NDSU NORTH DAKOTA STATE UNIVERSITY

Date: January 27, 2025

To: House Education Committee (69th Assembly)

From: Marc Wallman, Vice President for Information Technology and CIO

RE: Testimony in favor of HB 1265

Chair Heinert, members of the committee, for the record, my name is Marc Wallman. I serve as the Vice President of Information Technology and Chief Information Officer at North Dakota State University. I am here to offer support for the concept of the state information technology research center outlined in House Bill 1265, and to offer some information on what NDSU could bring to the table in support of the State's efforts.

The state information technology research center, outlined in House Bill 1265, can serve as a North Dakota hub for initiatives in advanced information technologies such as artificial intelligence, cybersecurity, data analysis, data science, digital literacy, machine learning, quantum computing, and software engineering. It will coordinate the efforts of researchers in areas like agriculture, agribusiness, bioinformatics, digital healthcare, energy, engineering, and transportation to maximize the value of their activities to North Dakotans. It will lead efforts to drive private sector economic growth in these areas, foster the creation of technology-based startups, and drive productive collaboration between academic researchers/educators and industry in the State to ensure a prosperous future for North Dakota in a world that is growing evermore technology-reliant.

NDSU, through its proven track record in research and education and its existing advanced research infrastructure, is uniquely positioned to support the State's efforts through such a research center. The university's strategic partnerships with industry and federal agencies and commitment to innovation make it the ideal entity to drive exploratory, transformative, and innovative research and development in the above-mentioned areas.

Below, I would like to expand on NDSU's key contributing strengths:

Nationally and Internationally Recognized Research Excellence

NDSU, an R1 institution, ranks in the top 100 public universities for research expenditures. It is well supported by federal agencies like DoD, DOT, NSF, and USDA. Dozens of NDSU researchers are among the top 2% of the most cited scientists globally. NDSU excels in data science, data analysis, software engineering, advanced information technology, artificial intelligence (AI), machine learning (ML), quantum information science (which includes quantum computing), and cybersecurity. At least 65 research groups at NDSU are currently involved in AI-related research. Examples include the application of AI/ML in

VICE PRESIDENT FOR INFORMATION TECHNOLOGY
NDSU Dept 4500 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.5646 | Fax 701.231.8541 | www.ndsu.edu/vpit

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agricultural data analytics and crop prediction, business analytics, disaster mitigation, healthcare, genomics and bioinformatics, materials design, and smart infrastructure.

NDSU researchers interact and are leveraging partnerships with industry through the NDSU Office of Research and Creative Activity, the NDSU Research and Technology Park, and the NSF Engine: North Dakota Advanced Agriculture Technology Engine.

Comprehensive Academic and Training Programs

NDSU offers degree programs and certificates relevant to data science, AI/ML, data analysis, software engineering, advanced information technology, digital literacy, and cybersecurity. This includes 13 bachelor's, 7 master's, 4 Ph.D.'s, and numerous undergraduate and graduate certificates. These programs meet industry demand and prepare graduates to lead in an AI-driven economy and facilitate research.

Together with many other programs in related fields, they provide high-quality students for research projects as well as leverage research activities to improve student training.

Advanced Research Infrastructure and Robust Research Support

Founded with approval from the SBHE in 2003 and supported over the years by the North Dakota Legislature, the Center for Computationally Assisted Science and Technology (CCAST) is currently North Dakota's largest academic supercomputing facility with over 13,000 CPU cores and 100 NVIDIA GPUs. It advances research and education by developing and managing computing resources, supporting and facilitating research, and offering rigorous training and internship programs.

In the past five years, CCAST has become a regional resource, providing research computing resources to faculty, staff, and students across NDUS campuses and the tribal colleges in the State. It currently supports nearly 100 research groups in data science, AI/ML, quantum information science, cybersecurity, and other research areas.

In addition, the new Richard Offerdahl '65 Engineering Complex at NDSU, authorized by the State Legislature during the 2023 session, is another state-of-the-art facility that will house cutting-edge research and teaching infrastructure and serve as a hub for interdisciplinary collaboration. This complex enhances NDSU's capabilities in computational sciences and positions the university as a leader in advanced technology research and innovation.

Thank you for providing the opportunity to testify today. With that, I would be happy to answer any questions you might have

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