
Senate Appropriations

Human Resources Division

March 13th, 2023
Brynhild Haugland Room



TODAY'S AGENDA

■ 8:30

- Business Gateway
- ND Health Information Network
- Vulnerability Management
- Governance, Risk, Compliance
- SLDS
- Classlink
- Tower Wiring

■ 2:00

- SIRN
- Enterprise Digitization
- Customer Success
- NDIT Resources
- ARPA & IJA Funding

2023-2025 OBJECTIVES & STRATEGIES

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



Business Gateway

DELIVERING GOVERNMENT SERVICES

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

NORTH
Dakota Be Legendary.™

LOGIN 



ND | GATEWAY

One login provides a more secure and private experience during online interactions with the State of North Dakota.

If you have an ND Login, use your existing username and password.

FOR INDIVIDUALS



FOR BUSINESSES



LG

FEEDBACK

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

“As a business owner starting a business, there are many things to worry about. I would appreciate having an overall startup guide or links to necessary resources.”



“It would be great if instead of having to log into different places, there was a spot or a link to all of them in one place. If everything was under the same umbrella and it told you there was an action item, that would be all you would really need.”



“Being sent reminders of things I should be aware of as a new or small business would save me time and lessen my stress.”



CITIZEN AND BUSINESS ENGAGEMENT

Closing Workforce Gaps

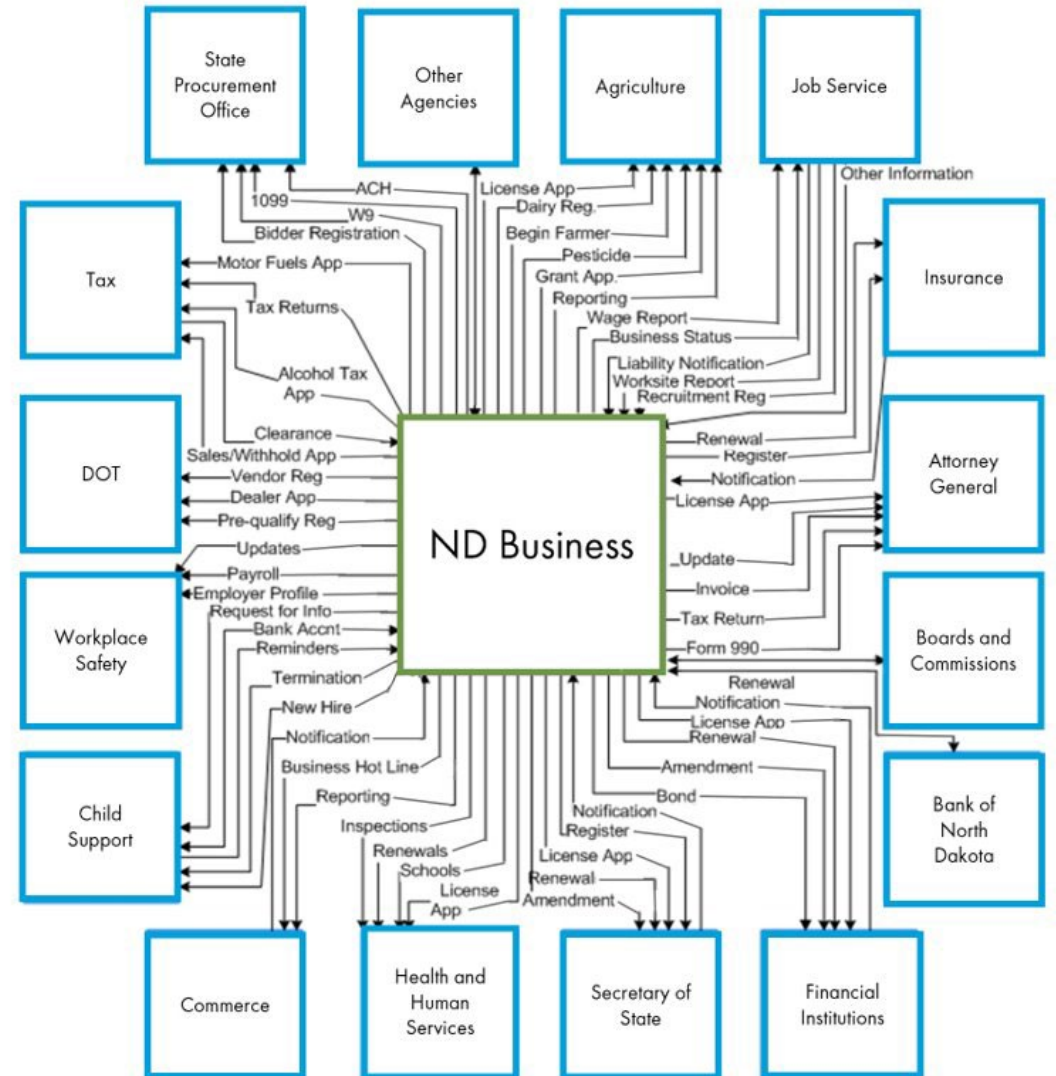
Enable Decision Making

Managing Risk

Citizen and Business Engagement

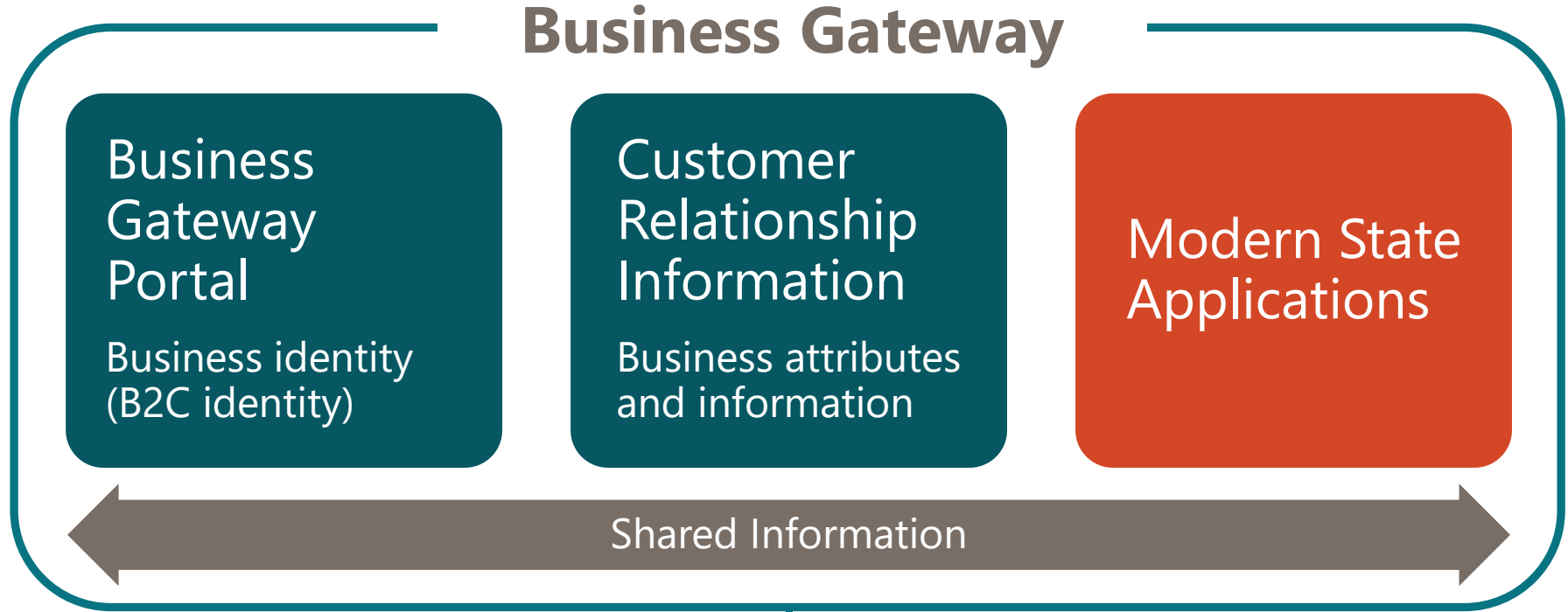
CURRENT STATE

Businesses engagement with state agencies is confusing and difficult.



CITIZEN AND BUSINESS ENGAGEMENT

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement



Business/Citizen User

FUTURE STATE

Legacy Applications

ANTICIPATED COST SAVINGS

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

The state's estimated investment of **\$210** per business will improve efficiency for over **42,000** North Dakota companies.

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

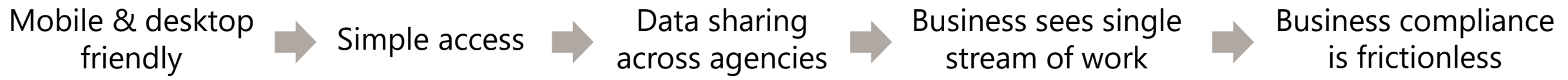
ANTICIPATED TIMELINE

PHASE 4 – Integrated Workflow
 User has no idea they are working with different agencies.

PHASE 3 – Business Alignment
 Workflows integrated for the user. User still interacts with different agency operational systems.

PHASE 2 – Identity & Single Sign-On
 Align remaining identities with North Dakota single sign-on.

PHASE 1 – Links & Workflows
 Bring workflows together in a single location.



USER EXPERIENCE

COLLABORATIVE EFFORT

Closing
Workforce
Gaps

Enable
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Business
Engagement



Phase 1 focus

- **Department of Commerce**
- **Job Service**
- **Secretary of State**
- **Tax Department**
- **Workforce Safety & Insurance**

In collaboration with:

- **Governor's Office**
- **Information Technology**
- **Bank of North Dakota**

OPTIONAL REQUEST

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

NDIT 2023-2025 Customer Relationship Management

Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	8.0	\$ 2,827,830	\$ 501,808	\$ -	\$ 3,329,638
One-Time Funding (SIIF)		-	8,700,000	-	8,700,000
House Adjustments - ongoing funds	(4.0)	(975,887)	-	-	(975,887)
One-Time Funding (SIIF)		\$ -	\$ (2,200,000)	\$ -	\$ (2,200,000)
Total	4.0	1,851,943	7,001,808	-	8,853,751





ND HEALTH INFORMATION NETWORK (NDHIN)

ND HEALTH INFORMATION NETWORK (NDHIN)

Closing
Workforce
Gaps

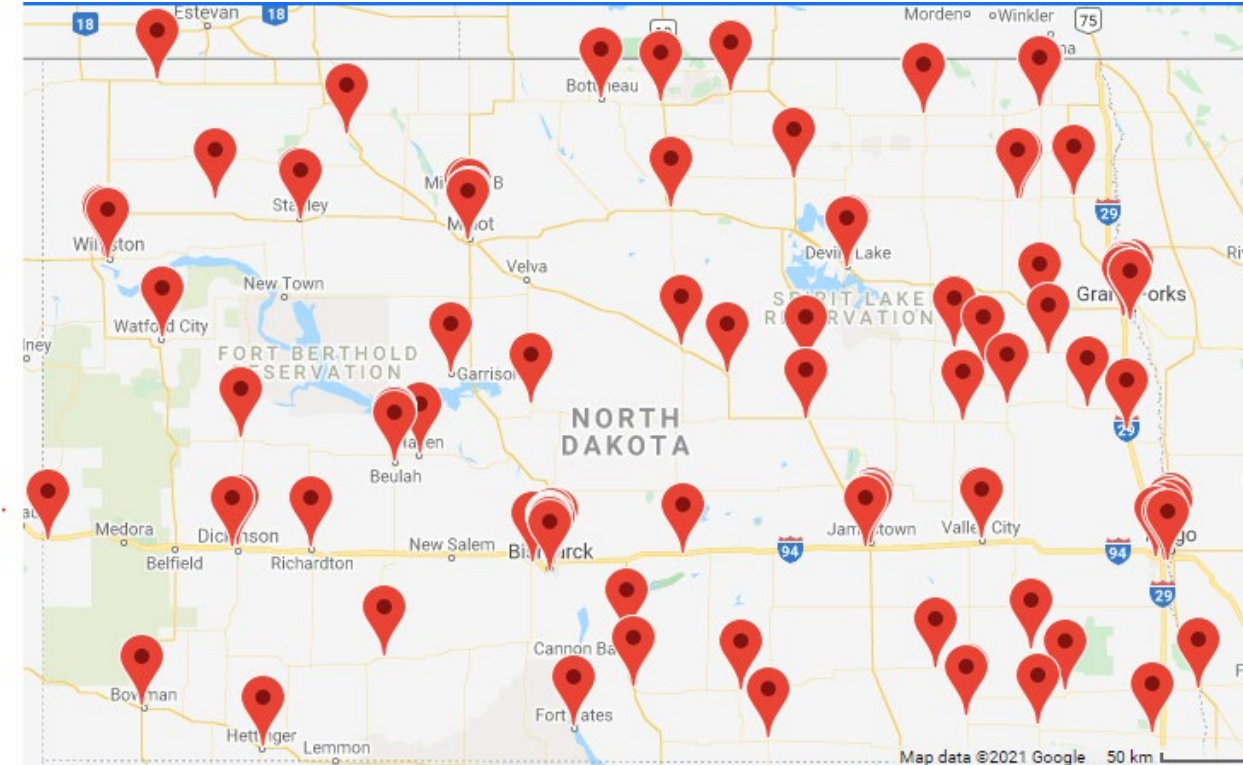
Enable
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2022 SNAPSHOT

- 352 Participation Agreements
- 1.47M Unique Patient IDs
- All tertiary and Critical Access Hospitals participating
- Data feeds increased from 361 feeds in 2018 to 679 feeds in 2022
- 5331 Active Users



<https://www.ndhin.nd.gov/providers/providers-map>

BEFORE NDHIN

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Manual Workflows, Processes
- Increased Burden Providers, Patients, and State
- Increased Risk for Errors and Breach of Information



NDHIN HISTORY

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Launched in 2010 with federal funds (HITECH)
- Broad stakeholder support statewide
- Governor Appointed Advisory Committee
- Worked with Medicaid to support the EHR Incentive Program (Meaningful Use/Promoting Interoperability)
- Worked with the ND HHS to facilitate electronic public health reporting

FEE STRUCTURE

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

If you are a:

Hospital Net Patient Revenue as reported on your last Medicare cost report. *If you are a hospital, the fee identified includes the fees for part of your organization included in the Medicare Cost Report i.e. clinics, labs, etc.*

Net Patient Revenue

0 - 10,000,000	Fee = \$3,600
10,000,001 - 25,000,000	Fee = \$3,600
25,000,001 - 100,000,000	Fee = \$7,500
100,000,001 - 650,000,000	Fee = \$39,000
650,000,001 and above	Fee = \$78,000

Providers *Per provider with prescribing authority. Independent entities, only. If you are part of a hospital, your fee is identified in your Medicare Cost Report and should be identified above.*

Per Provider Fee = \$360 x Number of Providers

Payers - Insurance

Per Member, Per Year Fee = \$1 x Number of Members

If you are part of a hospital, your fee is identified in your Medicare Cost Report and should be disclosed below.

Long-Term Care*	
Facility	Fee \$400
Pharmacy*	
Facility	Fee \$400
Lab*	
Facility	Fee \$400
Radiology*	
Facility	Fee \$400
Home Healthcare*	
Facility	Fee \$400
Association*	
Facility	Fee \$400
Local Public Health*	
Facility	Fee \$400

NDHIN FUNCTIONALITY & SERVICES

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

- **Patient record search for the following patient information:**

- Allergies
- Medications
- Encounters
- Laboratory Results
- Radiology Reports
- Transcribed Documents
- Images
- Prescription Drug Monitoring Program (PDMP)
- Access to National Networks (eHealth Exchange, Patient Centered Data Home, Carequality)

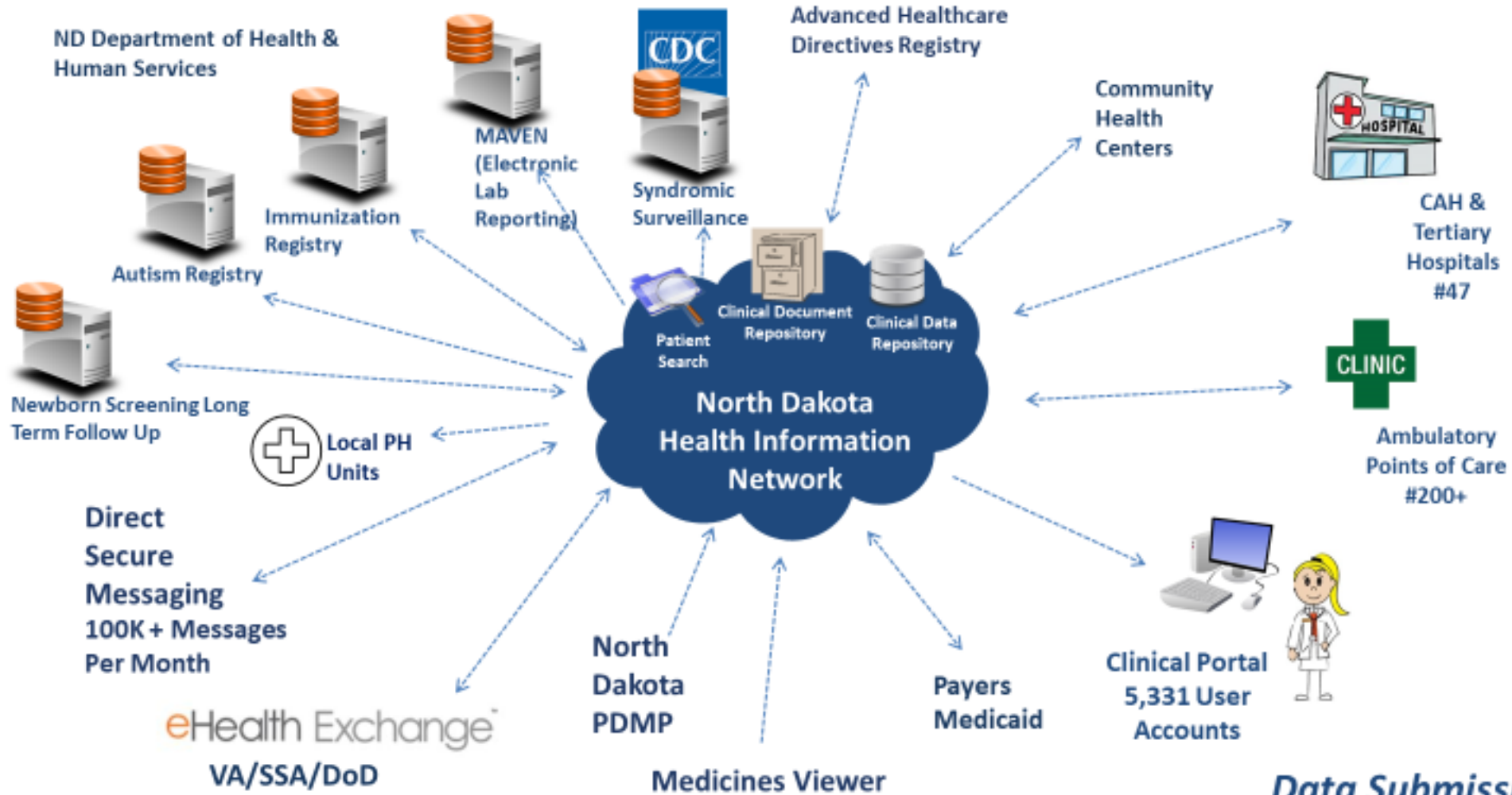
- **NDHIN Services:**

- EHR interoperability with Single Sign On access capability
- Clinical Portal Access
- Direct Secure Messaging/Communicate Portal, HISP, XDR
- Encounter alerts and notifications
- Electronic Public Health Reporting
 - Immunization Data
 - Syndromic Surveillance Data
 - Electronic Lab Reporting/Reportable Conditions
 - Autism Registry
- Advanced Health Directive Registry
- Send/receive sensitive messages securely

NDHIN

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

1.47 M Unique Patient IDs

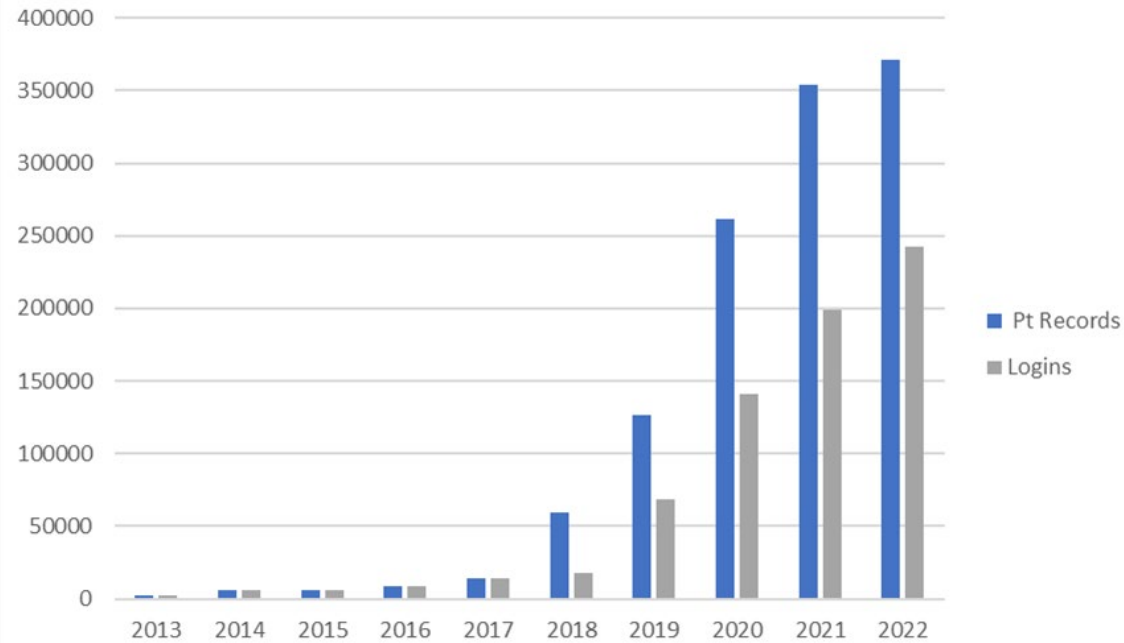


Data Submission

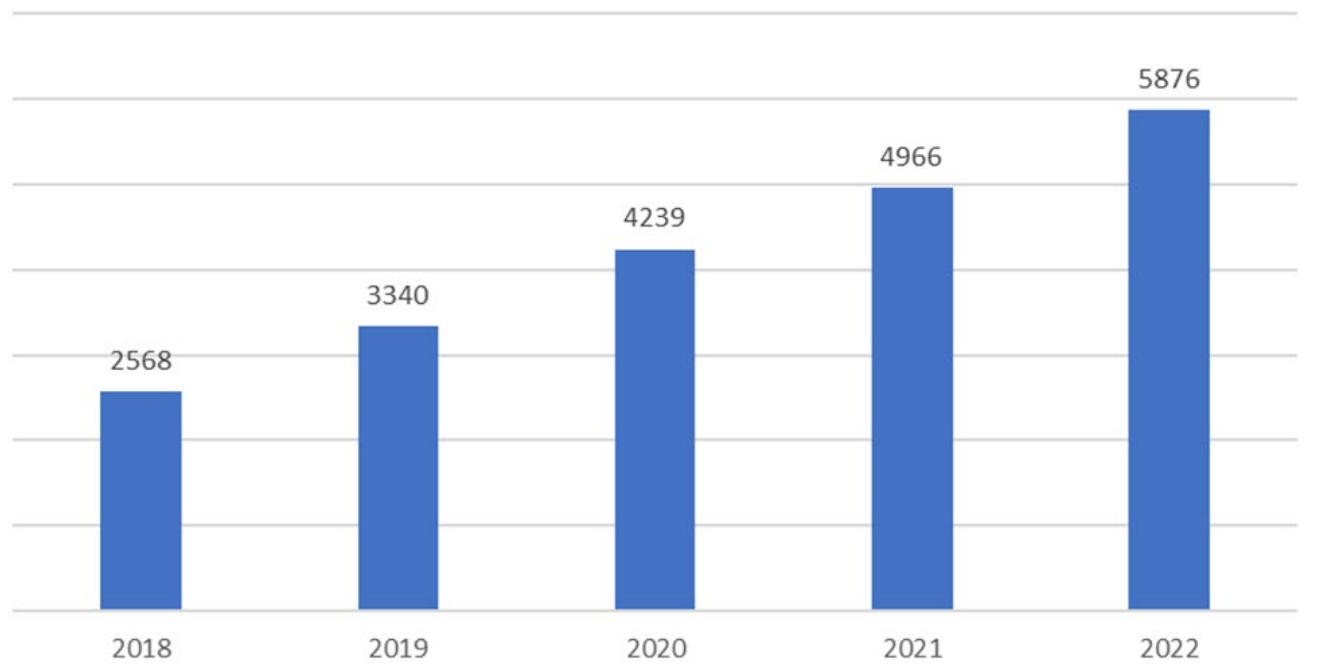
NDHIN

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

NDHIN User Logins and Patient Records Opened



NDHIN Users by Year



NDHIN & ND HEALTHCARE PROVIDERS

Closing
Workforce
Gaps

Enable
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Engagement

- Health information exchange of patient medical records with all hospitals – tertiary & critical access; most Community Health Centers; all Rural Health Clinics
- Longitudinal community health record made up of all records transmitted to NDHIN is provided back to participating providers for coordination of patient care
- Facilitates required public health reporting electronically on to the ND Department of Health to assist providers with compliance
- Hospital Testimonial

NDHIN & ND MEDICAID

Closing
Workforce
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Enable
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Citizen and
Business
Engagement

- Supporting Managed Care Organizations to improve coordination of care for the Medicaid Expansion population
- Sanford Health Plan
- Blue Cross Blue Shield North Dakota
 - Alerts & Notifications

NDHIN & HHS COLLABORATION

Closing
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Enable
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Electronic Public Health Reporting

- Meets regulatory compliance required by NDDOH and ND Century Code
- Ensures reporting is done in a timely manner
- Facilitates electronic reporting of immunizations, syndromic surveillance, and electronic laboratory reporting (ELR) from healthcare providers on to State and CDC
- Specialized Registries:
 - Autism/Advance Healthcare Directives
- Electronic Test Orders and Results (ETOR)
- Meets regulatory reporting requirements for Merit-based Incentive Payment System (MIPS)/Interoperability reporting
- Data Modernization Initiative – improving interoperability with public health systems

NORTH DAKOTA IMMUNIZATION INFORMATION SYSTEM (REGISTRY)

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

MOUSE, Mickey SEX Male DOB Feb-10-1947 (73y)

Patient Summary Medicines Viewer Timeline External Record Images Circle of Care Laboratory Results Flow Sheet

Clinical Documents Showing All Mark All As Read Group By Category Sort By Date

Patient Summary PDMP **NDIIS Immunizations** Vital Signs Flow Sheet

Dynamic Documents (1) Laboratory (26 / 70) Microbiology (3 / 7) Radiology (10) Transcribed Documents (9) Transcriptions (2)

Immunizations

Dose Date	Provider	Lot	Reaction	VFC	Vaccine	Valid
01/04/2021	1112 - OAKES COMM HOSPITAL	025J20-2A	NONE	UNKNOWN	COVID19 (Moderna)	Yes
10/13/2019	9999 - UNKNOWN		NONE	UNKNOWN	INFL (IIV4 P/F)	Yes
10/10/2018	9999 - UNKNOWN		NONE	UNKNOWN	INFL (IIV4 P/F)	Yes
10/16/2017	9999 - UNKNOWN		NONE	UNKNOWN	INFL (IIV3 W/P)	Yes
01/04/2017	4921 - SANFORD DICKINSON EAST	3Z27B	NONE	PRIVATE	TDAP	Yes
10/05/2016	9999 - UNKNOWN		NONE	UNKNOWN	INFL (unspecified)	Yes
09/29/2015	4921 - SANFORD DICKINSON EAST	329TN	NONE	PRIVATE	INFL (IIV4 P/F)	
10/03/2014	4921 - SANFORD DICKINSON EAST	759XC	NONE	PRIVATE	INFL (IIV4 P/F)	
10/18/2013	4921 - SANFORD DICKINSON EAST	XE294	NONE	PRIVATE	INFL (IIV4 P/F)	
11/02/2012	4921 - SANFORD DICKINSON EAST	UH711AB	NONE	PRIVATE	INFL (IIV3 P/F)	

Immunization Forecast

Vaccine	Recommended Date	Minimum Valid Date	Dose
Td/Tdap	01/04/2027	01/04/2022	2
PCV	12/20/2049	12/20/2049	1
PPV	12/20/2050	12/20/2050	1
Varicella	11/11/2009	11/11/2009	1

NDHIN DATA FEEDS

Closing
Workforce
Gaps

Enable
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Business
Engagement

Admission, Discharge, Transfer (ADT)

Procedures

Observation Results (ORU)

Imaging Studies

Medical Document Management (Clinical Documents)

Patient Demographics

Encounter History

Allergies

Diagnoses

Lab

Radiology Reports/Documents

Summaries – Discharge/Encounter

H&P's

ED Visit Notes

Reports – Operative/Consult

CCD/CDA

ELECTRONIC TEST ORDERS & RESULTS

Closing
Workforce
Gaps

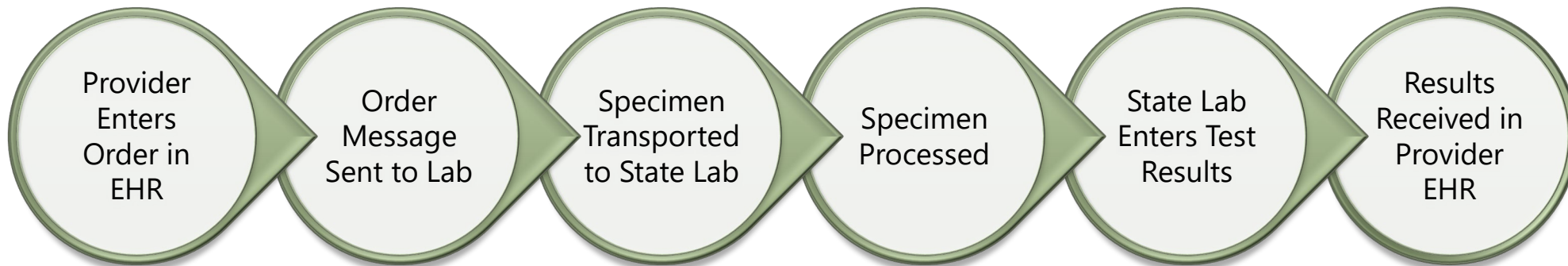
Enable
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Benefits of ETOR

- Reduces errors
- Improves Efficiency/Saves Time
- Improves coordination of patient care
- ND Locations: 22



NEWBORN SCREENING

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- NDHIN Pathway used for care coordination
 - Benefits
 - Improved coordination of care for a very vulnerable population
 - Potential reduction of costs for a high-cost Medicaid population
 - Use of Care Coordination module to develop a care pathway



BENEFITS TO CITIZENS

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

- Reduce misreporting or gaps in transitions of care provided
- Help avoid usage of paper records or fax/scanned information
- Enhances quality and safety of care as well as patient privacy
- Sensitive data remains safe and protected
- Reduces costs and saves time and resources
- Helps avoid manual data input and related errors
- Allows accurate and quicker collection of public health data



NDHIN AS THE HEALTH DATA UTILITY FOR NORTH DAKOTA

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

- The NDHIN Expansion Project helped the HIE to progress to a broad and comprehensive level of functioning to put NDHIN at a level to function as the State's Health Data Utility.
- Health Data Utilities (HDUs) are statewide entities that combine, enhance, and exchange electronic health data across care and services settings for treatment, care coordination, quality improvement, and public and community health purposes through specific, defined use cases in accordance with applicable state and federal laws protecting patient privacy.

THE ALTERNATIVE

- If no action is taken, current funding is likely to be depleted in the upcoming biennium
- Infrastructure and network built over the past 13 years will cease to exist
 - Lose interfaces/data feeds with participants
 - Significant cost to rebuild
 - ND HHS will need to use manual methods or find alternatives of reporting, sharing information such as test orders, results, immunizations, etc.

ND HEALTH INFORMATION NETWORK (NDHIN)

Closing
Workforce
Gaps

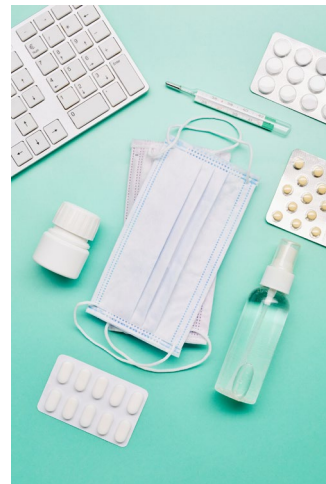
Enable
Decision
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Citizen and
Business
Engagement

NDIT 2023-2025 Executive Budget - Health Information Network

Program - HIN	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	0.0	\$ 3,000,000	\$ 3,000,000	\$ (6,000,000)	\$ -
House Adjustments - ongoing funds		-	-	-	-
Total	0.0	3,000,000	3,000,000	(6,000,000)	-





VULNERABILITY MANAGEMENT

UNIVERSAL VULNERABILITY MANAGEMENT

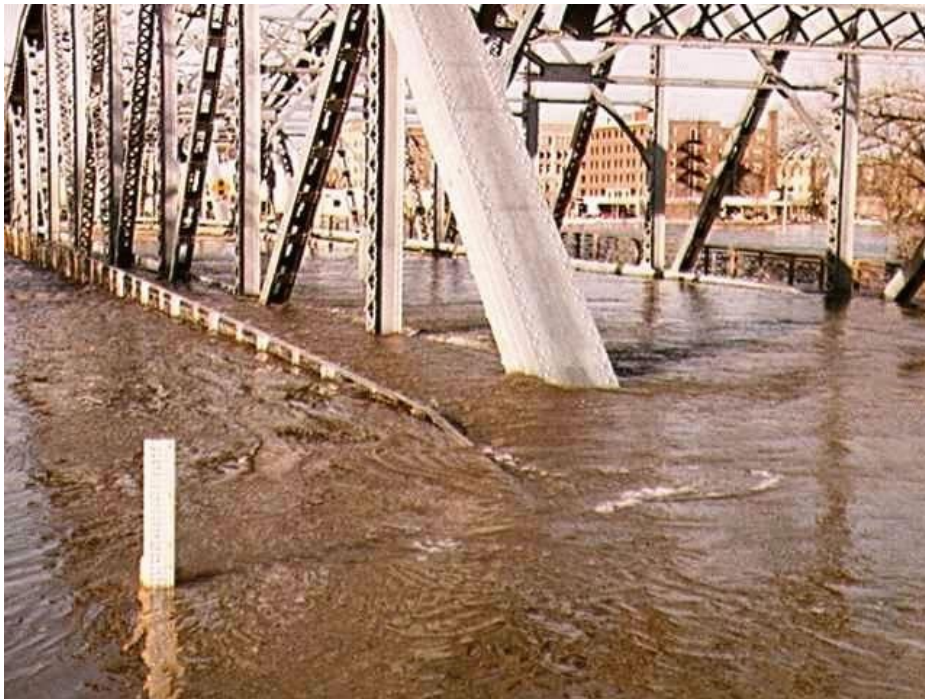
Closing
Workforce
Gaps

Enable
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Business
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We are all on STAGEnet, and vulnerabilities, much like floods, impact all of us



The Sorlie Bridge connecting Grand Forks and East Grand Forks April 17, 1997 - Source, Wikipedia



NORTH DAKOTA
STAGEnet

RISK REMEDIATION - AKA FLOOD FORECASTING

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

- 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

Growth in Capabilities 2021-22



263% increase in coverage of EDR



429% increase in system vulnerability scanning



467% increase in security awareness training



100% increase in applications scanned for vulnerabilities

RISK REMEDIATION – HOW MUCH WATER IS BEHIND THE DAM

Closing Workforce Gaps

Enable Decision Making

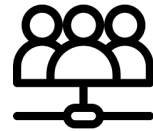
Managing Risk

Citizen and Business Engagement

Problem – Amount of Work

Problem – Complexity of Work

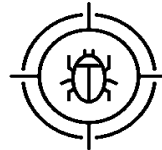
Server/Workstation Technology Team



Application Data Team



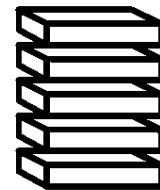
~34,000 New Vulnerabilities Each Month



~25,000 Vulnerabilities That Are Backlogged

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~182,000 Vulnerabilities Are Backlogged



Reliance On External Tools



7.5 Years Worth of Work at Current Capacity Rate



25 Years Worth of Work at Current Capacity Rate

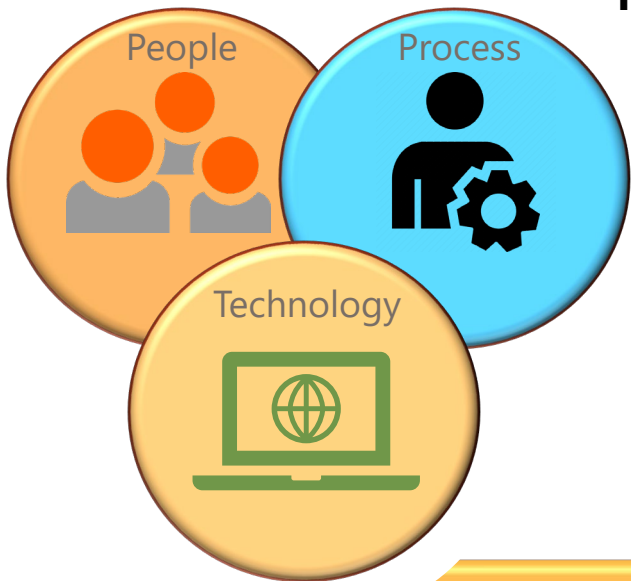



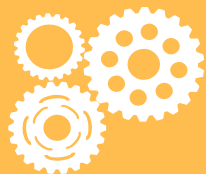

RISK REMEDIATION – WHAT IS THE RISK

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

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

- **\$2.7 Billion Dollars** – Ransomware - Inherent risk to ND citizen data successful event
- **\$175 Million Dollars** – Zero Day – Potential risk of unpatched devices for each attack
- **\$10.1 Million Dollars** – Average cost of healthcare breach
- Non-monetary impact on ND citizen by data compromise:
 - Financial, emotional, reputational



<p>People</p> <p>Contractors used for a one time burn down of vulnerabilities</p> <p>65% for Technology Division 35% for Data Division</p>	<p> 80-95 %</p> <p>Reduction in backlog of critical exploitable vulnerabilities</p>
<p> Process</p> <p>NDIT Oversight</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>

THIRD PARTY RISK MANAGEMENT (TPRM)

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- 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



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

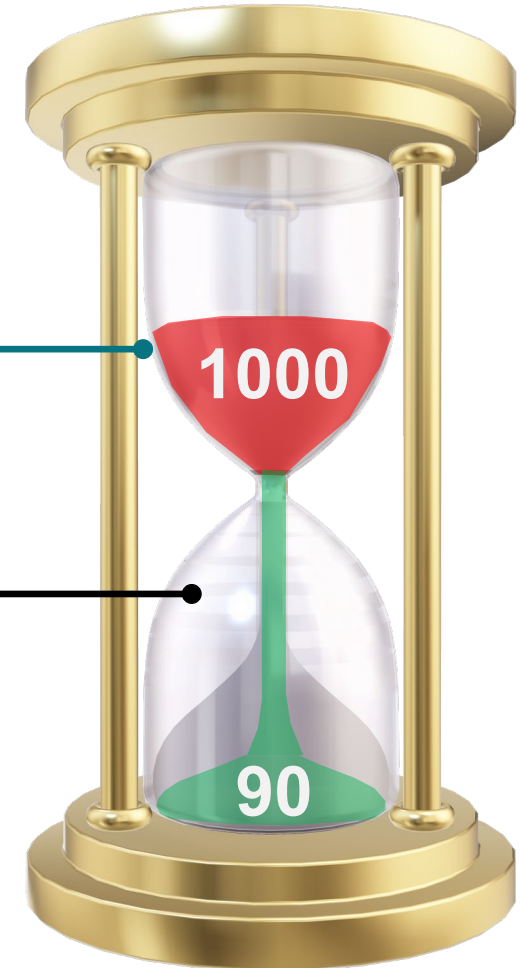
10 years effort at current rate

Number of
assessments remaining

1,000

Assessments completed in 2022

90



UNIVERSAL VULNERABILITY MANAGEMENT

Closing Workforce Gaps

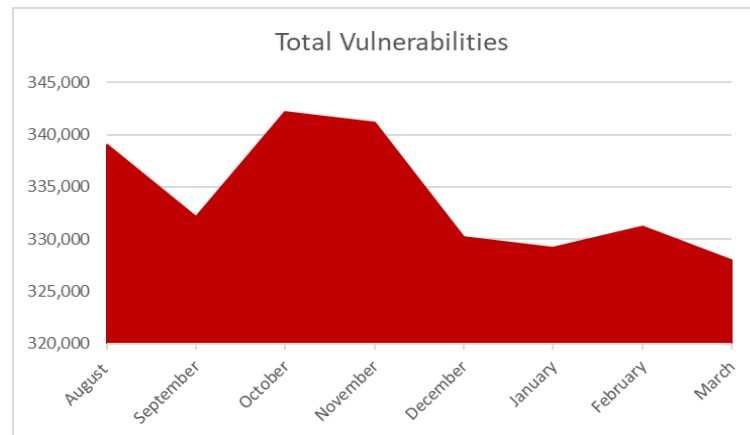
Enable Decision Making

Managing Risk

Citizen and Business Engagement

NDIT 2023-2025 Universal Vulnerability Management

Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	0.0	\$ 765,000	\$ -	\$ -	\$ 765,000
One-Time Funding		7,132,500	-	-	7,132,500
House Adjustments - ongoing funds		(265,000)	-	-	(265,000)
One-Time Funding		\$ (4,132,500)	\$ -	\$ -	\$ (4,132,500)
Total	0.0	3,500,000	-	-	3,500,000





GOVERNANCE, RISK, AND COMPLIANCE

LIGHTHOUSE PROGRAM

Closing
Workforce
Gaps

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01

02

03

04

- **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)

COMPONENTS OF DATA MANAGEMENT

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

01 Data Strategy

- *Technology choices and decisions to meet the data needs of ND agencies.*



Data Management

05 Data Governance

- *Policies & procedures to manage data as a strategic asset for ND*



02 Metadata & Data Quality

- *Data about data – decision making is ineffective without knowing what data means*
- *Data quality is essential to have trust in the data*



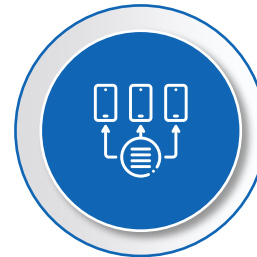
04 Data Stewardship

- *Business ownership of data is crucial for the success of all data initiatives*



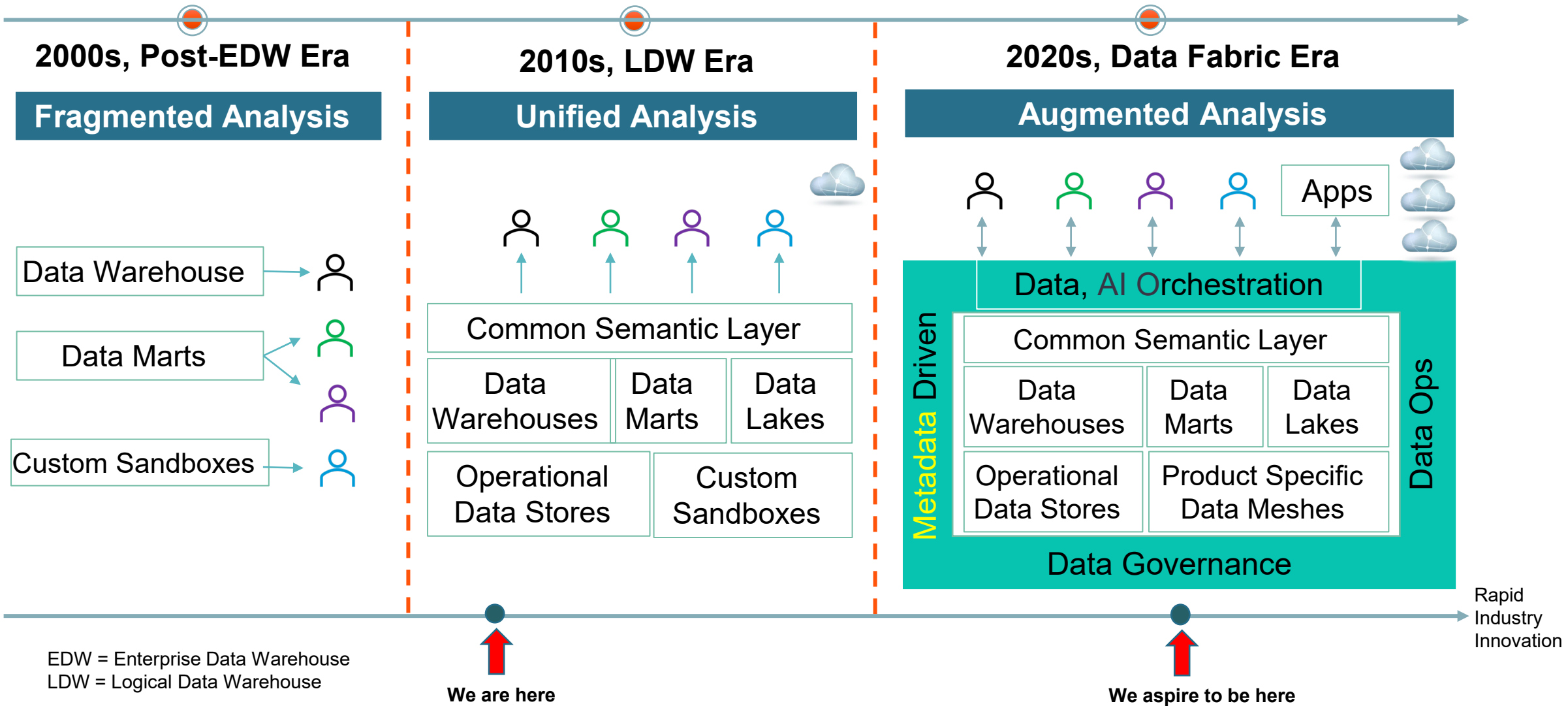
03 Data Architecture

- *How and where is data collected, transformed, stored and analysed.*



FOCUS ON DATA ARCHITECTURE

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement



EDW = Enterprise Data Warehouse
LDW = Logical Data Warehouse

We are here

We aspire to be here

DATA GOVERNANCE

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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

- Manage the **availability** and usability of data in enterprise systems
- Focus on **security** processes to manage and protect data, and mitigate vulnerabilities

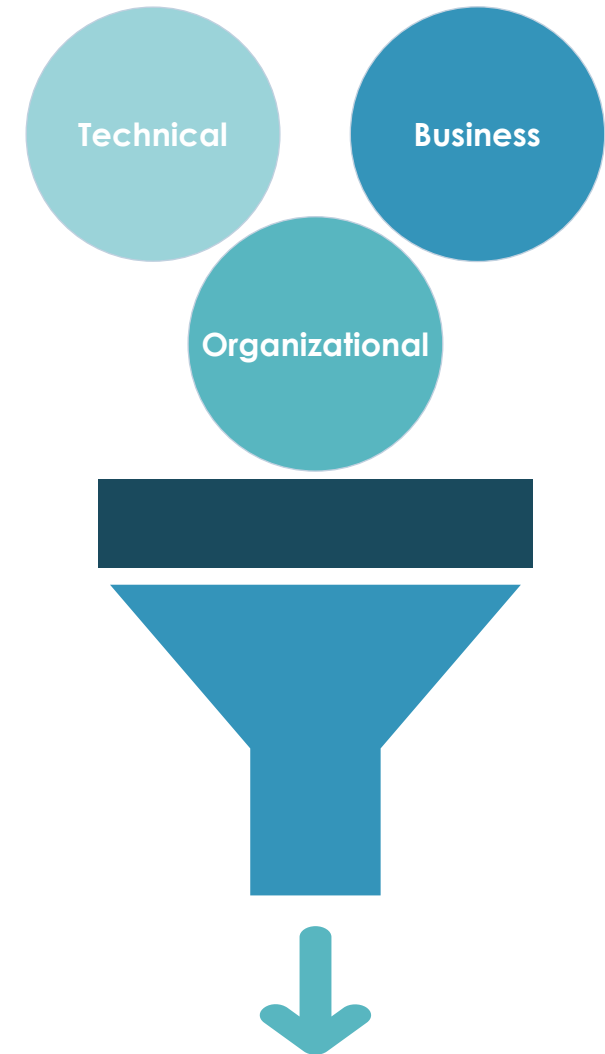
Organizational

- Build **data literacy** to empower Team ND to use data efficiently
- Exercise **control over data** sets, create definitions; determine retention and lifecycle policies

Business

- Respond to threats from changing tech and the **regulatory** landscape
- 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.



DATA STEWARDSHIP & GOVERNANCE ROLES

Closing
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Gaps

Enable
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Policy Setting
"Data Governance"

Policy Enforcing
"Stewardship"

Policy Execution
"Maintenance"

FIFA



- Defines rules, policies, procedures, priorities
- Business authority, accountability, responsibility
- Centralized

Soccer Referees



- Interprets exceptions to policies, monitors/resolves
- Business led activities with NDIT support
- Distributed

Soccer Players



- 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.

DATA GOVERNANCE: IMPLEMENTATION

Closing
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Gaps

Enable
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Business
Engagement

Organizational Framework



- Conduct systematic **review** of all organizational data processes

Data Governance Charter & Policy



- Publish draft of data governance **charter and procedures** for review

Implementation Plan



- Create execution plan with well defined **KPIs and metrics**

Role Definition and Enablement



- Train & enable **data stewards** across NDIT and partner agencies

Seating a Data Governance Council



- Establish the data governance **oversight council**

Establishing a Data Governance council requires dedicated resources to create collateral, educate and train stakeholders and data stewards. Having a statewide data governance policy will provide a way to standardize and support data initiatives for various agencies.

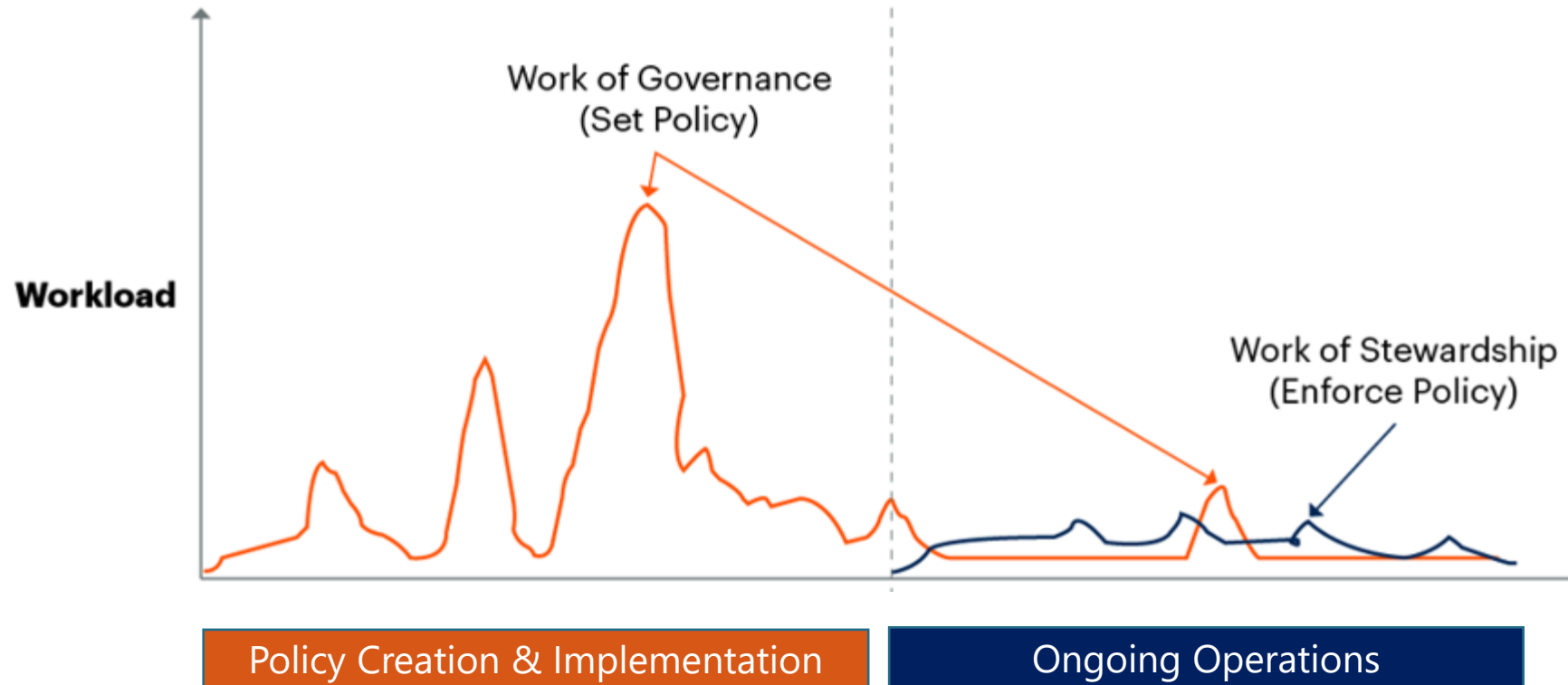
DATA GOVERNANCE TIMEFRAME

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



The time-consuming and expertise-heavy part is establishing a data governance policy that is understood and accepted by all stakeholders. Ongoing operations related to data will be much smoother once the data governance framework is in place.

GOVERNANCE, RISK, AND COMPLIANCE

Closing
Workforce
Gaps

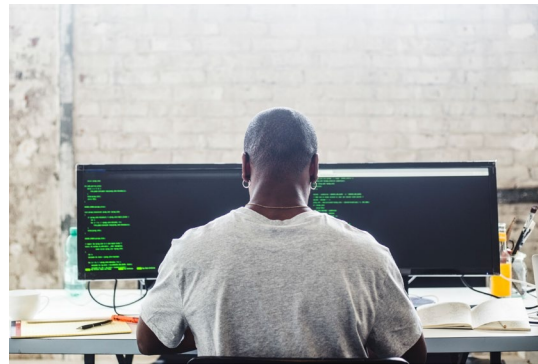
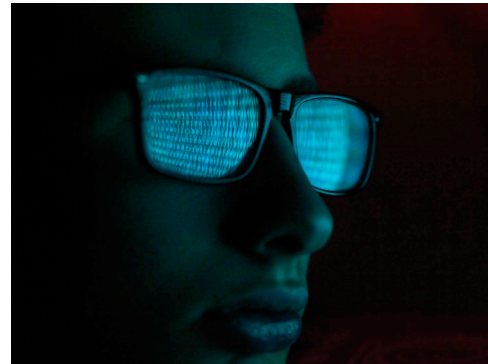
Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

NDIT 2023-2025 Governance, Risk and Compliance

Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	4.0	\$ 298,868	\$ 800,676	\$ -	\$ 1,099,544
One-Time Funding (DPI SF Transfer)		1,350,000	10,000,000		11,350,000
House Adjustments - ongoing funds	(3.0)	-	(800,676)	-	(800,676)
One-Time Funding (DPI SF Transfer)		(750,000)	(5,143,124)	-	(5,893,124)
Total	1.0	898,868	4,856,876	-	5,755,744



A blurred background of a library with bookshelves and warm lighting. The image is out of focus, showing rows of bookshelves on the left and a bright, bokeh-filled area on the right, suggesting a well-lit interior space.

STATEWIDE LONGITUDINAL DATA SYSTEM (SLDS)

SLDS GROWTH & ENHANCEMENTS

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement



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.



SLDS 2021-2022 KEY ACCOMPLISHMENTS

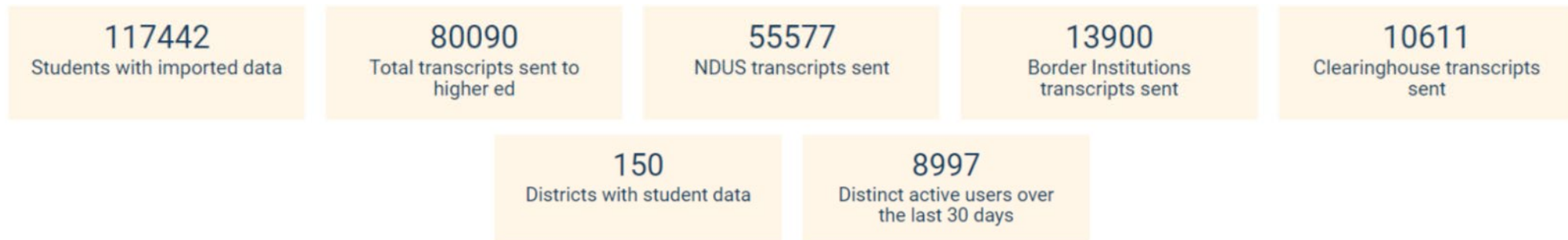
Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- 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.



BUDGET DETAILS (1): ONGOING FUNDING

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

Area	Resource	Budget
Digital Credentialing	Vendor & Internal Staff	\$1,000,000
Development and Maintenance of Insights and Education Portal	Contractors	\$ 720,000
Project Management	Internal Staff	\$ 65,000
Analytics Resources	Internal Staff	\$ 400,000
Education Portal Redesign	Vendor & Internal Staff	\$ 100,000
Cloud Costs	Infrastructure	\$ 75,000
Additional Domains e.g. DOCR	Vendor & Internal Staff	\$ 100,000
Marketing of ND Insights	Vendor & Internal Staff	\$ 40,000
Federal Fund Cash Flow for IT Services	Budget Item	\$ 500,000
		\$3,000,000

BUDGET DETAILS (2): ONE-TIME FUNDING

Closing Workforce Gaps

Enable Decision Making

Managing Risk

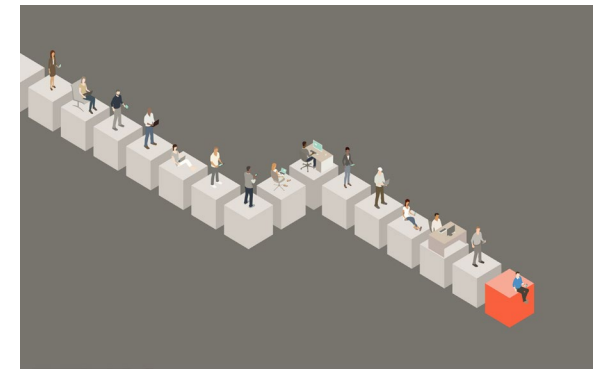
Citizen and Business Engagement

Area	Resources	Budget
CTE: Annual federal reporting, deep dive into apprenticeship programs, statewide evaluation, and dashboarding	Vendors & Internal Staff	\$1,075,000
DPI: Federal reporting/dashboards, geospatial maps for education		
NDUS: Datawarehouse expansion and support, federal reporting		

STATEWIDE LONGITUDINAL DATA SYSTEM (SLDS)

NDIT 2023-2025 Executive Budget - SLDS

Program - SLDS	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	0.0	\$ 3,000,000	\$ -	\$ -	\$ 3,000,000
One-Time Funding		1,075,000	-	-	1,075,000
House Adjustments - ongoing funds	0.0	(3,000,000)	-	-	(3,000,000)
One-Time Funding		(1,075,000)	-	-	(1,075,000)
Total	0.0	-	-	-	-





K12 CLASSLINK

CLASSLINK

Closing Workforce Gaps







Enable Decision Making

Managing Risk

Citizen and Business Engagement

- Pilot (2022)
 - Easy, fast, and secure way for students and families to use classroom technology
 - 24 districts with 21,000 students and teachers.
- Single Sign-On
 - Simplify access to educational technology tools
 - Increased Security for educational tools
- Analytics
 - Show tool usage by the district, school, classroom, and student to help educators and leaders make decisions on educational tools
- Support
 - Implementation and Training Resource
- Replaces Aging Identity Management Infrastructure



 LaunchPad End the painful student login process. Save time and cut confusion with single sign-on to a library of 6,000+ connectors. Learn More	 Analytics Make informed purchasing and training decisions with access to usage data for all of the digital resources in your district. Learn More	 Roster Server Deliver class rosters to all of your digital learning resources instantly and securely using open data standards. Learn More
 OneSync Reduce the time it takes to create and manage student and staff accounts with secure, automated account provisioning. Learn More	 Analytics+ Gain usage data for all the digital resources used on school-owned devices, even those accessed outside of ClassLink. Learn More	 MFA ClassLink supports MFA (multi-factor authentication) for users based on their profile. Choose from several second-factor options. Learn More

K-12 CLASSLINK

Closing
Workforce
Gaps

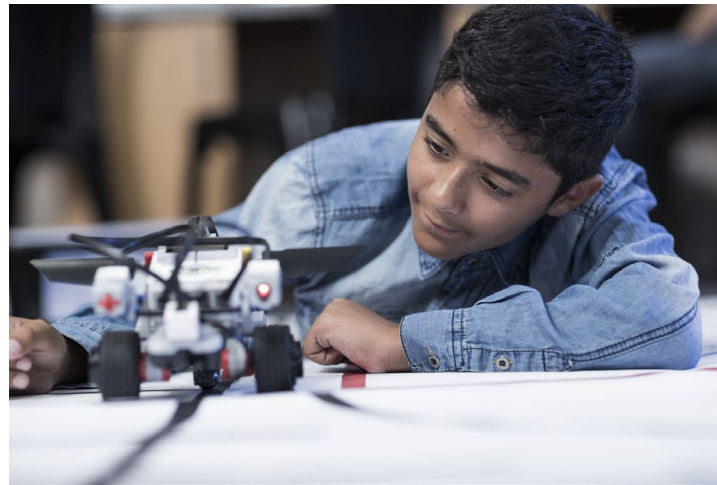
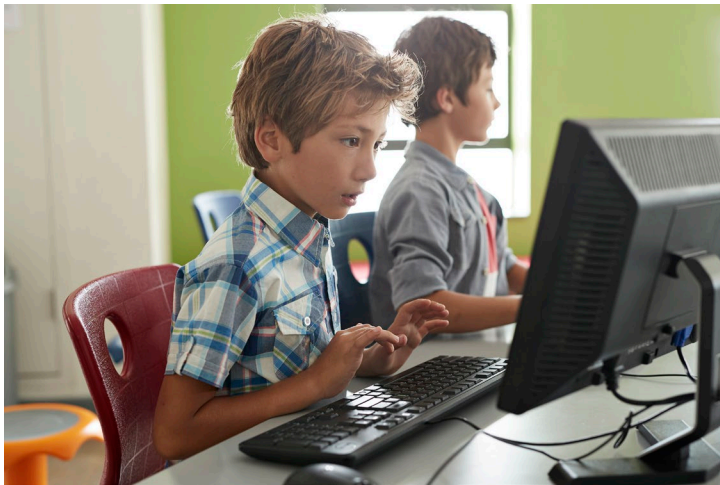
Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

NDIT 2023-2025 Executive Budget - K-12 Classlink

Program - K-12 Network	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	2.0	\$ 1,905,888	\$ -	\$ -	\$ 1,905,888
House Adjustments - ongoing funds		-	-	-	-
Total	2.0	1,905,888	-	-	1,905,888





NORTH



DAKOTA

STATE CAPITOL

SECURITY EXPERT

SECURITY EXPERT

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Whole of Government Approach to Security and Maintenance Systems
- Current system is End Of Life Soon
 - New physical hardware not compatible with current system
 - No Mobile Support
- Benefits
 - Modern system with modern authentication
 - More secure facilities at the Capitol Complex
 - Better reporting for security access
 - Visibility into the enterprise
 - Single Solution for all facilities on Capitol Campus
 - Hosted in a standard data center environment



SECURITY EXPERT

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Phase I (approximately 300 Doors)
 - Capitol Tower and LW
 - Judicial Wing
 - Other Capitol Complex Buildings
 - DOT (operational only)
 - Highway Patrol
- Other Agency Interest
 - WSI
 - BND
 - Game and Fish
- Doors and Door Controllers
 - Approximately 300 Doors in Phase I



CAPITOL UPGRADES

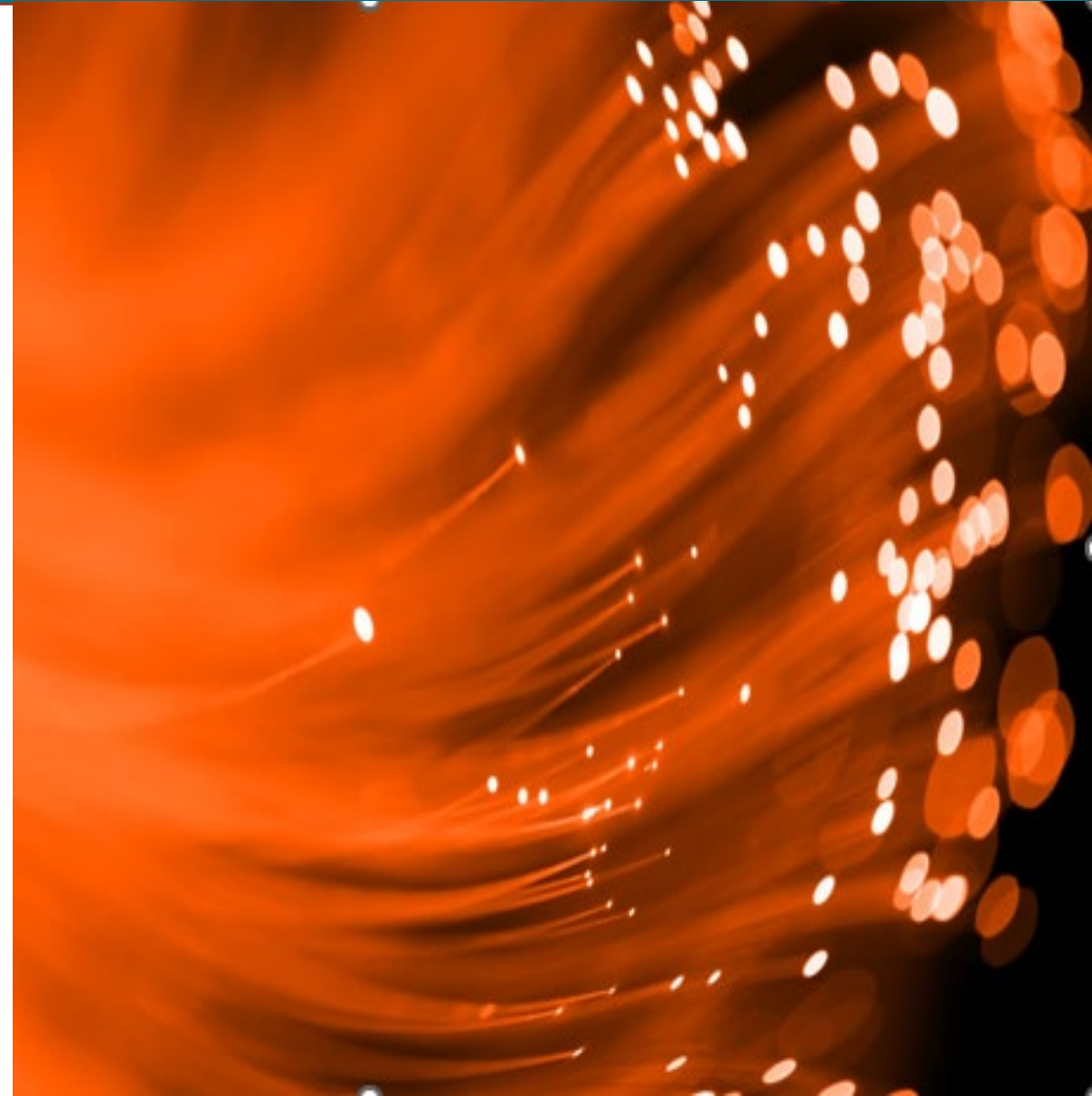
Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Aging Capitol Network Infrastructure
 - Current fiber cabling is 15-25 years old
 - Inconsistent with current standards
 - Difficult and time consuming to run new fiber
- Benefits
 - Faster Wireless
 - Faster 100 GB Network
 - Faster Connectivity to the Data Center in the Capitol Building
 - Easier and faster to replace damaged cables
 - Easier to add capacity in the future



SECURITY EXPERT (DOOR SECURITY)

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

NDIT 2023-2025 Executive Budget - Security Expert

Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	0.0	\$ 226,900	\$ -	\$ -	\$ 226,900
One-Time Funding (SIIF)		-	2,499,467	-	
House Adjustments - ongoing funds		-	-	-	
One-Time Funding (changed to ARPA)	0.0	-	-	-	-
Total	0.0	226,900	2,499,467	-	226,900





STATEWIDE INTEROPERABLE NETWORK (SIRN)

STATEWIDE INTEROPERABLE RADIO NETWORK (SIRN)

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- **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

PUBLIC SAFETY COMMUNICATIONS IN ND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- What are Public Safety Communications?

PUBLIC SAFETY COMMUNICATIONS IN ND

- 20,000 Users & Devices
- 900+ Public Safety
 - 114 Law Enforcement Agencies
 - 175 EMS Departments
 - 359 Fire Agencies
- Public Sector Entities
 - Public Works, Highway Depts, Public Health, Hospitals & School Transportation

PUBLIC SAFETY COMMUNICATIONS IN ND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Why SIRON?

SIRON HISTORY

CHALLENGES IDENTIFIED



**NORTH DAKOTA
STATEWIDE
INTEROPERABLE
RADIO NETWORK**

- Lack of Coverage
- “End of Support” for 40% of communications equipment in 2018-2020
- Dozens of fragmented systems
- Lack of features required by public safety community
- Cumbersome Interoperability
 - Limited communication capabilities between jurisdictions & disciplines
- Interference
- Unreliable “In-Building” Service

PUBLIC SAFETY COMMUNICATIONS IN ND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- What are we 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

PUBLIC SAFETY COMMUNICATIONS IN ND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

➤ **SIRN Project Has 3 Main Phases**

- **Phase 1: Backhaul and PSAP Console Replacement**
- **Phase 2 – Group 1: Radio Frequency (RF) Buildout for Mobile (In-Car Radio) Coverage to include Simulcast Early Adopter Locations**
- **Phase 2 – Group 2: Radio Frequency (RF) Buildout for Portable (Handheld Radio)**

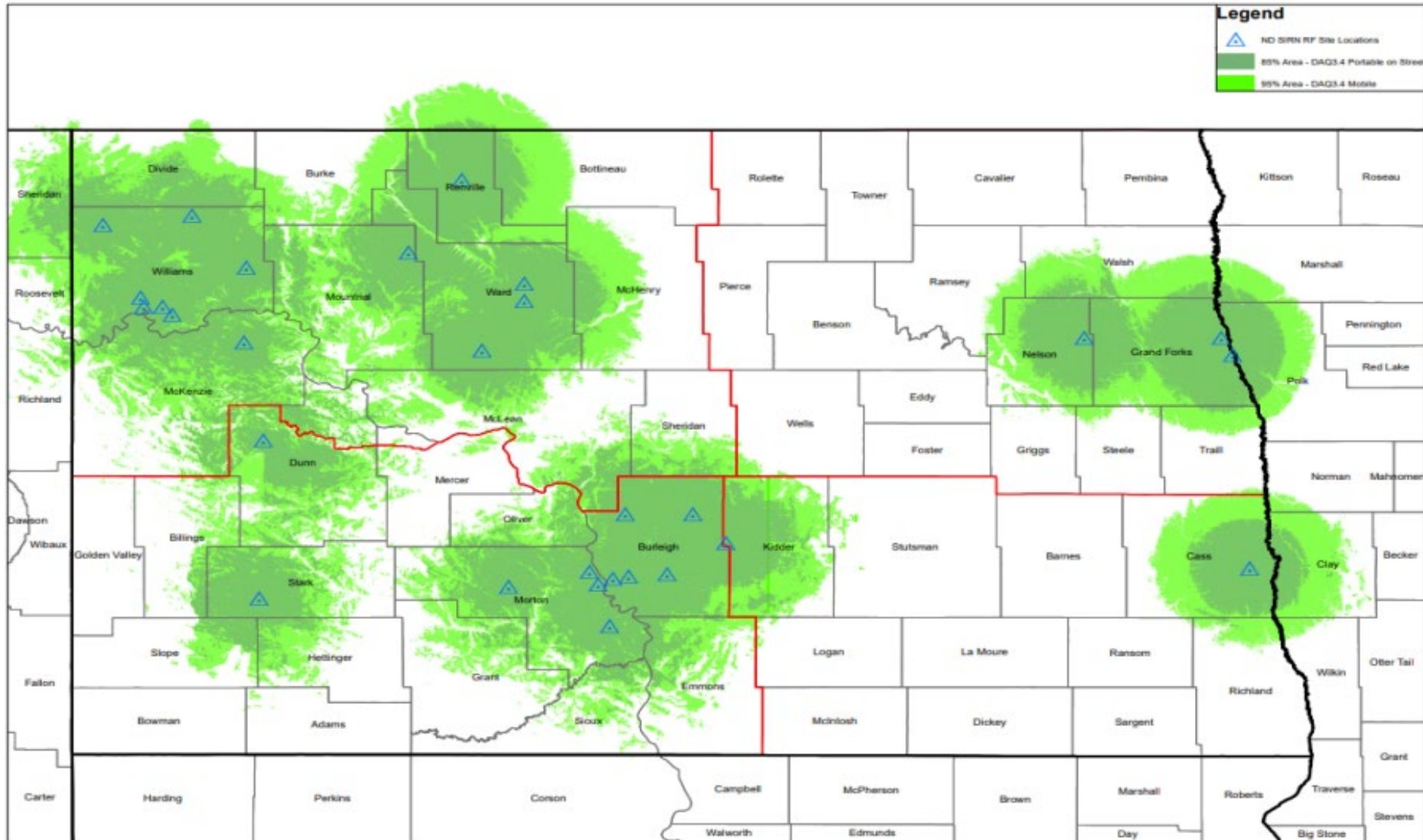
PUBLIC SAFETY COMMUNICATIONS IN ND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



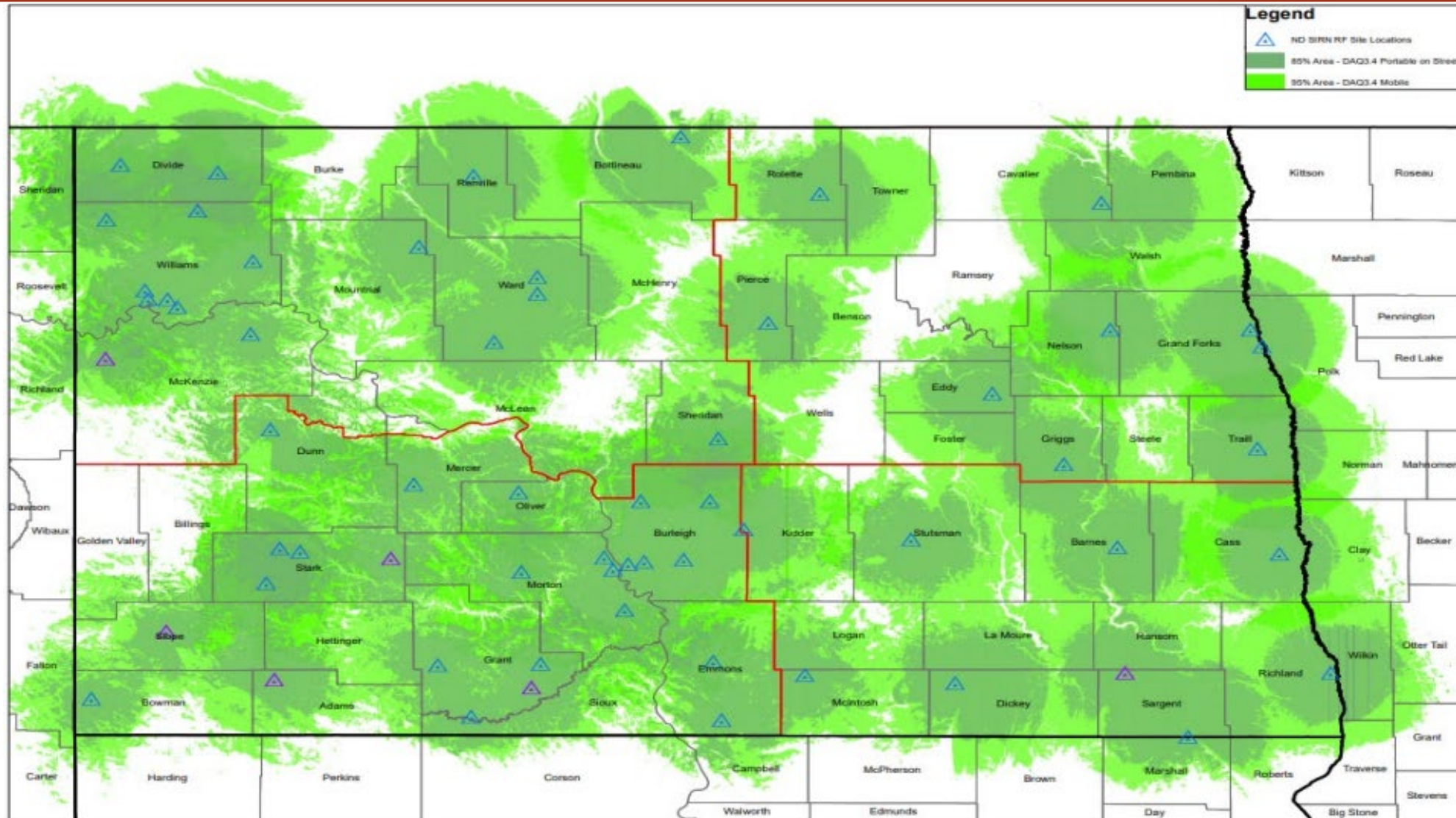
PUBLIC SAFETY COMMUNICATIONS IN ND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



PROJECT TIMELINE AND ESTIMATES

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

SIRN

PROJECT STATUS



- **2019** May - Project Kick Off
- **2019-2022** – 21 of 23 PSAPs cutover, approximately 65 sites complete (not all active)
- **2023** – Statewide Mobile Complete
- **2025** - Estimated Statewide Portable Complete



STATEWIDE INTEROPERABLE RADIO NETWORK (SIRN)

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

NDIT 2023-2025 Executive Budget - Statewide Interoperable Radio Network

Program - Public Safety (E911/SIRN)	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	0.0	\$ -	\$ 4,200,000	\$ -	\$ 4,200,000
One-Time Funding (BND Profits)		-	20,000,000	-	20,000,000
House Adjustments - ongoing funds		-	-	-	\$ -
One-Time Funding (HB 1242)		-	(20,000,000)	-	\$ (20,000,000)
Total	0.0	-	4,200,000	-	4,200,000



A hand in a blue shirt points at a bar chart on a tablet screen. The chart consists of seven white wireframe bars of varying heights. The background is a blurred blue fabric.

ENTERPRISE DIGITIZATION

ENTERPRISE DIGITIZATION

Closing
Workforce
Gaps

Enable
Decision
Making

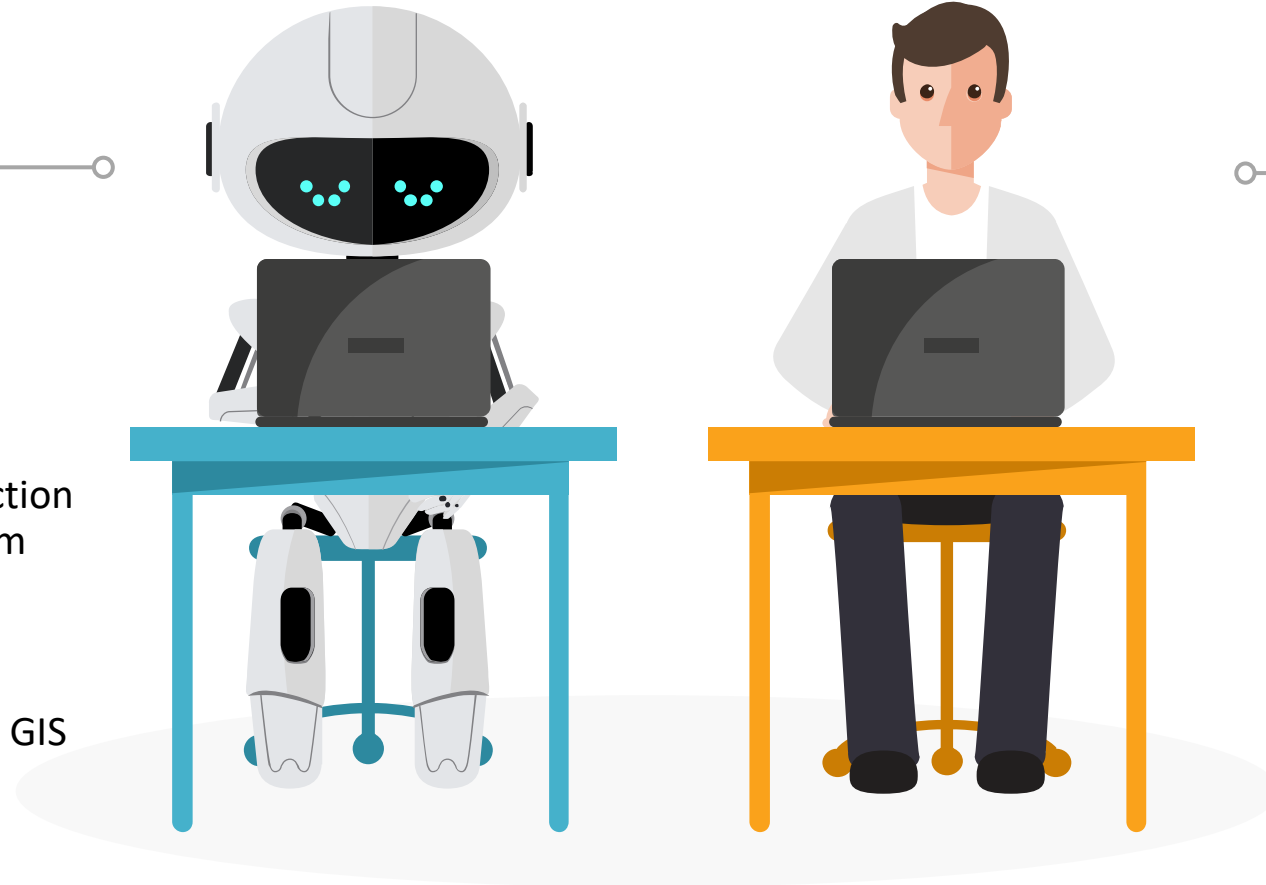
Managing Risk

Citizen and
Business
Engagement

• Intelligent and Modern Tools

MODERN TOOLSETS

- Lower Human Cost
- Modern Capabilities
 - Cloud Computing
 - Better Reporting
 - Simplify State Interaction through Modern Form Solutions
- More Secure
- Mapping Integrations with GIS



TRADITIONAL SYSTEMS

- Traditional capabilities have served us well for 15 years, but we need to modernize to meet the needs of all stakeholders
- Mainframe
- Traditional Infrastructure
- Legacy Coding Languages
- Paper forms that have to be digitized manually or through expensive software

ENTERPRISE DIGITIZATION - MAINFRAME

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

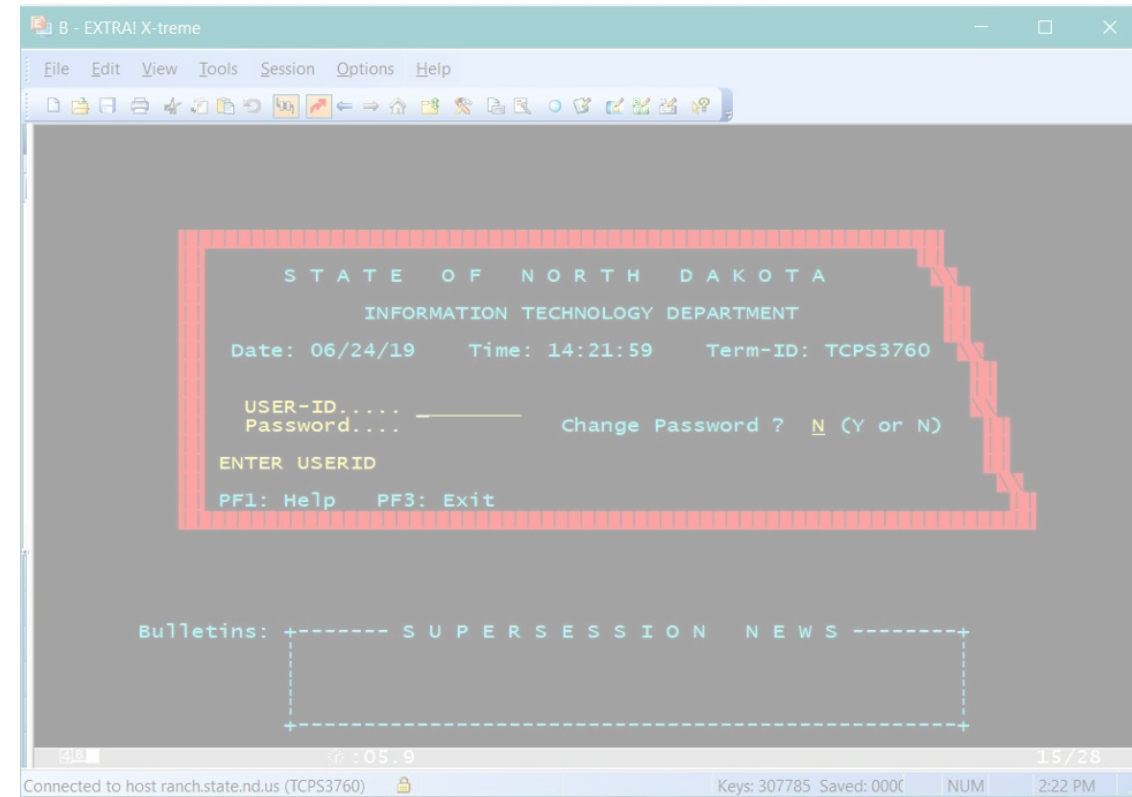
Citizen and
Business
Engagement

- History

- Developed in the 1960's
- Many enhancements over the years
- The hardware is new and replaced regularly

- Challenges

- Anchor Tenants (DHS/DOT) are moving rapidly off the mainframe by modernizing large applications



ENTERPRISE DIGITIZATION - MAINFRAME

Closing
Workforce
Gaps

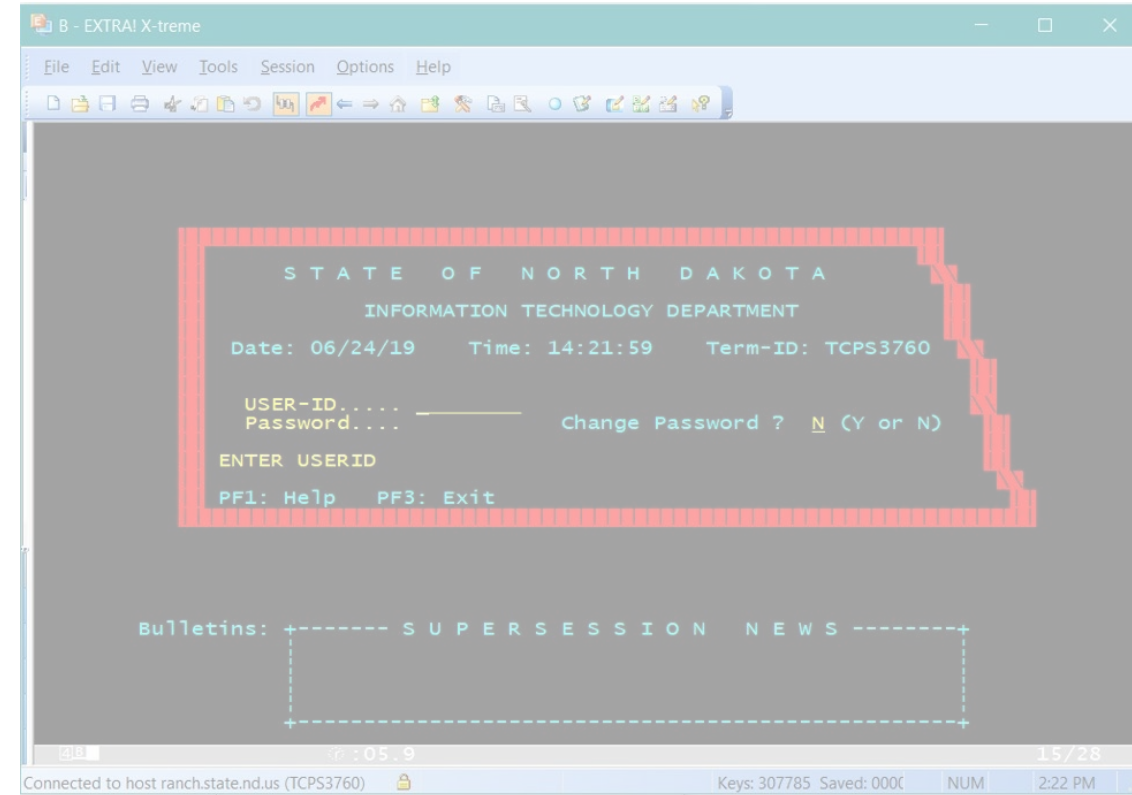
Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Challenges

- Workforce
 - Non-relevant/scarce skillset
 - Increased cost to support through service contracts
 - Security Challenges with vendor support
- Increased Cost to Support
- Last Agency Standing



ENTERPRISE DIGITIZATION - FORMS

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Forms History

- 8000 State Form Numbers
- Fillable PDF's are everywhere
 - Available on Websites and Distributed Everywhere
 - Manual or Semi-Manual process to extract the data

- The Goal

- Modernize Forms to Eliminate Paper
- Collect Data
- Sunset Products that lack modern support
- Simplify the interaction with State Government



GEOSPATIAL PROGRAM AT A GLANCE

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

642 average downloads/month	545,742 average web service transactions/day	10 databases	173 web services
15 responsible agencies	353 database user IDs	64 public apps & maps	79.5 TB storage
17 statewide imagery datasets	21 years in operation	320 public layers	19,886 average web application transactions/mo

GEOSPATIAL PROGRAM AT A GLANCE

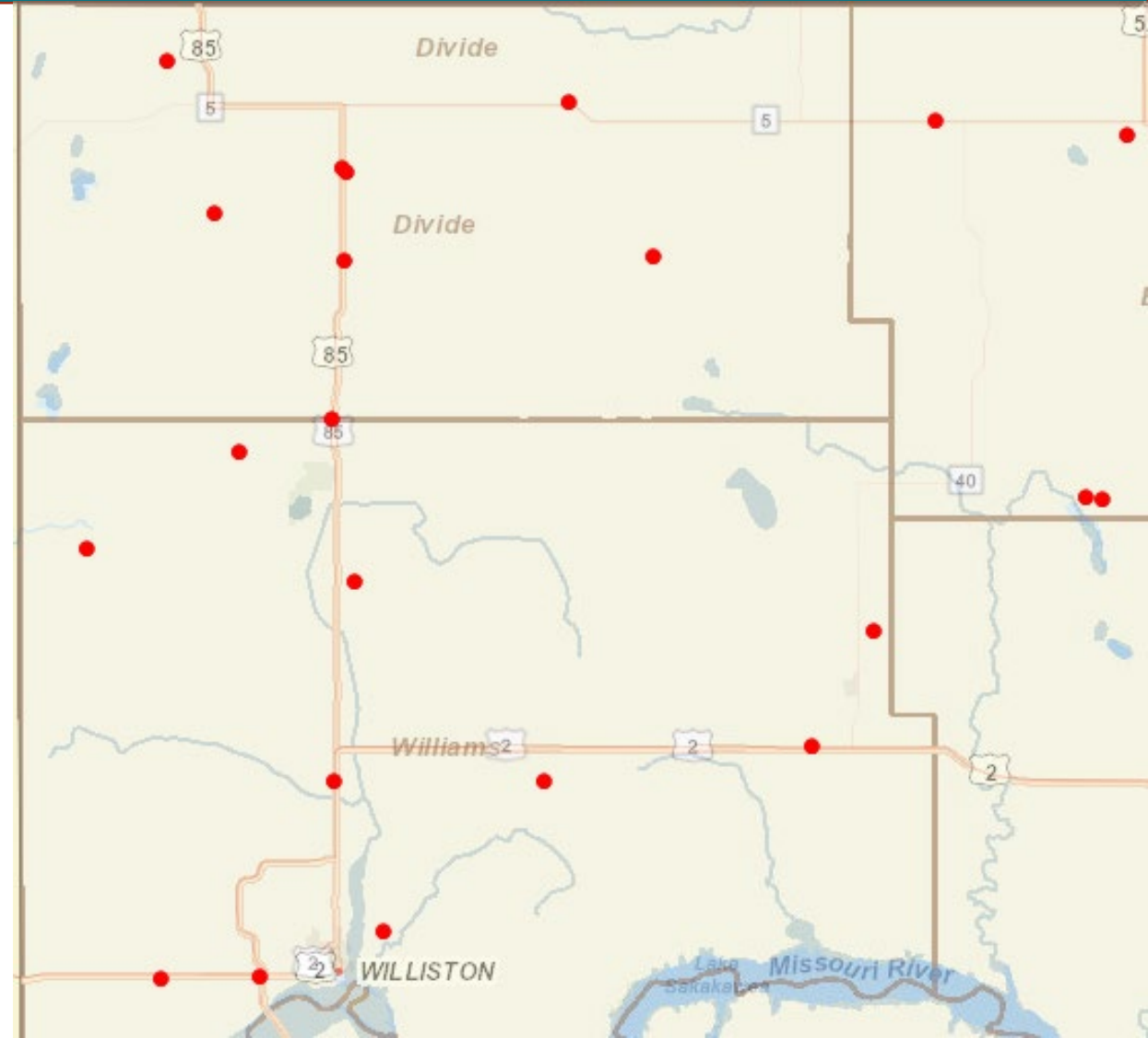
Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Examples of Layers
 - Cell Phone Tower Locations
 - Earthquake Locations (History)
 - Rock Formation Layers (History)
 - Hospitals/Trauma Regions of the State
 - State Park Locations
 - Watersheds



IT STANDARDIZATION, APPLICATIONS & SECURITY

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



To Consolidate & Standardize IT Services Under One Umbrella Through NDIIT:

- WHY?
 - Standardization
 - Risk associated with Knowledge
 - Simplify interactions with other agencies on standardized systems

IT STANDARDIZATION, APPLICATIONS & SECURITY

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

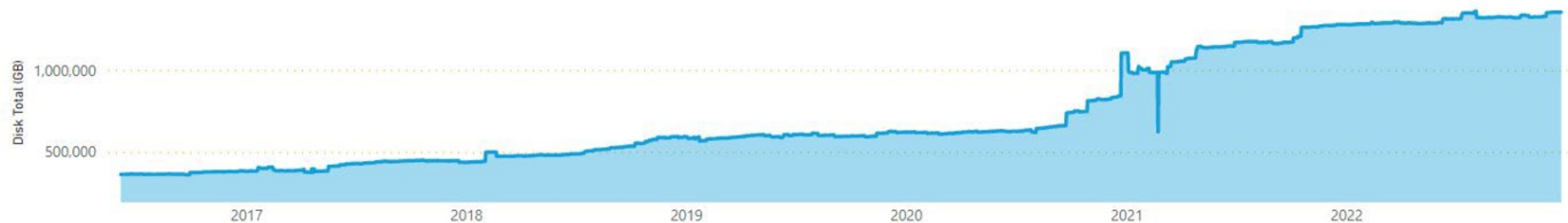
Citizen and
Business
Engagement

■ Current Constraints

- Support Teams have had considerable growth
- Dedicated Resources
- Existing Growth in Services
 - Data Growth of over 400%
 - 40% Growth in Hosted Platforms



Disk Growth



IT STANDARDIZATION, APPLICATIONS & SECURITY

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



To Consolidate & Standardize IT Services Under One Umbrella Through NDIIT:

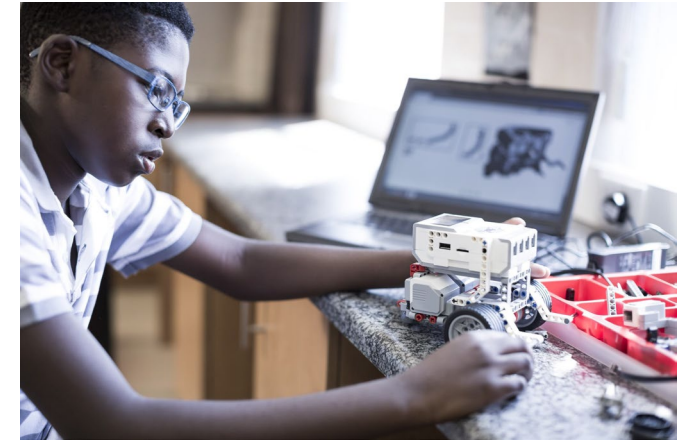
- File/Data Services
 - 30+ TB of File Services
 - 2 Petabytes of data
- Server Infrastructure (Big Data Compute and Storage)
 - Data Processing and Hosting
 - Over 2 Petabytes of Data

ENTERPRISE DIGITIZATION



NDIT 2023-2025 Enterprise Digitization

Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	5.0	\$ 3,245,000	\$ 1,096,138	\$ -	\$ 4,341,138
One-Time Funding		-	950,000	-	950,000
One-Time Funding (SIIF)		-	24,250,000	-	24,250,000
House Adjustments - ongoing funds		\$ (745,000)	\$ -	\$ -	(745,000)
One-Time Funding		-	-	-	-
One-Time Funding (SIIF)		-	(15,200,000)	-	(15,200,000)
Total Executive Budget	5.0	2,500,000	11,096,138	-	13,596,138





CUSTOMER SUCCESS

CUSTOMER SUCCESS

Trusted advisors and business partners, committed to helping customers achieve business goals



Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

CUSTOMER SUCCESS SUPPORT

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

5
Customer Success
Managers

26
Agencies
Assigned

36
Additional
Agencies
Supported

CSM Current Portfolio

- Dept. of Human Services
- Dept. of Health

- Dept. of Commerce
- Dept. of Public Instruction
- Dept. of Corrections
- Game & Fish
- Dept. of Environmental Quality
- Parks & Rec
- Trust Lands
- Insurance Commission
- Water Resources

- Dept. of Emergency Services/Adjutant General
- Dept. of Transportation
- Highway Patrol

- Job Service of ND
- Counsel of Indigents
- Veterans Affairs
- Dept. of Agriculture

- Aeronautics
- Securities
- Governor's Office
- Labor & Human Rights
- Retirement and Investment Office
- Office of Management & Budget
- Dept. of Financial Institutions
- Indian Affairs

Other Agencies Supported

- Administrative Hearings
- Attorney General
- Beef Commission
- Career and Technology Education
- Center for Distance Education
- City of Bismarck
- Dickinson State University
- Education Standard Board
- Grand Forks County Auditor
- Historical Society
- Housing Finance Agency
- Industrial Commission
- Industrial Commission – Gas and Oil
- Information Technology
- Labor Commission
- Land Dept.
- Legislative Council
- Life Skills and Transition Center
- Milk Marketing Board
- Napoleon School
- ND Council of the Arts
- ND Ethics Commission
- ND Racing Commission
- ND State Library
- ND Vision Services/School For The Blind
- Oilseed Council
- Plumbing Board
- Private Investment & Securities
- Protection & Advocacy
- Secretary of State
- State Auditor
- Supreme Court
- Tax Department
- Veteran's Home
- Ward County Auditor
- Workforce Safety & Insurance

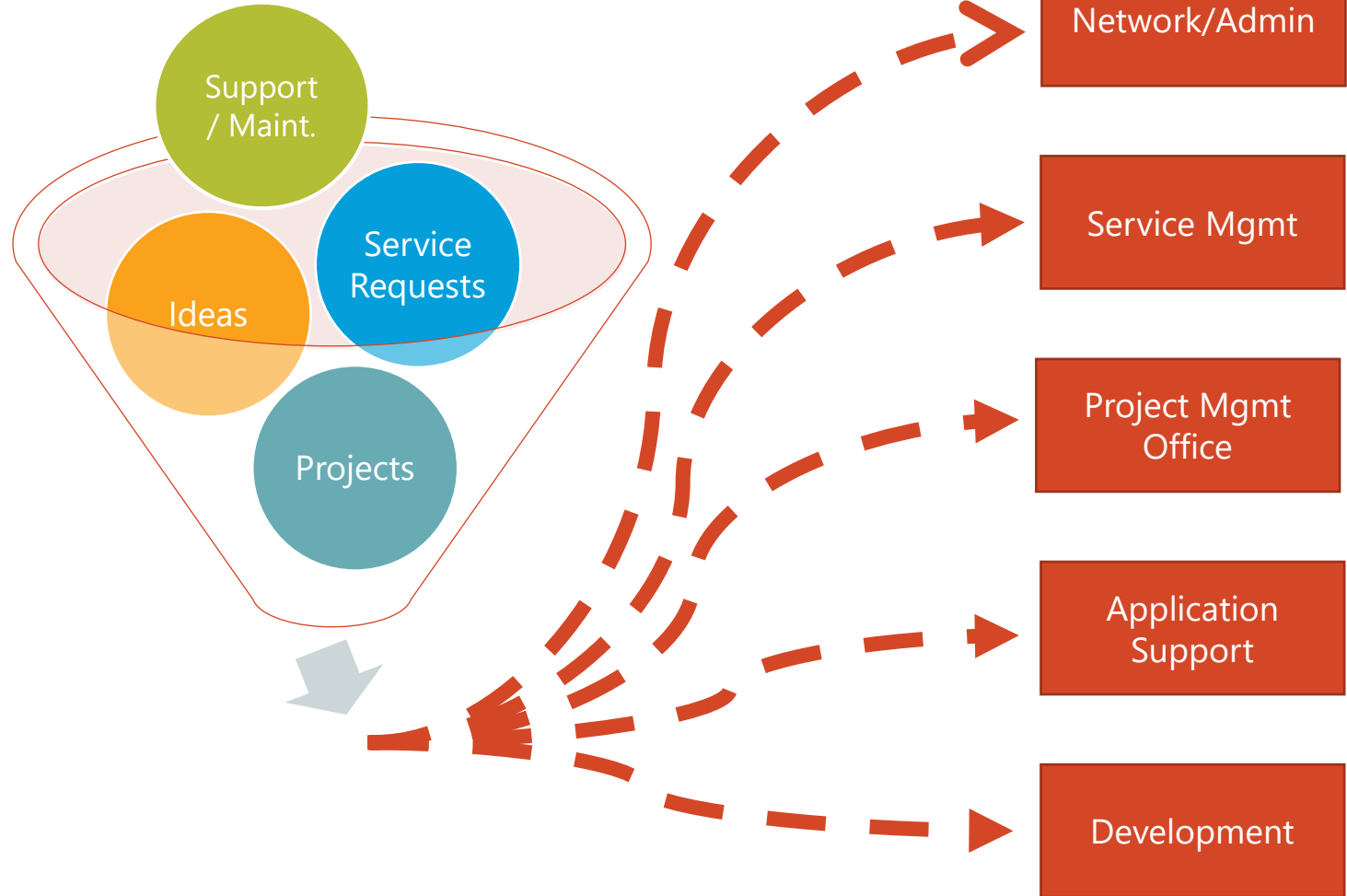
CURRENT STATE- WORKFLOW

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

Agencies

NDIT

Non-State Agencies



CUSTOMER SUCCESS INTAKE PORTFOLIO

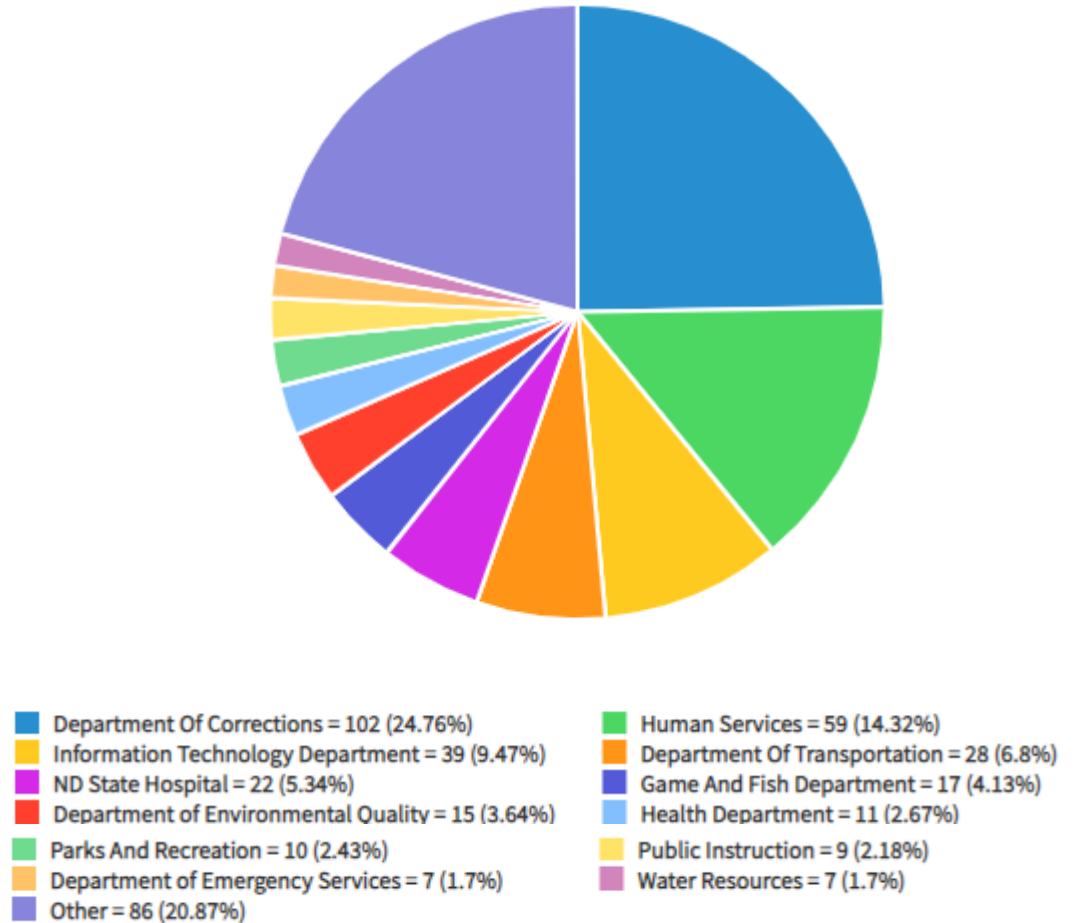
Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

668

Initiatives assigned since **1/5/2021**

412

Still active and following



CURRENT STATE- CHALLENGES

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement



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

FUTURE STATE- ENTERPRISE PORTFOLIO MANAGEMENT

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

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



CUSTOMER DEMAND

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

NDIT 2023-2025 Customer Success Management

Program - NDIT Operations	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	2.0	\$ 2,569,700	\$ (2,050,884)	\$ -	\$ 518,816
House Adjustments - ongoing funds		-	-	-	-
Total Executive Budget	2.0	\$ 2,569,700	\$ (2,050,884)	\$ -	\$ 518,816





NDIT RESOURCES

NDIT RESOURCES & INFLATIONARY INCREASES

Closing Workforce Gaps

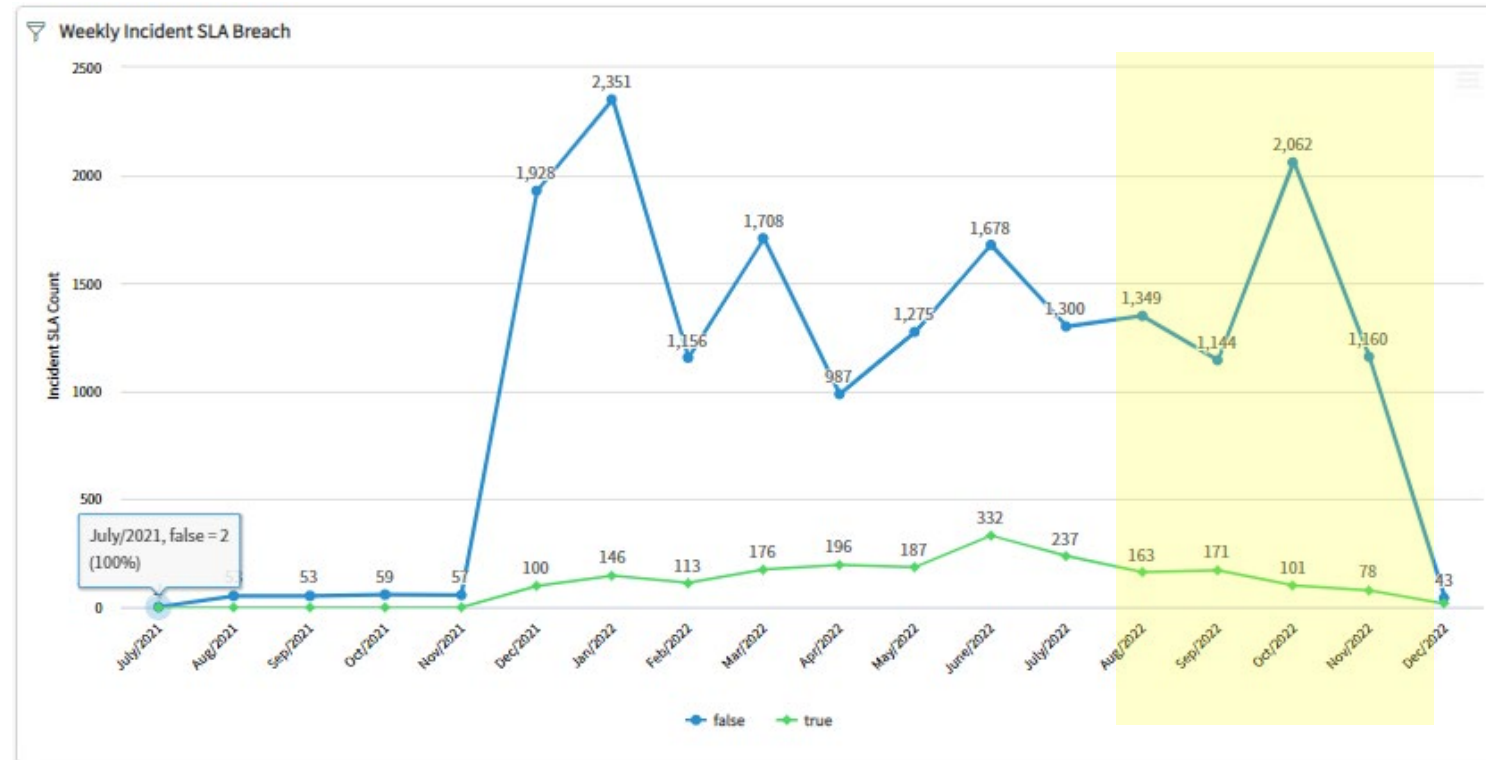
Enable Decision Making

Managing Risk

Citizen and Business Engagement

■ Second Tier Support

- Shifted Work Left
 - Lower Overall State Cost
 - All Access Control Requests
 - Public Safety Support
 - 15-20% Network Growth Through 2025
 - Added 5 Contractors in 2022 based on customer feedback to address growth in work
 - SLA breaches dropped by over 50%



NDIT RESOURCES & INFLATIONARY INCREASES

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

Cloud/Hosting Platforms

- Every administrator is responsible for 80+ "servers" on average.
 - Fully Managed Services including all Application/Security updates
 - Supporting 1000's of applications across:
 - Azure Cloud
 - Private Cloud (On-Premise)
 - Over 20 Petabytes of Data
 - Ex. 260 years of HD Videos
 - 40% growth in data and hosting services since 2017

Ratios

80:1 FTE

Key Metrics

2,300 Servers

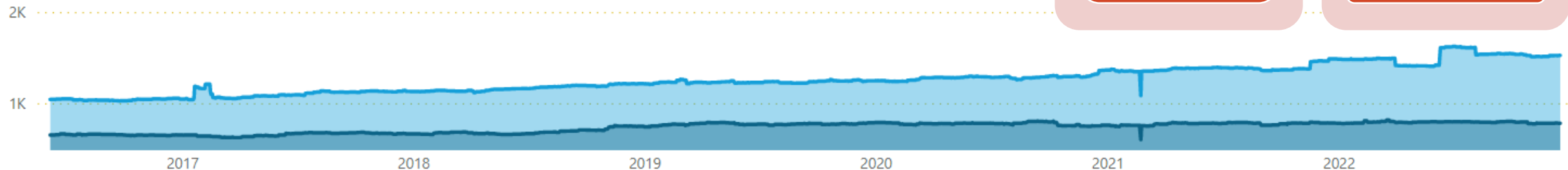
2 Cloud Environments

3000+ Cloud Assets

20 Petabytes of Data

Active VMs by Date

Environment ● Production ● Test



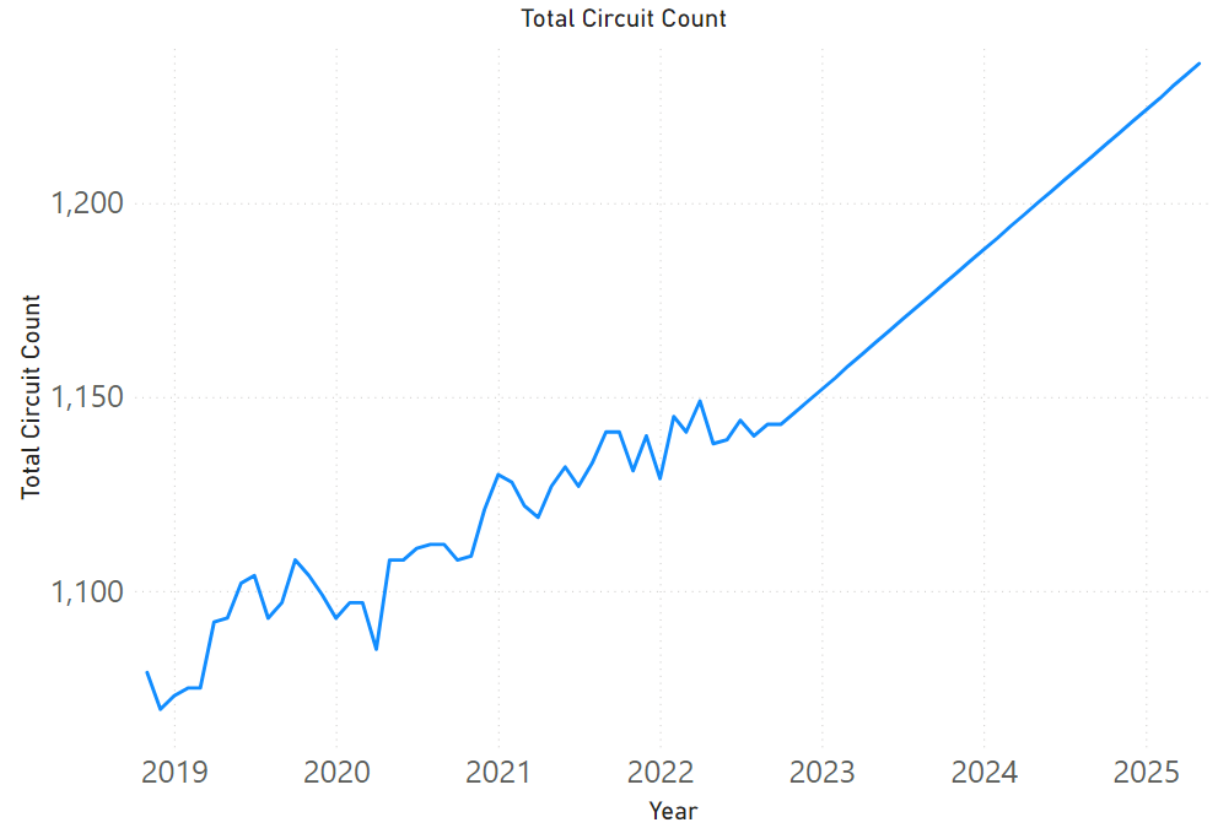
NDIT RESOURCES & INFLATIONARY INCREASES

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

Network - STAGeNet

- 6000 Production Devices
 - Wireless Access Points
 - Switches
 - Firewalls
 - Routers
- 1000 Locations across the entire State
- ~20 FTE
- 252,000 endpoint/devices connect to StageNet
 - Responsible for nearly all Public Safety/Law Enforcement, Education, Drones, in the State of North Dakota.
 - Failures in this realm can put lives at risk.

Circuit Growth from 2019 – 2025 (Projected with BVLOS and SIRN)



NDIT RESOURCES & INFLATIONARY INCREASES

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

Intelligent Transportation Systems

- PTZ Highway Cameras
- Message Boards
- Collision Warning Systems
- Mobile RWIS (Snowplows)
- Automatic Traffic Recorders



ITS Systems -
2011

47

ITS Systems -
Present

335

*1447 Individual
Devices

ITS Systems -
Planned

~500+

NDIT RESOURCES & INFLATIONARY INCREASES

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

Consolidated Public Safety Team

- Next Gen 911 Support (256,000 911 Calls each year)
 - Added six 911 Call Centers to Vesta last Biennium
 - Added additional network redundancy
- SORN
 - Adding Centralized Radio Management
 - Tower Sites Increasing from 45 to ~150
 - New Department of Emergency Services CAD System (300% growth over the prior system) and providing modern capabilities.
 - Body Camera Support (150+) across Highway Patrol and other partner agencies.
- Silver/Amber Alerts
- This technology directly impacts citizens at times when lives are on the line.
- Growing Need to Support all Public Safety Facilities (State Penitentiary, Correctional Centers) Technology

PUBLIC SAFETY COMMUNICATIONS IN ND



**NORTH DAKOTA
STATEWIDE
INTEROPERABLE
RADIO NETWORK**



WHAT IF WE DON'T DO ANYTHING

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- **Increased burnout** risk of existing FTEs. Higher turnover.
- **Unsustainable** to keep up efforts around threat prevention
- **Slower response times** to critical network/system outages
- **Reduced capacity** to take on work from our partner agencies across virtually all technology needs
- **Reduced ability** to grow our next generation of the State workforce



RETIREMENT CHALLENGE

Closing
Workforce
Gaps

Enable
Decision
Making

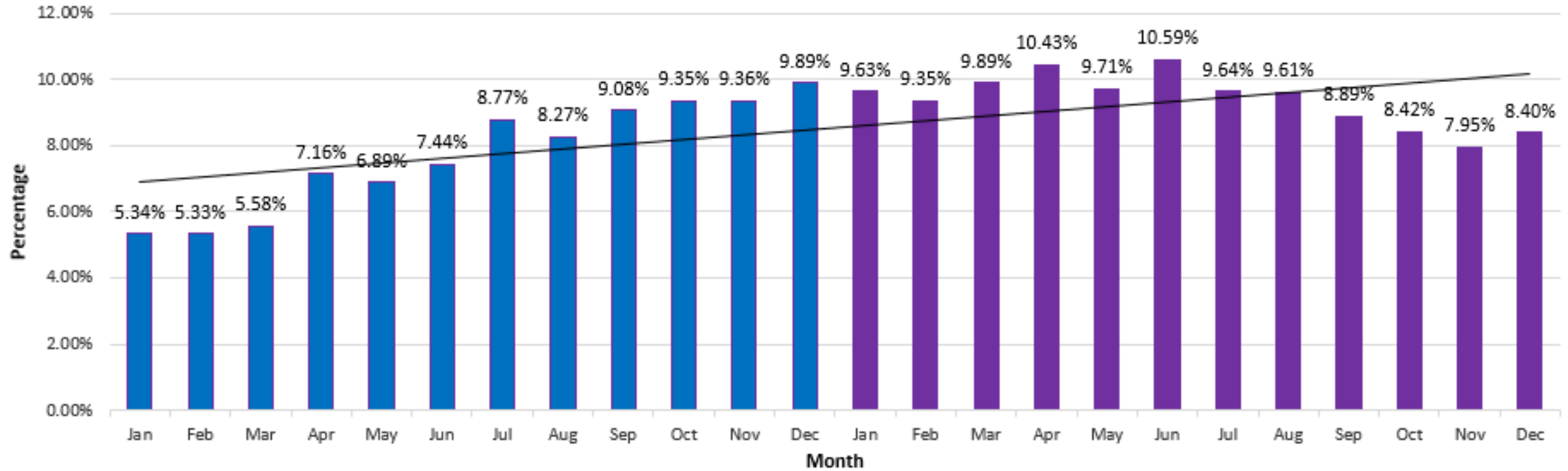
Managing Risk

Citizen and
Business
Engagement

Years to meet Rule of Eligibility	Total Employees			Management			Non-management		
	Management to FTE Ratio: .11								
	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	34	8.01%	8.01%	2	0.44%	0.46%	32	7.11%	8.33%
0-3 years	37	7.09%	15.10%	5	1.11%	1.56%	32	7.11%	14.22%
3.1 - 5 years	32	7.32%	22.42%	1	0.22%	1.78%	31	6.89%	21.11%
5.1 - 10 years	62	14.42%	36.84%	12	2.67%	4.44%	50	11.11%	32.22%
10.1 - 15 years	89	18.99%	55.83%	15	3.33%	7.78%	74	16.44%	48.67%
15.1 - 20 years	74	15.79%	71.62%	9	2.00%	9.78%	65	14.44%	63.11%
20.1 - 25 years	67	14.19%	85.81%	7	1.56%	11.33%	60	13.33%	76.44%
25+ years	55	14.19%	100.00%	0	0.00%	11.33%	55	12.22%	88.67%
Total	450	100.00%		51	11.33%		399	88.67%	

TURNOVER CHANGES

NDIT Turnover Trends: Jan 2021 - Dec 2022



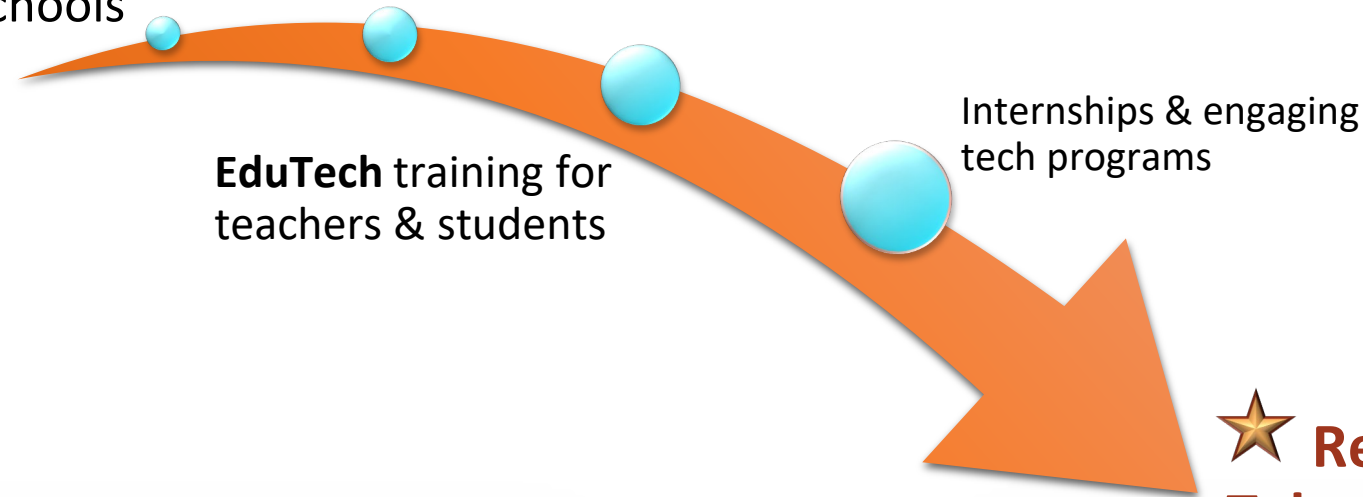
RESOURCES - BUILDING THE 21ST CENTURY WORKFORCE



Cyber Madness:
Middle & High Schools

Apprenticeships

Whole-of-State Vision



EduTech training for
teachers & students

Internships & engaging
tech programs

★ **Recruiting &
Talent Acquisition!**



Grow apprentice program



**Increase outreach to schools,
teachers & students through tech
training and programs.**



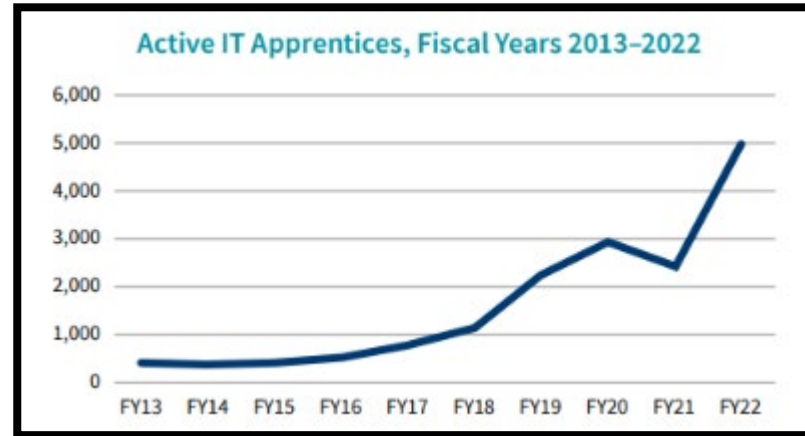
**Work with state higher education to
develop student SOC & increase
outreach to tech students.**

NDIT RESOURCES & INFLATIONARY INCREASES



Nationwide,
apprenticeships continue
to grow....

In 2022, there were nearly
5,000
Apprentices
in the IT industry



<https://www.apprenticeship.gov/sites/default/files/DOL-IndustryFactsheet-IT-v10a-web.pdf>

1 Apprentice

We would like to grow
this program to 6
apprenticeships
throughout NDIT



Over 80%
Conversion Rate
For Interns to
FTE's

2020-2021 Timeframe

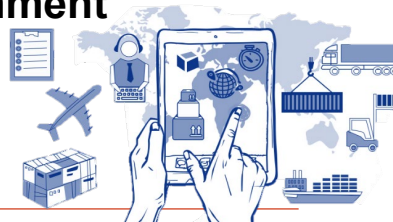
Barriers impacting the development and support of IT
workforce

1. Lack of qualified candidates

Top talent management practices to attract and retain
technical workforce nationwide in state government

1. Internships
2. Apprentice programs

2022 Deloitte – NASCIO Cybersecurity Study



STATS

- In 2020-21, ND Universities only graduated **289** students with a degree or certificate in Computer & Information Sciences
- **2,230:** Average Job Postings in the last 12 months
- **1.3%** Unemployment Rate as of July 2022
- **37.4%** Projected Growth for the next 10 years

ND Industry Analysis – Dakota Digital Academy

RESOURCES – IMPROVING THE LIVES OF NORTH DAKOTA CITIZENS

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement



Recruiting & Talent Acquisition

North Dakota jobs for North Dakota citizens

Work, live, and growth opportunities in the state

Name a job that does not use computer technology

Technology is changing every job, industry, organization & government

Opportunities for the underserved

Remote work for tight-knit communities

NDIT RESOURCES & INFLATIONARY INCREASES

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

NDIT 2023-2025 NDIT Resource Needs

Program - NDIT Operations/Edutech/K12/GIS	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	17.0	\$ 444,258	\$ 2,899,442	\$ -	\$ 3,343,700
FTE Transfers from DOCR, INS	3.0	-	559,876	-	559,876
One-Time Funding - Operations	0.0	1,750,000	4,650,000	-	6,400,000
One-Time Funding - EduTech	0.0	500,000	1,025,000	-	1,525,000
One-Time Funding - K12 Network	0.0	500,000	-	-	500,000
One-Time Funding - GIS	0.0	100,000	-	-	100,000
House Adjustments - ongoing funds	(6.0)	(222,129)	(1,154,229)	-	(1,376,358)
FTE Transfers from DOCR, INS	0.0	-	-	-	-
One-Time Funding - Operations	0.0	-	-	-	-
One-Time Funding - EduTech	0.0	-	(700,000)	-	(700,000)
One-Time Funding - K12 Network	0.0	-	-	-	-
One-Time Funding - GIS	0.0	-	-	-	-
Total	14.0	3,072,129	7,280,089	-	10,352,218

NDIT RESOURCES & INFLATIONARY INCREASES &&

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

Additional Operational Staff - \$3,343,700

- Increase of 2 FTE in cybersecurity to address the continual expansion of system audits by feds for BND, HHS, JSND, etc.
 - **House removed 1 (\$222,129)**
- Increase of 15 FTE in NDIT operations. These positions would be recovered in NDIT service fees
 - Tier II support (3) – **House removed 2 (\$357,921)**
 - Public safety support (2) – **House removed 1 (\$214,935)**
 - ITS support for DOT (2) – **House removed 1 (\$202,944)**
 - Network technicians (2) - **House Removed 1 (\$236,519)**
 - Apprenticeship program (6)
 - Operational costs of having employees – **House Removed (\$141,910)**

General Fund Other Funds

\$ 222,129

\$ 187,961
\$ 214,935
\$ 202,944
\$ 236,519
\$ 651,682
\$ 141,910



ARPA AND FEDERAL FUNDS

ARPA FEDERAL FUNDS - BROADBAND

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- ND Grant Program (45M authorized by 2021 special session) launched fall 2022
 - US Treasury approval took longer than expected
- 12 grant application received and under review
- Grant awards expected in Q1 2023
- Spending authority required to administer the program and to release funding aligned with milestone dates



IIJA – BROADBAND PROGRAMS

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

BEAD Program:

Broadband, Equity, Access and Deployment Grant

- 42.5B federal program to expand high-speed infrastructure and adoption
- ND to receive 100M+
- Exact amount to be determine by mid 2023
- Priority:
 - Finish Infrastructure
 - Digital Equity

DE Program:

Digital Equity Act

- 2.75B federal program to ensure all people and communities have the skills, technology, and capacity to reap the full benefits of a digital economy
- Two programs:
 - Digital equity capacity program (1.44B – ND share unclear at this time)
 - Digital equity competitive program(1.25B)

Broadband Plan

A comprehensive five-year broadband plan is a **pre-requisite** for both the BEAD program and DE program which is due fall 2023

ND already received 5M under the BEAD program and 516K under the DE program to create this plan which is underway

IIJA – CYBERSECURITY PROGRAM

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

- Infrastructure Investment and Jobs Act (IIJA)
- IIJA bill was passed August 10th, 2021, for Political Sub-Divisions (PSDs)
- Notice of Funding Opportunity (NOFO) was finally released late September 2022
- The Federal Government allowed three weeks to respond
- What did we do:
 - Formed a state-wide task force aka Project Bulldog
 - Brought together schools, cities, counties, public health, etc.
 - Created a project charter
 - Finalized ~40 page “Whole-of-State Cyber Security Plan”
 - Developed a prioritized list of projects to reduce cyber risk state-wide
 - Successfully submitted the grant request

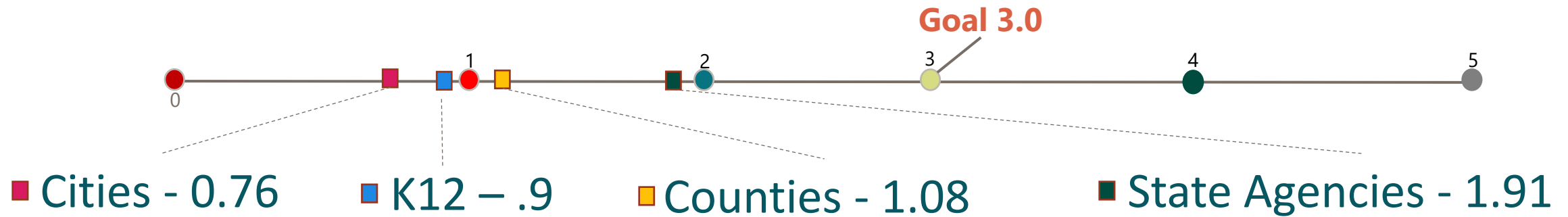
In the less three weeks the North Dakota team completed this process. More than ½ of US states have asked for extensions and have not yet applied



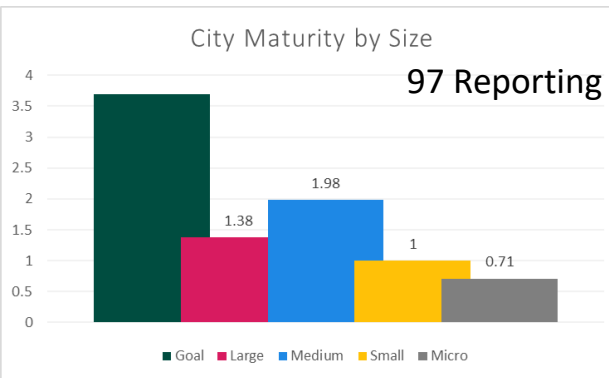
IIJA – RETURN ON INVESTMENT

IIJA Funding will be targeted to raising our Cyber Maturity Assessment scores

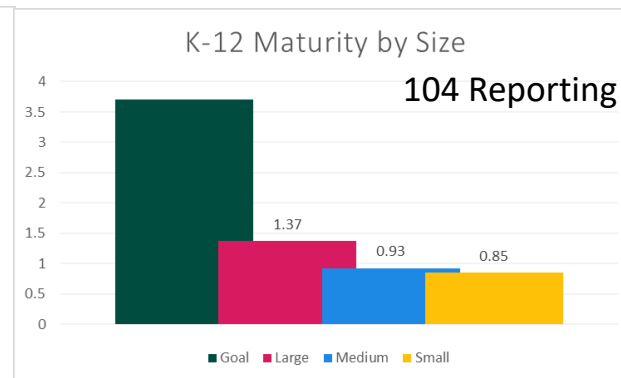
Two years of funding will allow us to bring all STAGEnet users to the same level of security



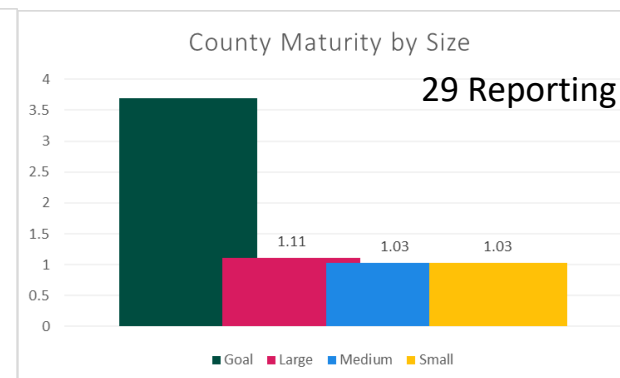
Cities



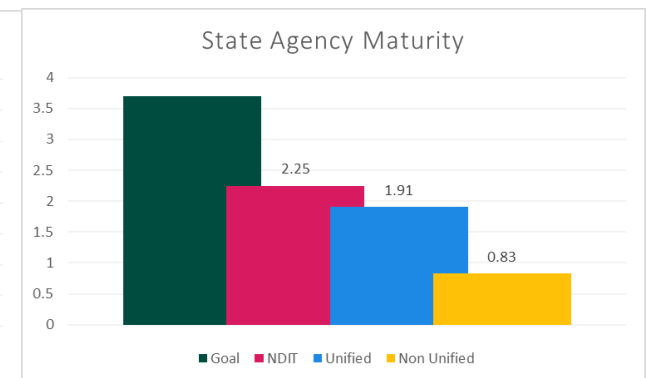
K12



Counties



ND. Gov



IIJA – CYBERSECURITY PROGRAM

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

IIJA Funding – Why This Should Be Funded

1. IIJA was approved late, Political Sub-Divisions (PSDs) do not have the funds allocated for the match in 2023
2. Cyber is not generally prioritized by PSDs
3. We are all on STAGEnet, risk impacts us all
4. PSD's have 209,897 number of vulnerabilities
5. Small entities are not able to do this on their own
6. Raises the bar and helps protect citizen data

IIJA Funding – How Does This Help the State

1. Reduces Risk
2. For \$254K investment, we get ~\$2.5M amount in funds in Year 1
3. Demonstrates the "Whole-of-State" approach
4. Close vulnerability gaps in cyber security areas

IIJA Funding – How Will Funds Be Used

1 ✓

Replacement of out-of-date, obsolete hardware

2 ✓

Standardized Network / Systems security and device management

3 ✓

Standardized Cyber Maturity Assessment to be performed yearly

4 ✓

Skills training to enhancing Political Sub-Divisions cyber capabilities

IIJA- FUNDING BREAKDOWN

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

		Federal Share	State/Local Share	% Match	Total
Actual	FY 2022	\$ 2,286,951.00	\$ 254,106.00	10%	\$ 2,541,056.67
Estimate	FY 2023	\$ 4,573,902.00	\$ 1,143,475.50	20%	\$ 5,717,377.50
Estimate	FY 2024	\$ 3,430,426.00	\$ 1,470,182.79	30%	\$ 4,900,609.29
Estimate	FY 2025	\$ 1,143,476.00	\$ 762,317.00	40%	\$ 1,905,792.50
		\$ 11,434,755.00	\$ 3,630,080.95		\$ 15,064,835.95

		State Portion of Total Award (20%)	Federal Dollars	% Match	State Dollars	% Match	NDIT Portion**	DES Portion
Actual	FY 2022	\$ 508,211.33	\$ 457,390.20	90%	\$ 50,821.13	10%	\$ 43,197.96	\$ 7,623.17
Estimate	FY 2023	1,143,475.50	914,780.40	80%	228,695.10	20%	\$ 194,390.84	\$ 34,304.27
Estimate	FY 2024	980,121.86	686,085.30	70%	294,036.56	30%	\$ 249,931.07	\$ 44,105.48
Estimate	FY 2025	381,158.50	228,695.10	60%	152,463.40	40%	\$ 129,593.89	\$ 22,869.51
			\$ 2,286,951.00		\$ 726,016.19		\$ 487,519.87	\$ 86,032.92

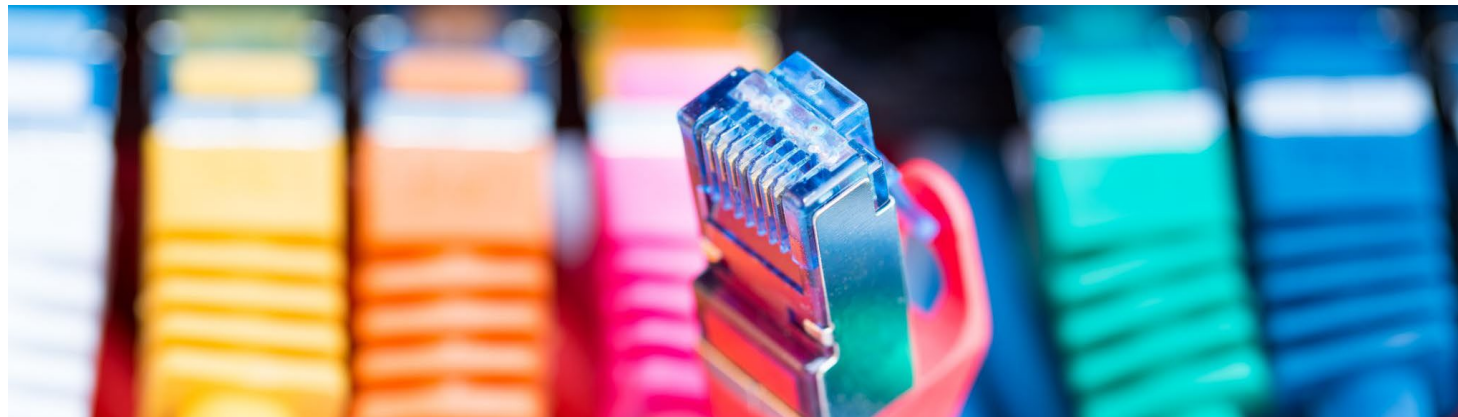
****2023-2025 biennium - General Funds**

ARPA AND IIJA FEDERAL FUNDS

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement

NDIT 2023-2025 Executive Budget - ARPA / IIJA Federal Funds

Program - ARPA / IIJA	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget:					
Capital Projects Fund (ARPA)	0.0	\$ -	\$ -	\$ 45,000,000	\$ 45,000,000
Infrastructure Investment and Jobs Act (IIJA)	0.0	-	-	148,250,000	148,250,000
House Adjustments:					
Capital Projects Fund (ARPA)		-	-	-	-
Section 8 Exemption not subject to 54-44.1-11		-	-	(45,000,000)	(45,000,000)
Infrastructure Investment and Jobs Act (IIJA)		-	-	-	-
Total	0.0	-	-	103,250,000	103,250,000



BUDGET APPROPRIATION



NDIT 2021-2023 Total Budget Appropriation

Program	FTE	General Funds	Special Funds	Federal Funds	Total
NDIT Operations	434.0	\$ 14,680,713	\$ 204,573,437	\$ 7,012,500	\$ 226,266,650
Public Safety - (E911/SIRN)	1.0	1,858,240	12,335,556	-	14,193,796
K-12 Network	4.0	4,589,718	90,000	-	4,679,718
Geographic Information System	1.0	1,036,127	-	65,679	1,101,806
Statewide Longitudinal Data System	7.0	3,986,278	-	500,000	4,486,278
EduTech	28.0	2,824,877	6,367,062	500,000	9,691,939
Health Information Technology	4.0	-	8,725,871	6,000,000	14,725,871
Total	479.0	\$ 28,975,953	\$ 232,091,926	\$ 14,078,179	\$ 275,146,058

BASE BUDGET



NDIT 2021-2023 Legislative Base Budget

Program	FTE Chg	General Funds	Special Funds	Federal Funds	Total
NDIT Operations	434.0	\$ 14,680,713	\$ 204,573,436	\$ 512,500	\$ 219,766,649
Public Safety - (E911/SIRN)	1.0	1,858,240	12,335,556	-	14,193,796
K-12 Network	4.0	4,589,718	90,000	-	4,679,718
Geographic Information System	1.0	1,036,127	-	65,679	1,101,806
Statewide Longitudinal Data System	7.0	3,986,278	-	500,000	4,486,278
EduTech	28.0	2,824,877	6,367,063	500,000	9,691,940
Health Information Technology	4.0	-	2,725,871	6,000,000	8,725,871
Total	479.0	\$ 28,975,953	\$ 226,091,926	\$ 7,578,179	\$ 262,646,058

TOTAL HOUSE BUDGET APPROPRIATION



NDIT 2023-2025 Total House Budget Appropriation

Program	FTE	General Funds	Special Funds	Federal Funds	Total
NDIT Operations	462.0	\$ 29,092,266	239,949,402	3,011,967	\$ 272,053,635
Public Safety - (E911/SIRN)	1.0	1,858,240	16,571,659	-	18,429,899
K-12 Network	4.0	7,094,958	90,000	-	7,184,958
Geographic Information System	1.0	1,159,768	-	65,679	1,225,447
Statewide Longitudinal Data System	7.0	4,110,191	-	500,000	4,610,191
EduTech	28.0	3,554,985	6,934,473	500,000	10,989,458
Health Information Technology	4.0	3,000,000	5,801,988	-	8,801,988
ARPA / IJJA Federal Programs	0.0	-	-	148,250,000	148,250,000
One-Time Funding	0.0	-	-	-	-
Total	507.0	\$ 49,870,408	\$ 269,347,522	\$ 152,327,646	\$ 471,545,576

\$186,531,343 of the total appropriation is one-time funding. Remaining budget represents an 8.5% increase over base.

THANK YOU

- Chief Information Officer
 - Kuldip Mohanty- kmohanty@nd.gov
- Deputy Chief Information Officer
 - Greg Hoffman – gahoffman@nd.gov
- Chief Customer Success Officer
 - Evonne Amundson – eamundson@nd.gov
- Chief Information Security Officer
 - Michael Gregg – mgregg@nd.gov
- Chief Data Officer
 - Ravi Krishnan – rkrishnan@nd.gov
- Chief Technology Officer
 - Craig Felchle – cdfelchle@nd.gov
- Director of Operations
 - Shelly Miller – shmillier@nd.gov





Appendix

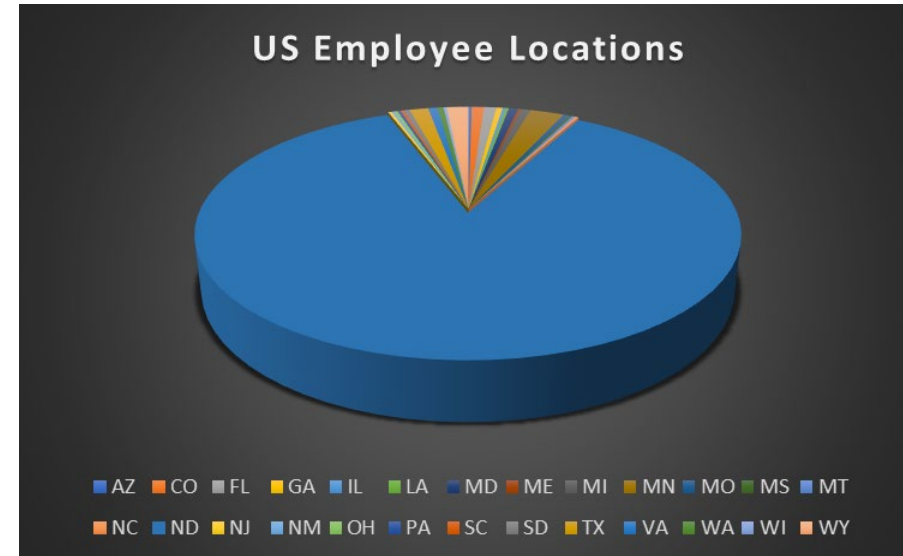
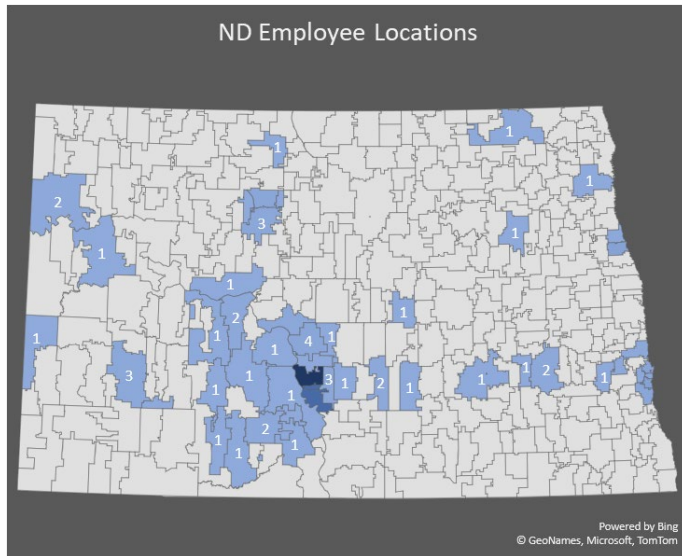
EMPLOYEE LOCATIONS

Closing Workforce Gaps

Enable Decision Making

Managing Risk

Citizen and Business Engagement

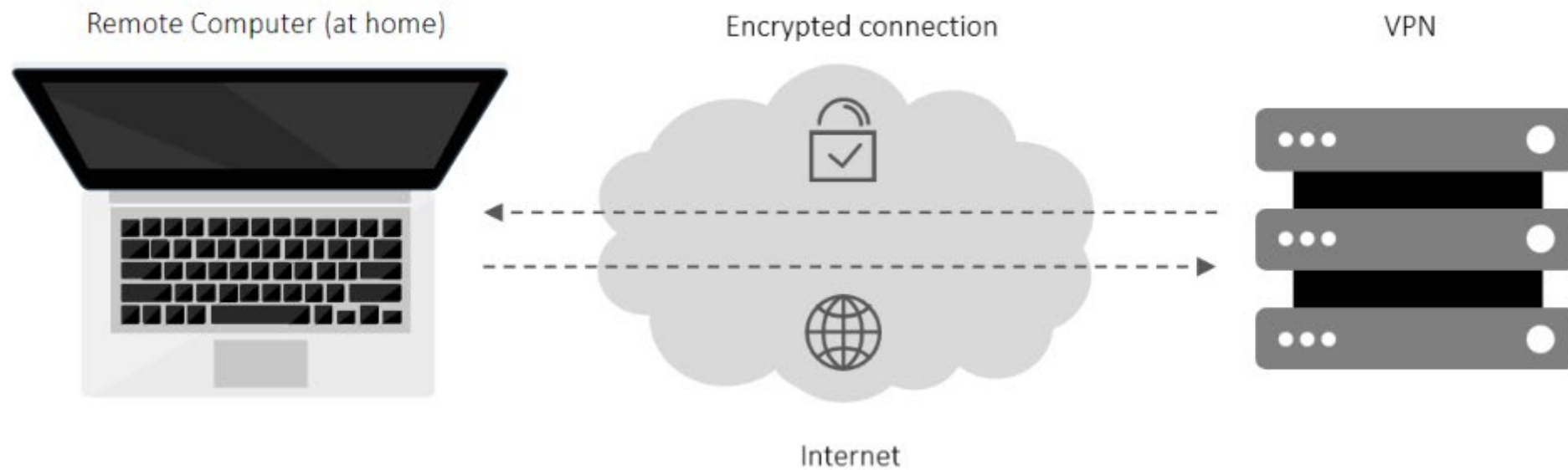


87%
in ND



REMOTE ACCESS

Closing Workforce Gaps	Enable Decision Making
Managing Risk	Citizen and Business Engagement



TELECOMMUTING BENEFITS

Closing
Workforce
Gaps

Enable
Decision
Making

Managing Risk

Citizen and
Business
Engagement

EMPLOYER

1 GROWTH ACROSS ND TOWNS

2 RETENTION OF CURRENT EMPLOYEES

3 INCREASED APPLICANT POOLS

4 INCREASED PRODUCTIVITY

5 BOOST IN MORALE

6 ACCESS TO TALENT

7 SPACE SAVINGS

EMPLOYEE

Flexibility

Commute savings (gas, vehicle, time)

Improved work-life balance

Work from anywhere

Comfortable environment

Improved health

Reduced stress



EMPOWER PEOPLE.

IMPROVE LIVES.

INSPIRE SUCCESS.