grand Forks

Grant Amount: $25,000

Pingoo is an AI-driven health coaching platform that provides users with personalized health evaluations and advice aimed at enhancing health outcomes and preventing complications. Utilizing machine learning and advanced technology, including ChatGPT engine, Pingoo delivers an exceptional experience for patients undergoing surgery or managing chronic diseases. The platform has garnered positive feedback and successfully signed its first enterprise client. Silverberry is looking to further develop the product, expand market research while growing its team through sales professionals, business developers, and customer support services.

BIOFUEL AND BIOMATERIAL PRODUCTION FROM NORTH DAKOTA BIOMASS USING THE SANDWICH GASIFIER
Singularity Energy Technologies, LLC
Dr. Nikhil Patel, Grand Forks

Grant Amount: $150,000

SET's project leverages patented sandwich gasifier technology to revolutionize agricultural and municipal waste management and renewable energy production. This technology converts waste into clean syngas for biofuel and biomaterial synthesis, offering a sustainable alternative to fossil fuels with high efficiency and near-complete carbon conversion. The goal is to optimize feedstock and equipment, enhance the existing gasification system, and assess scaling up to a 25 TPD capacity. A marketing plan will identify potential markets and partnerships, supporting a circular economy in North Dakota's agricultural and biotech industries while fostering job creation and environmental solutions.

MIST - U.S. DESIGNED AND MANUFACTURED MEDICAL GRADE NEBULIZER
TailWind MedTech Inc.
Richard Walsh, Fargo

Grant Amount: $170,000

TailWind MedTech aims to address the reliance on foreign manufacturing by designing and producing a cost-effective high-quality vibrating mesh nebulizer in the United States. Objectives will be to support the nebulizer's design, testing, mold development for manufacturing, and marketing efforts.

THERATEC NEXT GENERATION PLATFORM
TheraTec, Inc.
Tony Hyk, Horace

Grant Amount: $100,000

TheraTec's next generation platform project aims

A mesh nebulizer

to enhance remote care for physical therapists, particularly in rural and underserved areas, while relocating the production of its sensor from China to North Dakota. The new platform will enable rapid feature updates and incorporate advanced security measures to protect patient data. The engineering team and external software partners will be supported in developing software, as well as the design and production set-up for the new wearable sensor and assisting marketing efforts to educate and gather feedback from existing and potential customers.

THERMASOLUTIONS STERILIZATION
ThermaSolutions Sterilization, LLC
Steven Davis, White Bear Lake, MN

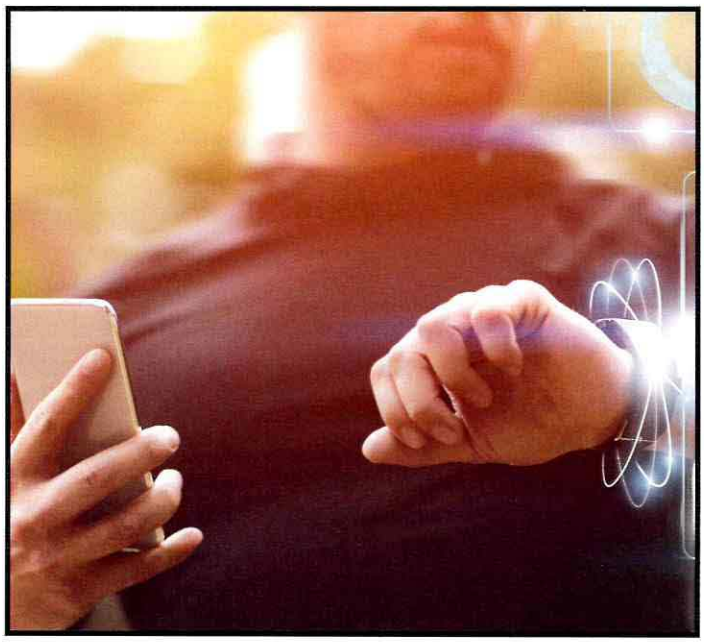
Grant Amount: $700,000

ThermaSolutions aims to establish the world's most environmentally friendly medical device sterilization plant. The project aims to utilize sterilization equipment, sterilization chambers, and catalytic abators, ensuring sustainable practices in the sterilization process.

THINAIR EXPANDS PRODUCT PORTFOLIO
Thin Air Surfaces, LLC
Jim Albrecht, Wahpeton

Grant Amount: $300,000

ThinAir, a medical device start-up based in North Dakota, is expanding its product portfolio to include portable stretcher/gurney utilizing patented small cell pressure redistribution technology. This innovation aims to address the 12-20% prevalence of pressure injuries in emergency departments, where 40% of admitted patients initially receive care, averaging 6.5 to 15.4 hours. ThinAir plans to be positioned as a leading supplier of support surfaces, enhancing national recognition through collaboration with



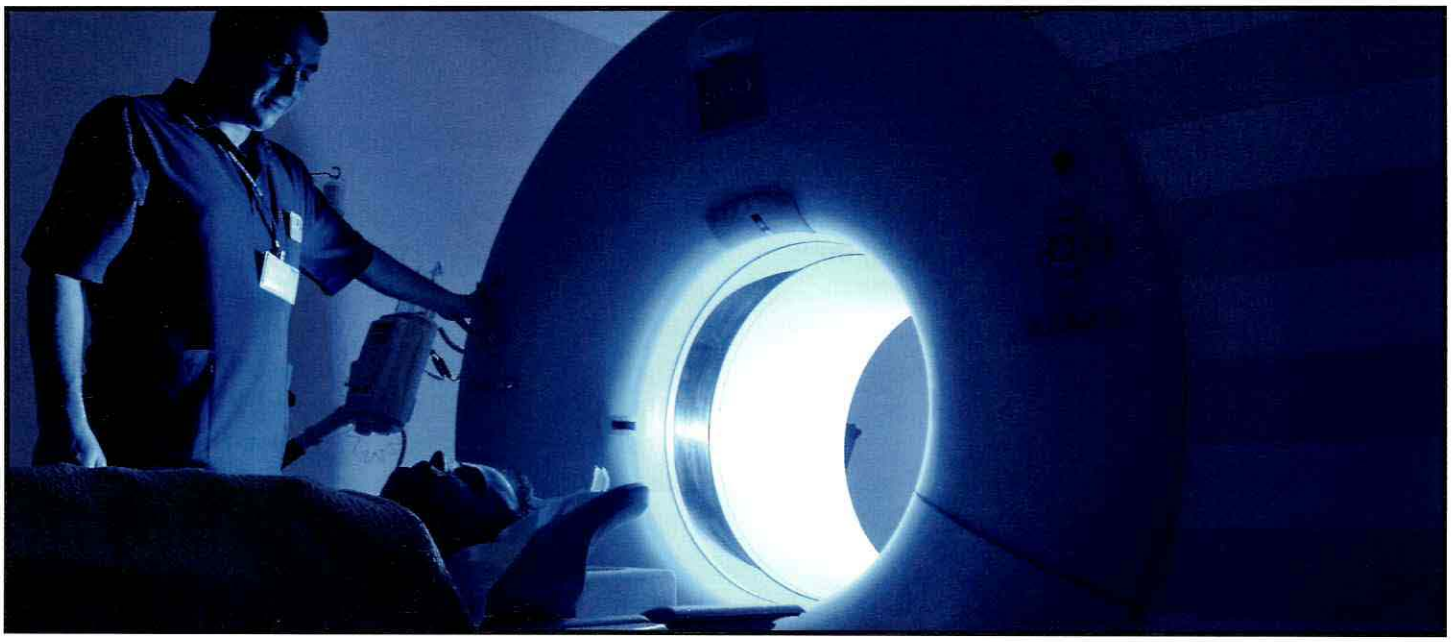
A wearable health sensor and app

key stakeholders. The project is supported by the National Science Foundation and UND's nursing and biomedical engineering programs, will establish evidence-based practices for widespread adoption, significantly improving patient outcomes and creating high-quality job opportunities for graduates in North Dakota.

RAPID MULTIPLEX POINT-OF-CARE PATHOGEN TESTING TO SUPPORT FAR FORWARD MILITARY NEEDS
Thrixen LLC
Ben Boedeker, Fargo

Grant Amount: $180,000

Thrixen aims to achieve several key goals including onshore novel thrice biotechnology from Singapore to Fargo, enhancing U.S. - based research, development, and production. Developing compact, lightweight point of care infectious disease testing capabilities for forward deployed combat teams, will enable advanced care during prolonged evacuation times typical in peer-to-peer conflicts. By utilizing Thrice platform



MRI machine

technology to address testing gaps in military medicine, ensuring 100% transference to civilian healthcare applications. Establishing innovative educational systems that bring together Department of Defense, industrial and academic scientists will assist in training students in real world problem solving integrating them into the company's leadership upon graduation.

TWL PHARMAPAC GMP PHARMACEUTICAL BLISTER PACKAGING OPERATIONS START-UP AND QUALIFICATION
TWL Pharma Pac, LLC
Michael Burke, Fargo

Grant Amount: $110,000

The primary objective of this project is to ensure that the Fargo pharmaceutical packaging facility meets the standards for final packaging and product release in accordance with Good Manufacturing Practices (GMP). This will involve conducting both an internal quality review and a third-party evaluation by a major Contract Development and Manufacturing Organization (CDMO), Catalent. The registration batch of pharmaceutical products will be packaged in unit-dose intranasal delivery devices and will undergo GMP blister packaging at the new Fargo facility. This operation will validate the site and the established GMP Standard Operating Procedures (SOPs), enabling TWL Pharma Pac to offer pharmaceutical packaging services to third-party pharmaceutical companies and CDMOs. This initiative represents a significant step in establishing North Dakota's first GMP pharmaceutical product packaging operation.

WHEELWISE AND WALKWISE FOR CANES VALIDATION, INTEGRATION, AND COMMERCIALIZATION
WalkWise, Inc.
Peter Chamberlain, Fargo

Grant Amount: $175,000

The grants will be utilized to commercialize this patented technology, enabling healthcare providers nationwide to enhance senior health and safety while reducing overall care costs. The new devices will undergo comprehensive testing, and the resulting data will be fully

integrated into the existing WalkWise system. To educate the market about this groundbreaking device for senior care, WalkWise will engage in various outreach efforts, including participation in numerous conferences and content marketing initiatives. Additionally, they will provide robust support for healthcare professionals using this new technology, offering customer support materials, training resources, how-to videos, and other content focused on best practices with the new system.

REAL-TIME MRI-GUIDED CARDIAC ABLATIONS
Imricor Medical Systems, Inc.
Steve Wedan, Burnsville, MN

Grant Amount: $1,158,000

The project titled "Real-time MRI-guided Cardiac Ablations" represents the final steps in commercializing a groundbreaking technology for cardiac ablation procedures in the United States. Cardiac ablation is a minimally invasive procedure in which a catheter is guided into the heart to deliver energy that modifies heart tissues responsible for irregular heartbeats, thereby restoring normal rhythm. Common conditions treated with ablation include atrial fibrillation, atrial flutter, and ventricular tachycardia. Traditional ablation procedures rely on x-ray guidance, which provides limited visibility of the heart. Imricor's patented technology enables cardiac ablations to be performed under real-time MRI guidance, offering a clear view of the heart. This innovative approach aims to achieve higher first-time success rates, reduce procedure times, and lower treatment costs per patient, all while eliminating radiation exposure for patients, physicians, and medical staff. Having been under development for 16 years, Imricor's technology is already approved and commercially available in Europe. This project will facilitate a pivotal clinical trial, with the intention of submitting the results and necessary design and testing data to obtain FDA approval for the technology in the U.S.

EXPLORATION INTO PHARMACEUTICAL APPLICATIONS FOR BILLIE'S SOAP FORMULATIONS
Billie's Soap & Spa Products, Inc. DBA Billie's Soap
Billie Kellar, Grand Forks

Grant Amount: $260,000

Billie's Soap is a certified primary sector manufacturing and sales company that specializes in value-added, agriculturally derived skincare products. Founded in 2007, the company has primarily focused on developing formulas in the cosmetic skincare sector. The success of three of these formulations has paved the way for Billie's Soap to expand into the pharmaceutical skincare product space, as any product making claims in the U.S. must be registered as a drug and undergo proven clinical testing. This project aims to explore initial pharmaceutical applications for the three current formulations, advancing them toward Investigational New Drug (IND) application pathways. Additionally, the project will establish an FDA-qualified pharmaceutical research and production facility that will be accessible to all North Dakota companies in need of these services.

PROJECT SPIRITWOOD
Chapul Farms ND One LLC
Todd Severson, McMinnville, OR

Grant Amount: $90,000

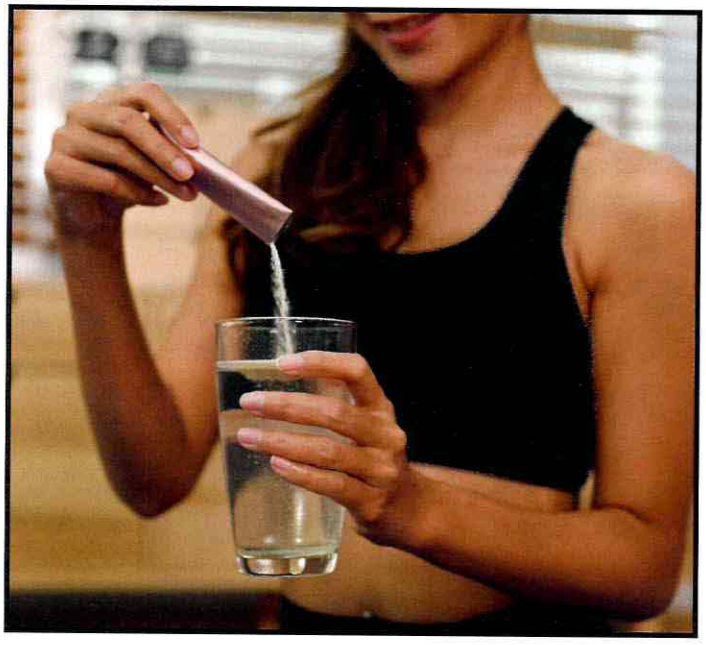
Chapul, LLC (Chapul Farms) is in the process of developing an insect bioconversion facility designed to transform agricultural byproducts into high-value animal feed (insect larvae) and soil health products (insect frass), exemplifying

a model of future circular food systems. The industrial-scale insect agriculture facility will be situated near Jamestown, ND, within the Spiritwood Energy Park (Project Spiritwood). This location is strategically co-located with its primary feedstock, spent wet distillers grains from Dakota Spirit Ag Energy, a corn bioethanol facility owned by HarvestOne. Currently, the project is in the final Front End Loading Phase 3 (FEL3), with development efforts supported by the North Dakota Department of Agriculture, the North Dakota Department of Economic Development, Nexus PMG, and Chapul.

FRONTIER BIOFORGE BESPOKE GENETIC ENGINEERING PLATFORM
Frontier Bioforge LLC
Wyatt Warkenthien, Horace

Grant Amount: $180,000

Frontier Bioforge's project seeks to reduce the barriers to genetically modifying non-model organisms. They aim to establish a genetic screening and engineering service line that enables researchers to send non-model microbes for genetic engineering. Traditionally, this process involves hiring a research assistant and spending a year developing methods in the lab; however, this service can return an engineered microbe within approximately one month. This initiative will empower researchers across the U.S. and around the world to efficiently and effectively make edits to organisms that are typically difficult to modify, thereby accelerating advancements in their respective fields.



Electrolyte powder

CLINICAL STUDY AND KRAMPADE ORIGINAL ZERO, AND KRAMPADE 2.0 ZERO
Krampade, LLC
Eric Murphy, Grand Forks

Grant Amount: $25,000

This project marks the initiation of the first clinical study aimed at documenting the effectiveness of Krampade 2K in alleviating menstrual cramps. Utilizing a double-blinded, crossover study design, they intend to provide the gold standard of clinical evidence that Krampade can mitigate menstrual pain by assessing its effectiveness across the pain spectrum. The second component of this project involves expanding zero-sugar selections within the Krampade Original and Krampade 2.0 product families. These products are among the top sellers, and customer feedback indicates a strong demand for additional flavors. The introduction of new flavors, such as orange and fruit punch, will enhance our product offerings and help us attract new customers. Their products are widely used by individuals following a keto diet and serve as a key source of potassium, helping to prevent what is commonly referred to as "keto flu." The marketing efforts will be implemented on a nationwide scale, with a strong international presence primarily through our Amazon store.

ACCURATE CONTINUOUS AMBULATORY BLOOD PRESSURE MEASUREMENT
Krisara Engineering LLC
Dave Jorgenson, Fargo

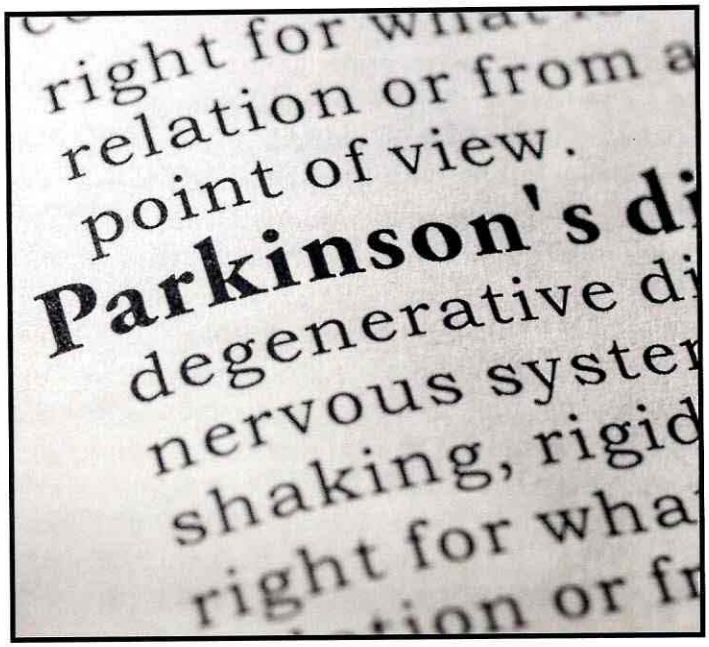
Grant Amount: $110,000

It is widely recognized that blood pressure is a critical indicator of cardiovascular health and disease. However, relying solely on traditional blood pressure measurements during clinical visits, or even on home monitoring, is insufficient due to the infrequent measurements and discomfort associated with cuff inflation. What is needed is a system that enables continuous blood pressure measurement during movement. The primary challenge in achieving ambulatory continuous blood pressure monitoring is the discomfort and noise generated by cuff inflation. Currently, there is no clinically relevant solution available for comfortable ambulatory continuous blood pressure measurement. While this is a complex problem to solve, the market potential is significant, with an estimated value of $4.7 billion in 2023 and continuing to grow.

MINDMEND BIOTECH LLC
MindMend BioTech LLC
Mercedes Terry, Hobbs, NM

Grant Amount: $60,000

MindMend Biotech LLC is dedicated to developing innovative technology for the treatment of Parkinson's disease, aiming to address current gaps and limitations in PD management and therapy by seeking to slow the progression of the disease. This project will involve rigorous research, prototyping, and testing to ensure the technology's efficacy and safety. They plan to secure intellectual property protection and share research findings while maintaining transparent communication with stakeholders. MindMend Biotech LLC intends



to commercialize this technology through collaborations with healthcare professionals and institutions, following regulatory approval. Through these efforts, they aim to enhance Parkinson's disease treatment and improve the quality of life for the millions of individuals affected by this condition. In pursuit of this mission, MindMend Biotech plans to collaborate with the University of North Dakota's Biomedical Engineering Innovations-Based Learning program, offering employment opportunities to UND BME students and providing them with real-world experience in biomedical engineering.

TERSA SAVA
Modern Hygiene, Inc. DBA Tersa
Ray Kelly, Fargo

Grant Amount: $17,000

The project is focused on the development and commercialization of a cutting-edge therapeutic solution aimed at enhancing sports recovery, mental health, and trauma therapy outcomes. Utilizing advanced technology, the therapy pod is designed to provide non-invasive and culturally

sensitive therapeutic interventions for a diverse range of users. Proposed commercialization efforts include partnering with academic institutions, Indigenous communities, and high-profile stakeholders to conduct research, refine the product, and effectively market it to target audiences. Through comprehensive marketing strategies, strategic partnerships, and a commitment to quality and efficacy, the project seeks to achieve widespread adoption and impact, ultimately improving the well-being of individuals across various demographics and communities.

NEXT GENERATION OPTICAL NAVIGATION FOR SPINAL SURGERY
PathKeeper, Inc. DBA Pathkeeper Surgical
Erez Lampert, Norwich, CT

Grant Amount: $600,000

The Pathkeeper System is a proprietary 3D optical navigation system that leverages AI algorithms and optical imaging to provide real-time, high-resolution imaging. This technology assists spine surgeons in navigating complex anatomical structures with enhanced precision during the placement of spinal devices. The combination of precise navigation, efficient workflow, and radiation-free imaging contributes to superior surgical outcomes. The Pathkeeper project proposed for this grant aims to create a high-quality toolkit to complement the navigation system. The steps to achieve this goal include ideation, safety and efficacy testing, accuracy assessments, acquisition of FDA clearance for the new kits, and a full market release of these enhanced tools.

Model of a spine

CORVENT RESPOND II VENTILATOR COMMERCIALIZATION AND NEXT GENERATION PRODUCT FEASIBILITY
CorVent Medical, Inc.
Travis Murphy, Fargo

Grant Amount: $750,000

The project is focused on obtaining FDA 510k clearance for the RESPOND II Ventilator, with submission targeted for late 2023. Corvent has completed design and software configuration and will begin verification and validation in mid-June. The company is also negotiating a move to a new headquarters in Fargo, transferring manufacturing and warehousing from California, with plans to be operational by early fall. Manufacturing will comply with FDA Good Manufacturing Practices and the company's Quality Management System.

NAGC equipment

UPGRADING THE GENOTYPING TECHNOLOGY AT THE NATIONAL AGRICULTURAL GENOTYPING CENTER (NAGC)
National Agricultural Genotyping Center, Inc.
Megan O'Neil, Fargo

Grant Amount: $135,000

NAGC aims to address the growing demand for large-scale genotyping projects in agriculture by acquiring new high-throughput genotyping instrumentation. The upgrade will enhance capacity, reduce turnaround times, and expand service offerings, meeting the needs of clients across North Dakota and the U.S. The proposed commercialization efforts include partnering with agricultural stakeholders, offering advanced genotyping tests, and actively disseminating project outcomes through various media channels.

MULTIMODE SPECTROSCOPY FOR ENHANCED COMMERCIALIZATION IN FOOD AND AGRICULTURAL PRODUCT QUALITY AND TRACEABILITY
SafetySpect Inc.
Kenneth E. Barton, Grand Forks

Grant Amount: $600,000

SafetySpect, a Grand Forks-based company specializing in multimode optical sensors with AI capabilities, is advancing technology to address key challenges in agricultural, food, and environmental safety. The company's current project focuses on the development of Quality, Adulteration, and Traceability (QAT) technology, which combines three modes of spectroscopy enhanced by fusion AI. This technology enables non-invasive, real-time analysis of food and agricultural products throughout the supply chain, improving product quality, traceability, and safety.

BELLA BLOOD AND FLUID WARMER
TailWind MedTech Inc.
Richard Walsh, Fargo

Grant Amount: $750,000

This project aims to test the feasibility of a chemically energized blood and fluid warmer, a critical technology currently unavailable to U.S. warfighters and first responders. In addition to military applications, the technology has numerous civilian uses, expanding the total addressable market (TAM) to over $1 billion in the U.S. alone. The commercialization process will include both U.S. government and military contracts, as well as commercial partnerships with multiple distribution channels. As a veteran-owned company, Tailwind will receive prioritization in government contracting opportunities. The Tailwind commercial sales team, with over 30 years of medical device experience, will also pursue large purchasing

groups like Premier, Vizient, and HealthTrust, which contract with major health systems such as Sanford Health, Altru, Essentia, and Mayo Clinic, among others.

THINAIR MEDICAL DEVICE COMMERCIALIZATION
Thin Air Surfaces, LLC
Jim Albrecht, Wahpeton

Grant Amount: $500,000

Thin Air Surfaces LLC (thinAIR), a North Dakota-based medical device start-up, is preparing to introduce its patented small-cell pressure redistribution technology to the medical device market. The immediate application focuses on improving patient safety and comfort on operating room tables, particularly for long procedures that put patients at risk for pressure injuries. Pressure injuries affect 2.5 million patients annually and are the second most common diagnosis in U.S. health system billing records (NPIAP, 2021 Fact Sheet).

Grant funding will support the company's commercialization efforts through collaboration with key partners, including the College of Nursing and Professional Disciplines, the Biomedical Engineering Department at the University of North Dakota, and medical device manufacturer ComDel Innovation. These efforts will validate the efficacy of the technology and ensure the delivery of a commercially viable, FDA-registered medical device. This work positions thinAIR for rapid expansion beyond the operating room, allowing for the development of a diverse product portfolio in additional markets.

FUNDING SOURCES

The appropriation for the Bioscience Innovation Grant Program for the 2023-2025 biennium totaled $12 million and was provided from the following sources:

- Strategic Investment & Improvements Fund (SIIF) $5,500,000
- General Fund $6,500,000

NORTH DAKOTA DEPARTMENT OF AGRICULTURE
Bioscience Innovation Grant (BIG) Program
600 E. Boulevard Ave., Dept. 602
Bismarck, ND 58505-0020
701-328-2231
800-242-7535
FAX 701-328-4567
www.ndda.nd.gov/big

Reporting - Public transparency requirements.

1. The industrial commission shall submit a report to the legislative management by September thirtieth of each year and to the appropriations committees of the legislative assembly each legislative session on activities under this chapter. The report must include:

   a. A list of all grants, loans, and financial assistance awarded under this chapter, including recipient names, project descriptions, and funding amounts, excluding proprietary information as defined under section 44-04-18.4;

   b. A detailed accounting of fund expenditures, including administrative costs and total funding from all sources for each project supported under this chapter; and

   c. A cumulative record of all projects receiving funding since the program's inception, whether the entity that received funding remains operational, and the status of each project receiving funding, including the return on investment, any repayments from program recipients, continued obligations of the recipient, and whether the project met intended goals.

2. The report required in subsection 1 must be archived and made publicly available on the industrial commission website.

SECTION 2. REPEAL. Section 4.1-01-20.1 of the North Dakota Century Code is repealed.

SECTION 3. TRANSFER - BIOSCIENCE INNOVATION GRANT FUND TO LIFE SCIENCE DEVELOPMENT FUND. The office of management and budget shall transfer any balance in the bioscience innovation grant fund to the life science development fund on June 30, 2025.

SECTION 4. APPROPRIATION - TRANSFER TO LIFE SCIENCE DEVELOPMENT FUND. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of $12,000,000, which the office of management and budget shall transfer to the life science development fund, for the period beginning with the effective date of this Act, and ending June 30, 2027.

SECTION 5. EMERGENCY. Sections 1, 3, and 4 of this Act are declared to be an emergency measure.

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations - Education and Environment Division
Sakakawea Room, State Capitol

SB 2328
2/12/2025

A BILL for an Act to create and enact a new section to chapter 4.1-01 of the North Dakota Century Code, relating to creating a farm management program within the department of agriculture; to amend and reenact section 15-20.1-03 of the North Dakota Century Code, relating to the powers and duties of the state board of career at technical education; and to provide an appropriation.

10:33 a.m. Chairman Sorvaag called the meeting to order.

Members Present: Chairman Ronald Sorvaag, Senator Cole Conley, Senator Scott Meyer, Senator Donald Schaible, Senator Paul J. Thomas.

Discussion Topics:

- Purpose of Amendment.
- History of Funding for Bill.

10:34 a.m. Senator Schaible introduced the bill.

10:40 a.m. Alex Cronquist, Fiscal Analyst, Legislative Council, answered committee questions.

10:42 a.m. Chairman Sorvaag recessed the meeting.

10:47 a.m. Chairman Sorvaag reconvened the meeting.

10:47 a.m. Karen Tyler, Executive Director, ND Industrial Commission, testified in favor.

10:51 a.m. Senator Schaible moved amendment to change funding amount from $12 million to $5.5 million.

10:51 a.m. Senator Conley seconded.

Voice Vote- Motion Failed.

10:53 a.m. Alex Cronquist, Fiscal Analyst, Legislative Council, answered committee questions.

10:54 a.m. Senator Thomas moved amendment LC #25.1162.02004 and submitted testimony #38388.

10:54 a.m. Senator Conley seconded the motion.

Voice Vote- Motion Passed.

10:55 a.m. Senator Thomas moved Do Pass as amended.

10:55 a.m. Senator Conley seconded.

Senators	Vote
Senator Ronald Sorvaag	Y
Senator Cole Conley	Y
Senator Scott Meyer	Y
Senator Donald Schaible	Y
Senator Paul J. Thomas	Y

Motion Passed: 5-0-0.

Senator Thomas will carry the bill.

10:58 a.m. Chairman Sorvaag closed the meeting.

Steven Hall, Committee Clerk

25.1162.02004
Title.03000

Prepared by the Legislative Council staff for Senate Appropriations - Education and Environment Division Committee
February 12, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2328

Introduced by

Senators Wanzek, Erbele

Representatives Brandenburg, Headland

A BILL for an Act to create and enact a new chapter to title 54 of the North Dakota Century Code, relating to a life science research council; to repeal section 4.1-01-20.1 of the North Dakota Century Code, relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide an appropriation; to provide for a transfer; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new chapter to title 54 of the North Dakota Century Code is created and enacted as follows:

Definitions.

As used in this chapter, unless the context otherwise requires:

1. "Biotechnology" means a scientific field of study involving crop genetics, biofuels, biomaterials, biosensors, and biomolecular processes in food, nutrition, animals, humans, equipment, medical and health products and services, medical diagnostics, medical therapeutics, and farm-based pharmaceuticals.
2. "Life science" means the scientific study of living organisms and their processes.
3. "Medical devices" means a medical instrument, apparatus, implant, software, or other equipment developed or manufactured for medical purposes.
4. "Pharmaceuticals" means the practice of discovery, development, and production of drugs and vaccines that can prevent, treat, and cure diseases.

Life science research council - Membership - Meetings.

The industrial commission shall consult with the life science research council in matters of policy affecting the administration of the life science development fund.

1. The life science research council consists of:
   a. The commissioner of commerce or the commissioner's designee.
   b. Two members with a substantial interest in medical devices appointed by the attorney general.
   c. Two members with a substantial interest in pharmaceuticals appointed by the governor.
   d. Two members with a substantial interest in biotechnology appointed by the agriculture commissioner.
2. Subject to subsection 6, the term of office for members of the council is three years but of those first appointed, two serve for one year, two serve for two years, and two serve for three years.
3. The commissioner of commerce shall serve as chairman.
4. The council shall have at least one regular meeting each year and such additional meetings as the chairman determines necessary at a time and place to be fixed by the chairman. A special meeting must be called by the chairman on written request of any three members. Four members constitute a quorum.
5. The council shall recommend to the industrial commission the approval of grants, loans, or other financial assistance necessary or appropriate for funding, research, development, marketing, and educational projects or activities and any other matters related to this chapter.
6. Members of the council serve at the pleasure of the governor.

Access to council records.

1. Materials and data submitted to, or made or received by, the council or industrial commission, to the extent the council or industrial commission determines the materials or data consist of trade secrets or commercial, financial, or proprietary information of individuals or entities applying to or contracting with the commission or receiving council or industrial commission services under this chapter, are subject to section 44-04-18.4.

2. A person shall file a request with the council or industrial commission to have material designated as confidential under subsection 1. The request must contain any information required by the council or industrial commission and must include:
   a. A general description of the nature of the information sought to be protected.
   b. An explanation of why the information derives independent economic value, actual or potential, from not being generally known to others.
   c. An explanation of why the information is not readily ascertainable by proper means by others.
   d. A general description of a person that may obtain economic value from disclosure or use of the information, and how the person may obtain that value.
   e. A description of the efforts used to maintain the secrecy of the information.
3. The information submitted under subsection 2 is confidential. The council or industrial commission shall examine the request and determine whether the information is relevant to the matter at hand and is a trade secret under the definition in section 44-04-18.4 or 47-25.1-01. If the council or industrial commission determines the information is either not relevant or not a trade secret, the council or industrial commission shall notify the requester and the requester may ask for the return of the information and request within ten days of the notice. If no return is sought, the information and request are a public record.
4. The names or identities of independent technical reviewers on a project or program and the names of council members making recommendations are confidential, may not be disclosed by the council, and are not public records subject to section 44-04-18 or section 6 of article XI of the Constitution of North Dakota.

Industrial commission powers.

1. The industrial commission may:
   a. Make a grant or loan, and provide other forms of financial assistance as necessary or appropriate, to a qualified person for funding research, development, marketing, and educational projects or activities, feasibility studies, applied research and demonstrations, venture capital investments, and low-interest loans and loan buydowns to foster the development of the life science industry. Any financial assistance the commission awards to a project

may not be the project's sole support. Any financial assistance the commission awards must be conditioned on the assurance the applicant or a third party will support the project by either monetary or nonmonetary means. The amount of the additional support is at the commission's discretion.

b. Provide incentives to expand the life science industry in the state.

c. Provide incentives for scaleable technologies.

d. Provide incentives to increase research and utilization of the life science industry in the state.

e. Execute contracts and all other instruments necessary or convenient for the performance of its powers and functions under this chapter.

f. Accept aid, grants, or contributions of money or other things of value from any source, to be held, used, and applied to carry out this chapter, subject to the conditions upon which the aid, grants, or contributions are made, including aid, grants, or contributions from any department, agency, or instrumentality of the United States for any purpose consistent with this chapter.

g. Establish interest buydown programs for equipment needed to development the life science industry in the state.

h. Fund technical assistance from the university system and private entities to producers.

2. The industrial commission may contract with the department of commerce to provide technical assistance to the life science research council and the industrial commission to carry out the purposes of this chapter, including pursuit of aid, grants, or contributions of money or other things of value from any source for any purpose consistent with this chapter. The department may contract with a public or private third party to provide the technical assistance necessary to implement the purposes of this chapter.

Life science development fund - Continuing appropriation.

The life science development fund is a special fund in the state treasury. All funds in the life science development fund are appropriated to the industrial commission on a continuing basis for the purpose of carrying out this chapter. Interest earned by the fund must be credited to the fund.

SECTION 2. REPEAL. Section 4.1-01-20.1 of the North Dakota Century Code is repealed.

SECTION 3. TRANSFER - BIOSCIENCE INNOVATION GRANT FUND TO LIFE SCIENCE DEVELOPMENT FUND. The office of management and budget shall transfer any balance in the bioscience innovation grant fund to the life science development fund on June 30, 2025.

SECTION 4. APPROPRIATION - TRANSFER TO LIFE SCIENCE DEVELOPMENT FUND. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of ~~$12,000,000~~$9,000,000, which the office of management and budget shall transfer to the life science development fund, for the period beginning with the effective date of this Act, and ending June 30, 2027.

SECTION 5. EMERGENCY. Sections 1, 3, and 4 of this Act are declared to be an emergency measure.

2025 SENATE STANDING COMMITTEE MINUTES

Appropriations Committee
Harvest Room, State Capitol

SB 2328
2/13/2025

A BILL for an Act to create and enact a new chapter to title 54 of the North Dakota Century Code, relating to a life science research council; to repeal section 4.1-01-20.1 of the North Dakota Century Code, relating to the bioscience innovation grant program; to provide a continuing appropriation; to provide an appropriation; to provide for a transfer; and to declare an emergency.

3:41 p.m. Chairman Bekkedahl opened the hearing.

Members Present: Chairman Bekkedahl, Senators Burckhard, Cleary, Conley, Davison, Dever, Dwyer, Magrum, Mathern, Meyer, Schaible, Sickler, Sorvaag, Thomas, Wanzek.
Members Absent: Vice-Chairman Erbele.

Discussion Topics:

- Grant Recipient Numbers
- Repetitive Recipients
- Appropriation Amount

3:42 p.m. Senator Thomas introduced the bill.

3:44 p.m. Senator Thomas moved amendment LC 25.1162.02004, testimony #38191.

3:45 p.m. Senator Sorvaag seconded the motion.

Senators	Vote
Senator Brad Bekkedahl	N
Senator Robert Erbele	A
Senator Randy A. Burckhard	Y
Senator Sean Cleary	Y
Senator Cole Conley	Y
Senator Kyle Davison	N
Senator Dick Dever	Y
Senator Michael Dwyer	Y
Senator Jeffery J. Magrum	Y
Senator Tim Mathern	Y
Senator Scott Meyer	Y
Senator Donald Schaible	N
Senator Jonathan Sickler	Y
Senator Ronald Sorvaag	Y
Senator Paul J. Thomas	Y
Senator Terry M. Wanzek	Y

Motion Passed 12-3-1.

3:55 p.m. Senator Schaible moved to further amend by reducing the amount to 5.5 million.

3:56 p.m. Senator Cleary seconded the motion.

Senators	Vote
Senator Brad Bekkedahl	Y
Senator Robert Erbele	A
Senator Randy A. Burckhard	N
Senator Sean Cleary	Y
Senator Cole Conley	N
Senator Kyle Davison	Y
Senator Dick Dever	N
Senator Michael Dwyer	N
Senator Jeffery J. Magrum	Y
Senator Tim Mathern	Y
Senator Scott Meyer	N
Senator Donald Schaible	Y
Senator Jonathan Sickler	Y
Senator Ronald Sorvaag	N
Senator Paul J. Thomas	N
Senator Terry M. Wanzek	N

Motion Failed 7-8-1.

4:04 p.m. Senator Thomas moved a Do Pass as Amended.

4:04 p.m. Senator Meyer seconded the motion.

Senators	Vote
Senator Brad Bekkedahl	Y
Senator Robert Erbele	A
Senator Randy A. Burckhard	Y
Senator Sean Cleary	N
Senator Cole Conley	Y
Senator Kyle Davison	N
Senator Dick Dever	Y
Senator Michael Dwyer	Y
Senator Jeffery J. Magrum	N
Senator Tim Mathern	N
Senator Scott Meyer	Y
Senator Donald Schaible	Y
Senator Jonathan Sickler	Y
Senator Ronald Sorvaag	Y
Senator Paul J. Thomas	Y
Senator Terry M. Wanzek	Y

Motion Passed 11-4-1.

Senator Axtman will carry the bill.

4:06 p.m. Chairman Bekkedahl closed the hearing.

Elizabeth Reiten, Committee Clerk

25.1162.02004
Title.03000

Prepared by the Legislative Council staff for Senate Appropriations - Education and Environment Division Committee
February 12, 2025

CC 2/13
10f5

Sixty-ninth Legislative Assembly of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2328

Introduced by

Senators Wanzek, Erbele

Representatives Brandenburg, Headland

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   c. Two members with a substantial interest in pharmaceuticals appointed by the governor.
   d. Two members with a substantial interest in biotechnology appointed by the agriculture commissioner.
2. Subject to subsection 6, the term of office for members of the council is three years but of those first appointed, two serve for one year, two serve for two years, and two serve for three years.
3. The commissioner of commerce shall serve as chairman.
4. The council shall have at least one regular meeting each year and such additional meetings as the chairman determines necessary at a time and place to be fixed by the chairman. A special meeting must be called by the chairman on written request of any three members. Four members constitute a quorum.
5. The council shall recommend to the industrial commission the approval of grants, loans, or other financial assistance necessary or appropriate for funding, research, development, marketing, and educational projects or activities and any other matters related to this chapter.
6. Members of the council serve at the pleasure of the governor.

Access to council records.

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may not be the project's sole support. Any financial assistance the commission awards must be conditioned on the assurance the applicant or a third party will support the project by either monetary or nonmonetary means. The amount of the additional support is at the commission's discretion.

b. Provide incentives to expand the life science industry in the state.

c. Provide incentives for scaleable technologies.

d. Provide incentives to increase research and utilization of the life science industry in the state.

e. Execute contracts and all other instruments necessary or convenient for the performance of its powers and functions under this chapter.

f. Accept aid, grants, or contributions of money or other things of value from any source, to be held, used, and applied to carry out this chapter, subject to the conditions upon which the aid, grants, or contributions are made, including aid, grants, or contributions from any department, agency, or instrumentality of the United States for any purpose consistent with this chapter.

g. Establish interest buydown programs for equipment needed to development the life science industry in the state.

h. Fund technical assistance from the university system and private entities to producers.

2. The industrial commission may contract with the department of commerce to provide technical assistance to the life science research council and the industrial commission to carry out the purposes of this chapter, including pursuit of aid, grants, or contributions of money or other things of value from any source for any purpose consistent with this chapter. The department may contract with a public or private third party to provide the technical assistance necessary to implement the purposes of this chapter.

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SECTION 2. REPEAL. Section 4.1-01-20.1 of the North Dakota Century Code is repealed.

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SECTION 5. EMERGENCY. Sections 1, 3, and 4 of this Act are declared to be an emergency measure.

REPORT OF STANDING COMMITTEE
ENGROSSED SB 2328

Appropriations Committee (Sen. Bekkedahl, Chairman) recommends **AMENDMENTS (25.1162.02004)** and when so amended, recommends **DO PASS** (11 YEAS, 4 NAYS, 1 ABSENT OR EXCUSED AND NOT VOTING). SB 2328 was placed on the Sixth order on the calendar. This bill does not affect workforce development.

25.1162.02004
Title.

Prepared by the Legislative Council staff for Senate Appropriations - Education and Environment Division Committee
February 12, 2025

Sixty-ninth
Legislative Assembly
of North Dakota

PROPOSED AMENDMENTS TO FIRST ENGROSSMENT

ENGROSSED SENATE BILL NO. 2328

Introduced by

Senators Wanzek, Erbele

Representatives Brandenburg, Headland

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   d. Two members with a substantial interest in biotechnology appointed by the agriculture commissioner.
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3. The commissioner of commerce shall serve as chairman.
4. The council shall have at least one regular meeting each year and such additional meetings as the chairman determines necessary at a time and place to be fixed by the chairman. A special meeting must be called by the chairman on written request of any three members. Four members constitute a quorum.
5. The council shall recommend to the industrial commission the approval of grants, loans, or other financial assistance necessary or appropriate for funding, research, development, marketing, and educational projects or activities and any other matters related to this chapter.
6. Members of the council serve at the pleasure of the governor.

Access to council records.

1. Materials and data submitted to, or made or received by, the council or industrial commission, to the extent the council or industrial commission determines the materials or data consist of trade secrets or commercial, financial, or proprietary information of individuals or entities applying to or contracting with the commission or receiving council or industrial commission services under this chapter, are subject to section 44-04-18.4.

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   a. A general description of the nature of the information sought to be protected.
   b. An explanation of why the information derives independent economic value, actual or potential, from not being generally known to others.
   c. An explanation of why the information is not readily ascertainable by proper means by others.
   d. A general description of a person that may obtain economic value from disclosure or use of the information, and how the person may obtain that value.
   e. A description of the efforts used to maintain the secrecy of the information.
3. The information submitted under subsection 2 is confidential. The council or industrial commission shall examine the request and determine whether the information is relevant to the matter at hand and is a trade secret under the definition in section 44-04-18.4 or 47-25.1-01. If the council or industrial commission determines the information is either not relevant or not a trade secret, the council or industrial commission shall notify the requester and the requester may ask for the return of the information and request within ten days of the notice. If no return is sought, the information and request are a public record.
4. The names or identities of independent technical reviewers on a project or program and the names of council members making recommendations are confidential, may not be disclosed by the council, and are not public records subject to section 44-04-18 or section 6 of article XI of the Constitution of North Dakota.

Industrial commission powers.

1. The industrial commission may:
   a Make a grant or loan, and provide other forms of financial assistance as necessary or appropriate, to a qualified person for funding research, development, marketing, and educational projects or activities, feasibility studies, applied research and demonstrations, venture capital investments, and low-interest loans and loan buydowns to foster the development of the life science industry. Any financial assistance the commission awards to a project

may not be the project's sole support. Any financial assistance the commission awards must be conditioned on the assurance the applicant or a third party will support the project by either monetary or nonmonetary means. The amount of the additional support is at the commission's discretion.

b. Provide incentives to expand the life science industry in the state.

c. Provide incentives for scaleable technologies.

d. Provide incentives to increase research and utilization of the life science industry in the state.

e. Execute contracts and all other instruments necessary or convenient for the performance of its powers and functions under this chapter.

f. Accept aid, grants, or contributions of money or other things of value from any source, to be held, used, and applied to carry out this chapter, subject to the conditions upon which the aid, grants, or contributions are made, including aid, grants, or contributions from any department, agency, or instrumentality of the United States for any purpose consistent with this chapter.

g. Establish interest buydown programs for equipment needed to development the life science industry in the state.

h. Fund technical assistance from the university system and private entities to producers.

2. The industrial commission may contract with the department of commerce to provide technical assistance to the life science research council and the industrial commission to carry out the purposes of this chapter, including pursuit of aid, grants, or contributions of money or other things of value from any source for any purpose consistent with this chapter. The department may contract with a public or private third party to provide the technical assistance necessary to implement the purposes of this chapter.

Life science development fund - Continuing appropriation.

The life science development fund is a special fund in the state treasury. All funds in the life science development fund are appropriated to the industrial commission on a continuing basis for the purpose of carrying out this chapter. Interest earned by the fund must be credited to the fund.

SECTION 2. REPEAL. Section 4.1-01-20.1 of the North Dakota Century Code is repealed.

SECTION 3. TRANSFER - BIOSCIENCE INNOVATION GRANT FUND TO LIFE SCIENCE DEVELOPMENT FUND. The office of management and budget shall transfer any balance in the bioscience innovation grant fund to the life science development fund on June 30, 2025.

SECTION 4. APPROPRIATION - TRANSFER TO LIFE SCIENCE DEVELOPMENT FUND. There is appropriated out of any moneys in the general fund in the state treasury, not otherwise appropriated, the sum of ~~$12,000,000~~$9,000,000, which the office of management and budget shall transfer to the life science development fund, for the period beginning with the effective date of this Act, and ending June 30, 2027.

SECTION 5. EMERGENCY. Sections 1, 3, and 4 of this Act are declared to be an emergency measure.