Testimony for the 69th Legislative Assembly:

SENATE INDUSTRY AND BUSINESS COMMITTEE

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Chairman Barta and members of the Industry and Business Committee, my name is Todd Pringle, I serve as the Director of the Dakota Digital Academy for the North Dakota University System, in a part-time capacity. In other capacities I am an angel investor as well as a partner in the 701 Fund, a small pre-seed and seed-stage venture capital fund with a focus on regional technology ventures. I am an Advanced Engineering Manager at Deere & Co, but I am not speaking in that capacity here today. I am also a Part-Time Academic at NDSU, which is my alma mater for three degrees and counting. I have spent my entire career in North Dakota as an engineer, manager, founder and investor, advancing technologies in composites, coatings, electronics, software, compute, outdoor products and healthcare.

Thank you for allowing me to testify today.

I am here in strong support of House Bill 1448 to establish an advanced technology review committee, grant program, and fund with one-time funding of $5,000,000.

Advanced technology can mean a lot of things. And I am encouraged that HB 1448 provides guidance by stating that priority consideration be given to artificial intelligence, machine learning, and quantum computing, and other adjacent or similar technologies, provided that their projected impact on North Dakota economic development or workforce is realistic and compelling.

The ChatGPT moment at the end of 2022, when the world suddenly realized we are now able to just talk to our computer and it understands us and can talk back, was a paradigm shift. Human-like interaction, which is to say natural language, is about to become the common human-computer interface modality for many things we use computers for. That is to say that anything with a computer in it will be able to have the ability to talk to us. And just like the internet of things, or IoT, which was hyped up about ten years ago, this will involve silly things like the IoT Bluetooth-enabled toothbrush that you need to download an app for. No doubt somebody will try to instantiate a tiny LLM into a future toothbrush so you can have a conversation about your teeth, and that will likely be silly and short-lived in the market too. But many applications of this new human-computer interface technology, that conversational agents like ChatGPT represent, will be game changing, and we have only scratched the surface on discovering these applications. But the impact of AI will not just be from big tech companies hosting their AIs in huge datacenters and charging us subscription fees. It looks more and more that we will also make intelligence portable.

The Deepseek moment occurred 3 years later, which was only this January. The Chinese showed that if you train an AI with another AI, in a process called distillation, and do some other clever engineering, you can reduce the size of a cutting-edge AI model to something that can fit into a high-end desktop computer. This means that open source, which is to say free and private, AI models will be localizable to a vehicle, to a humanoid robot, soon to your laptop, to your phone, to a precision power tool, even eventually to a toothbrush unfortunately. We don't really know what this means yet, but it will likely be massive. Just like with smart phones, many of the top applications of this technology are likely ones we haven't conceived of yet.

North Dakota has several manufacturing companies. What does centralized or localized AIs mean for how we design a factory and how we interface with factory equipment? North Dakota has huge energy, ag, and healthcare sectors. How can these sectors be improved with either centralized big tech AI or localized customized AI? Our state has arguably the biggest concentration of precision agriculture electronics hardware, both design capacity and competency, in the world, that currently uses bleeding edge AI. These are obvious places to look for AI innovation within existing industries that could benefit from this program and funds. But it's also likely that there's a farmer out there, or a plumber, or a lawyer, or a professor, or a student, that's tinkering with AI, or soon will be, that could use some tailwinds from this proposed funding mechanism to launch a new venture in the state.

Because AI is so accessible to people that like to explore and innovate, I think we can expect a lot of grant applicants, and many from unexpected sectors. We have seedlings growing now across the state, and soon many more, and we need to find them, pick the promising ones through an open and fair process, and feed, water, and champion them.

The other stated technology areas include machine learning and quantum computing. Machine learning is adjacent to many AI inference and algorithmic approaches and its inclusion will make it more likely that practical, more shovel ready niche innovations will be allowed into the program for consideration. The inclusion of quantum computing, because it is so early in technology readiness, allows for the door to be cracked open for truly early-stage efforts provided that the review committee is convinced that the promise is worth the investment in full recognition of the significant de-risking needed of early-stage technologies. Taken as a whole: "AI, ML, Quantum, and similar technologies" is a broad spectrum of technology readiness levels that will serve as a wide net to cast for promising fund applicants.

I am also heartened to see HB 1448 has structured the fund as one-time money. This concept must be proven out before we consider its continuation. The structure of the review committee allows for accountability to House, Senate, and Governor, as well the perspectives of the state's two largest IT organizations, and private sector voices.

I ask you to support this proposal, as funded, with a DO PASS vote. Thank you.