

#### SENATE APPROPRIATIONS COMMITTEE

JANUARY 17, 2025 HARVEST ROOM

#### N O R T H Dakota

Be Legendary.

#### Information Technology

### Introductions

Officer



Michael Gregg Chief Information Security Officer

### **NDIT Vision and Mission**

NDIT enables partners to provide the 'Best Government Experience' and strives to be a trusted business partner through frictionless technology and proactive services



#### North Dakota Information Technology



#### WHAT WE DO

#### WHAT WE'RE PROUD OF



#### End to End Technology Services

Handling all technology, from supporting the tried and true, to finding innovative technology solutions for the future.

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STAGEnet

Network backbone for governmental entities in the state.

#### Education

Improve student and teacher outcomes in every North Dakota K12 school using SLDS and Learning Information Systems.

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branches of government and the citizens they serve.
PK20W

Defending the data and services of all

Whole-of-State

**Cybersecurity** 

**PK20W** All North Dakota, Future Ready, Today. Every student. Every school. Cyber educated.



**Program & Portfolios** Managing hundreds of millions of dollars of IT projects across government. Strengthen Operational Rhythm – HB1398 (2023)

ND is the First State to require Cybersecurity and Computer Science credits for high school graduation.

#### **Optimize Financial and Process Discipline - HHS MMIS Upgrade**

Decreasing operational support costs, addressing security risk, and building more modern platforms that will support the MMIS system for the future.

#### Frictionless Experience - NDIT and ND Game and Fish win National Award

The Electronic posting project is a tool for landowners and hunters to identify posted lands digitally.

**Empower People, Improve Lives and Inspire Success** 

# **NDIT Teams**

- Applications Team- The Applications Team at NDIT creates, supports, and improves the digital tools and programs—like health applications, websites, and document-sharing platforms—that help state employees get their work done. This team ensures these tools are reliable, user-friendly, and meet the needs of everyone who uses them.
- Data Team- The Data Team at NDIT helps make data useful and accessible for better decision-making across the state. They support tools like maps and geospatial data (GIS), analyze data for trends and insights, and use artificial intelligence to automate tasks and improve processes.
- Technology Team- The Technology Team at NDIT ensures the state's technology is innovative, secure, and efficient. They support public safety with tools like 911 system support and emergency communication, expand broadband access to connect communities, and manage the overall technology (hosting, computers, networks, collaboration products) that keep systems running smoothly. The Technology Team also leads the Enterprise Architecture practice, the solutioning and road-mapping team that strives to align business objectives with technology solutions.

- Security Team- The Security Team protects the state's data, systems, and critical services from cyber threats. They work closely with agencies to create security policies, identify risks, fix vulnerabilities, and monitor and respond to threats to ensure everything remains safe and secure.
- Fiscal and Vendor Management Team- The Fiscal and Vendor Management teams handle all the back-office support for procurement, budgeting, service fee creation and financial management of NDIT
- Administrative Team- The Administrative Team at NDIT is responsible for internal and external communications, human resource functions, training, education and outreach for technology solutions. They lead efforts on employee culture, engagement and succession planning.



### NDIT FIVE PILLAR STRATEGY



#### **Frictionless Experience**

Personalized and intuitive employee and consumer experiences for businesses and citizens

•Deliver consistent, predictable, and seamless, secure user experiences across all IT systems and services within the state

•Enable highly personalized experiences for citizens and businesses by enabling the delivery of services to match user preferences and needs •Collaborate with stakeholders to develop solutions that prioritize a seamless experience for users across all communication channels, ensuring effortless engagement in every interaction

#### **Strengthen Operational Rhythm**

Establishing efficient processes and workflows to optimize operational efficiency

•Elevate service excellence through a culture of continuous improvement and innovation, fostering an environment where operational excellence is the norm.

•Implement agile methodologies for rapid adaptation to changing requirements and priorities.

•Strengthen the security posture of the entire state by implementing comprehensive measures to protect critical infrastructure and sensitive data from cyber threats.



#### **People First Culture**

Fostering an environment where employees feel valued, supported, and empowered to thrive

- •Develop a future-ready workforce, ensuring they are dynamic, adaptable, and diverse to meet the evolving talent needs
- •Create pathways for career advancement and succession planning

•Promote behaviors that demonstrate curiosity, open communication, collaboration, and innovation to build strong relationships and a sense of belonging within the team

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#### **Provide Business Insights**

Leveraging data analytics to enable a data-driven state

•Identify trends, patterns, and opportunities to unlock new business value and drive innovation

•Empower decision-makers with actionable data-driven insights to drive strategic initiatives and improve outcomes

•Foster a culture of data governance and literacy to drive informed decision-making throughout North Dakota

#### **Optimize Financial and Process Discipline**

*Implementing efficient budgeting and resource allocation strategies* 

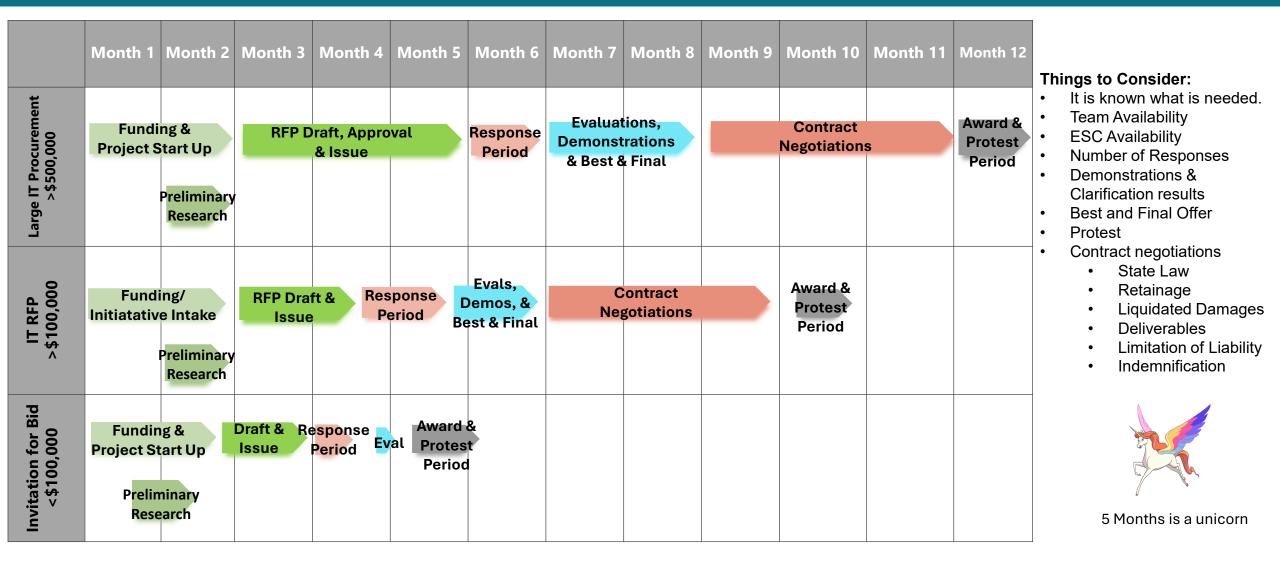
•Drive efficiency and cost-effectiveness through streamlined processes and optimized resource allocation

•Ensure transparency, accountability, and compliance with fiscal regulations and policies

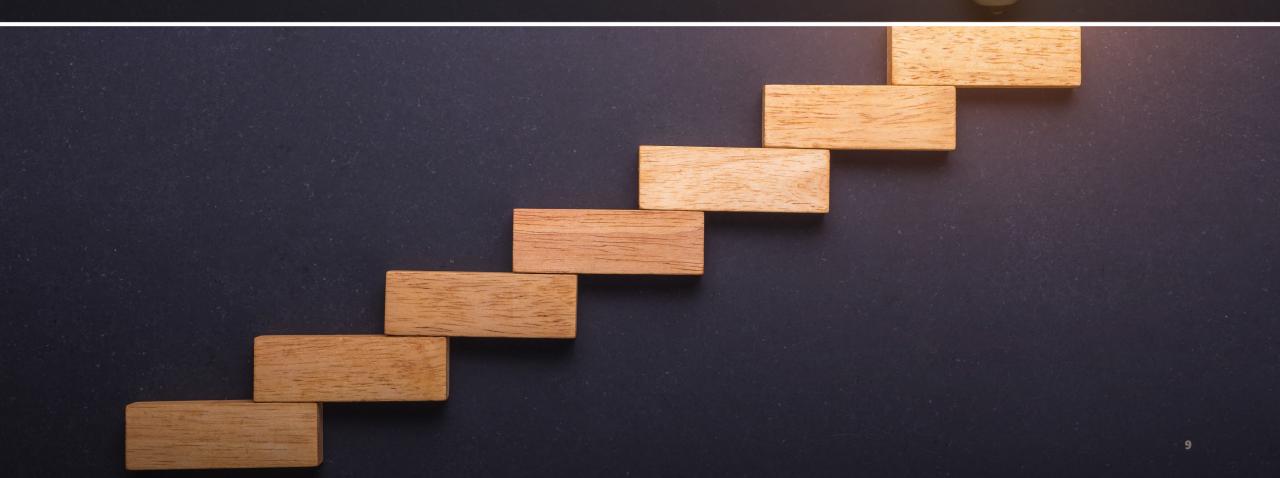
### **IT Procurement**



# IT Solution Lifecycle for State Government



### **Transparency and Governance**



# Advisory Groups

- Enterprise Architecture Group (current) review of IT standards, policies, guidelines
  - Agency representation
  - Technology domain representation
  - Service Delivery representation
- Data Governance Council (current) statewide data strategy
  - Agency representation
  - Technology domain representation
- Customer Advisory Group (upcoming) service feedback, strategic guidance of services
  - Agency representation
  - Service Delivery representation
- Portfolio Steering Committee (upcoming) work prioritization
  - Agency representation
  - Portfolio Manager
  - Chief Information Officer





#### Major IT Focus Areas Overview

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## Major IT Focus Areas

- Digital Experience (Gateway work)- Evonne Amundson, CBAO
- Statewide Data Strategy (Lighthouse work)- Kim Weis, CDO
- Enterprise Digitization and Modernization- Craig Felchle, CTO
- SIRN- Craig Felchle, CTO
- BEAD- Craig Felchle, CTO
- Vulnerability work- Chris Gergen, Director of Cybersecurity
- HIN- Shila Blend, NDHIN Coordinator
- SLDS- Tracy Korsmo, SLDS Program Manager
- GIS- Bob Nutsch, Geospatial Program Manager
- EduTech- John Gieser, K12 IT Strategist

# Digital Experience(Formerly known as Gateway)



#### Program Objectives | Goals

#### **Clear Directions**

Provide business users with clear direction on the actions they need to take when starting a business, maintaining a business, remaining in compliance with state regulations, and closing a business

#### **Digitize Data**

Digitize the collection of business-related data that can be used by the Gateway and across participating agencies to further enable digital services, growth, compliance, and fraud prevention

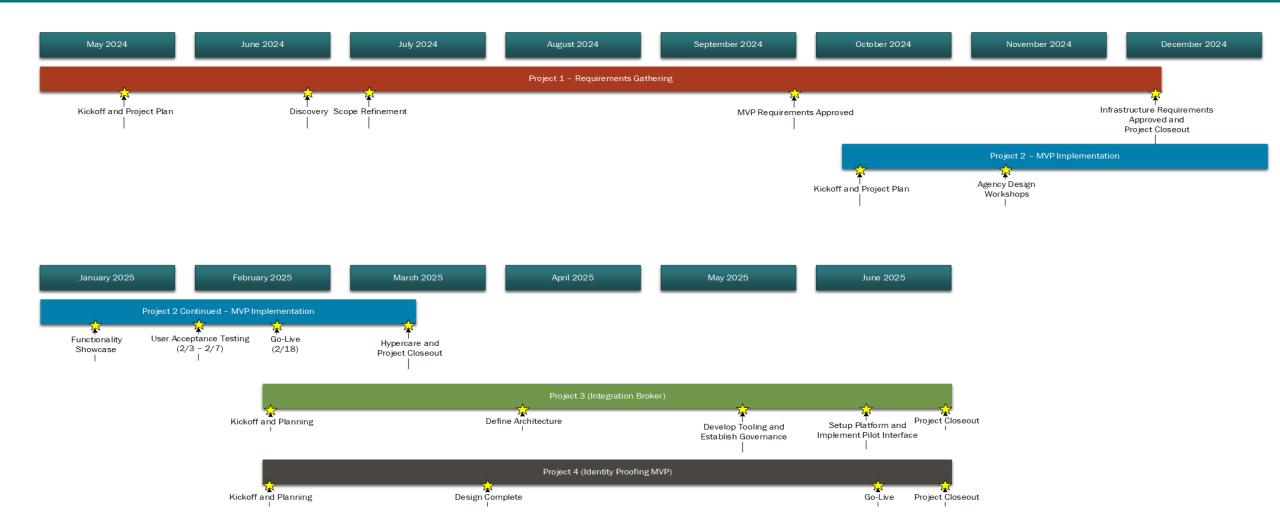


#### **Provide Guidance**

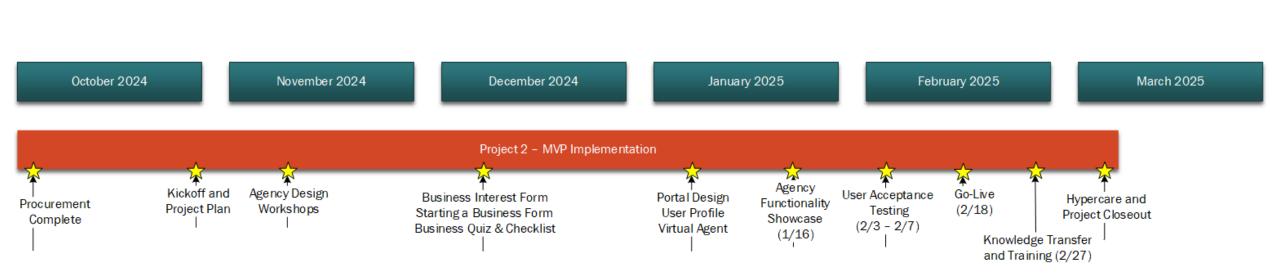
Guide users and encourage them to take advantage of available services, help businesses remain compliant with registration, reporting requirements, drive accuracy, auditability and begin to reduce the number of access points businesses rely on today and wrap it in a modern, friendly user interface.

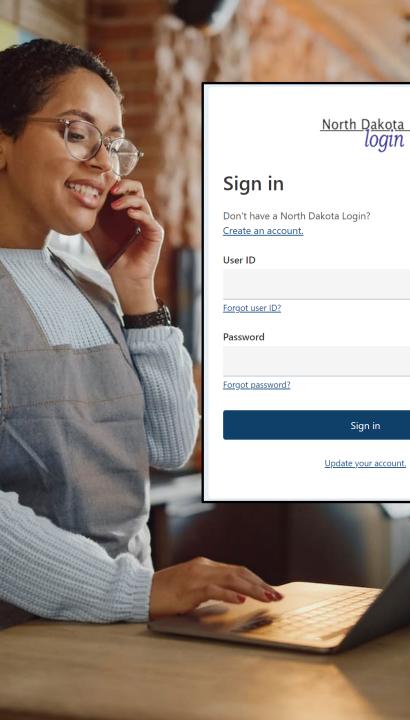
#### North Dakota Digital Experience

# Digital Experience – Timeline



## Project 2 Timeline





#### Single Sign On (SSO)

SSO to be completed in Phase 2, but subsequent phases will need to incorporate it.

#### ND Login

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login

Sign in

The Gateway will integrate with the existing North Dakota Login functionality, eliminating the need for users to create new registration credentials and helps to achieve the program goal of reducing the need for duplicative identities across State systems. This will improve ease of access and best position the Gateway to continue onboarding additional partner agencies and services.

#### Single Sign On (SSO)

Users benefit from not having to remember multiple passwords for different services. With a single set of credentials, they can access a variety of governmental and associated services.

#### **Compliance Ease**

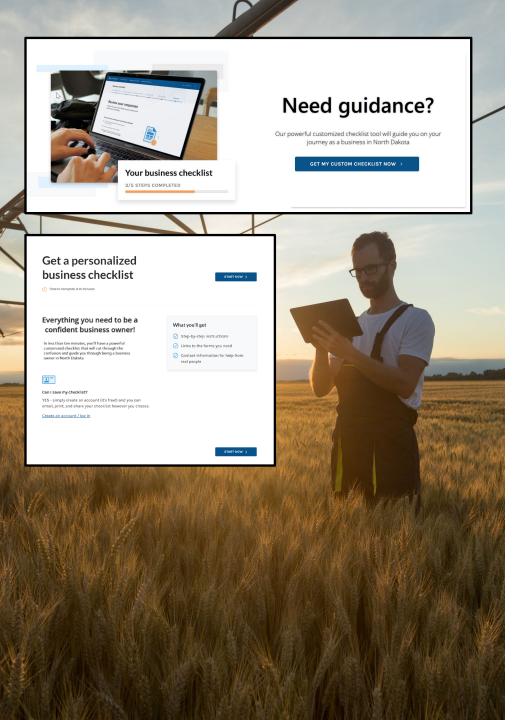
Integrating with North Dakota's login system ensures that the application is in compliance with the State's regulations regarding data security and privacy, having already been designed to meet these standards.

#### **Enhanced Trust and Credibility**

Using a state's login system can increase the perceived reliability and credibility of the service, as users often trust governmental systems for security and data protection.

#### **Increased User Adoption**

The trust factor can lead to higher adoption rates among users, as they feel more confident in the security and integrity of the service.



#### Establishing a North Dakota Business

The **web tool will initially act as a digital Green Book** and continue to expand as the Gateway program matures. Clear structured guidance empowers new entrepreneurs and large businesses to take confident steps towards establishing new businesses, operating those businesses, and remaining compliant over time.

**Personalized Guidance** The tool provides customized guidance based on specific responses of the user, keeping information relevant to their unique business and needs

**Streamlined Process** By guiding users through a series of conditional questions, the tool streamlines the process of understanding state and department-specific requirements

**Centralized Resource** Acts as a one-stop resource for the information needed to establish a new business, consolidating data that might otherwise be scattered across various websites

**Enhanced User Experience** A well-designed web tool offers an intuitive and user-friendly interface, making information accessible to include those individuals with limited technical skills or business acumen

**Scalable** The tool can accommodate a wide range of business types and sizes, from sole proprietorships to large enterprises

**Adaptable** Once implemented the tool can be continuously updated with new information and features, it can grow with the evolving needs of businesses and regulatory changes

Business Profile The information entered in the tool serves as the foundation for the user's Business Profile

#### GATEWAY FEATURES MVP

#### My Dashboard \*Design is currently being finalized

This feature enhances departmental engagement by linking Gateway users to resources and services previously unknown to them, thereby boosting adoption and participation in services and programs.

Serving as the hub for logged in Gateway users, the My Dashboard section provides the following benefits:

**Task and Activity Overview** A list or summary of pending tasks, To-Do items, and recent activities to help users manage their business' efficiently

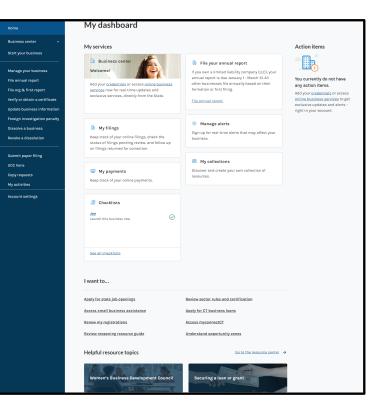
**Calendar** An integrated calendar displaying upcoming events, deadlines, and important dates to help users remain current and compliant

**My Services** Information regarding department-specific services currently being used by the logged in user's business

**Frequently Used Tools** Shortcuts to the most used applications, documents, and resources

Helpful Articles List of most popular knowledge articles

**Document Repository** A centralized location for storing and accessing documents



# Other Applications Using Digital Platform

- In Production
  - QSP (Qualified Service Provider) Enrollment
    - Reduced time to enroll, currently 11 days
  - ND Rent Help
    - Helped over 30,000 renters, 14,666 of those households have children 18 or younger
  - ND Homeowner's Assistance Fund
    - Assisted nearly 6,000 ND Homeowners
  - ND Housing Stability Fund
    - Individualized Case Management for ND households and housing providers
  - Best In Class
    - Implemented in 6 weeks

- Future Projects
  - DFI Enhancements
  - HHS Background Checks
  - Best In Class Enhancements



# Statewide Data Strategy



# Why does data matter?

- Investing in data allows us to
  - Deliver better, more effective services for our citizens
  - Save taxpayer dollars through cost savings and efficiencies
  - Drive accountability and transparency
  - Shift from reactive government to proactive, better preparing for future challenges

# What are we hearing from state agencies?

# Key data challenges and pain points...

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- Staffing/resource constraints
- Data siloes
- Aging technologies (i.e., tech debt)
- No central data catalog/inventory
- Reliance on institutional knowledge
- Manual processes
- Massive amounts of data
- Data is undocumented
- Lack of trust, leading to redundant efforts
- Challenges in sharing/accessing available data

North Dakota Statewide Data Strategy (implemented through the Lighthouse Program)



# North Dakota Statewide Data Strategy

- Budget of \$4.89M
  - Phase 1 completed in April 2024: Development of statewide data strategy and implementation roadmap
  - Phase 2 kicked off in April 2024 and currently underway: Implementation of data strategy through June 2025



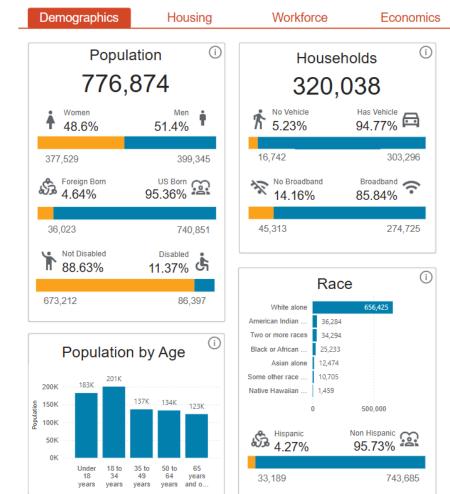
#### Data Strategy Roadmap Implementation

### Key Accomplishments in 2023-2024

<b>Strategy Rollout and Agency Collaboration</b> <i>Building agency awareness and plans for adoption</i>	<ul> <li>Conducted roadshows with various state agencies to promote the statewide data strategy</li> <li>Developed a comprehensive strategy report to help agencies create their own plans and tailored initiatives</li> <li>Refined the NDIT Data Division's organizational structure to better align with and support the state's data needs</li> </ul>
<b>Statewide Data Governance Program</b> <i>Establishing the overarching program that directs data</i> <i>management and use practices</i>	<ul> <li>Defined a statewide data governance operating model and Concept of Operations, outlining the structure, roles, and responsibilities</li> <li>Established the Statewide Data Governance Council to advise the State on formalizing a data governance program</li> <li>Initiated the Tactical Data Governance and Stewardship working group to address agency-specific governance needs</li> <li>Developed the initial release of the Tactical Data Governance Toolkit, providing resources such as accelerators and guides to help agencies implement key data governance actions</li> </ul>
<b>Data Catalog</b> Determining requirements and approach for implementation	Defined requirements for a statewide data catalog, including business, functional, technical, and vendor services specifications
<b>Data Literacy</b> Providing a statewide data skills and literacy curriculum	Defined data literacy learning paths for three data personas and an AI learning path to build skills/knowledge in AI
<b>Modern Data Platform</b> <i>Reimagining the current COVID data lake, creating a solution that</i> <i>is valuable to all agencies</i>	<ul> <li>Reviewed the current data lake implementation and proposed architectural enhancements.</li> <li>Conducted testing for the Data Exploration Zone</li> <li>Created an onboarding framework for agencies to start using the data lake solution</li> </ul>
<b>Analytic Proof of Concept</b> <i>Exploring ways to join data from different agency sources, creating</i> <i>opportunities for greater diagnostic and predictive insights</i>	<ul> <li>Conducted use case scoping and discovery with the Department of Commerce</li> <li>Developed the MVP version of the State Data Hub POC dashboards</li> </ul>

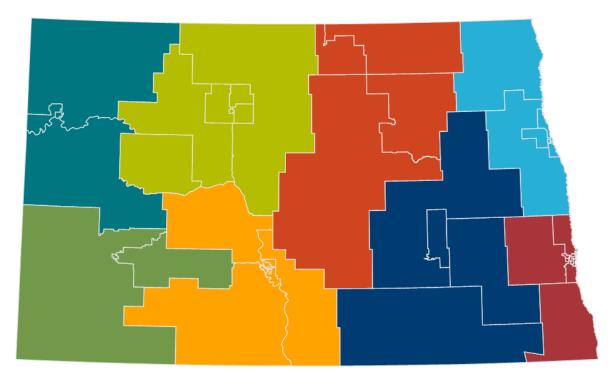
### State Data Hub

#### € Dakota Be Legendary.



#### Select District to View





This is a proof of concept that displays district-level information based on the most recer Consus data. Further integration of additional sources and user needs is anticipated

### What is happening with AI in North Dakota?

	Consideration	Action	Status	Overview
	Policy and Oversight	<u>Statewide Al Policy</u> and Guidance Release	<b>Released</b> Early 2024	A first step was establishing an overarching policy
NDIT wants to support the vision of AI-enabled Agencies throughout ND but is also committed to doing it in a controlled and considerate fashion that appropriately considers <i>data privacy, risk</i> <i>management, ROI realization,</i> and <i>organizational and</i> <i>workforce readiness.</i> Al is not new to the State and has been in use in government in a variety of ways, but in the last two years, the explosion of GenAI and new technologies and capabilities has provided new focus, opportunities, and oversight/governance considerations.				The policy's initial focus and supporting guidance is on directing responsible use of commercial tools (e.g., ChatGPT)
	Productivity and Efficiency Tools	Microsoft Copilot Release	<b>In Progress</b> Release – Q1 2025*	Publicly available tools (i.e., ChatGPT) currently in use by many Team ND members to enhance productivity M365 Copilot technical configuration and technical pilot underway in January 2025, with Agency pilot to follow in Q1
	Workforce Engagement	Data and Al Literacy and Training Supports	<b>In Progress</b> Early Q1 2025	We are curating AI and data literacy learning paths and also developing custom guidance and materials to support building awareness and workforce skills in engaging with AI Consideration for both end-users and technical personas are in the planning
	<b>Operationalize AI</b>	Custom Al Products and Targeted Solutions	Started	<ul> <li>Underway/Complete</li> <li>An initial Chatbot pilot has been developed with Commerce</li> <li>Preliminary use cases were collected this summer</li> <li>Upcoming</li> <li>Prioritization and risk evaluation framework</li> <li>Broader agency use case collection and analysis</li> <li>Selection and development of additional pilots</li> <li>Exploration of commercial AI solutions to address particular organizational needs</li> </ul>

# What is to come in 2025 and beyond?

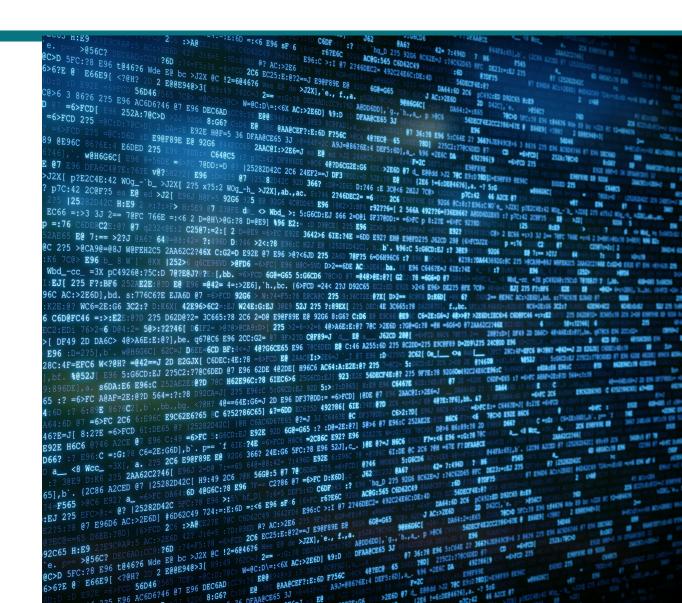


# **Enterprise Digitization and Modernization**

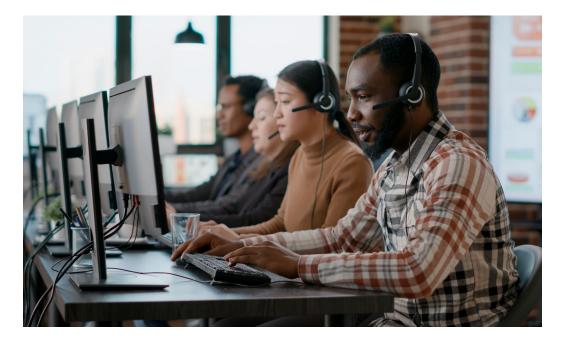


# **Digital Maturity**

- Digital Maturity Efforts
  - Call Center
  - Capitol Security/Wiring
  - Enterprise Architecture Technical Debt
  - AI Support



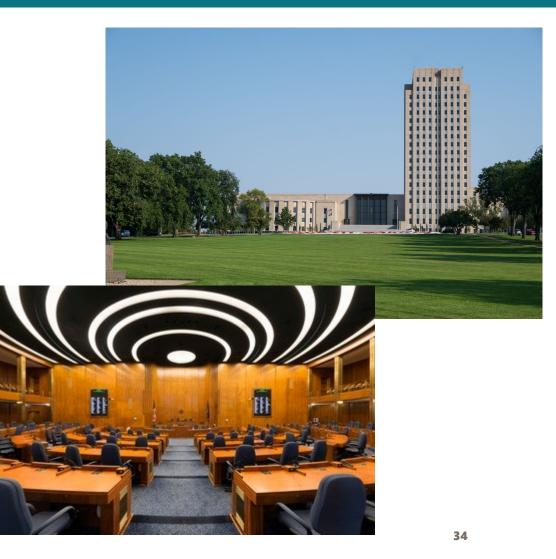
# Call Center



- Budget: \$3M
- Accomplishment to Date:
  - All Migrations Completed
  - Fully Deprecated the Old Solution
  - Industry Leading Solution/No Major Outages
- Upcoming Activities:
  - On Track to be wrapped up this biennium
- Risk/Issues:
  - Completed

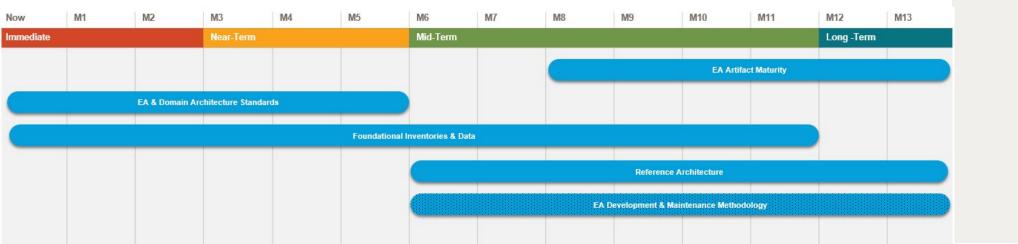
# Capitol Security/Wiring

- Budget: \$2.5M
- Accomplishments to Date:
  - Capitol Security Project
    - Implementation Underway
  - Capitol Wiring:
    - Conduits installed in the Capitol Complex.
    - Expected to be completed this biennium.
- Upcoming Activities:
  - Capitol Security Project:
    - Execute on SOW with the vendor
  - Capitol Wiring:
    - Run the fiber and install hardware
- Risk/Issues:
  - Vendor resource availability



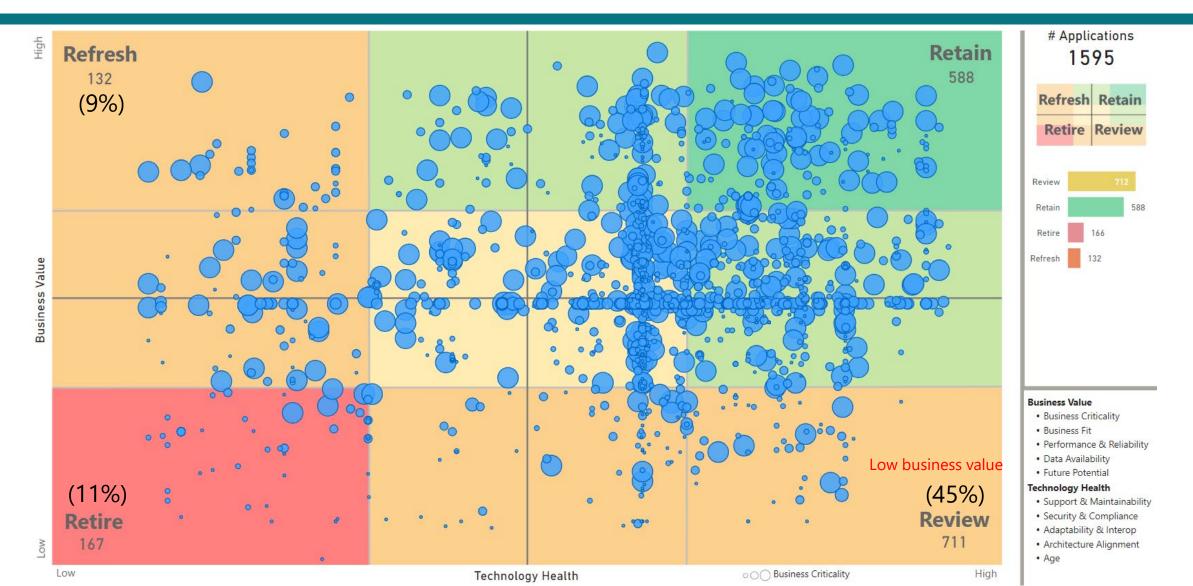
# Enterprise Architecture – Digital Maturity

- Enterprise Architecture
  - Where are we?
    - Assessments with 19 Agencies
  - Where are we going and how do we get there?
    - 20 Total Recommendations





# The Output



### Legacy Systems Analysis Project

- Down to 2 Major Agencies on the Mainframe
  - High-Level Analysis Project
  - Looking at all options
  - Two Bienniums away from completion
- Scope
  - Mainframe AS400 Legacy AIX Platforms
- Use of Applications
- Integrations
- Application Lifecycle
- Feedback Loop with Agencies

### Keys to Al Success In North Dakota

#### Key 1 Al is not a magic bullet.

Instead, it is a tool for speeding up data-driven decision making. A more appropriate description of current AI technology is dataenabled, automated, adaptive decision support. Use when appropriate.

#### Key 2 Garbage in, garbage out still applies to AI – and is even more relevant!

Al technology has its foundations in data. Lots and lots of it. Rich, relevant, accurate, and timely data from interconnected systems is essential to effective use of Al. How good is the data?

#### Key 3 Learn from early adopters.

Al is a rapidly evolving field, and there are many published use cases with documented business value. Using a use casebased approach, we can learn from the successes and failures of others, including other states, to more rapidly narrow down how Al can deliver value for the state.

#### Key 4 Start small to gain experience and to lay a solid foundation.

Too many big projects have failed in the past. Start small with AI and then wash, rinse, repeat. Keep in mind, though, that the real value will come from the enterprise adoption of AI, and for that we will need to create an AI strategy.

#### Key 5 Give AI a purpose. Pick the right use cases.

Al strategy and current exploration activities should closely align with the strategic goals and drivers of the state. The key question you should be asking is not "What can Al technologies do?" but rather "What can they do for us?" and "How much would we benefit from Al if we were to invest in it?"

### **Data Center**



### Data Center

- Secondary Data Center
  - Cooling Plant is No Longer Supported/Failing Pumps (~\$300-400K)
- Primary Data Center
  - Single Point of Failure Identified this Biennium (~\$1.4-1.7M to remediate)
  - Within Minutes, the data center will shut down
  - Infrastructure Damages to all State Equipment (\$1M+)
  - What is the cost in lost productivity if team members, legislature, and Courts are stopped?

#### Risk Assessment was in December

- Identified both risks as \*Critical\* to the State with a recommendation to either remediate both issues or move 1 location
- Data Center skillsets are in short supply We only have 1.5 FTE

### Data Center....The Plan

#### The Plan....

- Phase I
  - Use one-time funding to shut down 1 data center and partner with private market (leased space)
  - Estimating \$500k+ to transition, but full costs are unknown
- Phase II
  - Shift the roles of the two data centers after deprecation of 1 data center (multiple biennium)
  - Will require temporary hardware and coordination
- After shifting the roles, the new secondary datacenter would have the cooling risk





### History

- 2011 Exploratory Study Focused on Land Mobile Radio Interoperability
- 2015 Legislature Authorizes Feasibility Study
- 2016 Televate Study Conducted; Recommendations Provided
- 2017 Legislature Authorizes and Governor Signs into Law - Execution of SIRN 20/20
- 2017 SIRN 20/20 Program Initiated
- 2018 Requests for Proposals
- 2019 January Contract Awarded to Motorola

- 2019 April Legislature Authorizes and Governor Signs SIRN Project Funding into Law
- 2019 May Project Kick Off
- 2020 December Backhaul and 10 PSAPs cutover
- 2021 December 7 additional PSAPs cutover
- 2022 November 5 additional PSAPs cutover along with approx. 65 sites completed

# What is SIRN building?

### SIRN

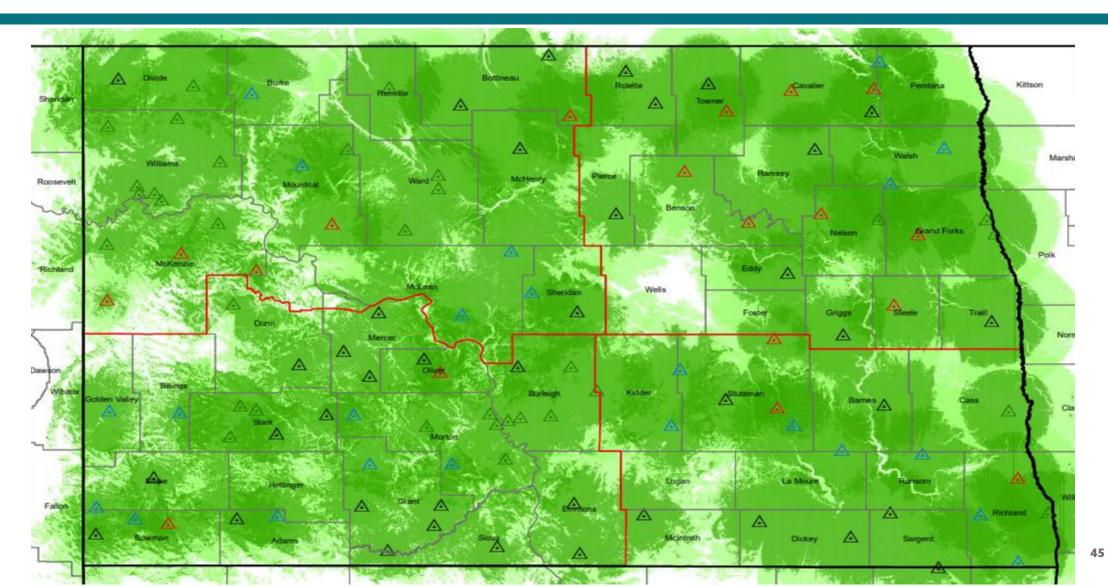
SOLUTION



- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System

- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

### Project Maps



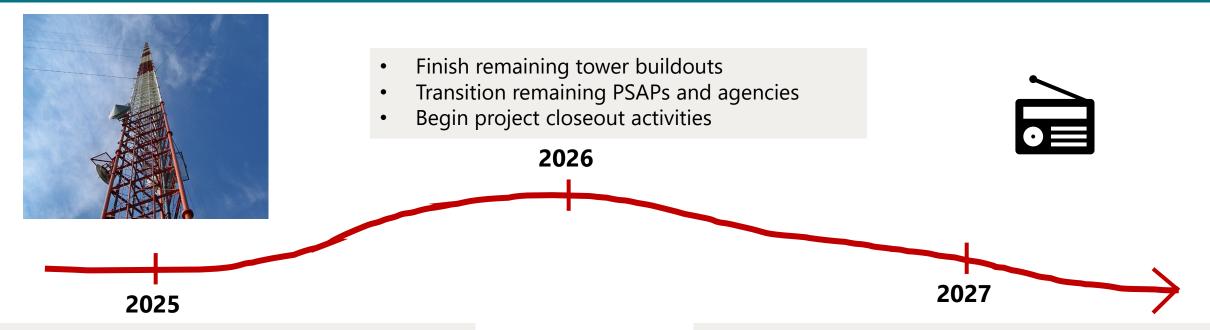
### Latest Milestones

- Law Enforcement Encryption researched and statewide implementation in progress
  - Over the Air Rekeying in use
- Radio Management implemented
  - Over the Air Programming in regular use
  - More than 4000 radios entered



- NDIT Public Safety Team fully developed and SIRN responsibilities identified and assigned
- Continued Tower Completions
  - 72 complete
    - 33 currently in use
    - 39 not currently in use
  - 10 in civil construction phase
  - 2 awaiting radio equipment
  - 28 awaiting final site work
  - 28 remaining

### **Future Milestones**



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- Continued tower buildouts •
- Transitions additional PSAPS as coverage allows •
- Implement Status Board and Cirrus Central

Complete project closeout (decommission and surplus VHF system components, take down original state-owned towers, divest/surplus purchased towers not needed for SIRN, fully transition to operational status)



### **Financial Update**

Operating Expenses	25-26	26-27
Connectivity & Equipment	2.7M	2.8M
Towers	1.1M	1.2M
Labor (Additional Resources)	1.7M	1.8M
Vendor Maintenance	3.3M	3.3M
NDIT Program Expense*	8.8M	9.1M
DOT Expense (+1 Additional Resource)	1.6M	1.6M
Total Expense	10.4M	10.7M
911 Fee Revenue	4.5M	4.5M
Shortfall**	5.9M	6.2M

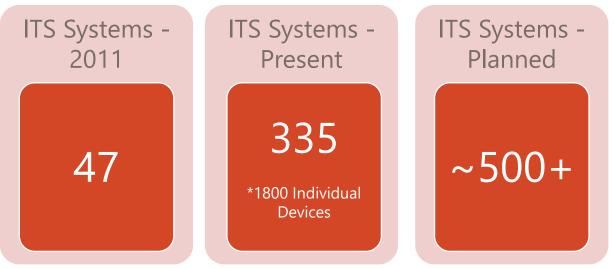
Cash Flow	
911 Fee Balance	~21.9M
Est Rev 23-25 Remaining Biennium	~2.2M
Total Revenue	23.9M
Est exp 23-25 Remaining Biennium	3-4M

\*Expenses are projected. New operational contracts and project decisions are still impacting the long-term operational expense.

## Intelligent Transportation Systems

#### **Intelligent Transportation Systems**

- PTZ and Fixed Highway Cameras
- Dynamic Message Boards Stationary & Portable
- Wrong Way Driver & Collision Warning Systems
- Meteorologic Stations
- Automatic Traffic Recorders/Weigh-in-Motion Systems
- NDDOT Smart Corridor









# Broadband (CPF, BEAD, and DE)



### BroadbandND

National Telecommunications and Information Administration

### Ge BEAD



Source

#### Broadband Equity, Access, & Deployment

Funds broadband deployment to unserved and underserved areas

Eligible Expenditures

- Deploying broadband
   infrastructure
- Broadband planning and data collection
- Advancing digital adoption

Allocation

Estimated Implementation Timeline



2024 - 2030

DE

#### **Digital Equity Act**

Establishes three grant programs that promote digital equity and inclusion

NTA)

- Promoting digital inclusion
- Enhancing digital literacy and skills
- Facilitating affordable and equitable access



2024 - 2029

#### **Capital Projects Fund**

**CPF** 

Treasury

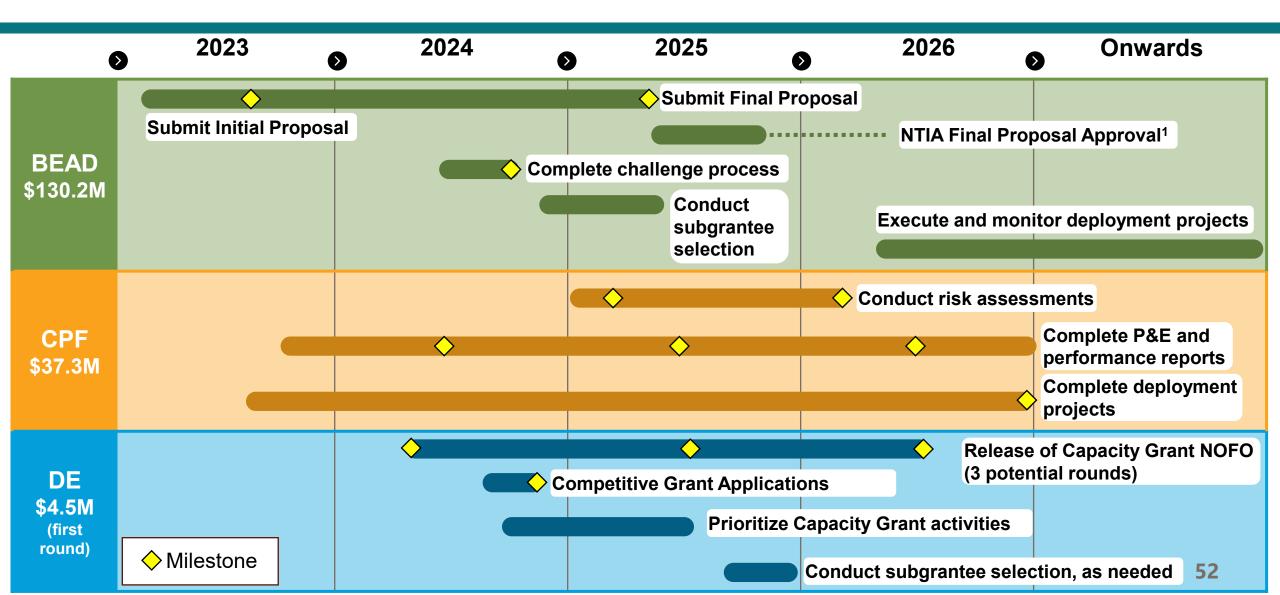
Funds critical capital projects, including broadband infrastructure

- Broadband infrastructure
   projects
- Digital connectivity technology projects
- Multi-purpose community facility projects



<sup>2023 - 2026</sup> 

Through our continued collaboration, North Dakota is poised to allocate \$172M+ over the next five years to support "BroadbaND for All"

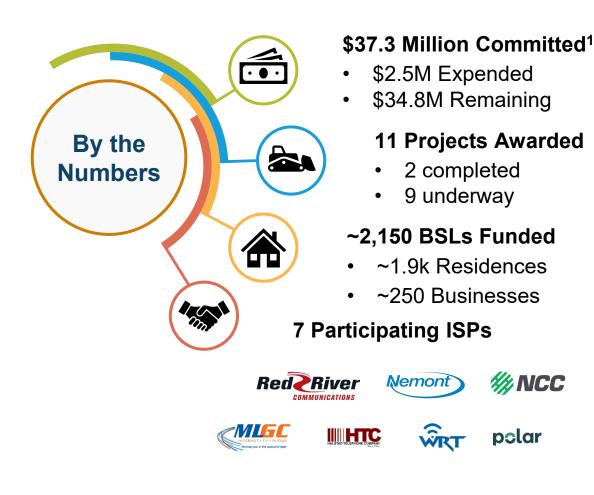


# The State Broadband Program Office has launched the first round of the subgrantee selection process



# Projects funded by CPF are working to address infrastructure needs, with \$37.3M to be deployed by 2026

CPF



[1] The total CPF allocation is \$38.7M. \$37.3M represents the project grants.[2] Construction completion dates based on Q3 P&E Report projections

Organization	BSLs	Project Status	Completion Date <sup>2</sup>
NCC	64	Completed	Q4 2023
Nemont	45	Completed	Q4 2024
West River	47	Near Completion	Q4 2024
Halstad	221	< 50%	Q4 2024
Polar Walsh	318	< 50%	Q4 2024
Polar Grand Forks	394	Not Started	Q4 2024
Polar Traill/Steele	218	< 50%	Q4 2024
Red River	323	> 50%	Q4 2024
MLGC Cass	80	< 50%	Q4 2025
MLGC Steele	146	< 50%	Q4 2025
Nemont/MVC	291	Not Started	Q4 2026
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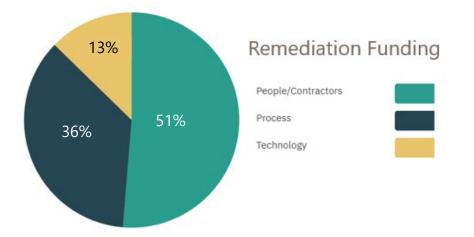
# Funding

Vulnerability Remediation

Last Biennium NDIT was appropriated \$1 million dollars to reduce vulnerabilities. There were three areas where this funding was used. People, Process, and Technology **People** – Engaged contractor resources to patch vulnerabilities in applications developed or maintained by NDIT for our agency customers.

**Process** – Partnered with Guidehouse to continue enhancing the state's vulnerability management program.

**Technology** – Identified and procured technologies designed to accelerate the remediation of vulnerabilities.



# Progress and Challenges

#### Vulnerabilities

A vulnerability is a weakness, flaw, or shortcoming in a system, infrastructure, database, software, process, or set of controls that can be exploited by a threat actor.

#### Progress



596k system vulnerabilities patched in 2024

326 application vulnerabilities remediated

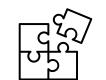
#### Challenges



40,000 new and unique vulnerabilities published in 2024



Legacy technology (tech debt) complicates remediation efforts



Third-party software we don't control



Some agencies lack funding for updating applications or hardware

# Vulnerability Program/Process Maturity

#### We are here

#### Phase 1 Current State



- Manual process to determine remediation prioritization
- Funding for fixing critical vulnerabilities not defined
- Risk acceptance & exceptions not formalized from agencies



- Establish Cyber Risk Board to determine remediation path for critical vulnerabilities
- Risk-based prioritization of vulnerabilities
- Build formal exception process

Phase 3 Implement to State Agencies



- Information Security Officers to educate and align with agencies
- Robust reporting & follow-up on exceptions
- SAST: determine feasibility for future implementation

Proactively address vulnerabilities in reducing cyber risk to systems and citizen data

# Static Application Security Testing (SAST)

#### What it does

- Static Application Security Testing (SAST) scans an application's source code during development to identify vulnerabilities
- Validates code as it is built, ensuring security issues are addressed before deployment

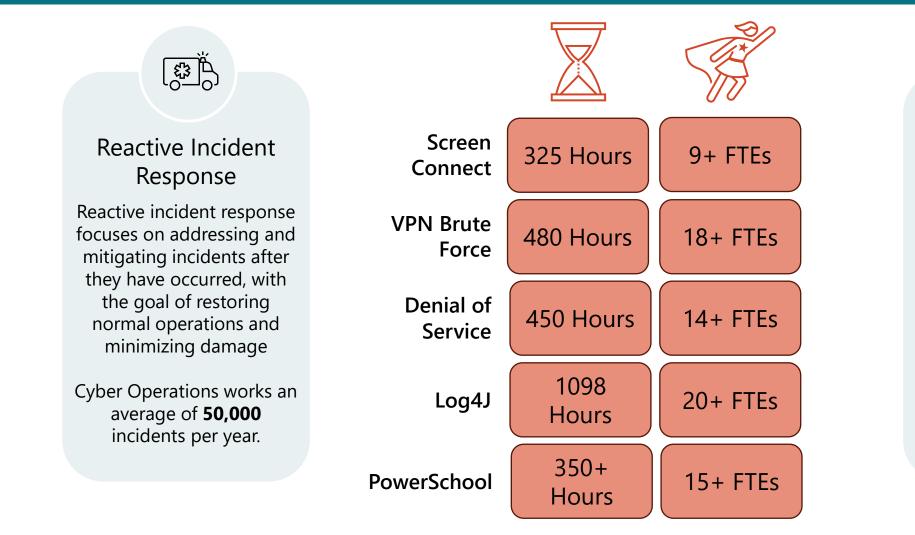
#### Why it matters

- Reduces cost: fixing vulnerabilities during development is significantly more cost-effective than after production
- Lowers risk: Identifying vulnerabilities before deployment reduces the likelihood of security incidents in production, protecting sensitive data and services.

#### Why we should fund it

- Decreases long-term costs by catching vulnerabilities earlier.
- Strengthens application security, reducing risk to critical systems.
- Provides the tools necessary to build secure, reliable applications, that citizens and agencies depend on.

### **Reactive Incident Response**

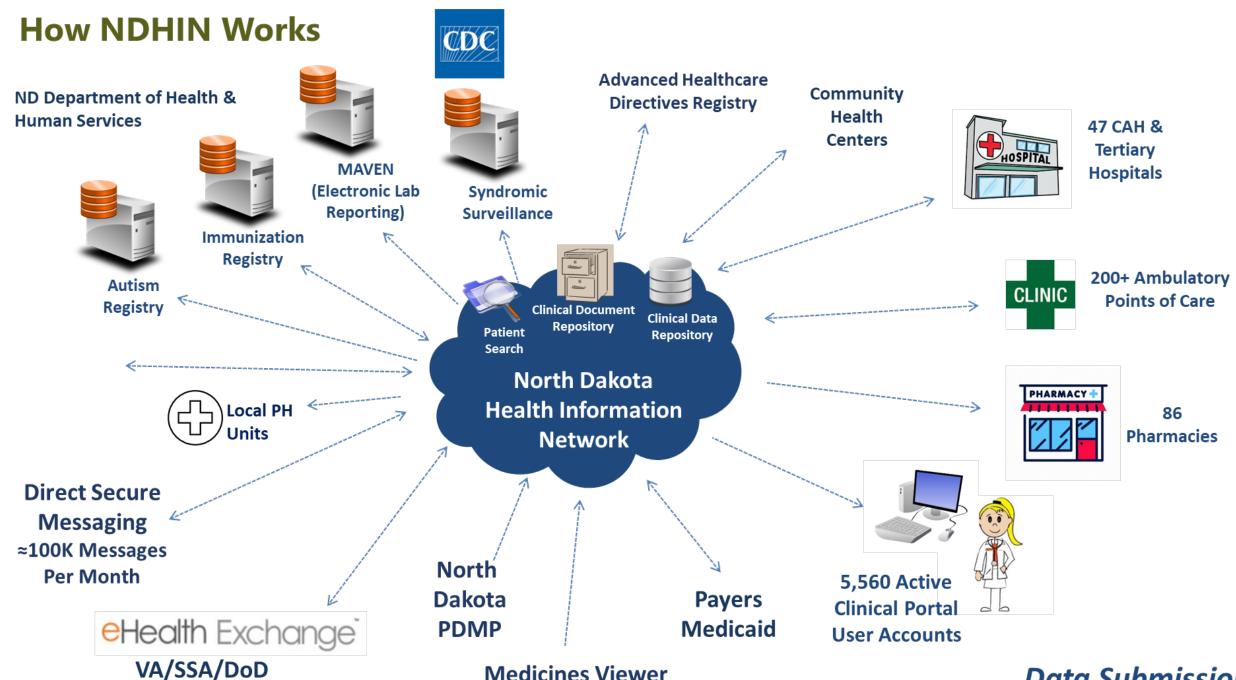


#### In-depth Analysis

In just one incident, Log4j, the NDIT team spent 27 weeks of work on remediation. During this time other critical work for agencies had to be slowed or delayed to prevent a reportable breach

### North Dakota Health Information Network (NDHIN)

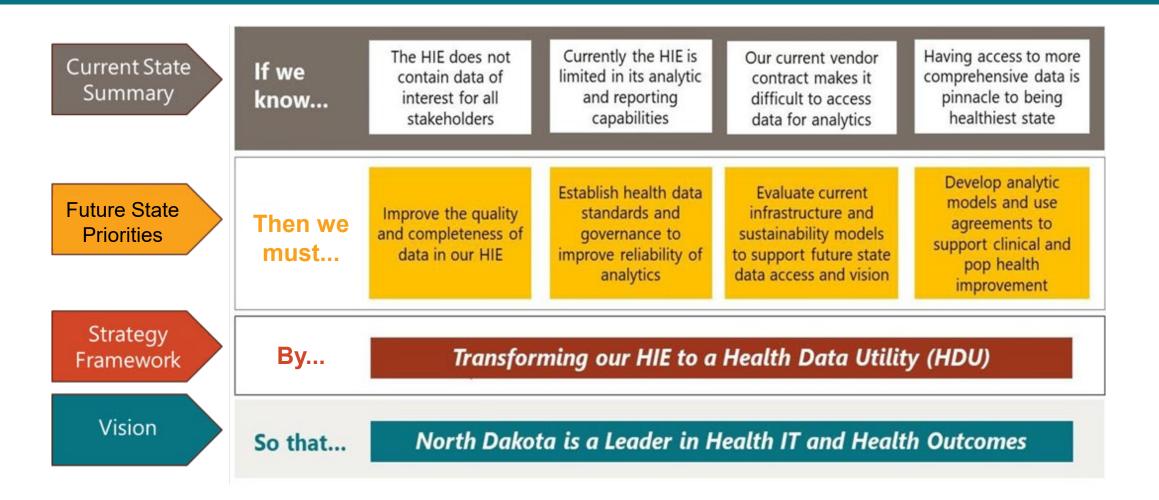




**Medicines Viewer** 

**Data Submission** 

### Future Target State



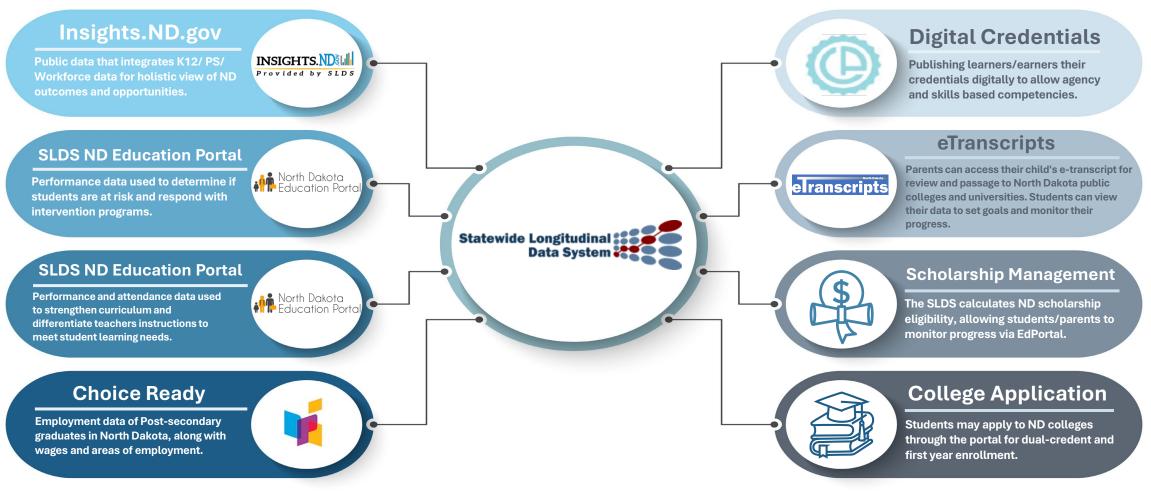


# What is the Statewide Longitudinal Data System

- The Statewide Longitudinal Data System (SLDS) leverages stakeholders and partners of education, training, and employment programs to create a system which provides data and services to support the research and evaluation of programs to improve the outcomes of individuals provided service.
- The SLDS is a series of secured data warehouses comprised of historical education and workforce training data. The objective of the SLDS is to provide data on the outcomes of ND education and workforce training programs.
- https://www.slds.nd.gov/



# What is the Statewide Longitudinal Data System



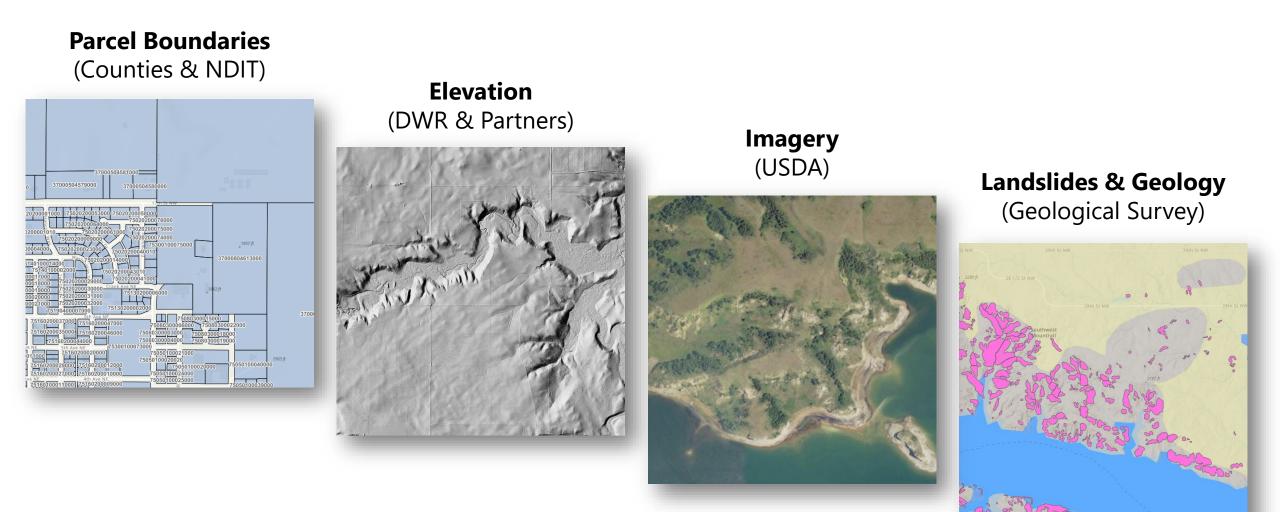
# Geospatial



### **Geospatial Program**

- The North Dakota Geospatial Program reduces barriers to the utilization of geospatial technology and geospatial data. This in turn, provides state agencies the opportunity for greater collaboration with other agencies, for more efficient data-driven decisions, and for improved delivery of services to other levels of government and to the citizens of North Dakota.
- The core of the State Geospatial Program is the GIS Hub which leverages the State's existing data and infrastructure to support state agency business processes including systems such as the North Dakota Parcel Program, the Game and Fish Electronic Posting, and Next Generation 9-1-1.

### Geospatial Data Examples

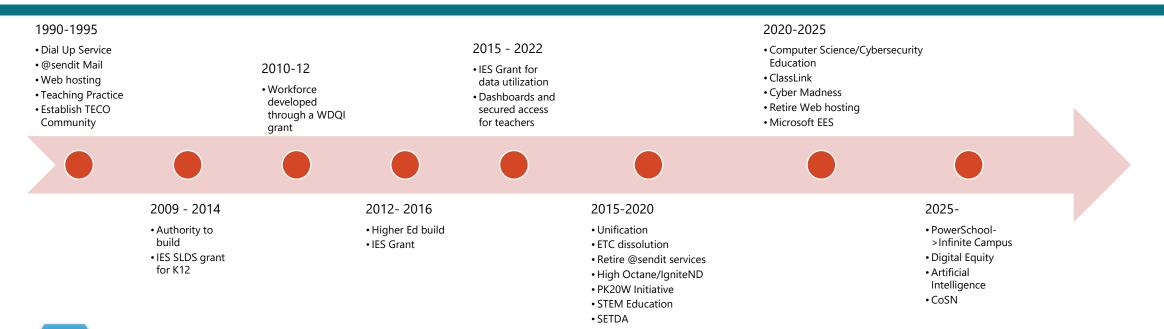


### EduTech

Newsill's Aris and these thereas



### **Overview of EduTech**





### Improve Capacity and Equity Reduce Technology Effort Required of K12 IT Leaders, Staff, Educators, and Students

### Snapshot of Now and The Future

#### **Professional Outreach**

- 199 Topics
- 731 Engagements
- 11,700 attendees
- E-rate
  - State Application/STAGEnet
  - \$6.7M to schools
- Skills for All
- Student Data User Group
- IgniteND Conference
- Cyber Madness
- Technology Showcase



#### **Technical Services**

- Identity Management
- Microsoft 365
- Microsoft EES Agreements
- ClassLink
  - 87 Districts
  - These cover 73% of students

#### Into the Future

- Artificial Intelligence
- Infinite Campus
- Training Management Application

#### **Community and Leadership**

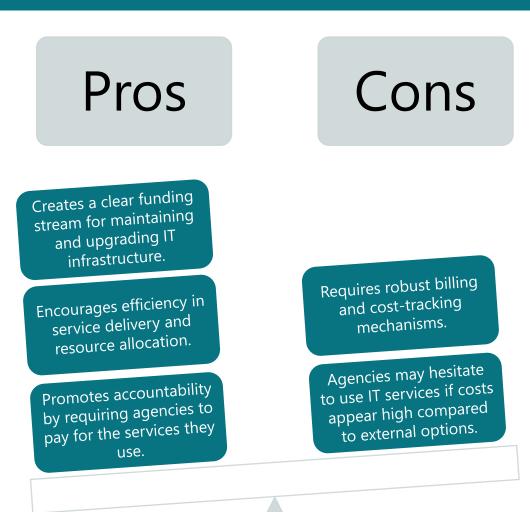
- Technology Coordinator Forum
- Statewide K12 Technology Town Hall
- SETDA
- CoSN
- PK20W





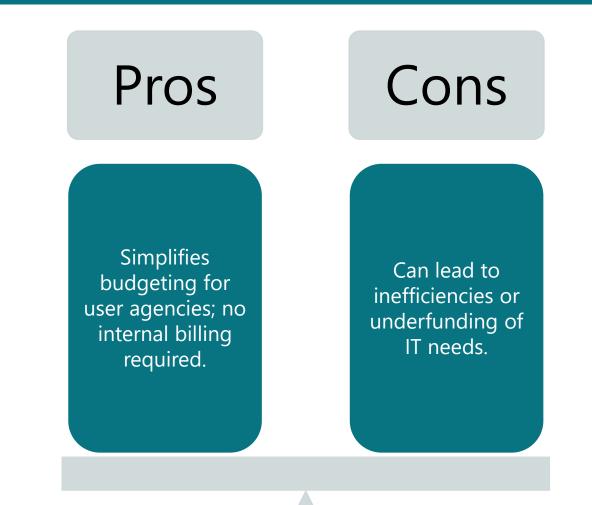
### Internal Service Fund (ISF)

 Definition: ISFs are selfsustaining financial models used by government entities to deliver services to other agencies, with costs recovered through chargeback.



### **Alternative Models**

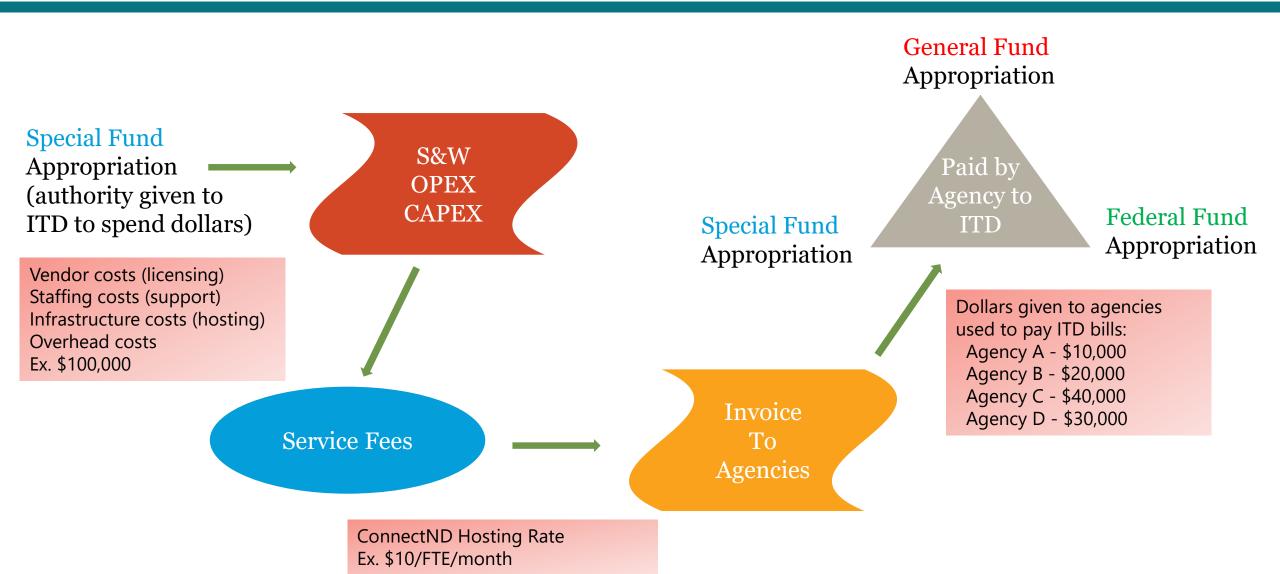
- General Fund Allocation: IT services are funded through appropriations from the state's general fund, often making them appear "free" to the receiving agency.
- Hybrid Models: Some states use a combination of ISFs and direct appropriations, where certain core services are funded through the general fund and other services operate as ISFs.



### Service Fee Timeline

January – April 2024	June – September 2024	January – April 2025	
Do rate analysis Set upcoming biennium rates Publish rates to OMB/agencies	Agencies submit budg working with OMB bu analysts	5	
State agency IT Plan creat March – Sep	tion Go	vernor's Executive Budget rates ar	m for which IT re used 25 – June 2027

### Appropriation & Chargeback Example



### Service Fee Example – Legislative IT Committee

#### What would a service fee for this committee look like?



What happens if you are directed to have 10 meetings?

What if it were an hourly rate per member?

Where does the cost of creating your Legislative Management report go?

#### Staffing:

- Portion of salaries/benefits for nine committee members
- Travel costs for nine committee members
- Any direct training needed to serve on the committee

Operational:

- Portion of contractor cost (CIO Mock)
- Portion of end user license costs (M365, Adobe, LC applications)
- Portion of end user equipment
- Cost of Harvest Room (includes technology within room)

Overhead:

- Portion of salaries/benefits for chairman/vice chairman (leadership)
- Portion of salaries/benefits for support staff

Billing metric could be a flat rate per meeting.

Assumptions: 6 meetings during an interim 11 committee members 1 citizen member 2 support staff

#### NDIT 2023-2025 Total Budget Appropriation (July 2023)

Program	Program FTE General Funds Special Funds Federal Funds Total							
	FTE	General i unus			iulai			
NDIT Operations	468.0	\$ 23,312,324	214,962,865	4,011,967	\$ 242,287,156			
Statewide Longitudinal Data System	3.0	5,082,678	-	500,000	5,582,678			
EduTech	26.0	2,905,260	6,759,048	500,000	10,164,308			
K-12 Network	4.0	6,272,610	90,000	-	6,362,610			
Geographic Information System	1.0	1,142,213	-	65,679	1,207,892			
Health Information Technology	4.0	2,000,000	6,742,111	-	8,742,111			
Public Safety - (E911/SIRN)	1.0	1,858,240	16,543,229	-	18,401,469			
Public Safety - (HB 1242)	0.0	-	20,000,000	80,000,000	100,000,000			
Online Tax Portal Grant - (HB 1225)	0.0	300,000	-	-	300,000			
IIJA Federal Funds	0.0	487,520	-	147,762,480	148,250,000			
One-Time SIIF Funds	0.0	-	15,000,000	-	15,000,000			
Total	507.0	\$ 43,360,845	\$ 280,097,253	\$ 232,840,126	\$ 556,298,224			

NDIT 2023-2025 Budget Adjustments								
Program	FTE	<b>General Funds</b>	Special Funds	Federal Funds	Total			
NDIT Operations	468.0	\$ (2,950,000)	(24,831,876)	(3,499,467)	\$ (31,281,343)			
Statewide Longitudinal Data System	3.0	(1,075,000)	-		(1,075,000)			
EduTech	26.0	-	-	-	-			
K-12 Network	4.0	-	-	-				
Geographic Information System	1.0	-	-	-	-			
Health Information Technology	4.0	-	(3,000,000)	-	(3,000,000)			
Public Safety - (E911/SIRN)	1.0	-	(20,000,000)	(80,000,000)	(100,000,000)			
Public Safety - (HB 1242)	0.0	-	-	-	-			
Online Tax Portal Grant - (HB 1225)	0.0	(300,000)	-	-	(300,000)			
American Rescue Plan Act	0.0	-	_	-	-			
IIJA Federal Funds	0.0	(487,520)	-	(147,762,480)	(148,250,000)			
One-Time SIIF Funds	0.0	-	-	-	-			
Equity & Retirement Additions		2,869,980	5,802,948	-	8,672,928			
Total	507.0	\$ (1,942,540)	\$ (42,028,928)	\$ (231,261,947)	\$(275,233,415)			

NDIT 2025-2027 Legislative Base Budget								
Program	FTE	<b>General Funds</b>	Special Funds	Federal Funds	Total			
NDIT Operations	468.0	\$ 23,825,903	210,453,888	512,500	\$ 234,792,291			
Statewide Longitudinal Data System	3.0	4,125,661	-	500,000	4,625,661			
EduTech	26.0	2,738,726	7,110,100	500,000	10,348,826			
K-12 Network	4.0	5,825,668	90,000	-	5,915,668			
Geographic Information System	1.0	1,044,107	-	65,679	1,109,786			
Health Information Technology	4.0	2,000,000	3,822,725	-	5,822,725			
Public Safety - (E911/SIRN)	1.0	1,858,240	16,591,612	-	18,449,852			
Total	507.0	\$ 41,418,305	\$ 238,068,325	\$ 1,578,179	\$ 281,064,809			

NDIT Decision Packages - 2025-2027 Biennium								
Package	FTE	<b>General Funds</b>	Special Funds	Federal Funds	Total			
#4 - Vulnerability Remediation	0.0	\$-	\$ 3,042,960	\$-	\$ 3,042,960			
#5 - Public Safety	6.0	\$ 209,520	\$ 1,968,491	\$-	\$ 2,178,011			
#6 - Vendor Toolset Increases	0.0	\$ 5,133,174	\$ 265,447	\$-	\$ 5,398,621			
#8 - Continuing Appropriations	0.0	\$-	\$ (99,168,477)	\$-	\$ (99,168,477)			
#11 - Inflationary Increases	0.0	\$ 2,841,715	\$ (1)	\$-	\$ 2,841,714			
#12 - Health Information Program	0.0	\$-	\$ 8,182,968	\$ -	\$ 8,182,968			
#14 - EduTech Program Funding	0.0	\$-	\$ 411,793	\$-	\$ 411,793			
#15 - Data Center Infrastructure	0.0	\$-	\$ 1,719,061	\$-	\$ 1,719,061			
Total Budget Changes	6.0	\$ 8,184,409	\$ (83,577,758)	\$ -	\$ (75,393,349)			

Contains One Time SIIF Funds

	NDIT 2025-2027 Bud	•
Salaries a	nd wages	\$133,205,976
Operating	expenses	24,266,840
Capital as	sets	1,820,096
Statewide	longitudinal data system	4,140,379
Edutech		10,171,629
K-12 wide	area network	6,849,648
Geographi	c information system	1,164,918
Health info	rmation technology office	12,568,304
Statewide	interoperable radio network	15,610,989
Total all fu	nds	\$209,798,779
Less other	funds	157,745,164
Total gene	ral fund	\$52,053,615
Full-time e	quivalent (FTE) positions	513

### New/Vacant FTE Pool

		Amount in NDIT	Appropriation
FTE Pool Calculation	<b>Budget Reduction</b>	Pool	Reduction
75% of vacant FTE - Special	7,450,404	5,587,803	(1,862,601)
75% of vacant FTE - General	1,469,030	1,101,773	(367,258)
90% of new FTE - Special	2,967,987	2,298,667	(669,320)
90% of new FTE - General	1,998,699	1,725,377	(273,322)
Total	13,886,120	10,713,620	(3,172,501)

	Vacant FTE Pool Calculation
Salaries Permanent	91,481,377
Benefits (30%)	27,444,413
Total Salary Base Calculation	118,925,790
Vacancy Rate Assigned	7.5%
Vacant FTE Budget Reduction	8,919,434
New FTE Budget Reduction	4,966,686

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Combined New FTE / Vacant FTE pool					
	New FTE - GF	New FTE - SF	Vacant FTE - GF	Vacant FTE - SF	Total
Appropriaton Reduction	1,998,699	2,967,987	1,469,030	7,450,404	13,886,120
Pool Redcution	(273,322)	(669,320)	(367,258)	(1,862,601)	(3,172,501)
FTE Pool Available	1,725,377	2,298,667	1,101,772	5,587,803	10,713,619
Requests:					
July 1, 2023 Vacants			1,333,118	3,786,479	5,119,597
New FTE	1,121,088	1,138,682			2,259,770
Pending Request	87,969				8 <i>7</i> ,969
Total Pool Requests	1,209,057	1,138,682	1,333,118	3,786,479	7,467,336
Balance Remaining	516,320	1,159,985	(231,346)	1,801,324	3,246,283

	New FTE Pool			
	Position	Budget Amount	New FTE Pool Request	Position filled date
	General Fund Positions			
	Information Services V, Grade 207	283,986	87,969	Dec-24
	Information Services I, Grade 203	138,787	52,045	Oct-24
	Manager II, Grade 107	268,434	163,950	Jun-24
	Information Services VI, Grade 208	250,054	250,713	May-24
	Information Services IV, Grade 206	237,318	175,000	Apr-24
	Professional Services III, Grade 107	250,908	207,226	Mar-24
	Information Services V, Grade 207	320,289	272,154	Jan-24
	General Fund Total	1,749,776	1,209,057	
•	Special Fund Positions			
,	Program Management III, Grade 106	268,430	111,846	Sep-24
	Information Serivices III, Grade 205	190,641	71,490	Oct-24
	Information Services IV, Grade 206	276,723	142,413	Jun-24
	Information Services IV, Grade 206	216,575	118,421	Jul-24
	Information Services I, Grade 203	138,787	87,399	Jun-24
	Information Services IV, Grade 206	190,646	137,113	Jul-24
	Information Services IV, Grade 206	237,318	135,000	May-24
	Program Management III, Grade 106	229,540	165,000	Apr-24
	Manager II, Grade 107	294,358	170,000	Jun-24
	Special Fund Total	2,043,018	1,138,682	
	New FTE Pool Total	3,792,794	2,347,739	

### NEW FTE POOL POSITIONS

Vacant FTE Pool				
		Vacant FTE Pool	Position filled	Position
Position	Budget Amount	Request	date	vacated date
FUSICION	Buuget Anount	Request	uate	vacated date
General Fund Positions				
Manager II, Grade 107	145,300	86,914	Nov-24	Jun-2
Information Services IV, Grade 206	199,853	137,645	Mar-24	Apr-2
Professional Services III, Grade 107	247,654	226,139	Nov-23	Dec-2
Information Services III, Grade 205	237,568	181,355	Aug-23	Feb-2
Information Services III, Grade 205	233,464	203,166	Jul-23	Mar-2
Information Services IV, Grade 206	295,192	192,600	Jul-23	Jul-2
Manager II, Grade 107	186,328	305,300	Jul-23	Apr-2
General Fund Total	1,545,359	1,333,118		
Special Fund Positions				
Information Services V, Grade 207	267,389	95,594	Nov-24	Apr-2
Information Services IV, Grade 206	269,895	155,000	Apr-24	Mar-2
Information Services IV, Grade 206	280,880	135,000	May-24	Jun-2
Information Services II, Grade 204	183,896	111,675	Mar-24	Mar-2
Information Services IV, Grade 206	280,911	170,400	Jan-24	Jun-2
Manager II, Grade 107	232,471	259,969	Dec-23	May-2
Information Services V, Grade 207	377,867	222,362	Dec-23	Jun-2
Manager II, Grade 107	185,597	245,071	Dec-23	Jul-2
Information Services IV, Grade 206	211,627	233,155	Nov-23	Jun-2
Profesional Services II, Grade 106	256,471	157,216	Nov-23	May-2
Information Services III, Grade 205	201,789	158,885	Nov-23	Mar-2
Profesional Services II, Grade 106	219,838	185,121	Nov-23	Nov-2
Information Services III, Grade 205	197,964	164,450	Sep-23	Aug-2
Professional Services III, Grade 107	227,113	206,080	Aug-23	May-2
Information Services IV, Grade 206	211,790	293,400	Jul-23	Apr-2
Information Services IV, Grade 206	205,379	195,040	Aug-23	Jul-2
Information Services III, Grade 205	260,420	215,400	Jul-23	Jun-2
Analyst IV, Grade 106	221,245	240,580	Aug-23	Jan-2
Manager III, Grade 108	204,899	342,080	Aug-23	Mar-2
Special Fund Total	4,497,441	3,786,479		
Vacant FTE Pool Total	6,042,800	5,119,597		

### VACANT FTE POOL POSITIONS



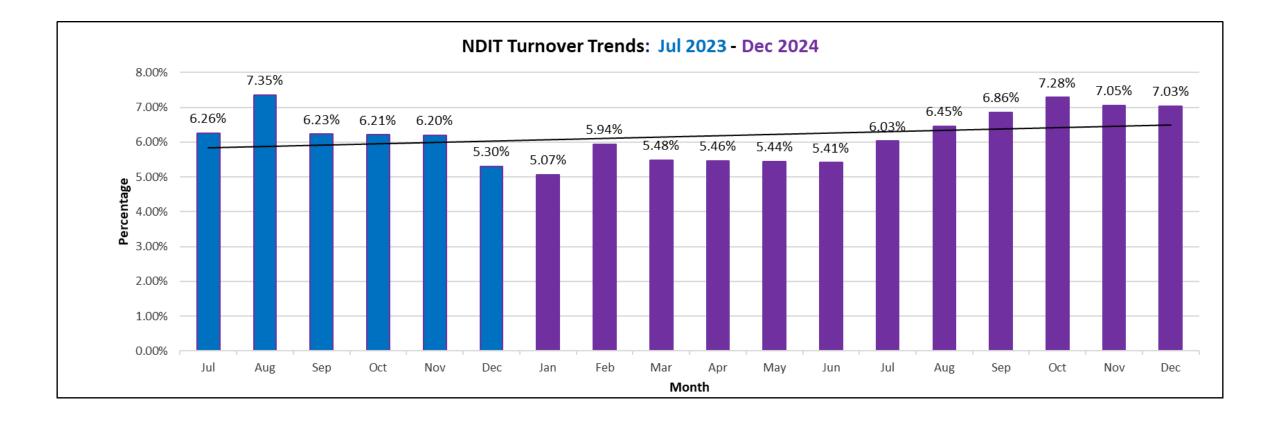
Staffing

### NDIT Talent

- 507 FTE
- Mixture of remote, hybrid and in-office
- Staff augmentation
- Apprentice roles



### **Biennium Turnover**



### **NDIT Retirement Statistics**

	Total Employees			Management			Non-management		
Years to meet									
Rule of Eligibility	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	49	10.32%	10.32%	6	1.26%	1.26%	43	9.05%	9.05%
0-3 years	39	8.21%	18.53%	3	0.63%	1.89%	36	7.58%	16.63%
3.1 - 5 years	23	4.84%	23.37%	4	0.84%	2.74%	19	4.00%	20.63%
5.1 - 10 years	69	14.53%	37.89%	17	3.58%	6.32%	52	10.95%	31.58%
10.1 - 15 years	80	16.84%	54.74%	12	2.53%	8.84%	68	14.32%	45.89%
15.1 - 20 years	70	14.74%	69.47%	10	2.11%	10.95%	60	12.63%	58.53%
20.1 - 25 years	72	15.16%	84.63%	9	1.89%	12.84%	63	13.26%	71.79%
25+ years	73	15.37%	100.00%	0	0.00%	12.84%	73	15.37%	87.16%
Total	475	100.00%		61	12.84%		414	87.16%	
*Management includes all people managers									
*Data as of 12/24									

### Recruitment: 2024 in Review

- 78 Total Hires
- 50 External from the market
- 6 Transfers
- 22 Promotions within NDIT



### Recruitment: What's Going Well



- Applicant pools for remote, entry level and mid level roles are robust
- Applicants for these roles often exceed qualifications
- Early career roles in Bismarck/ND: smaller pools but we have qualified applicants, thus successful sourcing

### **Recruitment: Pain Points**

- Highly skilled/niche roles in ND
  - Small or no applicant pools
  - Cannot afford talent in the marketplace
  - Unable to match salaries & benefits in private sector
- Highly skilled/niche roles remote
  - Quantity over quality
  - Upon interview, many do not have level of knowledge expected/needed



# What We're Working On

- People-first culture
  - Culture Roots train-the-trainer: Behavior-based leadership
- Workforce Planning
  - Knowledge management
  - Skills matrix/career pathing



### Section Changes and Policy Bills

### Appropriation Carryover Authority

- Add sections to SB 2021 for the following projects in flight:
  - Statewide Interoperability Radio Network (SIRN)
  - Capitol Security
  - Governance Risk & Compliance (statewide data strategy work)
  - Business Gateway
  - Enterprise Digitization (modernization work)
  - Broadband, Equity, Access and Deployment (BEAD / DE)
- Add ability to transfer funds from HIN Loan Fund to operating

# Policy Changes

- Agency sponsored policy changes
  - Change to Statewide Project Plan-SB2048
  - Change to Executive Steering Committee make up-SB 2049
- Legislator sponsored policy changes
  - HB 1265



### Acronyms and Definitions

- BAND Broadband Association of ND
- Data governance is the process of ensuring that data is accurate, secure, and used responsibly. It involves setting rules and responsibilities so everyone knows how to handle data properly and how to protect it.
- EA Enterprise Architecture- the process by which organizations standardize, organize and develop roadmaps for IT infrastructure and applications to align with and facilitate the achievement of business goals and objectives.
- Low Code- is a software development approach that requires minimal hard-coding, allowing users to create applications and workflows through visual interfaces, drag-and-drop components, and pre-built templates. It is designed to simplify and speed up the development process, making it accessible to both professional developers and non-technical users (often referred to as "citizen developers").

- **SIRN** Statewide Interoperable Radio Network
- **SLDS** Statewide Longitudinal Data System
- TBP Technology Business Partner knows the customer, their business, their technology, where they want to go and what is coming over the horizon.
- Tech Debt-happens when quick fixes or older systems are used instead of long-term, efficient solutions. While these choices might save time or money upfront, they eventually lead to more maintenance, slower systems, and higher costs to fix or replace.

### Geospatial Acronyms and Definitions

- Geospatial catch-all term for range of tools used for mapping and analysis
- GIS Geographic Information Systems (e.g., the GIS Hub)
- SGC State Geospatial Committee
- Next Generation 911 internet-based 911 system that requires GIS layers such as address points and emergency service boundaries

- **NDIT** ND Information Technology
- **NDGF** ND Game and Fish
- **NDDES** ND Department of Emergency Services
- Web services internet-based delivery of data
- **Parcel** property boundary with associated information such as landowner