

North Dakota Science and Technology Plan One-Page Summary

The 2024 North Dakota Science and Technology Plan outlines the state's strategic priorities for driving innovation, strengthening research capacity, and supporting long-term economic growth. Built on strong foundations in agriculture, energy, manufacturing, information technology, and autonomous systems, the plan identifies pathways to expand STEM education, modernize workforce development, and enhance statewide competitiveness.

Purpose and Vision

The plan aims to build North Dakota's science and technology ecosystem by leveraging research strengths; fostering collaboration among universities, industry, and government; and preparing a highly skilled workforce. Its vision emphasizes innovation, economic prosperity, and improved quality of life driven by scientific advancement.

Targeted Industry Sectors

North Dakota prioritizes six major industry sectors:

- **Food and Agriculture** – Precision agriculture leadership, value-added production, and research in crop genetics, soil health, and sustainable systems.
- **Energy and Natural Resources** – Oil, gas, coal, and rapidly expanding wind energy, plus research in hydrogen, carbon capture, and solar cells.
- **Advanced Manufacturing** – Robotics, automation, biosciences, AgTech, additive manufacturing, and materials development supported by university cleanrooms and innovation labs.
- **Information Technology** – Growing tech ecosystem with strengths in cybersecurity, data science, AI, and advanced computing.
- **Autonomous Systems** – National leadership in UAS testing, BVLOS (Beyond Visual Line of Sight) operations, and development of ground and aerial autonomous technologies.
- **Food-Energy-Water Nexus** – Integrated resource management addressing sustainable development, resource conservation, and environmental resilience.

Education and Workforce Development

The state is addressing critical teacher shortages, STEM resource needs, and rural access challenges. Efforts focus on K-20 STEM pathways, apprenticeships, and technical training. Universities and technical colleges play central roles in preparing talent for high-growth sectors.

Overall, the North Dakota Science and Technology Plan provides a roadmap to build research competitiveness, develop a resilient workforce, and accelerate economic growth across North Dakota's most vital industries.