

NORTH
Dakota
Be Legendary.

Information Technology

Senate Appropriations

March 1st, 2023

Roughrider Room



EMPOWER PEOPLE – IMPROVE LIVES – INSPIRE SUCCESS

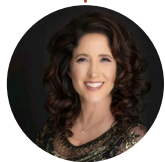
INTRODUCTIONS



Kuldip Mohanty
Chief Information Officer



Greg Hoffman
Deputy Chief Information Officer



Evonne Amundson
Chief Customer Success Officer



Ravi Krishnan
Chief Data Officer



Craig Felchle
Chief Technology Officer



Shelly Miller
Operations Director



Michael Gregg
Chief Information Security Officer

NORTH DAKOTA INFORMATION TECHNOLOGY

- NDCC Chapter 54-59
 - Information Technology
 - Statewide Longitudinal Data System (SLDS)
 - Health IT
 - State Information Technology Advisory Committee (SITAC)
- NDCC Chapter 54-59-1
 - Cybersecurity Incident Reporting
- NDCC Chapter 54-46
 - Records Management
- NDCC Chapter 37-17.3-02
 - Establishes Statewide Interoperable Radio Network (SIRN)

NORTH DAKOTA INFORMATION TECHNOLOGY

Information Technology operations are considered an Internal Service Fund

- Internal Service Funds are often established to provide centralized services such as information technology, telecommunications, human resources, risk management, and fleet management. These services are provided to other governmental entities at a cost that is based on the actual cost of providing the service, including overhead costs.
- Internal Service Funds follow guidance from Federal OMB Circular A-87.



WHO WE ARE

479

Full-time Team Members

5

Temporary Team Members

259

Contractors

WHAT WE'RE ABOUT

Mission: Efficiently empower citizens with trusted information

Vision: How might we provide world class technology & services?

Values: Growth Mindset, Humility, Courage, Curiosity, Citizen Focus, Work as One, Make a Difference, Leadership Everywhere, Gratitude

Goals/Objectives:

Deploy a world class Government experience

Secure all government held data in North Dakota

Deliver the most efficient government services in America

WHO WE SERVE

All branches of Government

Assorted technology needs of Legislative, Judicial, Executive, Higher Education, K12, Cities, Counties – equaling over 600 independent entities.

All Citizens / Residents

Whether directly or indirectly, all citizens of North Dakota are impacted by NDIIT services in operational technology, broadband, cyber security, education, etc.

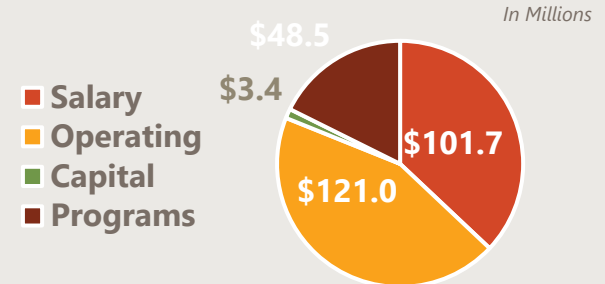
HOW WE DO IT

Total Agency Operations Budget: \$275M

- General: \$29M
- Special: \$232M
- Federal: \$14M

Projects (Managed)

- \$488M



WHAT WE'RE PROUD OF – Last 3 Years

252,000

Endpoints daily
on NDIR
networks

**Only state in US with Comp
& Cyber Sci K12 Standards**

North Dakota sets the
standard in computer/Cyber
science education

100%

of citizen's gov
data
dependent on
NDIT

**Only state with whole of
Government Cyber Defense**

North Dakota is 10+ years
ahead of every other state in
Cyber defense

3000+

Applications
supported

17 National Awards

Recognition competing against
public and private sector
competitors in innovation,
vision, and delivery

\$498M

in large projects
currently
managed

WHAT WE DO

End to End Technology Services

Handling all technology from
Flintstones to Jetsons.

Cyber

Defending the data of all
branches of government
and all of their customers.

STAGEnet

Network backbone for all
governmental entities in the
state.

PK-20W

Every student, every school,
computer and Cyber science
educated – kindergarten
through PHD.

Education

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

Program & Portfolios

Managing hundreds of
millions of dollars of IT
projects across government.

HOW WE MEASURE SUCCESS

Customer

- Customer success integrated
- Just in time surveys (micro)
- Macro annual surveys (value and satisfaction)
- National benchmarks
- Service gap scores

Financial

- Cost per unit of service over time
- Interstate rate comparisons
- Continuous rate studies via legislature (4 in 5 sessions)
- Spending to revenue

People

- Gallup surveys
- Salary comparatives
- Knowledge debt/ education
- Objectives and key results

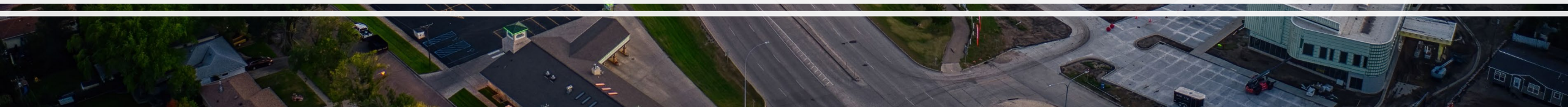
Process

- Mean time to resolution
- Run, Grow, Transform
- Process maturity
- Technical debt
- Risk Management
- Project Success Rates

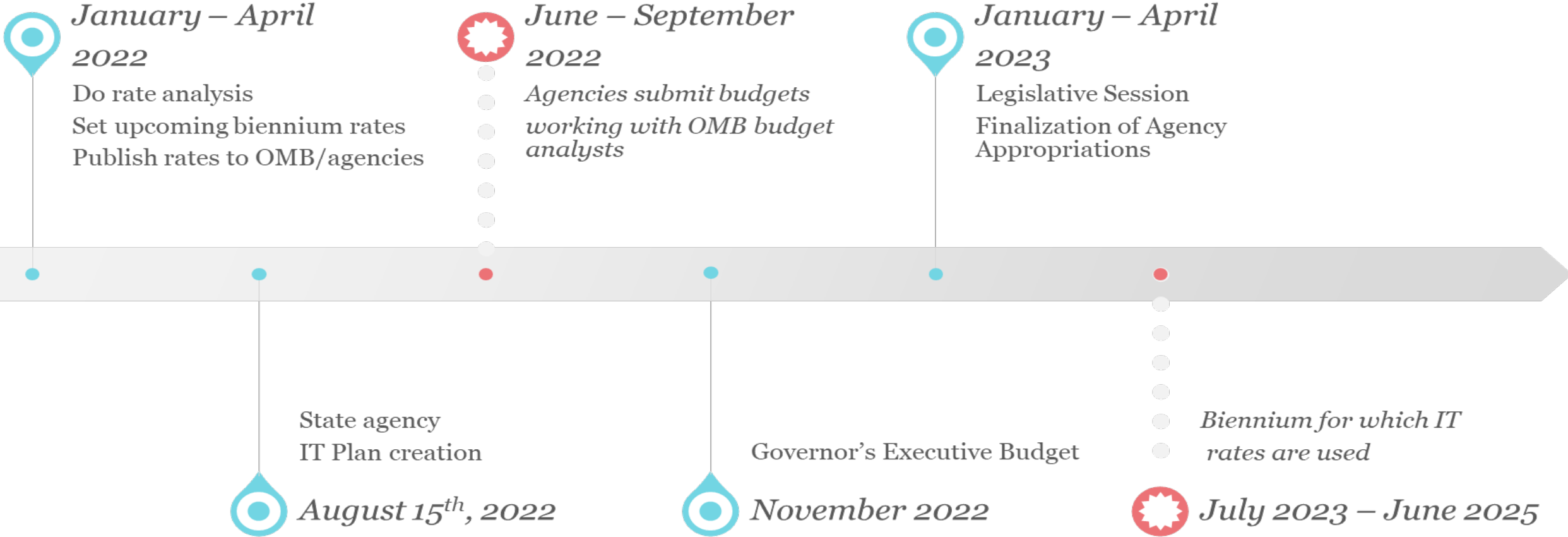
Empower People, Improve Lives and Inspire Success



NDIT Operations

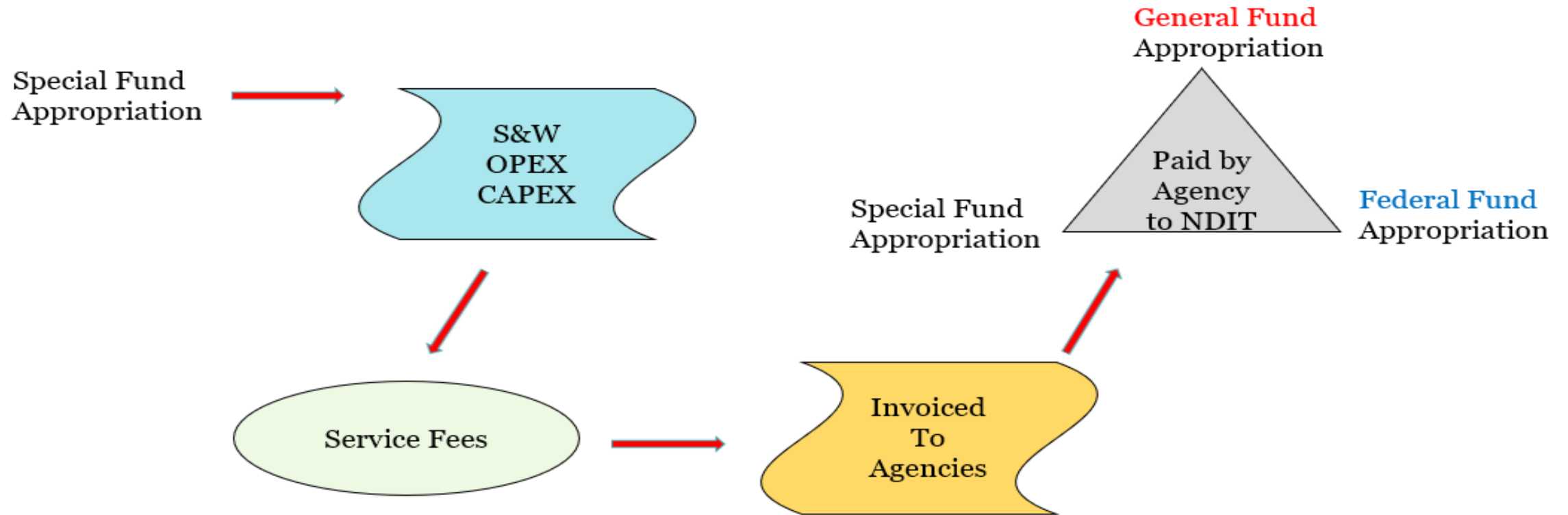


HOW NDIT WORKS AS A SERVICE PROVIDER

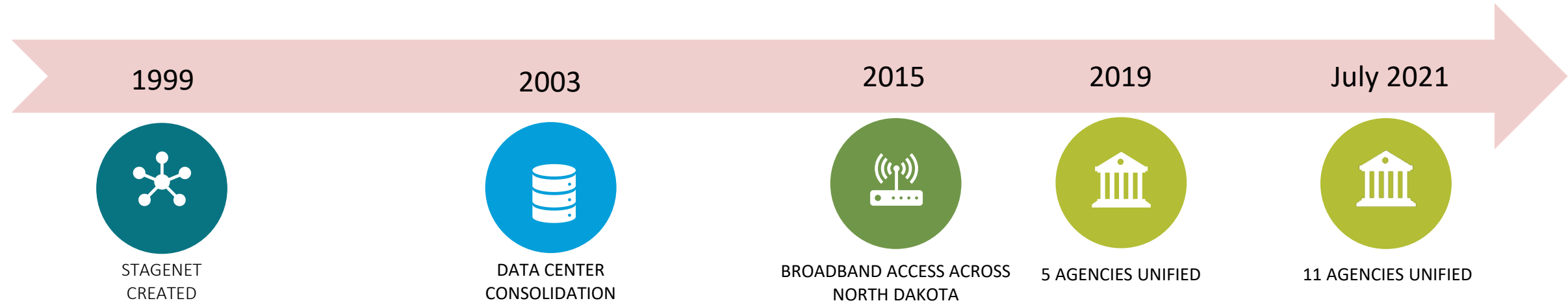


HOW NDIR WORKS AS A SERVICE PROVIDER

Service Fee Chargeback



EVOLUTION OF TECHNOLOGY SERVICES



PRIVATE SECTOR

“Survival of the Fittest” environment

Competition

Cooperation

Coordination

Consolidation

Unification

TAKING DIRECTION

Teams working directly with each other, but with different objectives

UNIFIED

Technology teams and tools aligned towards a singular strategy

STRATEGIC AGREEMENTS

Organizations working together for their mutual benefit

CURRENT ENVIRONMENT

Where the Legislature moved IT in 2003

SITAC LARGE IT PROJECTS FUNDED

Added from WSI
CJIS move to AGO
Moved 29.8 CDE to CTE
Added 96 for unification
Added 53 for unification

2019-2021 - \$162,254,182

2021-2023 - \$117,429,848

	2021-2023 Biennium	2019-2021 Biennium	2017-2019 Biennium	2015-2017 Biennium	2013-2015 Biennium
Beginning FTE	402.0	344.3	350.3	340.3	336.3
+ FTE New	29.0	8.0	0.0	13.0	0.0
+ FTE Unified	53.0	66.2	0.0	(3.0)	4.0
- FTE Reduced	(5.0)	(16.5)	(6.0)	0.0	0.0
Ending FTE	479.0	402.0	344.3	350.3	340.3
Operational Funding	\$ 204,663,437	\$ 170,204,876	\$ 134,454,828	\$ 135,076,791	\$ 127,941,748
Unification transfer	\$ 56,290,398.00	\$ 27,646,350.00			
	\$ 148,373,039	\$ 142,558,526	\$ 134,454,828	\$ 135,076,791	\$ 127,941,748
Budget Increase (14.4%)	3.9%	5.7%	-0.5%	5.3%	
Consumer Price Index (22.2%)	9.1%	6.0%	4.5%	2.6%	

Increased 22.5 FTE over the last 10 years. A 6.6% growth.

HOWEVER!!! Outside of cybersecurity, we have decreased 14.5 FTE in the last 10 years.

LARGE IT PROJECTS 2023-2025

Rank	Sponsoring Agency	Project Name	23-25 Funding Request - GENERAL	23-25 Funding Request - FEDERAL	23-25 Funding Request - SPECIAL	23-25 Funding Request - TOTAL
1	Dept. of Trust Lands	Online Payment Processing			\$500,000	\$500,000
2	Dept. of Health and Human Services	Contract Management System	\$3,000,000			\$3,000,000
3	Dept. of Health and Human Services	Sunsetting EA Legacy Systems	\$3,200,000	\$4,800,000		\$8,000,000
4	Information Technology Dept.	Enterprise Digitization	\$28,452,986		\$2,519,168	\$30,972,154
5	Workforce Safety and Insurance	myWSI Releases 7,8,9			\$1,830,000	\$1,830,000
6	Information Technology Dept.	K-12 Classlink	\$1,905,888			\$1,905,888
7	Dept. of Transportation	Automated Vehicle Location			\$2,520,000	\$2,520,000
8	Workforce Safety and Insurance	Claims and Policy System Releases 11,12,13			\$4,950,000	\$4,950,000
9	Dept. of Health and Human Services	Retire Inpatient Legacy EHR System AIMS	\$1,000,000			\$1,000,000
10	Dept. of Health and Human Services	Grants Management System	\$2,000,000			\$2,000,000
11	Office of the Secretary of State	Campaign Finance System Replacement	\$925,000			\$925,000
12	Dept. of Corrections	Strategy Planning for Offender Management Replacement	\$757,000			\$757,000
13	Information Technology Dept.	Universal Vulnerability Management Project	\$17,368,614			\$17,368,614
14	Dept. of Transportation	Security Expert Door Security		\$865,000		\$865,000
15	Information Technology Dept.	Enterprise Customer Relationship Management System	\$11,527,830		\$501,808	\$12,029,638
16	Job Service North Dakota	Unemployment Insurance System Replacement	\$40,257,896			\$40,257,896
17	Dept. of Health and Human Services	Retire Legacy Outpatient EHR System ROAP	\$1,000,000			\$1,000,000
18	Information Technology Dept.	Security Expert Building Security System Enhancement	\$2,075,367		\$591,000	\$2,666,367
19	Dept. of Water Resources	Migration of Big Data	\$7,025,952			\$7,025,952
20	Dept. of Health and Human Services	Child Support Case Management System Replacement	\$20,000,000	\$40,000,000		\$60,000,000
21	Dept. of Water Resources	Data Engine Abstraction	\$2,260,260			\$2,260,260
22	Dept. of Health and Human Services	Criminal Background Check Process Automation	\$1,000,000			\$1,000,000
23	Dept. of Water Resources	File Services Migration	\$579,600			\$579,600
24	Dept. of Health and Human Services	Procure to Pay System	\$3,000,000			\$3,000,000
TOTALS			\$147,336,393	\$45,665,000	\$13,411,976	\$206,413,369



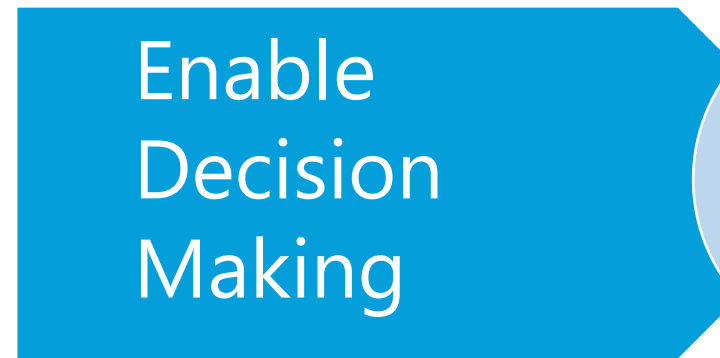
2023-2025 Objectives & Strategies

Success!

2023-2025 OBJECTIVES & STRATEGIES



Closing
Workforce
Gaps



Enable
Decision
Making

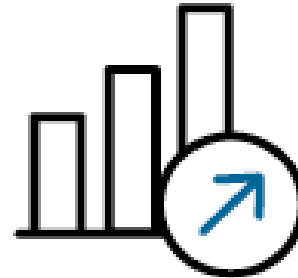


Managing Risk



Citizen and
Business
Engagement

THE WORK WE DO



Run

- **Mandate: Maintain current business capabilities**
- **Operational roles**

Grow

- **Mandate: Expand existing business capabilities**
- **Enhancing roles**

Transform

- **Mandate: Drive new business capabilities**
- **Innovation roles**

NDIT RETIREMENT DATA



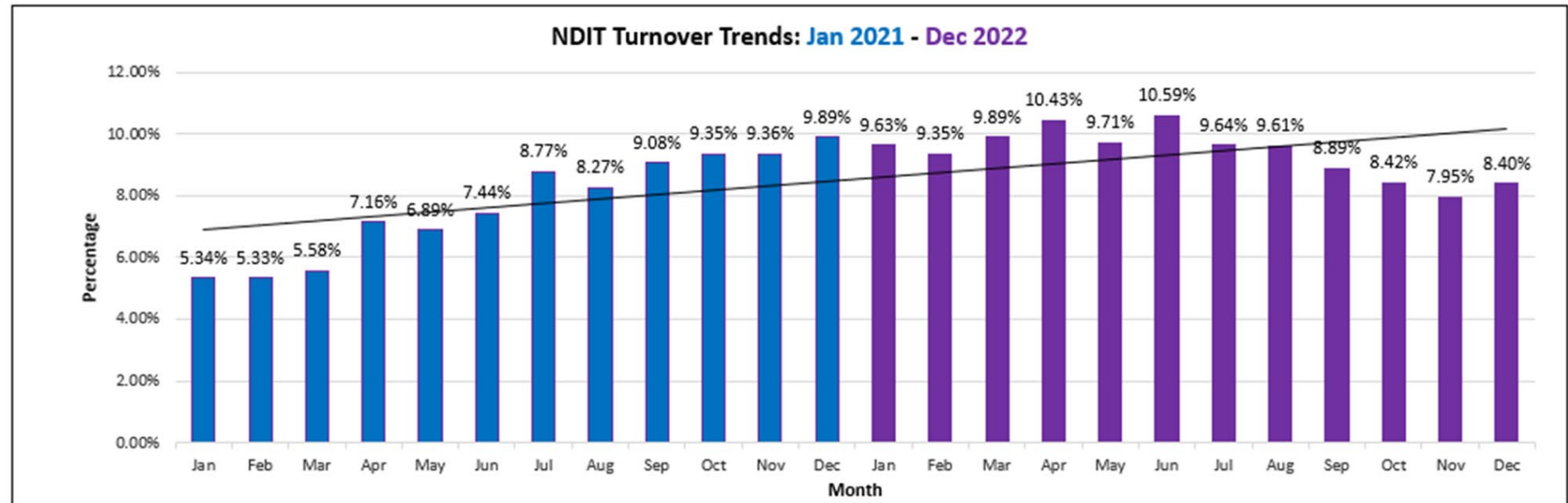
Years to meet Rule of Eligibility	Total Employees			Management			Non-management		
	Management to FTE Ratio: .11								
	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %	# of FTEs	% of Total FTEs	Cumulative %
Currently Eligible	34	8.01%	8.01%	2	0.44%	0.46%	32	7.11%	8.33%
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%	

WORKFORCE COMPETITION



2022
NDIT's
Average
Salary
\$80,401

2021
Average
Tech Salary
\$104,566



EFFECTS OF TURNOVER



Unable to provide timely support and services.

Increased staff stress and burnout.

Longer customer wait times.

Delay in remediating critical security vulnerabilities.

Cost of turnover



\$60K

per team member

Figured at 6 to 9 months of an average tech salary.

- Remaining staff feel overworked & stressed potentially leading to additional turnover.
- Loss of IT knowledge plus time to get a new team member up to speed.
- Direct costs to recruiting, lost productivity, opportunity costs and cultural impacts.

OPTIONAL REQUEST



NDIT 2023-2025 NDIT Resource Needs

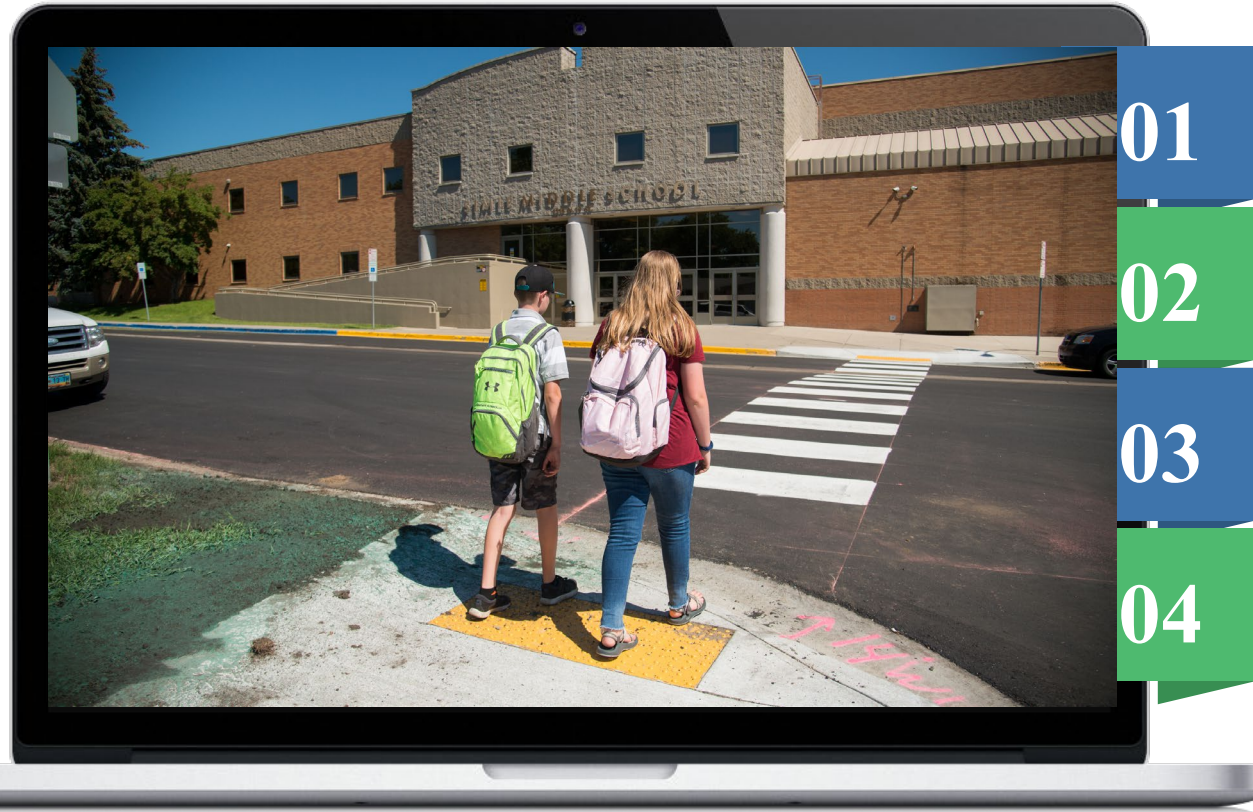
Program - NDIT Operations/Edutech/K12/GIS	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	17.0	\$ 444,258	\$ 2,899,442	\$ -	\$ 3,343,700
FTE Transfers from DOCR, INS	3.0	-	559,876	-	559,876
One-Time Funding - Operations	0.0	1,750,000	4,650,000	-	6,400,000
One-Time 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



ENABLE DECISION MAKING



LIGHTHOUSE PROGRAM



01

02

03

04

- Objectives: Identify early warning indicators to educators for making interventions and, provide information to policy makers to help decide where investments are needed.
- Expected Outcomes: Ability to combine data across selected state agencies 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) for implementation in progress.
- Funding: From part of the \$4.8M special funds transfer from DPI to NDIT (SB 2346)

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

- 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.

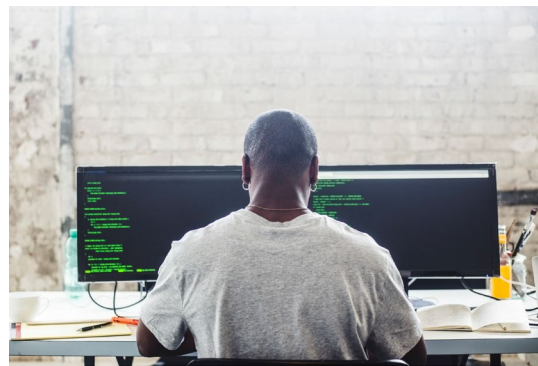
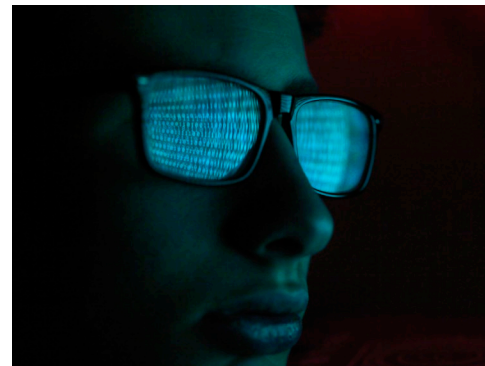


OPTIONAL REQUEST



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





MANAGING RISK



MANAGING RISK



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



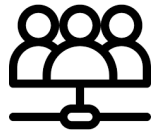
RISK REMEDIATION - WHAT



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

<CODE/>

~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

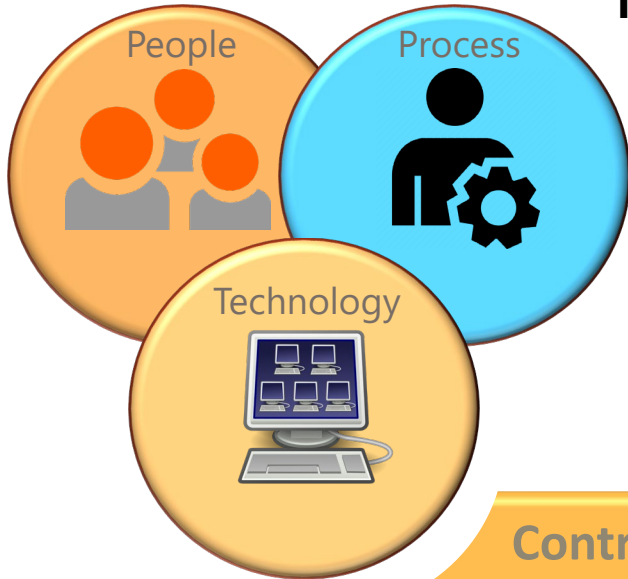


RISK REMEDIATION - HOW



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

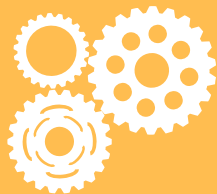


Contractors

Used for a one time burn down of vulnerabilities

65% for Technology Division

35% for Data Division



Process

NDIT Oversight

1. Customer Success
2. Support
3. Service Desk
4. GRC



80-95%

Reduction in backlog of critical exploitable vulnerabilities



Tooling to fix application vulnerabilities before they reoccur

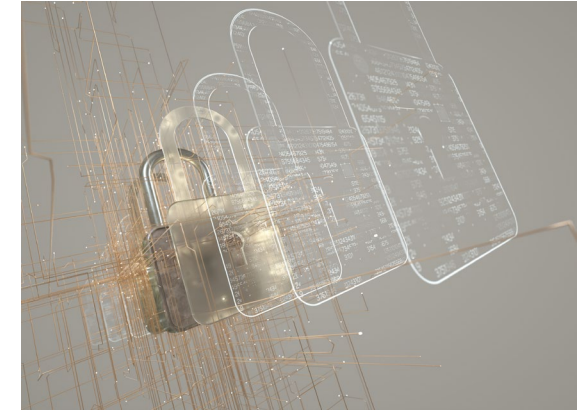
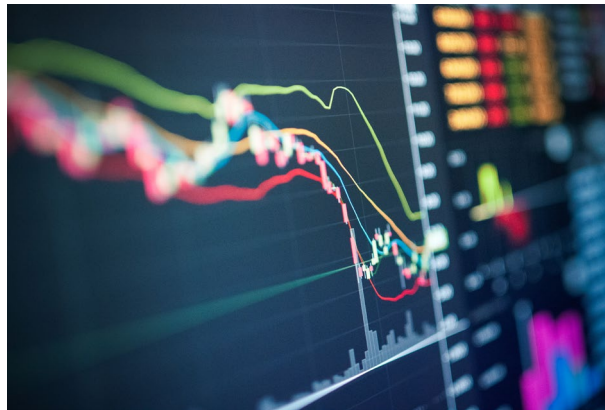
Technology

OPTIONAL REQUEST



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



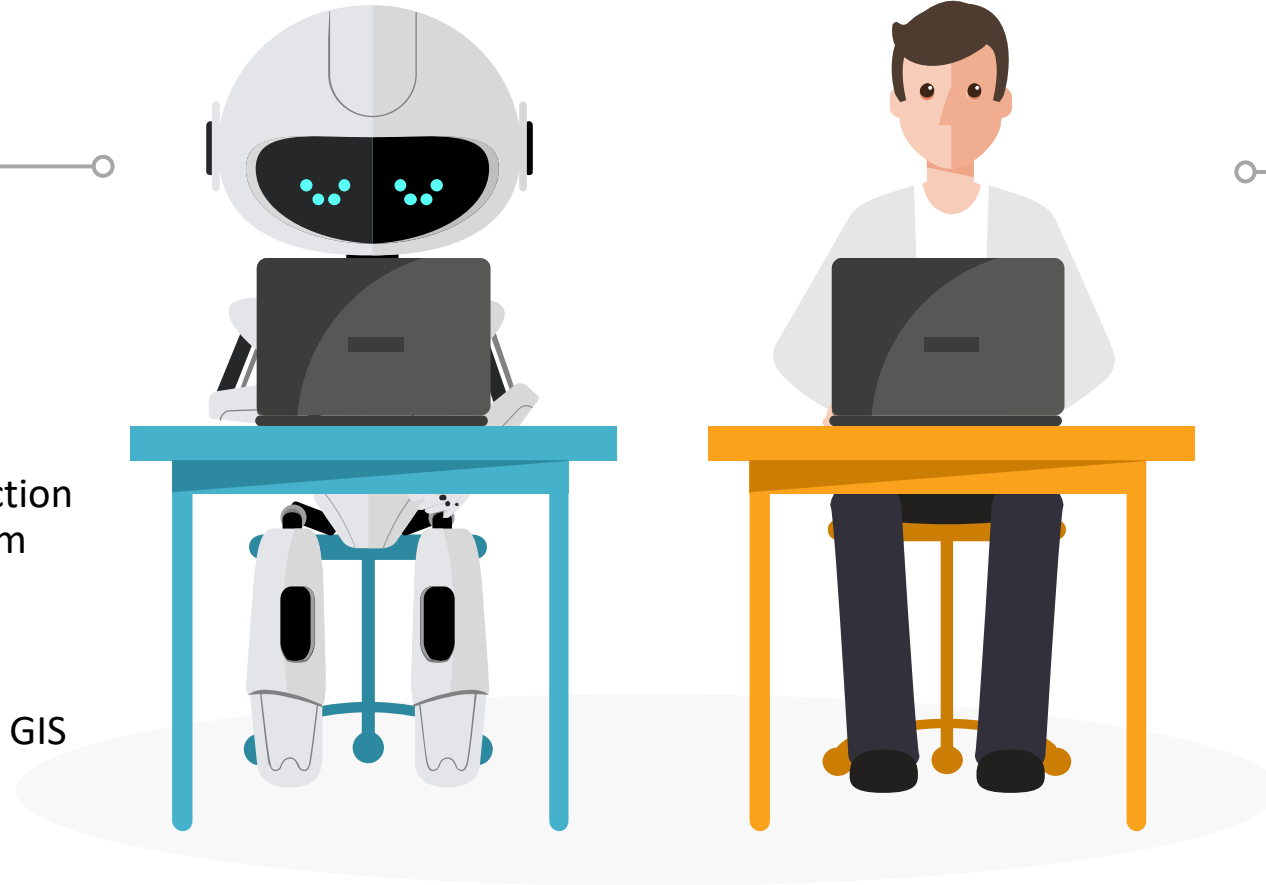
ENTERPRISE DIGITIZATION



• 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

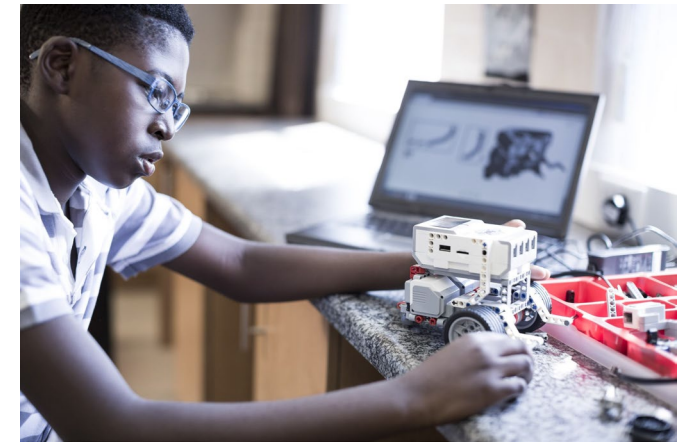
- Traditional capabilities have served us well for 15 years, but we need to modernize to meet the needs of all stakeholders
- Mainframe
- Traditional Infrastructure
- Legacy Coding Languages
- Paper forms that have to be digitized manually or through expensive software

OPTIONAL REQUEST



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

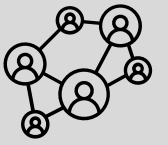




Citizen and Business Engagement



DELIVERING GOVERNMENT SERVICES



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

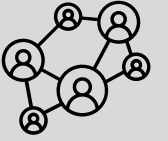


FOR BUSINESSES



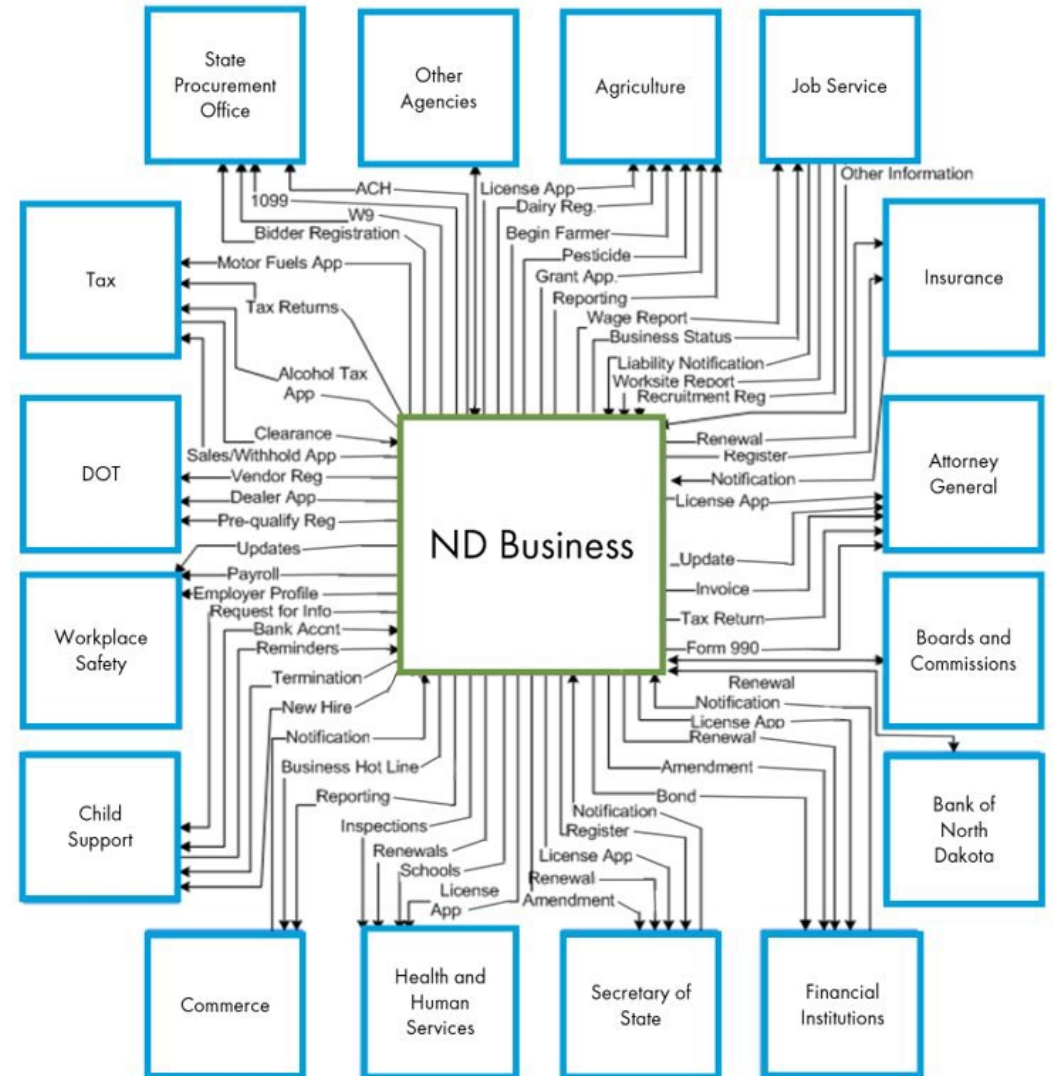
LG

CITIZEN AND BUSINESS ENGAGEMENT

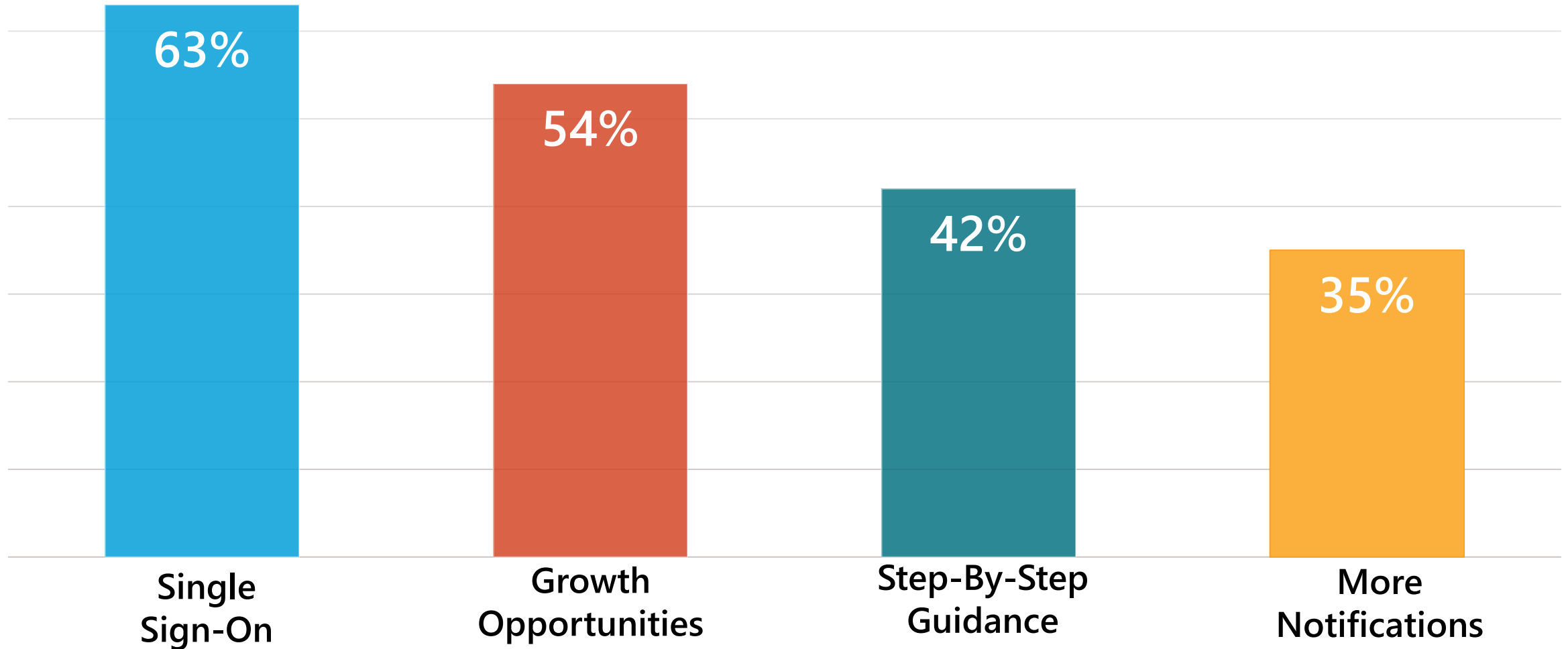


CURRENT STATE

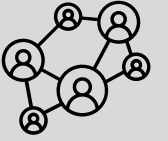
Businesses engagement with state agencies is confusing and difficult.



TOP REQUESTS



CITIZEN AND BUSINESS ENGAGEMENT



Business Gateway

Business Gateway Portal

Business identity (B2C identity)

Customer Relationship Information

Business attributes and information

Modern State Applications

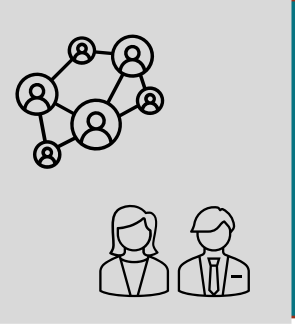
Shared Information

API Gateway

Legacy Applications

Business/Citizen User

FUTURE STATE



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.

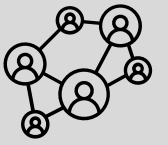
PHASE 2 – Identity & Single Sign-On
Align remaining identities with North Dakota single sign-on.

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



USER EXPERIENCE

COLLABORATIVE EFFORT



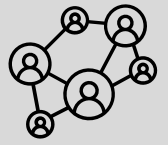
Phase 1 focus

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

In collaboration with:

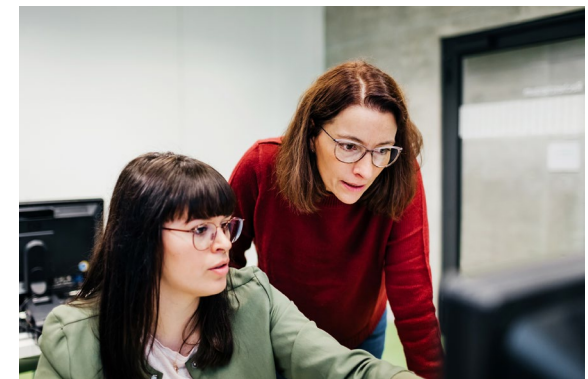
- Governor's Office
- Information Technology
- Bank of North Dakota

OPTIONAL REQUEST



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



FUNDING DEDICATED PROGRAMS



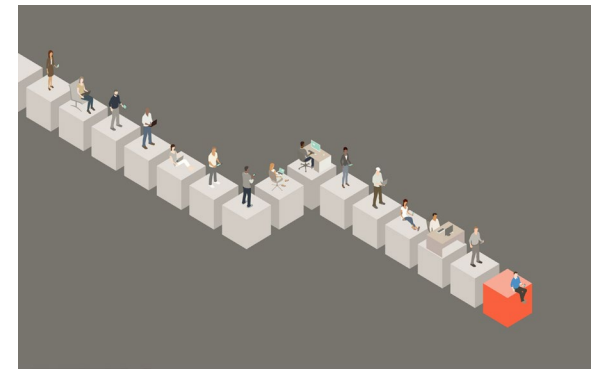
*Specific Details in the Appendix



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	-	-	-	-



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.



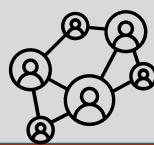


ND HEALTH INFORMATION NETWORK (NDHIN)

NDIT 2023-2025 Executive Budget - Health Information Network

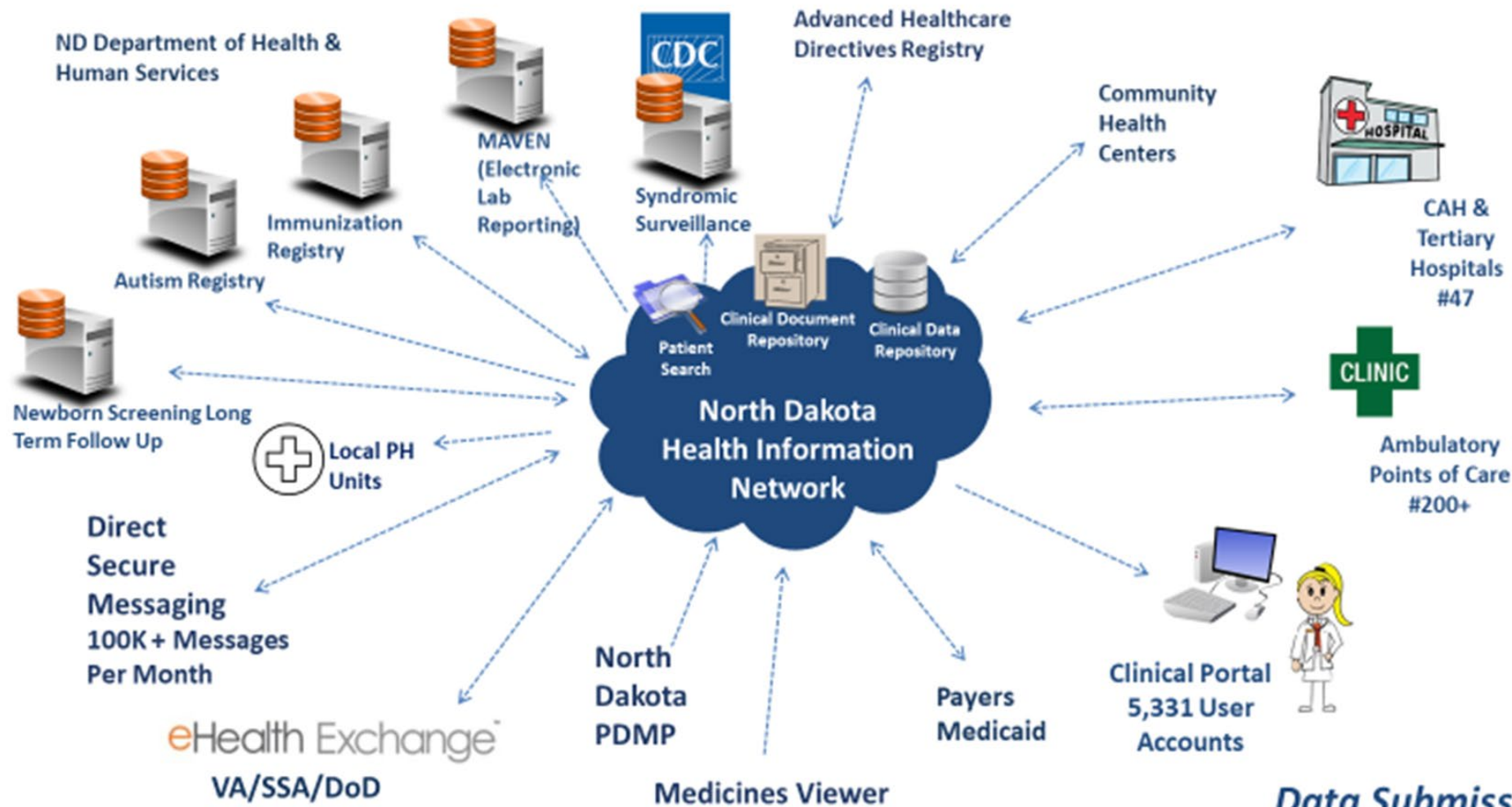
Program - HIN	FTE	General Funds	Special Funds	Federal Funds	Total
Executive Budget - ongoing funds	0.0	\$ 3,000,000	\$ 3,000,000	\$ (6,000,000)	\$ -
House Adjustments - ongoing funds		-	-	-	-
Total	0.0	3,000,000	3,000,000	(6,000,000)	-



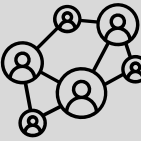


NDHIN FUNCTIONALITY & SERVICES

1.47 M Unique Patient IDs



Data Submission



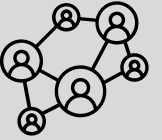
STATEWIDE INTEROPERABLE RADIO NETWORK (SIRN)

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

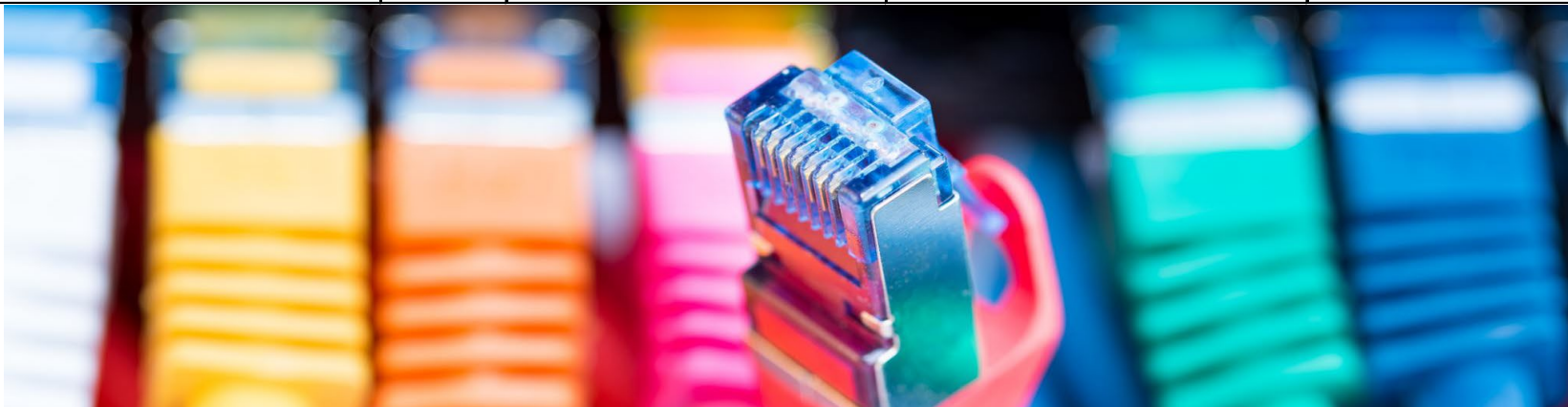


ARPA AND IIJA FEDERAL FUNDS



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

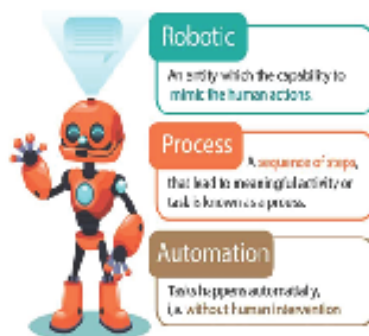
- Chief Information Officer
 - Kuldip Mohanty – kmohanty@nd.gov
- Deputy Chief Information Officer
 - Greg Hoffman – gahoffman@nd.gov
- Chief Customer Success Officer
 - Evonne Amundson – eamundson@nd.gov
- Chief Information Security Officer
 - Michael Gregg – mgregg@nd.gov
- Chief Data Officer
 - Ravi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





Appendix

WHAT IS ROBOTIC PROCESS AUTOMATION?



Using Automation to Empower People

We are using automation to improve lives and empower people across NDIT and other Agencies. Automations are being used to save users time and free up users' time to better serve the citizens of North Dakota.

What are these automations?

These are various processes for both NDIT and DHS that used to require data entry into websites and applications that have been automated with the assistance of robotic automation.

We have a goal to Automate 20% of all work in Government.

Projects that have been automated:

- **Accounts Payable Verizon**
 - Invoice download and watermarking of invoices and entering of invoice data into excel for record keeping
- **Gov Delivery**
 - Automation of Email Distribution lists
- **MyAvatar**
 - Entry of user forms into the MyAvatar system for updating and creating profiles
- **Surplus Asset Management**
 - Entering and updating Asset works and service now for marking electronics such as laptops that are being moved to surplus
- **HCBS Overtime Payments**
 - Submission and approval of overtime payments within the MMIS web portal
- **PeopleSoft UserID Creation**
 - Creation and deletion of users in the PeopleSoft website

IMPACTS OF AUTOMATION

With our Surplus Asset Management project, we have saved 183 hours of manual work a year. With the MyAvatar project we are saving an estimated 486 hours of work per year. Between Verizon, Gov delivery and Peoplesoft User id creation over 124 runs those 3 processes have saved 7872 minutes of labor.

THIS PERIOD:

MINUTES
SAVED
7476

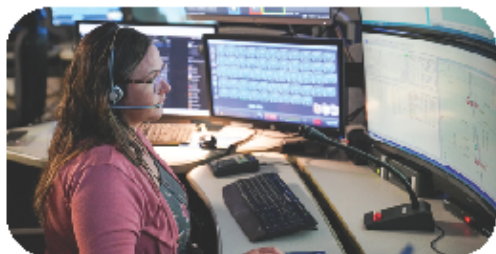
AUTOMATED
RUNS
106

CUSTOMER SUPPORT AND GOALS

We support our customers with quick responses if anything in the automation has failed, we are immediately notified by email to fix any issues quickly. We assist in answering questions related to finding automations and showing the cost savings of automation.

On the Automation Team we are always looking for processes that can be automated to assist customers with their current workload and provide a cost savings with automation.

To serve the mission critical public safety technology needs of our first responders and citizens.



HIGHWAY PATROL

- In car technologies
 - Radios
 - In car ruggedized computers
 - Dash Cameras
 - Body Cameras
- Computer aided dispatch
 - First responder GPS Tracking
 - Mapping
 - Dispatched events from state radio
- TraCs
 - Citation System

CORRECTIONS SECURITY

- Doors/Cells, Alarms, Intercoms
- Video security
- Key Management
- Fence & Perimeter Systems
- Radio Management

STATEWIDE INTEROPERABLE RADIO NETWORK (SIRN)

The ability to communicate is critical in an emergency. Goals of SIRN are to increase interoperability, increase radio coverage, decrease the number of disparate radio systems, and modernize the features and functionality of the radio network.

Key benefits include:

- 140 total cell tower sites, include 45 Department of Transportation radio towers and adding 95 towers, which will reduce congestion and enable better in-building penetration.
- 20,000 Radios for emergency responders, law enforcement, fire, ambulance, state agencies (HP, G&F)
- Open spectrum means there will be no channel scarcity, which will lessen interference and eliminate VHF skip.
- Compliant with federal standards and FBI security policy that requires ALL communication of FBI criminal justice information to be encrypted (e.g. warrants, missing persons, wants & any information obtained from NCIC.)
- The ability to communicate with ANY PUBLIC SAFETY PERSONNEL, AS NEEDED, ANYWHERE, in the state.
- 95% coverage for mobiles and 85% coverage for portables for each region with 95% reliability within the state.
- 230,000 calls to 9-1-1 each year. 9-1-1 calls are received every 2 minutes, 24 hours a day, 365 days a year

Visit SIRN2020.nd.gov for more information

NDIT Data Science and Analytics

Realize the power of your data for the citizens you serve!

The NDIT Data Science and Analytics team provides data science and advanced analytic services to assist you on your journey navigating the new data normal.

Move Toward Analytic Maturity

Data maturity provides greater insight, improves operations, and helps Team ND more effectively serve the citizens of North Dakota. A strong analytics practice can improve service quality and decision making. Wherever you are on your data journey, the Data Science and Analytics (DSA) Team can help you leverage your data in a powerful way to unlock new insights and innovations. With the DSA Team's knowledge around data science and advanced analytics, you can explore the utility of your existing data to maximize use, identify and problem solve any existing gaps, and facilitate data practice that allows you to turn ideas into reality.



Increase the Power of Your Team

The DSA Team provides objective peer support to your staff so they can gain confidence while developing a deeper understanding of new methods and tools. Additionally, DSA can help refine your existing practice so that your analysts can answer more complex questions. We can help your team streamline existing data processes and create analytic models to reduce the time needed for manual maintenance. The DSA Team can help you give your subject matter experts the support they need to drive innovation and soar to new data-driven heights.

Ask questions → Get data → Enhance data → Explore data → Build a process
→ Make data driven decisions

Service Offerings

Scan for our
website and
example
projects



We offer full service or consultative assistance with the following:

Descriptive Analytics

Quantitative summaries such as counts, averages, percentages, and trends over time that describe programs, services, or populations.

Predictive Analytics & Significance Testing

Statistical or machine learning models used to identify, understand, and analyze data to determine significant predictors, patterns, and to estimate future trends.

Survey Design, Development, and Analysis

The creation and deployment of internal or external surveys to collect data in an unbiased way and a summarization of the insights gained from that data.

Sample Selection

The identification and selection of a statistically valid subset within a population for use in meaningful analysis or evaluation.

Data Visualization

Effective visual presentation to enhance meaning, inspire action, and help convey a data storyline.

Exploratory Data Analysis

An open-ended initial step to data analysis used to better understand data and to assess possibilities, uncover patterns, and discover new insights.

Data Analysis Automation

Code-based or self-service solutions used to streamline routine and time-consuming data analysis tasks to reduce manual effort, free up staff time, and produce quicker results.

Data Science and Analytic Project Development

The definition of analytic goals and activities to ensure the data used for a project is optimal and the analysis plan is appropriate to provide the desired actionable insights.

The North Dakota Health Information Network (NDHIN) is a statewide interoperable health information exchange (HIE) connecting diverse providers, hospitals, clinics, and labs to make electronic health information available on demand at the point of care.

Collaborative. As a state based HIE, NDHIN collaborates with sister agencies. NDHIN played a major role in supporting Medicaid providers and hospitals to receive incentives for adopting electronic health records.

COVID-19 Response. NDHIN provides the infrastructure that supports most of the North Dakota Department of Health & Human Services (ND HHS) public health reporting in ND. During the COVID-19 pandemic, this reporting infrastructure was critical to sustain state and CDC required reporting.

Public Health Reporting. Public health relies on data reported by health care partners, and information technology makes such reporting easier than ever. NDHIN improves the efficiency and quality of public health reporting, facilitates public health investigation, improves emergency response, and enables ND HHS to communicate information to the clinical community.

Electronic Test Orders & Results. Prior to and throughout COVID, NDHIN implemented Electronic Test Orders & Results (ETOR) with large IDNs and out-of-state reference labs. This allowed test orders to go out and come back electronically with the capability of being imported to the electronic health record.

Patient History. Patient information from NDHIN is used to inform healthcare decisions and receive alerts when a patient's health status changes. NDHIN provides a patient's cumulative medical record including critical information such as current problems and medications.

Newborn Screening. NDHIN created a care coordination module to support the ND HHS Newborn Screening Long-term Follow-up (LTFU) program. This program allows ND HHS and the birthing centers of ND to coordinate in the care of ND children diagnosed with newborn screening disorders.

Advanced Directive Registry. Registry developed by NDHIN to allow ND citizens to securely store and share their health care directives. The registry is a self-service tool allowing you complete control over your health care directives. Uploaded advanced directives are viewable by providers in NDHIN portal.

Records for 1.49 million patients

Over 5,000 Clinical Users at

400+ Healthcare Locations
open to all North Dakota providers

North Dakota Hospitals

- All Acute Care Hospitals
- All Critical Access Hospitals
- ND State Hospital

North Dakota Clinics

- Federally Qualified Health Centers
- All Rural Health Clinics
- Local Public Health Units
- Long Term Care Facilities
- Pharmacies
- Chiropractors
- Correctional Facilities
- EMS

Additional Data Connections

- ND State Lab
- ND Department of Health & Human Services
- Immunization Registry
- Autism Registry
- Disease Surveillance
- Reportable Conditions
- Newborn Screening

National Networks:

- eHealth Exchange
- Carequality
- Patient Centered Data Home (Regional HIE)

An advance directive is only valuable if its available when you need it. Unfortunately, often when people travel their advance directive isn't readily available. Or over time, as changes are made, there ends up being multiple, conflicting copies of an advance directive.

That's why the NDHIN created the ND Health Care Directive Registry, a secure way to store and share your advance directive.

What is the ND Health Care Directive Registry?

A registry that was developed by the North Dakota Health Information Network (NDHIN) for ND citizens to securely store and share their health care directives. The registry is a self-service tool allowing you complete control over your health care directives.

What types of health care records can be saved in the registry?

- Health Care Advance Directive
- Physician Orders for Life Sustaining Treatment
- Medical Power of Attorney

What types of health care records should NOT be put in the registry?

- Wills
- Medical Health Information
- Any information you would not like health care providers or others with access to your pin to see



How it works

The ND Health Care Directive Registry works by allowing you to securely store your advance directive online. Once it's securely stored online, you can use your home printer to print access cards to give to your healthcare provider and store in your purse or wallet.

Who can see it? Is it secure?

Yes, the information you put into the registry is only available to health care providers and the people you share you access card and pin number with. Never share your PIN with anyone you do not want to see your information.

How do I get started?

Go to www.nd.gov/hdir/login

You access your account by logging in with your ND Login Registration. If you do not have a ND login, one can be created by registering on the login page.



Sample PIN Card



4.5 Billion

KNOWN cyber threats per year
(North Dakota)

21 days

to detect an **UNKNOWN** attack
(global)



252,000

Users on STAGEnet on any given day.
This is equivalent to the size of Starbucks,
a Fortune 30 company.

Overall coverage has increased and continues
to move upward toward "All of STAGEnet"

- 263% increase in coverage of antivirus (EDR) in the last two years
- 429% increase in devices scanned over the past two years
- 4% reduction in insurance cost from North Dakota Insurance Reserve Fund (NDRIF) to entities that adopt our security tools

NORTH DAKOTA IS ATTRACTIVE TO AN ATTACKER



UAV/UAS

Nationally recognized leader in Unmanned Aerial Vehicle research and development



MILITARY

Strong military presence in North Dakota, some of which interacts with State network



ENERGY

Number two in the country in oil production



AGRICULTURE

ND is considered to be a development pioneer in Precision Agriculture



BANK

Only state-owned bank with \$10B in assets

RANSOMWARE IS AN INHERENT RISK TO THE STATE

\$2.7 Billion per Biennium

2022 THREATS TO ND BY THE NUMBERS

- 23,167 reported phishing emails for 2022
- 82% increase in ransomware-related data leaks
- 34,000 new vulnerabilities each month
- 182,000 vulnerabilities are backlogged, equaling 7.5 years amount of work at current team capacity

THE NDIIT CYBER TEAM IS CURRENTLY:

- Defending 252,000+ people every day
- Detecting / preventing over 4.5 billion threats on STAGEnet per year
- Handling more than 95% of these threats via automation
- Performing tasks with ½ the staff of a similar sized Fortune 30 company

A TIGHTER DEFENSIVE LINE MAKES:

NORTH DAKOTA CYBER STRONG

DEFEND – Defend against threats to North Dakota's citizens and critical infrastructure

DELIVER – Deliver world-class, highly automated and intelligent cybersecurity services

ADOPT – Adopt a whole-of-government approach to cybersecurity

PREPARE – Prepare today's students & workforce for tomorrow's threats

STRIVING TO EFFICIENTLY PROTECT THE STATE OF NORTH DAKOTA

PROBLEM: WORKFORCE SHORTAGE FOR CYBER TALENT

- In 2020-21, there was an average of 2,230 job postings in the last 12 months
- In 2020-21, ND universities only graduated 289 students with a degree in Computer & Information Sciences

SOLUTION: RECRUITING AND TALENT ACQUISITION

- Expand Internship and Apprenticeship programs to attract and retain a cyber workforce
- Establish student Security Operations Center with North Dakota colleges and universities
- Align with ND colleges and universities to ensure students are developing the right skills for the modern workforce
- Continue to generate student interest in cybersecurity by growing programs like Cyber Madness

