NORTH DAKOTA UNIVERSITY SYSTEM

ACCESS. INNOVATION. EXCELLENCE.

2025 - 2027
INFORMATION TECHNOLOGY STRATEGIC PLAN

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2025-2027 INFORMATION TECHNOLOGY STRATEGIC PLAN

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EXECUTIVE SUMMARY

I had the privilege of guiding the North Dakota University System (NDUS) during the 2025-2027 biennial information technology strategic planning process. With the assistance of the CIO Council representing the eleven NDUS institutions and Core Technology Services, we refined our four IT goals and their related objectives and identified several new initiatives to support six central themes. Together, these elements form the foundation of the NDUS IT Strategic Plan, driving our efforts in an environment undergoing rapid change.

By supporting the strategic plan of the North Dakota State Board of Higher Education, the NDUS IT goals, objectives, and initiatives bolster our endeavors to adapt to rapid digitization, improve student experiences, provide flexible course delivery, and enhance information security.

An unwavering commitment is maintained to serving the students, faculty, and staff of the NDUS by ensuring an optimal experience throughout the entire organization. Numerous initiatives throughout the system possess the capacity to yield significant and favorable outcomes as part of our ongoing digital transformation.

We look forward to the continued collaboration with stakeholders and strategic partners as we move forward to execute initiatives that align with our strategic themes and support the goals of the North Dakota University System.

Darin King

SBHE'S STRATEGIC GOALS for 2021-2026

Goal 1: *Financials* - Optimize student affordability while maintaining campus financial health

Goal 2: *Responsive* - Provide access to programs people want, where and when they need them

Goal 3: *Student Success* - Prepare students for success

Goal 4: *Unified System* - Maximize the strengths of the unified system

Goal 5: *Research* - Research Excellence and Innovation

Goal 6: *Workforce* - Workforce Development

This section of the Strategic Plan identifies the four NDUS IT goals and their purpose for the 2025-2027 biennium. Each goal is defined by strategy objectives that demonstrate alignment to the aforementioned six strategic goals of the 2021-2026 State Board of Higher Education's Strategic Plan.

N.D.C.C. 15-10-44.c requires the State Board of Higher Education (SBHE) to manage and regulate information technology plans and services, including the integration of higher education information technology planning and reporting with the Board's strategic planning process. View more information about the current North Dakota SBHE's Strategic Plan at: https://ndus.edu/strategic-plan.

🔺 NDUS IT GOAL ONE

SUPPORT CURRENT AND FUTURE INFRASTRUCTURE NEEDS OF THE NORTH DAKOTA UNIVERSITY SYSTEM.

Purpose

This goal provides the foundation for Information Technology (IT) in support of NDUS's current and future business processes, ensuring long-term sustainability and adaptability of the IT infrastructure. Infrastructure integrates and links information technology systems and allows those systems to communicate with each other over a network. Infrastructure includes such things as security and access control for which guidelines must be developed and updated as needed. Enterprise architecture provides a blueprint for establishing information technology policies, procedures, and guidelines to promote effective use of information technology.

Strategy Objectives

1. Offer reliable, cost-effective, and scalable network services for NDUS's institutions to ensure uninterrupted operation of mission critical systems.

2. Provide tools and technologies to facilitate secure and easy use of networked resources and services, while enhancing data and system security against cyber threats.

3. Utilize the network infrastructure for the convergence of voice, data, and video along with other collaboration tools.

4. Enable libraries to provide easy access to licensed electronic information.

5. Provide leadership for IT enterprise architecture, IT planning, project management, organizational change management, and service management.

6. Supply access to STAGEnet, Internet2, and other national and international research and development networks.

7. Maintain a centralized IT infrastructure where efficiency and effectiveness can be maximized while ensuring the cost of operation is competitive to meet the NDUS's institutional needs.

8. Support the replacement and sustainability of campus instructional technology.

♻ NDUS IT GOAL TWO
FACILITATE DIGITAL TRANSFORMATION OF SYSTEMS AND SERVICES.

Purpose

In the realm of higher education, digital transformation encompasses a series of coordinated shifts in organizational culture, workforce, and technology. These changes aim to establish new strategic directions, focusing on improving the learning journey for both students and faculty, updating and streamlining educational and operational models and systems, and using data effectively and ethically for decision-making.

Incorporating artificial intelligence (AI) technologies, such as intelligent automation and predictive analytics, can facilitate cost reduction and enhance operational agility, leading to improvements in productivity, customer service, governance, and compliance. To stay competitive, the NDUS is committed to fostering AI-powered digital transformation across its systems and services, recognizing the potential of AI in shaping the future of education and research.
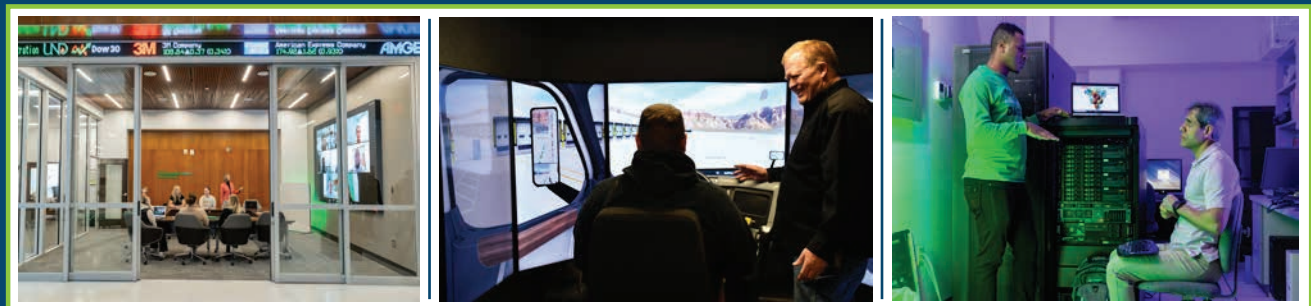
Strategy Objectives

1. Support efforts to organize and convert physical information into digital formats (digitization).
2. Encourage automation to streamline business processes (digitalization).
3. Enable more efficient education and operating models due to shifts in culture, workforce, and technology resulting from digitalization (digital transformation).
4. Promote systemwide data and analytics management and governance.
5. Assess the current state of the NDUS to identify opportunities for digital transformation.
6. Foster an understanding of digital transformation across the NDUS community.
7. Create a competitive advantage by leveraging efficiencies gained through digital transformation to support flexible learning and work environments.
8. Identify, assess, and prepare administrative systems for digital transformation.
9. Deploy appropriate AI tools within enterprise systems in accordance with NDUS policy.

♲ NDUS IT GOAL THREE

PROVIDE A USER EXPERIENCE THAT IS RESPONSIVE TO CHANGING NEEDS AND EXPECTATIONS.

Purpose

In the rapidly evolving world, the needs and expectations of our users - students, faculty, staff, North Dakota residents, and affiliates worldwide - are continuously changing. The North Dakota University System must be responsive in recognizing and addressing those needs and expectations by providing modernized systems and services to enhance the user experience.

Strategy Objectives

1. Leverage systems and services that are available anytime, anywhere, and from any device.
2. Take reasonable actions to enhance the NDUS's digital environment, making it accessible and inclusive for all individuals.
3. Continuously improve standards, policies, procedures, and services that facilitate seamless, integrated learning.
4. Solicit feedback from the NDUS user community to understand their experiences and expectations to improve systems and services.
5. Collaborate with NDUS institutions to identify, evaluate, and respond to business needs in a timely manner.
6. Provide effective, efficient, and highly available IT support services while extending self-help resources.
7. Create an agile enterprise architecture framework that can be easily adapted to meet the needs of the constituents and institutions.

🔺 NDUS IT GOAL FOUR

ENHANCE THE NORTH DAKOTA UNIVERSITY SYSTEM'S COLLABORATIVE EFFORTS.

Purpose

By working together, and with the State, K-12, and other constituents, the NDUS is able to implement, integrate, and support systems and services that further the mission of each NDUS institution.

Strategy Objectives

1. Collaborate to maximize economies of scale in support of student affordability.
2. Continually improve communication and partnerships with all stakeholders.
3. Identify where converged services are appropriate and work with NDUS institutions to deploy services to enhance collaboration.
4. Enable collaboration among learners by providing easy, efficient, and reliable access to learning resources and systems.
5. Leverage educational resources, services, and IT systems to minimize barriers between institutions, libraries, and other sources of learning.
6. Facilitate the adoption of Internet2, InCommon, and research-level infrastructure.
7. Collaborate with business and industry to identify opportunities for innovations and workforce development.
8. Enhance the management of NDUS account credentials to enable seamless access to systemwide resources, facilitating a collaborative online environment for learning, research, and administration.
9. Collaborate and partner with NDIT to ensure reliable, efficient, and affordable services.
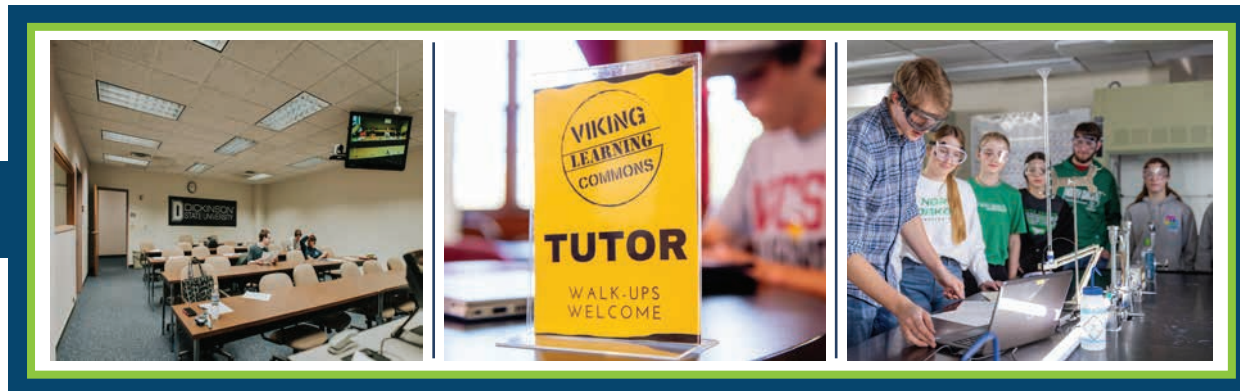
STRATEGIC PLAN

The North Dakota University System's Core Technology Services and CIO Council collaborated to identify six major areas that influence the quality of the student, faculty, and staff experience: Academic Services, Information Security, Operational Efficiency and Effectiveness, IT Services Management, Infrastructure, and Artificial Intelligence. These areas create a service framework comprised of several systemwide and campus initiatives benefitting NDUS stakeholders and, when applicable, will be at the forefront of a continued effort to comply with the State Board of Higher Education's (SBHE) digital accessibility policy. The following sections illustrate some of those initiatives which will build upon NDUS's current service foundation and support the NDUS IT goals over the 2025-2027 biennium.

ACADEMIC SERVICES

Academic Services plays a vital role in the North Dakota University System by developing and providing cutting-edge technologies, dynamic learning spaces, comprehensive classroom support, and a wide range of services that enrich the teaching, learning, and research experience. The NDUS recognizes the importance of these resources in fostering a positive educational environment for both students and faculty. In 2020, federal emergency relief funds were distributed to NDUS institutions to assist with expenses incurred by the pandemic; a significant portion of these funds were used to address the increased demand for instructional technology as campuses transitioned to remote teaching and learning. Although in-person classes have resumed, online learning will continue to be an option, emphasizing an ongoing priority to renew and replace these technologies to meet the evolving needs of students and faculty.

The following *Academic Services* **initiatives align with:**

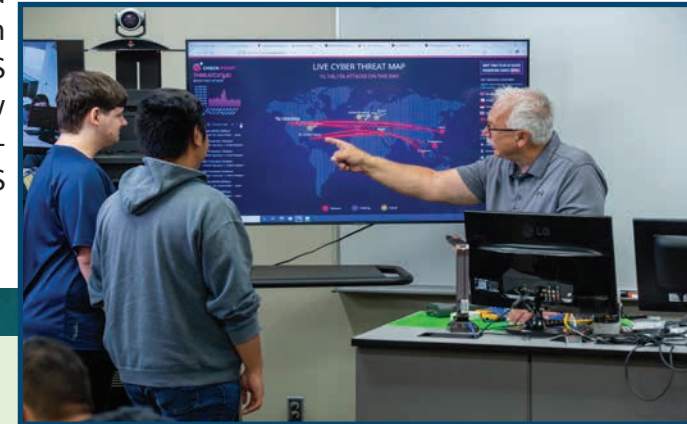**NDUS IT Goal #2:** Facilitate Digital Transformation of systems and services.

NDUS IT Goal #3: Provide a user experience that is responsive to changing needs and expectations.

- Increase use of customizable communication and engagement methods, such as a scalable, secure desktop and mobile campus platform, to provide a unified, digital student experience. Through continuous improvement, expand functionality to include tailored experiences and communication for faculty, staff, and alumni.

- Leverage existing student data, captured in a comprehensive display, to provide campus service units with a holistic, 360-degree view of a student's academics, organizations, and activities to personalize the assistance and support given to each student.

- Promote and enhance the use of extended reality and spatial computing technologies for learning and instruction.

- Assess the learning management system's capacity to enhance accessibility of academic information and utilize generative AI to provide an appropriate level of user personalization, creating a more learner-focused experience.

- Evaluate software and tools used by students throughout their entire education lifecycle to uncover actual university operational and maintenance costs associated with each product as compared to the value added to the student experience.

- Leverage AI tools that enhance teaching and learning.

- Prepare for the replacement cycle of aging instructional technology.

INFORMATION SECURITY AND DATA PRIVACY

Information security is defined as a set of practices intended to keep data secure from unauthorized access or alterations during storage or transmission. These methods can include monitoring activities to identify system threats and vulnerabilities, in addition to evaluating and mitigating risks through prevention and response measures. Data privacy is also a crucial aspect of information security, ensuring that personal and sensitive information is protected and handled in compliance with relevant laws and regulations. The NDUS recognizes information security and data privacy as being top concerns for every new project, upgrade, or enhancement, and continues to strengthen existing security infrastructure to stay ahead of potential risks that could affect systems utilized by the NDUS students, faculty, and staff.

The following *Information Security and Data Privacy* initiatives align with:

NDUS IT Goal #1: Support the North Dakota University System's infrastructure needs.

NDUS IT Goal #3: Provide a user experience that is responsive to changing needs and expectations.

- Expand security awareness, phishing assessment, and training programs to educate faculty, staff, and students on security risks, including safeguarding NDUS data and resources, as well as how to better protect themselves from possible threats.

- Enhance current systems to provide intelligence for potential threats, facilitate quick responses, and offer analysis of the valuable log data generated by NDUS systems.

- Implement endpoint privilege management for CTS to reduce the risk of administrative rights on endpoint computers.

- Expand privileged access management for password management, vendor access, and additional privileged accounts to enhance controls for those who have extensive access to applications and systems in the NDUS data center.

- Assess critical IT systems to ensure resilience against contemporary cyber security threats.

- Review data classifications and labeling of existing data sets and documents and ensure that encryption is in use on sensitive data systems.

- Ensure compliance with current and emerging laws and regulations such as FERPA, HIPAA, PCI DSS, and GLBA.

OPERATIONAL EFFICIENCY AND EFFECTIVENESS

The NDUS supports a diverse array of business applications and systems, ranging from enterprise resource planning tools to collaborative and communication technologies. As operational challenges arise, the NDUS works cooperatively to manage growing requirements with optimized solutions. These efforts include assessing the capabilities of current systems, evaluating emerging technologies, exploring workforce growth and sustainability strategies, and examining IT governance language for potential opportunities to increase efficiencies, as part of a continuous effort toward operational excellence.

The following *Operational Efficiency and Effectiveness* **initiatives align with:**

NDUS IT Goal #1: Support the North Dakota University System's infrastructure needs.

NDUS IT Goal #2: Facilitate digital transformation of systems and services.

NDUS IT Goal #3: Provide a user experience that is responsive to changing needs and expectations.

NDUS IT Goal #4: Improve and enhance the North Dakota University System's collaborative efforts.

- Enable additional functionality of current systems and/or implement integrated complimentary systems to maximize process efficiencies, data integrity and security, and user experience.

- Compare existing operational tools and systems with newer, updated technologies; make informed purchasing decisions that will result in improved, cost-effective solutions and modern services to support all stakeholders.

- Improve digital accessibility by working to remove barriers that can hinder access to or navigation of systems.

- Initiate the process to modernize aging administrative systems.

- Explore flexible staffing options for IT roles that are not location bound and innovate ways to retain new talent.

- Review existing laws, policies, and procedures regarding IT consolidation and explore modifications in the interest of efficiency and effectiveness.

ENTERPRISE SERVICE MANAGEMENT

A supportive, service-oriented environment can greatly enhance the success and satisfaction of students, faculty, and staff within the NDUS. This can be achieved by offering targeted education and training, encouraging active collaboration, promoting positive interactions, ensuring prompt service delivery, and improving service offerings. Maintaining regular communication with stakeholders is essential to understanding their needs and challenges, creating opportunities for the NDUS to respond by making continuous improvements. Providing stakeholders with the necessary resources and support through times of change can help facilitate a more positive experience.

The following *Enterprise Service Management* **initiatives align with:**

NDUS IT Goal #2: Facilitate digital transformation of systems and services.
NDUS IT Goal #3: Provide a user experience that is responsive to changing needs and expectations.
NDUS IT Goal #4: Improve and enhance the North Dakota University System's collaborative efforts.

- Expand enterprise service management systems to provide a more cohesive experience to NDUS constituents.
- Support the NDUS community in adjusting to new systems, processes, and technologies by applying the practice of organizational change management to facilitate the transition and enhance the benefits of change.
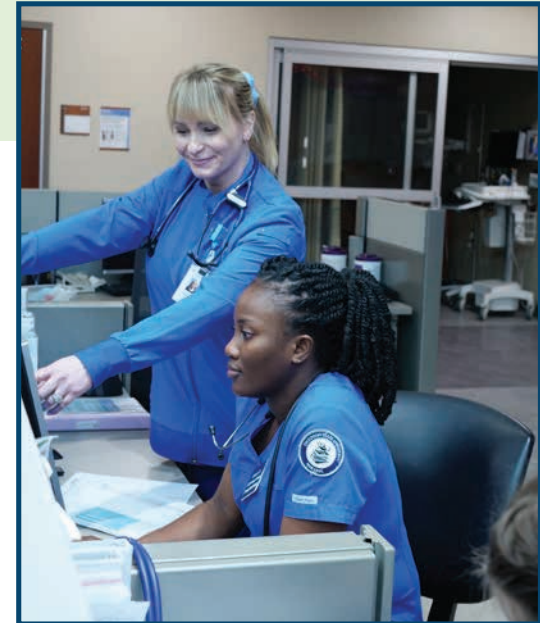
INFRASTRUCTURE

The NDUS's technology infrastructure serves as the core in delivering a positive learning and teaching experience for our faculty and students; continuous improvements are key in supporting up-to-date, secure educational environments. Staying current with infrastructure allows for students to learn or faculty to teach from any location, providing the opportunity for flexibility, availability, collaboration, and access. The expansion of security measures to further monitor and control network traffic, as well as detect and deter malicious activity, can keep the work of our students, faculty, and staff better protected.

The following *Infrastructure* initiatives align with:

NDUS IT Goal #1: Support the North Dakota University System's infrastructure needs.
NDUS IT Goal #3: Provide a user experience that is responsive to changing needs and expectations.
NDUS IT Goal #4: Improve and enhance the North Dakota University System's collaborative efforts.

- Evaluate options to improve or modernize campus network services to ensure redundancy.
- Assess physical security systems such as electronic door access and surveillance cameras to ensure critical infrastructure is secured appropriately.
- Support Wide Area Network (WAN) services to campuses, in collaboration with North Dakota Information Technology (NDIT), ensuring that campus demand is met and diverse paths to campuses are available.
- Implement modern communication services to meet the needs of the community.
- Continue to develop and promote collections of organized and verified data that are accessible to all NDUS institutions.
- Evaluate hosting options for campus' systems and applications for reliability, scalability, and cost effectiveness.

ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) is a transformative technology that brings both opportunities and challenges to higher education. It opens up new possibilities for learning and teaching, but also presents risks that need to be managed. The North Dakota University System acknowledges the potential of AI in shaping the future of education and is committed to supporting the appropriate and ethical use of AI-powered resources. NDUS is dedicated to providing opportunities for students, faculty, and staff to develop or enhance their AI skillsets. This not only equips them to navigate the rapidly evolving technological landscape but also broadens the capabilities of North Dakota's workforce. NDUS's commitment to digital transformation and responsible AI use underscores its role as a leader in integrating emerging technologies into higher education.

The following *Artificial Intelligence* **initiatives align with:**

NDUS IT Goal #1: Support the North Dakota University System's infrastructure needs.
NDUS IT Goal #2: Facilitate digital transformation of systems and services.
NDUS IT Goal #3: Provide a user experience that is responsive to changing needs and expectations.
NDUS IT Goal #4: Improve and enhance the North Dakota University System's collaborative efforts.

- Support and assist in the development of AI policies and guidelines on the use of AI to mitigate risk and manage use.

- Make appropriate AI tools available to NDUS users.

- Enhance awareness and support the use of AI in digital transformation.

- Partner with academics to explore the implications of AI in teaching and learning.

- Leverage AI tools to assist in the delivery of enterprise service management.

- Provide opportunities to enhance or create AI skillsets and talents.

SUMMARY

This 2025-2027 NDUS IT Strategic Plan outlines a series of strategic goals, objectives, and initiatives that will drive the NDUS IT roadmap throughout the next biennium. The four NDUS IT Goals and respective strategic objectives are centered on strengthening IT infrastructure to meet future demands, encouraging systemwide advancement of digital transformation, delivering an experience that continuously evolves to meet user needs and expectations, and improving collaboration across the university system. Each of these goals align with all six goals approved by the North Dakota State Board of Higher Education, outlined in the 2021-2026 NDUS Strategic Plan.

The focus areas of Academic Services, Information Security and Data Privacy, Operational Efficiency and Effectiveness, Enterprise Service Management, Infrastructure, and Artificial Intelligence include a series of initiatives intended to enhance teaching and learning, support operational work efforts, promote communication and collaboration, strengthen IT security and data protection, expand service management, and modernize IT systems and skillsets to meet the needs of the NDUS community. These initiatives collectively support each of the 2025-2027 NDUS IT Goals.

Core Technology Services and the CIOs of the NDUS's eleven institutions plan to achieve these goals, objectives, and initiatives through outstanding teamwork, excellent customer service, collaboration, dedicated leadership, inspiration, and growing opportunities.