

NORTH Dakota | Information Technology
Be Legendary.™

House Appropriations
Government Operations Division

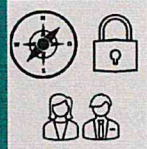
January 26th, 2023
Brynhild Haugland Room




EMPOWER PEOPLE – IMPROVE LIVES – INSPIRE SUCCESS

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TODAY'S AGENDA



- Vulnerability Management
- Wrap up HIN
- Governance, Risk, & Compliance
- SLDS



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UNIVERSAL VULNERABILITY MANAGEMENT					
NDIT 2023-2025 Universal Vulnerability Management					
Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
NDIT Operations	0.0	\$ 765,000	\$ -	\$ -	\$ 765,000
One-Time Funding		7,132,500			7,132,500
Total	0.0	7,897,500	-	-	7,897,500

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UNIVERSAL VULNERABILITY MANAGEMENT

We are all on STAGEnet, and vulnerabilities impact all of us

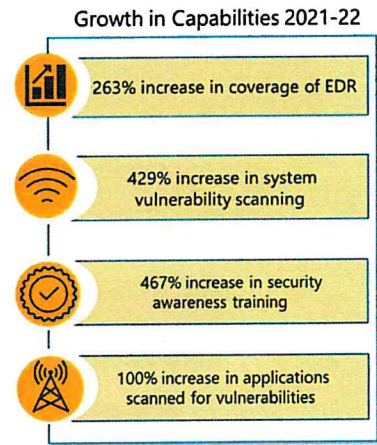
I'm sure glad the hole isn't in our end...

NORTH DAKOTA
STAGEnet

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RISK REMEDIATION - WHY

- Our team has used the resources from the previous two years to expand coverage and increase our visibility of vulnerabilities
- Vulnerabilities exist in two areas:
 - The Technology division
 - The Data division
- Where did these come from
 - Out of date and obsolete hardware/software
 - Maturity of the cyber division has allowed us to identify these issues

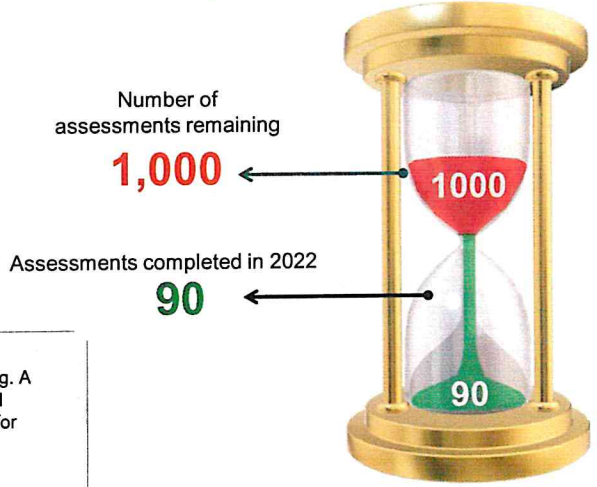


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THIRD PARTY RISK MANAGEMENT (TPRM)

- TPRM is important because it moves us from a reactive to a proactive posture
- TPRM reduces costs as it allows us to assess third-party risks to the state before supply chain attacks, data breaches, and/or reputational damage can occur
- The process is currently manual, time intensive
- A one-time spend would allow us to speed up the process, reach all agencies and reduce risk within the next two years

10 years effort at current rate



We have just started working the tip of the iceberg. A one-time spend to build automation for TPRM will reduce risk and improve operational efficiencies for the state of ND

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RISK REMEDIATION - WHAT

Problem – Amount of Work	Problem – Complexity of Work
<div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 10px;"> Server/Workstation Technology Team </div> <div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 10px;"> ~34,000 New Vulnerabilities Each Month </div> <div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 10px;"> ~182,000 Vulnerabilities Are Backlogged </div> <div style="background-color: #e67e22; color: white; padding: 5px;"> 7.5 Years Worth of Work at Current Capacity Rate </div>	<div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 10px;"> Application Data Team </div> <div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 10px;"> ~25,000 Vulnerabilities That Are Backlogged </div> <div style="text-align: right; margin-bottom: 10px;"> <CODE/> </div> <div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 10px;"> Reliance On External Tools </div> <div style="background-color: #e67e22; color: white; padding: 5px;"> 25 Years Worth of Work at Current Capacity Rate </div>

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RISK REMEDIATION - HOW



If not addressed, there is a potential massive cost to North Dakota as a whole

- Inherent risk to ND citizen data per Ransomware attack: \$2.7B
- Risk of not patching NDIT-managed devices for each attack: \$175M
- 2022 cost of healthcare breach: \$10.1M
- Effects on ND citizen impacted by data compromise:
 - Financial, emotional, reputational

<p>People</p> <p>Contractors used for a one time burn down of vulnerabilities</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #3498db; color: white; padding: 2px 5px;">65% for Technology Division</div> <div style="background-color: #95a5a6; color: white; padding: 2px 5px;">35% for Data Division</div> </div>	<p>80-95%</p> <p>Reduction in backlog of critical exploitable vulnerabilities</p>
<p>NDIT Oversight</p> <p>Process</p> <ol style="list-style-type: none"> 1. Customer Success 2. Support 3. Service Desk 4. GRC 	<p>Tooling to fix application vulnerabilities before they reoccur</p> <p>Technology</p>


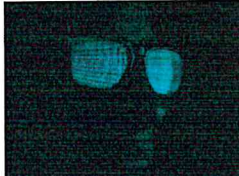


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GOVERNANCE, RISK, AND COMPLIANCE



NDIT 2023-2025 Governance, Risk and Compliance


Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
NDIT Operations	4.0	\$ 298,868	\$ 800,676	\$ -	\$ 1,099,544
					-
One-Time Funding (DPI Transfer)		1,350,000	10,000,000		11,350,000
Total	4.0	1,648,868	10,800,676	-	12,449,544

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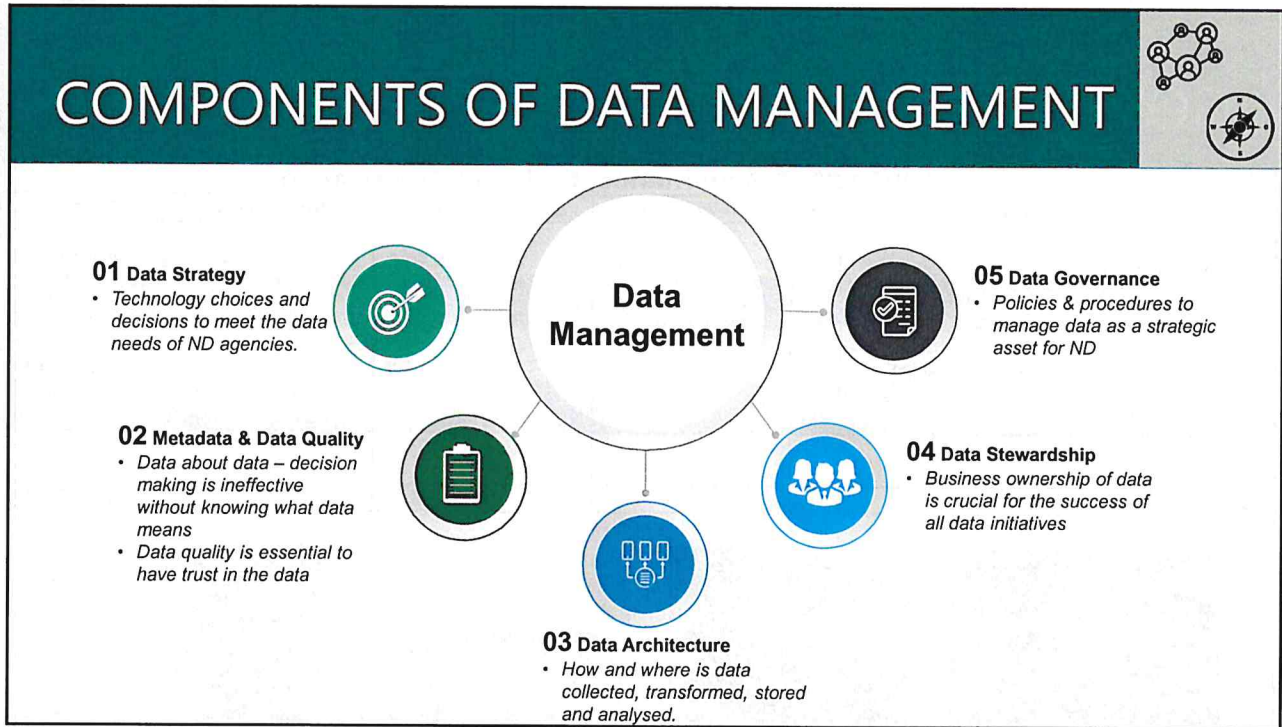
LIGHTHOUSE PROGRAM

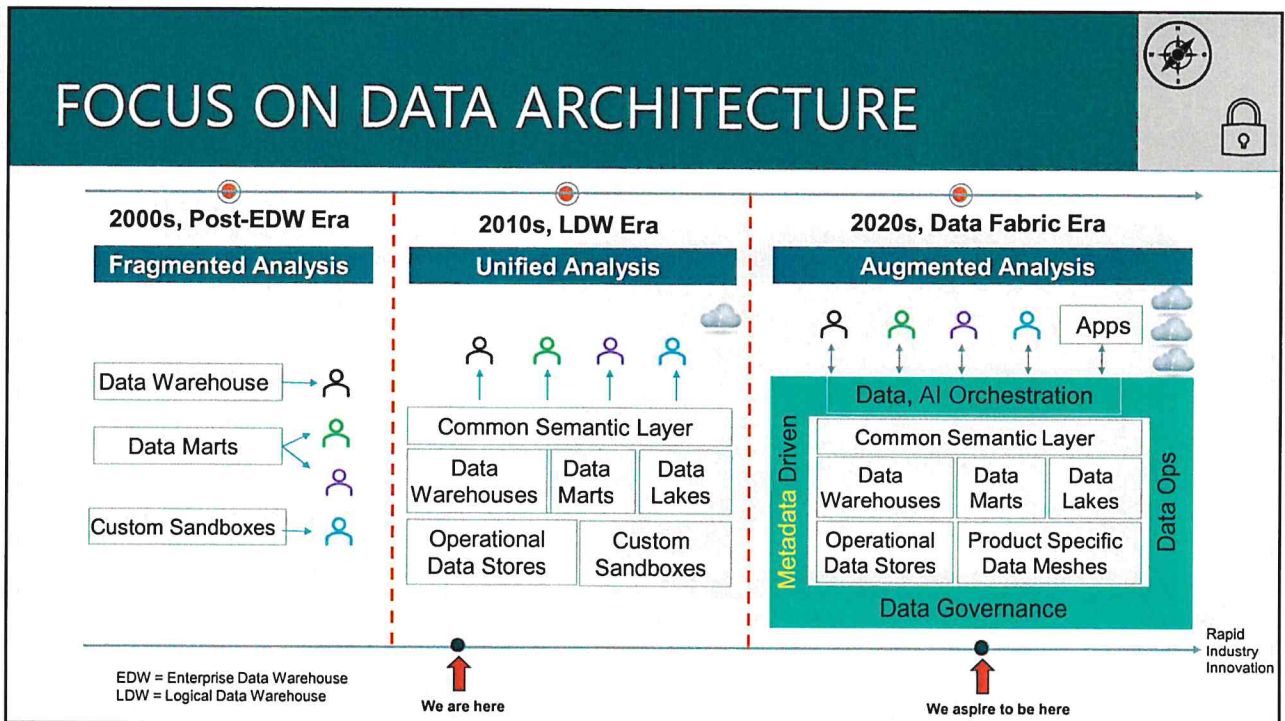


- **Objectives:** Identify early warning indicators for educators to make interventions and, provide information to policy makers to help decide where investments are needed.
- **Expected Outcomes:** Ability to combine data across DPI and DHHS to provide actionable insight to improve performance of children in schools.
- **Status:** User interface upgrades, business analysis and proof of concept completed. Request for Proposal (RFP) being issued for a 3-phase program.
- **Funding:** From part of the \$10M special funds transfer from DPI to NDIT (SB 2346)

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DATA GOVERNANCE

Data Governance is the specification of **decision rights** and an **accountability framework** to ensure the appropriate behavior in the valuation, creation, consumption and control of data and analytics.



Technical	Organizational	Business
<ul style="list-style-type: none"> o Manage the availability and usability of data in enterprise systems o Focus on security processes to manage and protect data, and mitigate vulnerabilities 	<ul style="list-style-type: none"> o Build data literacy to empower Team ND to use data efficiently o Exercise control over data sets, create definitions; determine retention and lifecycle policies 	<ul style="list-style-type: none"> o Respond to threats from changing tech and the regulatory landscape o Prevent misallocation of scarce resources to initiatives that do not conform to data policies






While we continue to make strides, the volume of work needed to implement data governance processes across all agencies far exceeds our current capacity to support.

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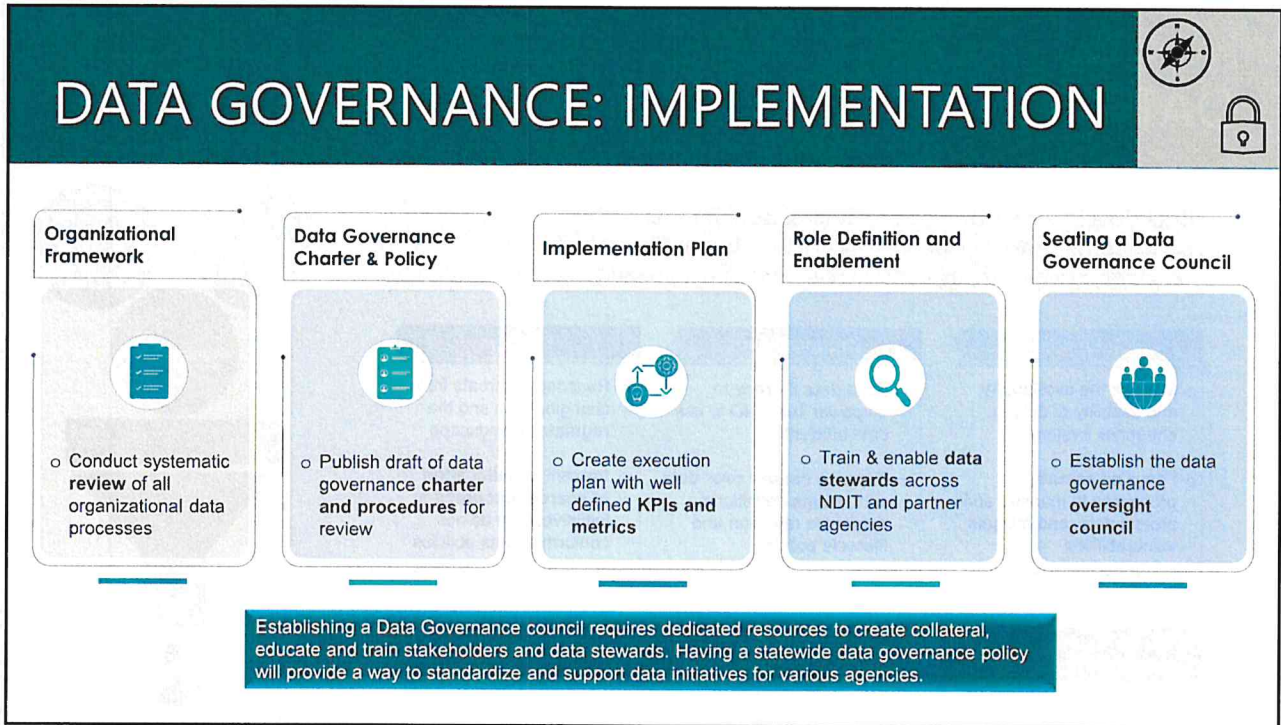
DATA STEWARDSHIP & GOVERNANCE ROLES

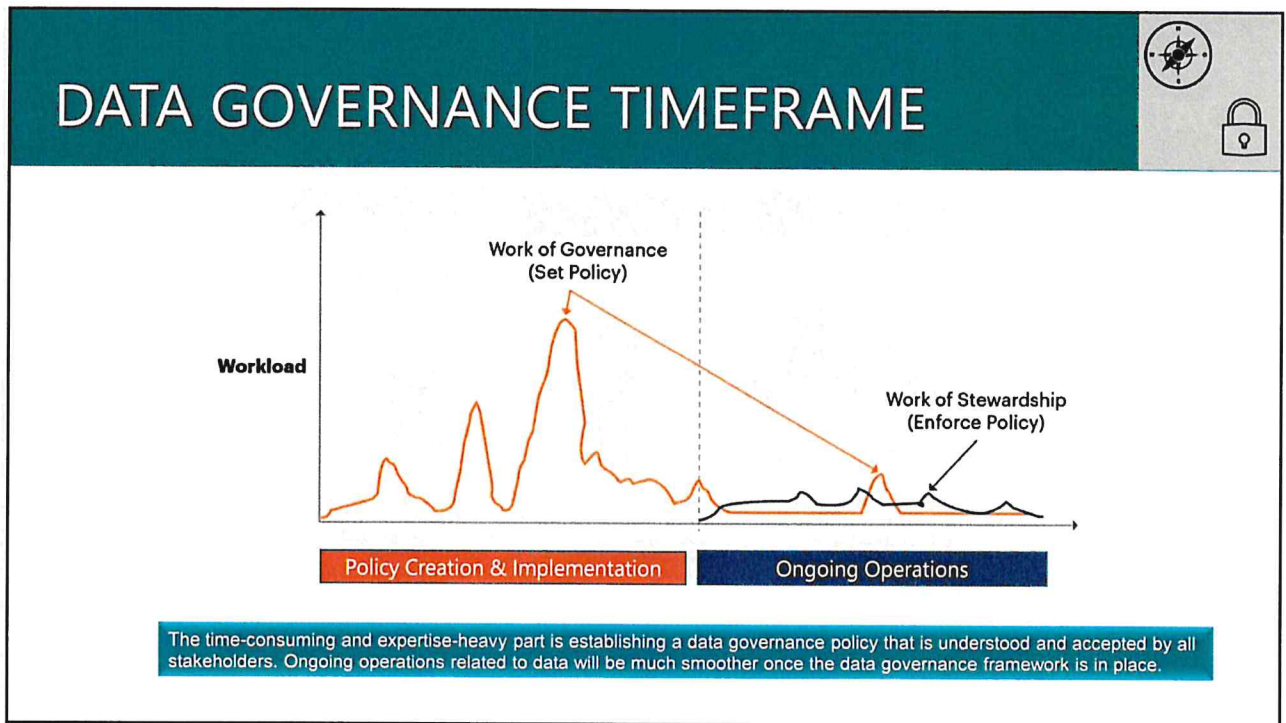
Policy Setting "Data Governance"	Policy Enforcing "Stewardship"	Policy Execution "Maintenance"
<p>FIFA</p>  <ul style="list-style-type: none"> • Defines rules, policies, procedures, priorities • Business authority, accountability, responsibility • Centralized 	<p>Soccer Referees</p>  <ul style="list-style-type: none"> • Interprets exceptions to policies, monitors/resolves • Business led activities with NDIT support • Distributed 	<p>Soccer Players</p>  <ul style="list-style-type: none"> • Implements changes to data (or rules) • Task orientation and solution creation • Centralized/shared

These data roles are essential for the State of ND and will enable us to serve agencies better.

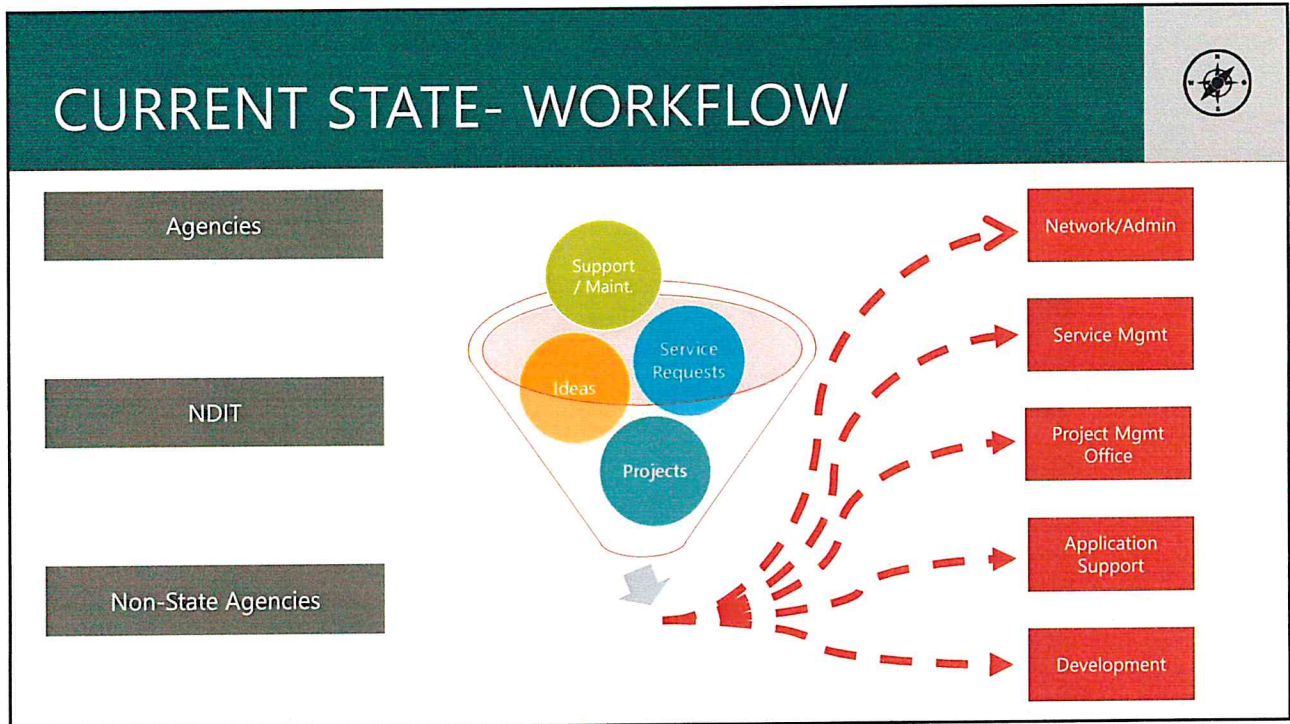
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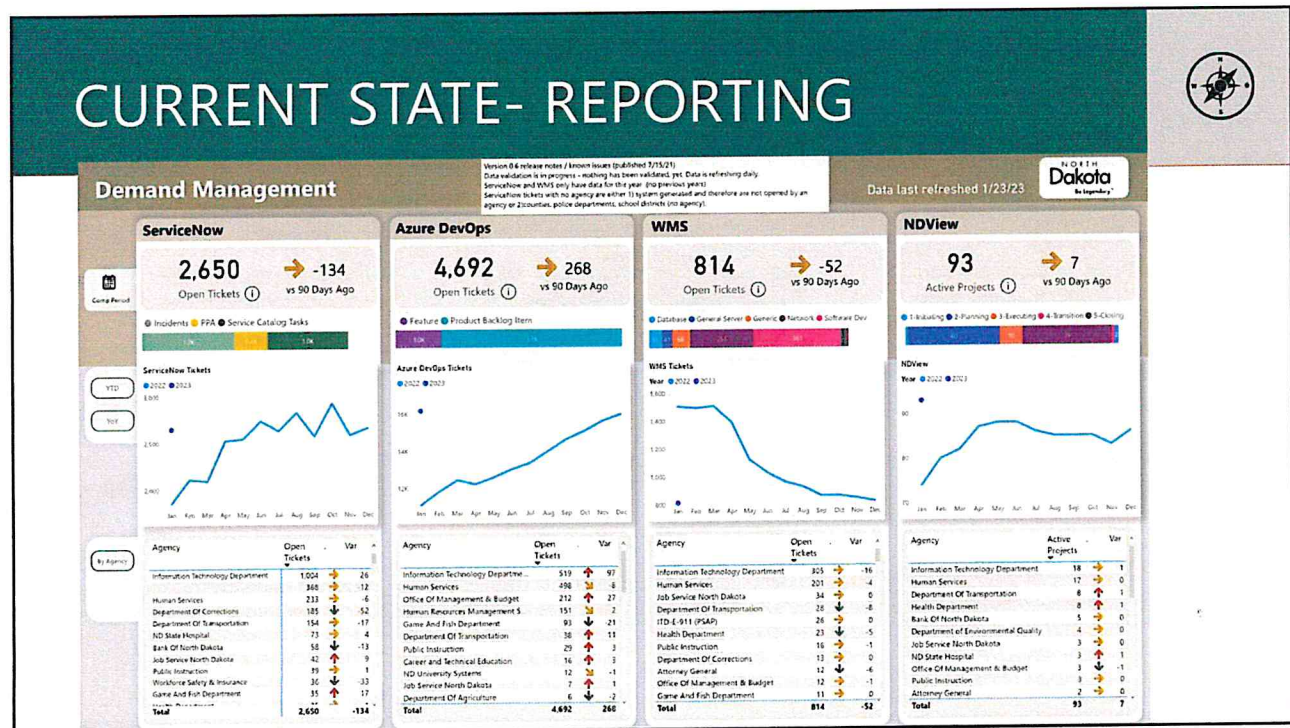
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CURRENT STATE- CHALLENGES



People

- Difficult to understand resource and skill needs
- Competition for the same resources
- Teams overworked/under appreciated
- Project delays due to lack of resources



Process

- Competing priorities
- Working on too many projects at once
- Scope creep for projects without large project oversight
- Lack of visibility of work across NDIT



Technology

- Lack of comprehensive reporting for decision making
- Siloed work and reporting systems

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FUTURE STATE- ENTERPRISE PORTFOLIO MANAGEMENT



Visibility

- › Projects, Programs and Portfolio management
- › Program and project reviews
- › Benefit realization
- › Reporting

Alignment

- › Fully integrated with the strategic planning process
- › Identify enterprise-wide opportunities
- › Aligning like work

Efficiency

- › Role-based demand management
- › Capacity management
- › Consistent/standard processes
- › Change management

Governance

- › Steering committee providing oversight and guidance
- › Centralized oversight and prioritization
- › Informed decision making
- › Risk management



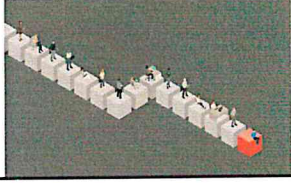


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STATEWIDE LONGITUDINAL DATA SYSTEM (SLDS)

NDIT 2023-2025 Executive Budget - SLDS

Program - SLDS	FTE	General Funds	Special Funds	Federal Funds	Total
Statewide Longitudinal Data System	0.0	\$ 3,000,000	\$ -	\$ -	\$ 3,000,000
One-Time Funding	0.0	1,075,000	-	-	1,075,000
Total	0.0	4,075,000	-	-	4,075,000

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SLDS GROWTH & ENHANCEMENTS



Public Data Download

Researchers can download datasets to conduct their own research.



Training

Multiple training opportunities within the SLDS exist for both in-service and pre-service educators.



Reporting Tools

Reporting tools are provided to schools, students, agencies, and the public to explore and analyze data.



PK-12 Public Education

The public may view education data on a state, district, or school level.



Career and Technical Education

View Career and Technical Education data including the pathways to careers and skills.



Higher Education

The public may view post-secondary education system data by college / institution or program / degree offerings.




Research Support

Research is conducted to provide policy makers and agencies insight into outcomes of participants.



Workforce

The public may explore job openings, occupations, high demand careers, and post-secondary outcomes as it relates to ND workforce.





Digital Credentialing

Citizens will own their education and employment credentials and be able to share them with future employers and education-training providers.



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SLDS 2021-2022 KEY ACCOMPLISHMENTS

- CTE
 - Insights expanded to include CTE and defined more distinct pathways to completing an Area of Study.
- Digital Credentials
 - Published the eTranscript as a Comprehensive Learner Record to a web and mobile **wallet**.
 - Citizens will own their education and employment credentials and be able to share them with future employers and education-training providers.

117442

Students with imported data

80090

Total transcripts sent to higher ed

55577

NDUS transcripts sent

13900

Border Institutions transcripts sent

10611

Clearinghouse transcripts sent

150

Districts with student data

8997

Distinct active users over the last 30 days

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THANK YOU

- Deputy Chief Information Officer
 - Greg Hoffman – gahoffman@nd.gov
- Chief Customer Success Officer
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- Chief Information Security Officer
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