LEGISLATIVE REPORT

2022-2023

Section 22m

Michigan Data Hub Grant Progress

CENTER FOR EDUCATIONAL PERFORMANCE AND INFORMATION

MICHIGAN DataHub

Table of Contents

Foreword

The Michigan Data Hub (MiDataHub) is focused on serving schools, helping them adopt, embrace and leverage the power of shared data standards at the state and local levels. Many strategies and tools that make daily interactions more efficient, less redundant, and more actionable in support of teaching and learning are implemented more effectively due in large part to the efforts of the MiDataHub team.

The MiDataHub serves nearly ALL intermediate school districts, local education agencies, and public-school academies, having secured data sharing agreements for 99% of these entities this year. Prominent efforts around benchmark assessment integration, along with supports for the Michigan Continuous Improvement Planning (MICIP) tool continues to bring focus to the value of the MiDataHub well beyond data standards. Research project support by the MiDataHub in areas of current interest like Read by Grade 3 Laws and Pandemic Learning Recovery allow local participation on broad-based studies that help shape policy and improve practices using local data that flows through the MiDataHub. If districts had to carry the burden of data integrations and data movement, many of these efforts would not be as widely adopted and supported. The MiDataHub brings focus on the power of collective efforts by local, regional and state partners on this important work.

The modest state investment in the MiDataHub work is paying off. By bringing together the use of shared data standards, shared technical best practices, and efficient and effective methods for integrating and leveraging systems that support public education, we empower every school district in Michigan to make the best choices for the families they serve. We look forward to sharing more with you in this school year 2023-23 annual report. Thank you for your valued contributions that help us remained focused on a better future in public education.
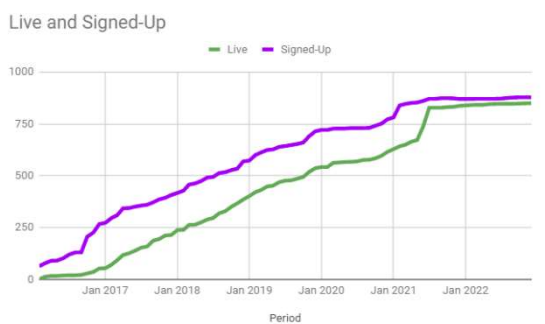

Thomas Howell
Executive Director
Michigan Department of Technology, Management and Budget
Center for Educational Performance and Information (CEPI)

Executive Summary

"MiDataHub solves our problems with time-consuming, redundant and inaccurate data entry. School district personnel can now enter all the student information in just a few minutes rather than taking days, weeks or sometimes months." — **Michael and Susan Dell Foundation**

See www.midatahub.org for a short, animated vision of MiDataHub

PROMOTING 100% DISTRICT ADOPTION
Active district connections to MiDataHub infrastructure have increased from 837 at this time last year to 849 today, with another 25 districts ready to be implemented. As of December 2022, 878 districts of 888 (99%) have signed the data hosting agreement and 1,445,508 students or 96% of Michigan's K12 population are live in the 22-23 school year.
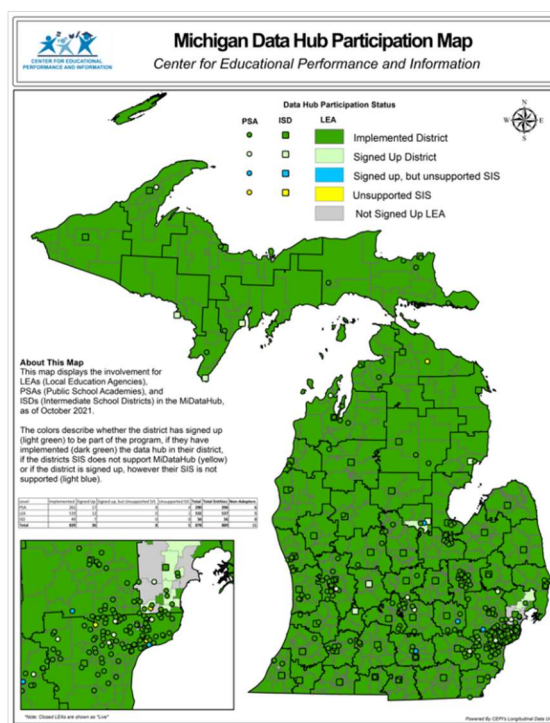
EMPOWERING SCHOOLS AND VENDORS TO WORK TOGETHER
MiDataHub has enabled numerous vendors and initiatives the ability to scale their integrations.
A few of the top integrations include

- MICIP 885
- Return to Learn Aggregation 798
- NWEA 678
- CEPI Snack-Pack 632
- State Assessments 586
- Read by Grade Three Research 516
- SAS EVAAS 426
- Eidex 287
- MiLearn 251

INTEGRATING SCHOOL DATA SYSTEMS
MiDataHub is currently providing 8,677 active connections (integrations) between school data systems, a **19% increase from one year ago.**

The total annual value of these integrations is nearly **$64 million**. This is money that districts would ordinarily spend to make similar connections or manually enter data, thus allowing schools to invest these resources more directly in the classroom. Just based on active integrations, the $2.2 million-dollar annual investment in MiDataHub returns $29 in value to local districts for every dollar invested.

The Michigan Data Hub is serving as an example and template for other states on how to build and manage an efficient and effective statewide data fabric that provides key data integration and analysis services to schools. — **Eric Jansson, Ed-Fi Alliance**

Actionable Data

Over the past five years the Michigan Data Hub has made investments and formed strategic partnerships to leverage the MiDataHub infrastructure to support the use of actionable data at the district, building, and classroom levels. These investments are now yielding significant benefits for the educational community. Below we highlight a few of these that stand out in the areas of Classroom Supports, District Improvement, and Promoting Evidence and Research-Based. These value-added "Powered by MiDataHub" features are opportunities that exist solely because of the standardized flow of data through MiDataHub.
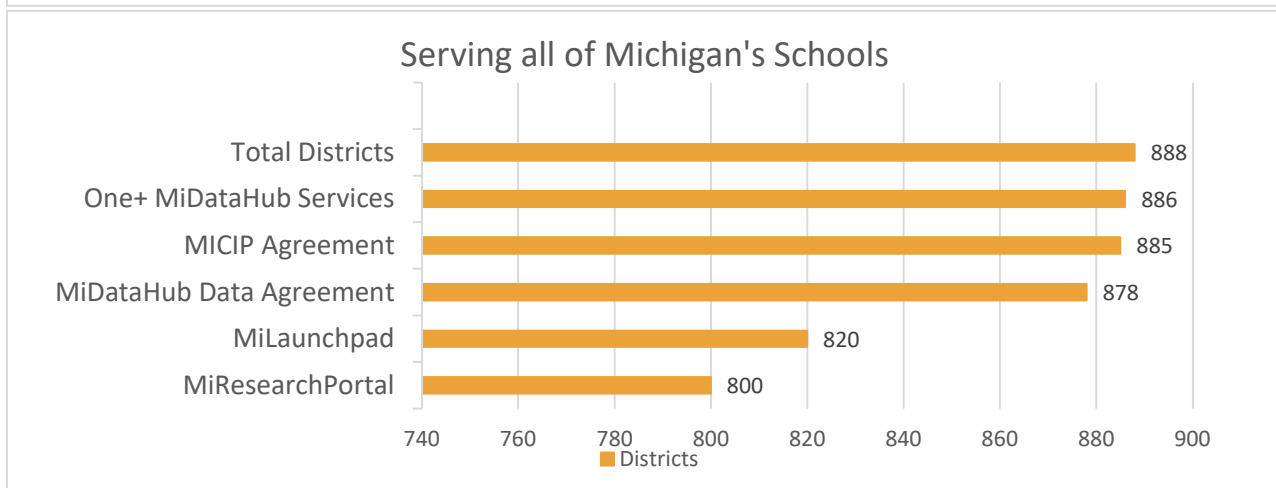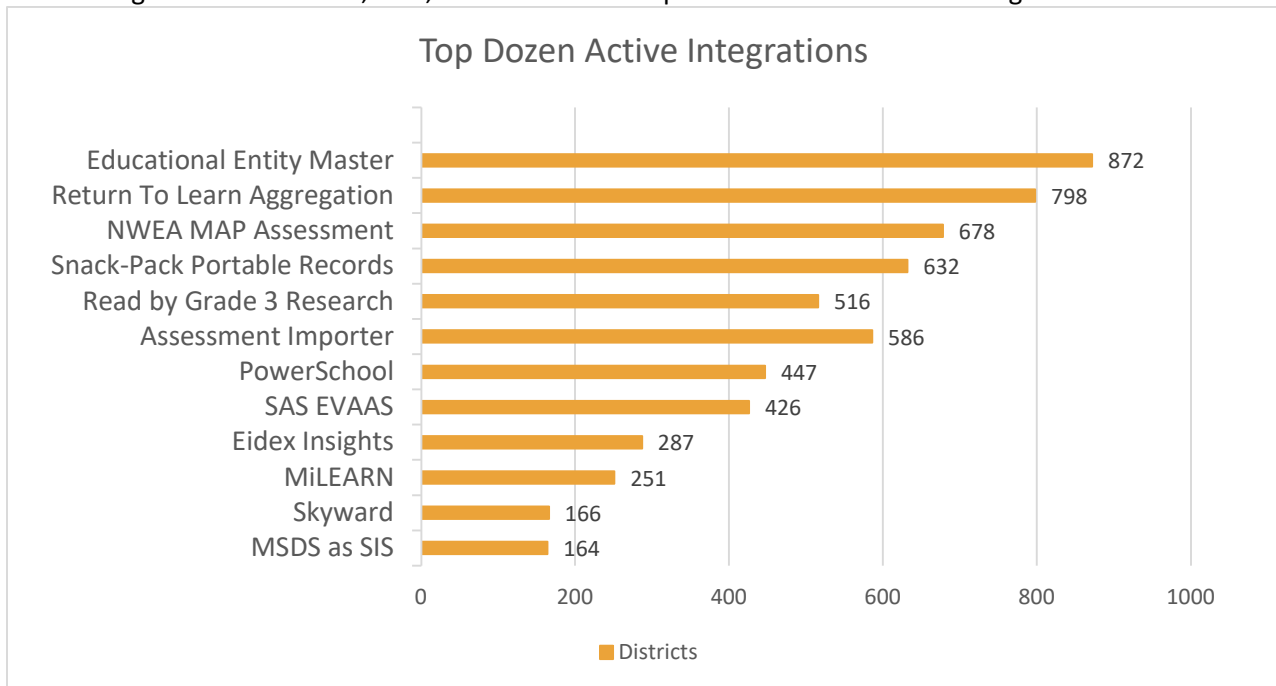
SUPPORTING OTHER LEGISLATIVE INITIATIVES

1. **Literacy Support:** Created as a tool to support classrooms in early literacy in 2018-19, implementation of MiRead stalled during the COVID-19 pandemic. Efforts are underway to implement this as a tool in all districts over the next two years. MiRead provides a common platform for identifying students needing additional supports, creating and monitoring individual plans, promoting the Literacy Essentials and enhancing the efforts of literacy coaches statewide.

2. **MiLaunchPad:** In 2015 MiDataHub created the MiLaunchPad Single Sign-On (SSO) system. MiLaunchPad allows districts to 'federate' or connect their local email system and accounts. Logging in using a local email and password allows access to a growing range of systems. MiLaunchPad is currently used in over 800 districts to streamline and secure access to a wide range of education applications. In short MiLaunchPad has saved Districts the time and effort of managing in excess of 100,000 additional user accounts. More importantly, 100,000 educators are saved from having additional usernames and passwords to remember.

3. The **MiPromisingPracticeExchange** is an electronic clearinghouse designed to share practices, promote and support practice and provide information regarding the implementation of strategies in use to support Michigan's education system. Developed in partnership with MDE, MiPPX supports the Michigan Top Ten Strategic Education Plan by sharing successful local district practices and promoting use in other districts.

4. **MiEWIMS:** Over the past three years, the Michigan Early Warning and Intervention Monitoring System has been developed to support districts in identifying and supporting students at high-risk for dropout. Based on research that clearly identifies attendance, behavior, and course grades as strong predictors of risk for dropout, MiEWIMS leverages MiDataHub for local assessment, behavior, and course grade data, and MiLaunchPad for streamlined access of educators. MiEWIMS is currently being piloted by 10 districts from across the State, with expanded use scheduled for the 2023-2024 school year.

5. **MiEarlyChildhooodConnect** is an early childhood data system that connects local providers and families with educational, childcare, special education, health and other services for families and young children. First developed in the Ottawa region, MiECC is now in use in 13 ISD regions with more signed up to implement in the next year. Integration with MiDataHub will help connect pre-k data with schools as students enter kindergarten, helping educators better understand and meet the needs of students and families

6. **MiStrategyBank** is an electronic clearinghouse of strategies for educational data system. MiStrategyBank serves as a single point of contact for evidence and research based best practices in Michigan. It provides information directly to MiRead, MICIP, MiPromisingPracticeExchange, and MiEWIMS. It can play a

critical role in research efforts as it ties strategies to students, buildings, and districts through MiDataHub to assessment and other key outcome data. With 2,000 users from districts, ISDs, PSA's, MDE, and educational associations, MiStrategyBank has become the go-to source for promoting and accessing best practices in education in Michigan.

7. **MICIP:** Michigan's Continuous Improvement Process for Education is a research-based process for schools and districts to assess needs, build improvement plans, and leverage funding to improve student outcomes. In Partnership with MDE, and MAISA, the MiDataHub team has collaborated on the development of the online platform to support this process. The MICIP Platform is a culmination of MiDataHub efforts from the past six years. The system relies on MiLaunchPad for secure and accurate district user accounts and access. It leverages MiStrategyBank to access evidence and research-based strategies to achieve district goals. The MICIP platform incorporates dropout prevention data and visualizations from MiEWIMS. MiDataHub 'powers' all these other systems, which better informs the process and streamlines the efforts of every district in Michigan to improve student outcomes. One hundred percent of Michigan's Local districts, ISDs, and PSAs have adopted MICIP and access it using MiDataHub tools.

Top Dozen Active Integrations

Integration	Districts
Educational Entity Master	872
Return To Learn Aggregation	798
NWEA MAP Assessment	678
Snack-Pack Portable Records	632
Read by Grade 3 Research	516
Assessment Importer	586
PowerSchool	447
SAS EVAAS	426
Eidex Insights	287
MiLEARN	251
Skyward	166
MSDS as SIS	164

Serving all of Michigan's Schools

Service	Districts
Total Districts	888
One+ MiDataHub Services	886
MICIP Agreement	885
MiDataHub Data Agreement	878
MiLaunchpad	820
MiResearchPortal	800

849
live districts

Over **290,000** UIC transactions processed for **538 districts** – 38 more districts than in 2021

Over
68,000
new UICs created

Over
8,600
integrations in use

Over
1.4 million
student records

MICIP User Agreement has been electronically signed by
885 districts

MiDataHub Averages more than
10 million transactions per day

M-STEP, PSAT and SAT Data actively transferring for
586 districts

516 districts
have opted into sharing data via MiDataHub for an IES Grant to study the effectiveness of the Read by Grade 3 law

820 districts
have their logins connected to the MiDataHub SSO

632 districts
have opted in for the Snack-Pack feature.

Districts reported digital equity data for the first time, providing information on Internet and Device usage

PSAT and SAT data were added to the State Assessment Services

Direct Certification Services expanding to other SISs

Introduction

Section 22m legislative language requests the following:

> *"Not later than January 1 of each fiscal year, the center shall prepare a summary report of information provided by each entity that received funds under this section that includes measurable outcomes based on the objectives described under this section. The report shall include a summary of compiled data from each entity to provide a means to evaluate the effectiveness of the project. The center shall submit the report to the house and senate appropriations subcommittees on state school aid and the house and senate fiscal agencies."*

The Executive Summary and Actionable Data sections above are designed to provide a standalone four-page overview and highlight a few of the key areas of progress and impact. The findings to follow and reference appendices offer a more detailed accounting of the progress to date as related to the eight goals outlined in the 22m legislation. This progress report, in the context of 22m funding, is based on a full year of grant funding.

74% of schools use more than 26 different edtech or software tools

Survey from Digital Promise League of Innovative Schools' Data Interoperability Working Group
CoSN

What should become clear in a review of this document is that:
• District adoption is nearing 100%.
• Schools are saving considerable time and money.
• MiDataHub has created an ecosystem to support equity in school data.
• A diverse array of educational efforts is being supported and enhanced.

MiDataHub already supports students, parents, teachers, administrators, schools, districts, the Michigan Department of Education's (MDE) efforts and the requirements of the Center for Educational Performance and Information (CEPI) and the importance of maintaining this effort grows daily. By improving access to, and the quality of educational data for *all* stakeholders, MiDataHub is demonstrating a multi-fold return on investment (ROI). Last year, we reported that the value of the integrations facilitated by MiDataHub was over $50 million. This year, that number has increased to well over $63 million, a tremendous return on this annual legislative investment in public education.

At its core, MiDataHub simply and dramatically reduces the number of integrations (connections to move data between data systems) that are created and managed by Michigan schools. Statewide, this is a reduction from tens of thousands of redundantly created and managed integrations to less than one hundred, all centrally managed on behalf of all of Michigan's local and charter public schools. A study by the Digital Promise League of Innovative Schools finds that "74% of districts use 26 different Ed-tech or software tools/products" and "only 33% of districts report that they have more than half of their teaching and learning tools linked with their student information system." MiDataHub currently provides 8,654 integrations for Michigan districts, an average of 10.2 integrations per live district. These numbers will continue to grow as MiDataHub scales to nearly 900 districts connected and integrates a greater number of systems, resulting in tremendous cost savings and efficiency.

Findings

CREATING AN INFRASTRUCTURE THAT EFFECTIVELY MANAGES THE MOVEMENT OF DATA BETWEEN DATA SYSTEMS USED BY INTERMEDIATE DISTRICTS, DISTRICTS AND OTHER EDUCATIONAL ORGANIZATIONS IN MICHIGAN BASED ON COMMON DATA STANDARDS TO IMPROVE STUDENT ACHIEVEMENT.

The MiDataHub team worked extensively over the 2022 calendar year to improve and enhance the MiDataHub infrastructure.

The following features of the infrastructure were in existence prior to this reporting year and continue:
- The production data environment is hosted at Oakland Schools data center (34 servers)
- Development and staging environments are hosted in Amazon Web Services (20 servers)
- Version 3.1 of the Ed-Fi Alliance Application Programming Interface (API) and Operational Data Store (ODS) are implemented for integration purposes
  - Each district has one ODS for each year they have used the data hub, which contains all their data for that school year.
  - Districts have full control over the population of their ODS and the systems that consume data from their ODS
  - The Ed-Fi API and ODS are aligned with the Common Education Data Standards (CEDS), which are used at the state level for reporting to the federal level. This alignment helps to reduce the amount of transformation needed as data moves from districts to the state, and from the state to the federal government.
- Version 1.1 of the 1EdTech (formerly IMS Global) OneRoster API is implemented for integration purposes
- The Michigan Data Exchange (MiDX) is implemented as an optional service that combines data from individual district ODSs into one multi-district, multi-year ODS.
  - This combined database is utilized by data systems such as the Michigan Early Warning Intervention Monitoring System (MiEWIMS), MiRead, MiSafeStudent and more.
  - An MiDX Control Panel allows districts the ability to view and control the flow of data to the MiDX.
- The MiDataHub Launchpad (MiLaunchpad) application serves as a front-end for logged in users to access systems that they have permission to use.
  - Currently 22 systems are available for access via MiLaunchpad.
- The MiDataHub Single Sign On (SSO) is a system that authenticates users based on a user id and password to provide them access to a wide variety of systems defined in MiLaunchpad.
  - Currently 18 of the 22 MiLaunchpad systems allow for full SSO access
  - 820 of 887 school districts have federated their Microsoft Ad, Microsoft Azure Ad, Google Suite logins, or Okta logins to the MiDataHub SSO. That means that district users can log into MiLaunchpad applications with the same user id and password that they use for other district purposes, making it easier for users to get into systems in the MiDataHub ecosystem.

The following features of the infrastructure were new since the last report:
- Scanning of the MiDataHub infrastructure was implemented through the federal CISA service
- Minor corrections were made to the descriptor set for the 22-23 school year

- Access to the Edupaths Professional Learning Catalog and Content via the MiDataHub SSO and MiLaunchpad was completed
- Access to the MAISA Events Portal via the MiDataHub SSO and MiLaunchpad was completed
- Access to the MiEWIMS system via the MiDataHub SSO and MiLaunchpad was completed
- The number of federated districts increased from 785 to 820, an increase of 35 districts.

The following features are planned for the upcoming year:
- Preparation work for an upgrade to version 6.1 of the Ed-Fi API and ODS
- Migration of the hosting of the production environment from Oakland Schools to Amazon Web Services
- An upgrade to version 1.2 of the OneRoster API is planned

Conclusion: Goal 8a is being met with district and vendor adoption on schedule. State departments, educational organizations, and the field, in general, are embracing the infrastructure and benefiting from the common data standards.

LEGISLATIVE GOAL 8B

UTILIZING THE INFRASTRUCTURE TO PUT IN PLACE COMMONLY NEEDED INTEGRATIONS, REDUCING COST AND EFFORT TO DO THAT WORK WHILE INCREASING DATA ACCURACY AND USABILITY.
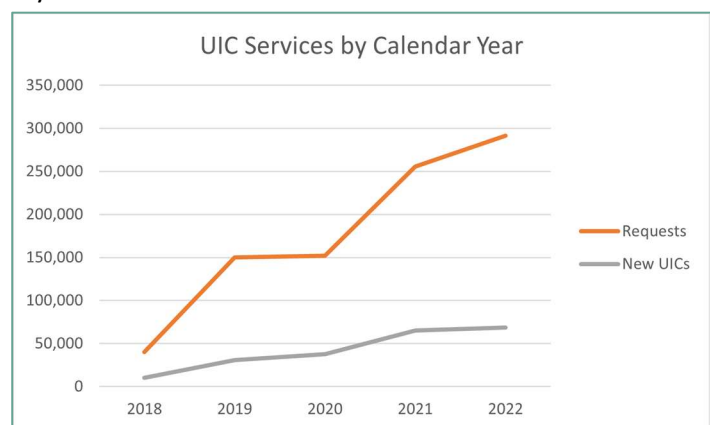
Streamlining the connectivity between disparate school data systems is the primary goal of the Michigan Data Hub. When the integration piece is done well, then everything else in the MiDataHub ecosystem works well. We continue to be supported greatly by the integration of the 5 major Student Information Systems (SIS) used in the state. Now that most districts either populate MiDataHub through a SIS connection or by importing an MSDS file, focus continues to be placed on 1) integration of additional systems that add data to the data written by a district SIS, and 2) consumption of data by downstream systems that use data from MiDataHub to provide a beneficial service to districts.

The following integration features were in existence prior to this reporting year and continue:
- 8,654 integration instances are in place over 849 live districts, for an average of 10.2 systems integrated per district.
    - These are significant increases over the 7,293 integration instances that were in place for 838 live districts, for an average of 8.7 systems integrated per district in the 2021-22 school year.
- A Vendor Relations Manager (VRM) has been employed to engage vendors and move them through the process of having supported integrations. The duties of this position involve gathering integration needs from the field, engaging identified/prioritized vendors, coordinating vendor status meetings, conducting monthly webinars, overseeing vendor certification, monitoring data quality of integrated systems, facilitating vendor support through the development process, developing models for sustainability, and strengthening ongoing vendor relations.
- The MiDataHub Product Catalog provides detailed information to districts about available integrations as well as implementation instructions.
- 5 Student Information Systems are connected to MiDataHub via the Ed-Fi API, including Edupoint Synergy, Infinite Campus, MISTAR-Q, PowerSchool and Skyward. These SISs cover nearly 90% of the 888 districts in the state.

- An MSDS Import is in place to allow districts without a connected SIS to load data
- Integrations with numerous CEPI and MDE Data Services are in place
  - The Educational Entity Master (EEM), maintained by CEPI, contains the official district and building information for educational entities across the state. EEM data has been flowing to district databases since work was completed in November 2018.
  - A Direct Certification integration was established with CEPI in July 2021. Direct Certification refers to students who are automatically eligible for free or reduced school meals based on their economic status, with no application necessary. The Direct Certification integration allows the calling system to search for individual students as well as the status of all students directly certified in the district.
    - 20 individual student status requests (down from 71)
    - 969 requests for district entity information (up from 355)
    - Original implementation in MISTAR-Q SIS, but other SISs are working to adopt
  - The State Assessment Service populates district databases with historical M-STEP, PSAT and SAT data regardless of which district delivered the assessment. Districts using this assessment grew from 434 to 586 since the last report.
  - MiDataHub supports the Michigan Student Data System (MSDS) process by providing districts with error checks, data alerts, reports and an XML extract that can be used for submitting data to CEPI for state reporting.
    - 16 Skyward Qmlativ districts use this to submit data
    - Pilot districts are testing the functionality on behalf of all the other SISs in the state
  - The CEPI Portable Records Service, also referred to as the "Snack-Pack", allows a district to look up data for a newly enrolling student from their most previously reported district in CEPI's records. The information is helpful for ensuring that students receive all the services needed in their new district. This service has seen a substantial increase in usage since it was initially created in 2019, from 24,066 lookups that school year to 1,059,797 in 2022.
  - The CEPI Unique Identification Code (UIC) service allows connected systems to look up UICs for students, speeding up the process and making it more accurate for district users. The growth in usage of this system is shown in the table and chart below.

Calendar Year	Requests	New UICs
2018	40,000	10,000
2019	150,000	31,000
2020	151,945	37,670
2021	255,390	65,302
2022	291,661	68,472

UIC Services by Calendar Year

- For the Benchmark Assessment Mandate (formerly called Return to Learn), MiDataHub facilitated the collection and aggregation of benchmark assessments for districts using the Curriculum Associates i-Ready Assessment, DRC Early Literacy and Mathematics Benchmark

Assessment, DRC Smarter-Balanced Interim Assessment, NWEA MAP Assessment and Renaissance Star Assessment.

- o [Public Act 149 of 2020](#) – MiDatahub provided data for 629 districts for a total of 590,819 students (61.1%)
- o [Public Act 48 of 2021](#) – MiDatahub provided data for 714 districts, which was the vast majority of the 735 districts and 817,560 students used for the analysis. That represents (87.4%) of the population of K-8 students in Michigan. ([Michigan's Fall 2021 Benchmark Assessments](#), page 9)
- o [Public Act 144 of 2022](#) – MiDatahub is working to provide the data on behalf of districts, but currently 714 districts and 869,000 students are on file with assessment data.

The following integration features were new or have updated information since the last report:

- The Vendor Relations Manager position has evolved into an Outreach Coordinator position contracted through MAISA. The duties remain largely as stated for the VRM position, with the addition of district-level outreach added to the duties.
- The MiDataHub Product Catalog indicates 53 products that are integrated with MiDataHub for data integration, single sign on, or both.
  - o An Ed-Fi API integration for [BH Works](#) was added this school year.
- IMS Global renamed itself to 1EDTECH during the year, and there was a significant decrease in the number of products integrated via the OneRoster 1.1 API as shown in their product directory. This was due to more stringent certification procedures, which caused many certifications to lapse. Although the numbers below are much smaller than previously reported, the number of products capable of integration via OneRoster has likely increased.
  - o Version 1.1 of the OneRoster API provides integration options for up to 36 products as indicated in the [1EDTECH Trusted Applications Directory](#).
  - o Version 1.1 of the OneRoster CSV file specification provides integration options for up to 23 products as indicated in the [1EDTECH Trusted Applications Directory](#).
  - o Numerous other products are capable of integration with the OneRoster 1.1 API and CSV options but have not undergone certification or have not kept current with their certifications.
- Due to its importance in many processes, the CEPI EEM integration was made an automatic integration for all districts with data in MiDataHub. Numerous enhancements were made to the integration to improve reliability.
- Collection of [Digital Equity Data](#) through the integration with SISs was completed for the first time in the 2020-21 school year. Data for 95 districts and 119,765 students was collected in MiDataHub. This data can potentially be valuable in determining gaps in Internet access and device availability.
  - o In the 2022-23 school year the responses have risen to include 123 districts and over 157,000 students.
- MiDataHub revised the integration of the Schoolwide Information System (SWIS) to improve the rostering of the system as well as to provide an import of the discipline referral data housed in SWIS, to the district database.
- Several integrated solutions increased their integration numbers since the last report, including: (last year's number in parentheses)
  - o 678 (671) Districts integrated with Northwest Evaluation Associates (NWEA) to load assessment data to MiDataHub, which is used for benchmark assessments.

- 426 (390) Districts integrated with SAS EVAAS, a tool to provide Value Added Metric data to districts to determine the impact of instruction using state assessments for teachers of record in fourth through eighth grade.
- 251 (215) Districts integrated with MiLearn, a system from MDE that provides state assessment data to parents, students, and educators.

The following integration features are planned for the upcoming year:
- The State Assessment Service is being revised to add MiAccess and WIDA data to the existing available assessments.
- SSO and integration work with Michigan Virtual is under discussion.
- An integration with Michigan Early Childhood Connect (MiECC) is under discussion.

> The new Snack-pack feature has already proven to be a tremendous asset to our district. The ability to obtain immediate information on newly enrolled students has really improved the district's ability to provide timely service and accommodations to these students. Before the Snack-pack, we would have to wait for the previous school/district to send pertinent student status information related to special education, English language learning, homelessness, economic status, etc., which often caused a delay or gap in needed programs and services. With the Snack-pack, we are now able to get a glimpse into the student profile as soon as we enroll a new student, eliminating the need to submit an SRM right away or wait until the next certified collection to obtain this information. If this is only the beginning of the Snack-pack project, I cannot wait to see how much more robust it will become!
>
> **— Sarah Mohler, Madison District Public Schools - Pupil Accounting Manager**

Conclusion: Vendor adoption is increasing, and numerous valuable integrations were delivered during the year. With district interest at 99% and 94% of districts with live data (see chart page 15), ROI is exceeding $64 million per year. Expectations for Goal 8b are being exceeded and ROI will continue to grow with increased district adoption.

LEGISLATIVE GOAL 8C
PROMOTING THE USE OF A MORE COMMON SET OF APPLICATIONS BY PROMOTING SYSTEMS THAT INTEGRATE WITH THE MICHIGAN DATA HUB NETWORK.

MiDataHub continues to make great strides in promoting a more common, integrated set of systems for many common tasks. Leveraging MiDataHub for these tasks will, in time, result in one common, reliable, and efficient process statewide and is already lowering the cost and improving the quality and accuracy of data compiled.

The following efforts at promoting a more common set of applications are in place and continue:
- Districts often include a preference or requirement for MiDataHub integration as a factor in selection of data systems. Recent migrations from unsupported systems to integrated systems have fueled commonality in the Student Information System space.
- Legislation, statewide bids, and volume contracts are beginning to require integration.
  - MDE's choice of 4-5 benchmark assessments for the Benchmark Assessment legislation has moved many districts to those identified and integrated systems.

- o MDE required that the SAS EVAAS tool utilize MiDataHub for rostering, providing a consistent path for districts statewide to use the tool.
  - o MDE has also included language requiring MiDataHub integration in its contract with Math Nation.
- In addition to solving existing data challenges, the MiDataHub infrastructure has provided an opportunity to build common solutions that leverage the standards-based ecosystem. These common, collaboratively created, and Michigan specific tools will save thousands of hours of work and potentially millions of dollars spent by schools for lesser solutions. A few of these systems include:
  - o The MiRead system, which assists districts in identifying students struggling to read at grade level and creates individualized reading improvement plans (IRIPs) to meet the requirements of the Read by Grade 3 law.
  - o The MiStrategyBank tool was designed to house research and evidence-based strategies for addressing student needs. That tool now is being expanded to include school improvement strategies for use in other tools.
  - o The MiEWIMS system, which allows for plans to be created with strategies from MiStrategyBank to target the attendance, behavior and course grade issues that result in an increased likelihood of students dropping out.
- MiDataHub has created opportunities for the private sector to more easily, effectively, and efficiently create solutions that leverage student data. A few examples of this are:
  - o Eidex, a Grand Rapids-based company, has been able to expand its tools to look more closely at student and teacher data due to the wide availability of information in the data hub for districts across the state.
  - o Munetrix, an Auburn Hills-based company, has been able to expand its tools to look more closely at student and teacher data due to the wide availability of information in the data hub for districts across the state.
- Based, in large part, on the success of MiDataHub in establishing data standards, CEPI has been engaged in the modernization of its internal data systems and structures. This modernization includes efforts to redesign the technical architecture of State data systems. This redesign is focused on adopting and implementing data standards in alignment with those adopted by MiDataHub and implemented in a rapidly growing number of local districts. Aligning State data systems will both simplify integrating State-reporting for local districts and provide opportunities for the State to leverage collaborative work from across the country to improve its ability to process, synthesize, analyze, and access educational data.
- MDE and the Michigan Collaboration Hub (MiCH) Development Group have developed and successfully launched a new school improvement planning tool called the Michigan Integrated Continuous Improvement Process (MICIP). MICIP allows for schools to use historical data from MI School Data along with up-to-date information from MiDataHub to identify areas where improvement is needed. Once an area is identified, strategies for improvement can be accessed from the MiStrategyBank tool to create a continuous school improvement plan. Using data from MI School Data and MiDataHub, districts will be able to adjust and modify those plans going forward. The system went live in January 2021. This type of collaboration could not have occurred if it weren't for the standards-based environment led by MiDataHub and state systems quickly aligning to them.

The following efforts at promoting a more common set of applications are planned for the upcoming year:

- Work is underway to develop communication templates for districts to use to let vendors know that they would like them to pursue a standards-based integration for their product through MiDataHub.
- Working with the Ed-Fi Alliance, and the Ed-Fi Community, MiDataHub continues to promote at a national level the adoption of the Ed-Fi standard to vendors of interest to Michigan districts.

Conclusion: Goal 8c is already met. MiDataHub is already narrowing the field of educational data systems in use in Michigan. At the same time, MiDataHub is driving up the level of collaboration by schools and state agencies, streamlining business and instructional practices for Michigan schools.

LEGISLATIVE GOAL 8D
PROMOTING 100% DISTRICT ADOPTION OF THE MICHIGAN DATA HUB NETWORK.

To date, 879 of the 888 districts in Michigan have begun the process of adopting MiDataHub by either signing up for the project or fully connecting (live) at least their SIS to MiDataHub. The chart (left) shows the growth in the numbers of live districts and districts signed-up to date. As of the time this was written, the number of live districts was 849, which is 12 districts more than the 837 reported last year. As MiDataHub is a voluntary use system, continued awareness efforts are significant and critical.

The chart above shows the growth in district participation in MiDataHub since districts began connecting in December 2015. MiDataHub is down to a very small number of districts needed to connect, and the goal of 100% district adoption is within reach.

The table below shows a breakdown of the progress by district type - intermediate school district (ISD), local education agency (LEA) or public-school academy (PSA). All ISDs and nearly all LEA's have signed up to be on the data hub. The 537 LEAs have had the greatest rate of live adoption, with nearly 97% of districts and 92% of students are live on the data hub. PSA adoption has increased dramatically, as 98% of them have expressed interest, and about 95% of the PSAs are currently live. Most of the dramatic increase in Charter School adoption is due to the Benchmark Assessment mandate and the use of the MSDS Import tool.

Number of Entities	Type	Interested		Live Districts		Live Students		Total Students
		#	%	#	%	#	%	
56	ISD	56	100%	50	89%	39,149	85%	45,931
537	LEA	534	99%	520	97%	1,217,014	92%	1,328,222
295	PSA	289	98%	279	95%	148,072	97%	150,769
888	**Total**	**879**	**99%**	**849**	**96%**	**1,404,235**	**92%**	**1,528,681**

If we expand the definition of MiDataHub participation to include districts that use one or more MiDataHub services, then the total participation is 886 of 888 districts. In addition to districts that have data in MiDataHub, many districts use the MiDataHub SSO or have signed data agreements in the data hub.

The following steps to promote 100% adoption are in place and continue:

- Focus on ensuring that districts have full control over their data as indicated in the MiDataHub Data Hosting Agreement will ensure that districts can trust us to securely manage their data.
- Focus on ensuring that district benefits from MiDataHub use outweigh the amount of effort needed to participate will ensure that districts are receiving value from MiDataHub.
- Partnering with ISDs for Data Hub Support Specialists provides a network of talented staffing resources to districts that they are already comfortable with receiving services from.
- Free MiDataHub courses in the EduPaths professional development portal are available to assist districts with learning how to use MiDataHub.
- MiDataHub employs a Support Manager and a Tier 1 Support Specialist to coordinate support for Michigan districts. This team, along with Data Hub Support Specialists (DHSS) from ISDs, use the SolarWinds Web Helpdesk tool to track issues so that district requests are addressed in a timely and professional manner.
- Monthly meetings of the DHSS Operations Workgroup are held to provide ISDs with information on new/upgraded integrations, new/upgraded MiDataHub functionality, solutions to common issues, and sharing of information from other partners. This information can then be taken back to each ISD region and disseminated to LEAs and PSAs through normal communication channels.
- Monthly meetings are held with each primary SIS vendor and any interested district contacts. These meetings are specific to each Student Information System, and each have a varying level of sharing between MiDataHub, Student Information System developers, and the districts participating on the call. The sole purpose of these meetings is to provide an opportunity for SIS vendors to address any questions from the field and provide updates on upcoming functionality, including bug fixes. A schedule of these meetings can be found on our website.
- Professional development is provided by the MiDataHub team in the form of periodic statewide webinars, presentations at conferences, and regional presentations held at ISDs.
- A MiDataHub newsletter is published as needed to provide timely, relevant information to users across the state.

"Through our use of the data hubs, we see an improvement in data quality. Instead of finding and addressing data quality during state reporting timelines, we are seeing them earlier – during the enrollment and registration process. This gives us cleaner data. We are excited to take advantage of the UIC integration and MiLearn, both exclusively available through the data hubs. We no longer upload files for UIC matching... Not only does this integration reduce my work as the Pupil Accountant and State Reporting MISTAR System Administrator, but our building secretaries have the UIC immediately and there's no waiting or follow-up to complete student registration. The integration with MiLearn gives staff, parents, and students in our district instant access to student state testing results, even if the students were not in our district during testing." **— Donna Reuter, Student Data Supervisor, Farmington Public Schools**

Conclusion: MiDataHub has effectively reached 100% adoption, as all but two districts in the state use one or more MiDataHub resources. Continued efforts at providing value to districts will encourage increased adoption and utilization of MiDataHub.

LEGISLATIVE GOAL 8E
ENSURING LOCAL CONTROL OF DATA, DATA SECURITY, AND STUDENT DATA PRIVACY.

Local control, data security, and data privacy are of primary concern and utmost importance to MiDataHub.

The following steps to ensure local control of data, data security and student data privacy have been in place prior to this year and continue:

- The MiDataHub Cockpit Application promotes local control as districts manage their own integrations. Changes that make data externally available are only made by MiDataHub staff upon district request.
  - An audit log tracks all manual changes to district integrations and permissions. This log can be reviewed by the district at any time.
  - API integrations are protected through a key and secret process, with industry standard encryption on transactions.
  - Inbound and outbound integrations leverage Secure File Transfer Protocol (SFTP) credentials.
  - All web traffic is encrypted with industry standard Secure Socket Layer (SSL) encryption.
  - All storage area network (SAN) drives are encrypted, so that physical theft of a drive will not allow for retrieval of data. Within the SQL database used by the system, all databases are encrypted so that a database backup cannot be restored without the proper keys.
  - The entire data hub network is enclosed in a virtual private network (VPN), which is very tightly controlled to allow only appropriate traffic through.
  - Credential details are encrypted in the MiDataHub Cockpit database
- Alert functionality in the MiDataHub Cockpit allows districts to receive email alerts when users or integration settings are changed.
- A district's data integration capability is disabled until their superintendent or his/her proxy electronically signs a data hosting agreement (DHA), which spells out the terms and conditions of using the system.
  - The superintendent/proxy can revoke that signature at any point, effectively disabling any further integration with their district.
  - The DHA is important in that it provides guidelines and restrictions for those who access MiDataHub on behalf of the districts. The guidelines include maintaining FERPA protection of data, ensuring encryption at rest and in transit, identifying that the district remains the owner of the data and that the data cannot be disclosed to anyone without the consent of the district. To date, there have been no instances of inappropriate disclosure of data nor any FERPA violations. A revised agreement with improved language, along with increased liability coverage, was implemented in the Fall of 2020.
- In addition to the DHA, MiDataHub allows for other agreements to be e-signed and tracked through the MiDataHub Portal. These agreements are essential to ensuring districts that their

data will be handled securely, and that privacy of data will always be maintained. Further details on these agreements can be found [on the midatahub.org website](https://www.midatahub.org).

- Professional Development is required of all staff as well as contracted Data Hub Support Specialists (DHSSs) about FERPA regulations on the handling of data. Project staff employed by Kalamazoo RESA are required to annually complete SafeSchools training modules, including FERPA. MAISA employees are required to complete KnowBe4 modules on data security monthly. All DHSSs and other contracted staff are required to complete training through the Privacy Technical Assistance Center (PTAC). PTAC provides a federally approved training course, which provides certificates of completion. These certificates are held on file for reference as needed.
- Many of the technical solutions provided by MiDataHub eliminate the potential for human error in the tasks they perform every day. The ability to get UICs directly through MiDataHub eliminates the need to create and store data files with UIC information, preventing unauthorized access to that information. Similarly, the exchange of data files via API and secure file transfer protocol (SFTP) eliminates employees putting those files on laptops and other storage devices where the files may be accessed by others. This secure functionality protects highly sensitive data sources such as free and reduced lunch, assessment, and special education data.
- The MiDataHub SSO serves as a solid authentication system that controls the login of both staff and students. Users can authenticate (log in) with their district-provided Google, Microsoft Active Directory or Microsoft Azure Active Directory accounts. That process, called federation, allows a district user the ability to use a single user id and password to access many systems, reducing the security risks tied to having multiple accounts. It also has opened the door to allowing students to log into software that they use. While this federation process started in prior years, it really began to expand rapidly in 2020. At present, 820 districts are federated, meaning that more than 92% of the districts in the state are connected.
- Monitoring of services and servers (CPU, disk space, etc.) is provided through Microsoft Systems Center Operations Manager (SCOM)

The following steps to ensure local control of data, data security and student data privacy have been taken during this year:
- A management portal is in development that will allow vendors, researchers, and initiative managers to securely work with district data that they have been given access to, rather than those managers receiving access in less secure ways.
- A Security Information and Event Management (SIEM) solution facilitated by Oakland Schools through their hosting agreement provides continuous monitoring of the MiDataHub infrastructure for unauthorized access to data and systems.
- Weekly scanning of the MiDataHub environment through U.S. Cybersecurity & Infrastructure Security Agency (CISA) was implemented during the school year.
- Through collaboration with the Michigan Collaboration Hub (MiCH) and VDA Labs, an operations manual is being drafted to document infrastructure and security policies.

The following steps are planned to ensure local control of data, data security and student data are planned for the upcoming year:
- A Production Profile Definition Collection enhancement to the management portal is underway. This tool will allow a vendor to report all data fields that are read by or written by their connected system. A product specific Profile will then be created which restricts access to only the field indicated. This will provide districts with a greater level of protection of their data as well as visibility into what data is being used or provided.

Conclusion: The goal is being met. The cockpit application provides local control of security and privacy for districts. Enhancements this year include implementation of a Security Information and Event Management (SIEM) service as well as work with VDA Labs on the drafting of a detailed security plan. The system, agreements and processes have been designed for security and local control based on best practices statewide. The expansion of the MiDataHub Single Sign-On is allowing district users to log in with the same credentials used in other systems.

LEGISLATIVE GOAL 8F

UTILIZING THE INFRASTRUCTURE TO PROMOTE THE ACTIONABLE USE OF DATA THROUGH COMMON REPORTS AND DASHBOARDS THAT ARE CONSISTENT STATEWIDE.

As the data quality and availability improve through the streamlined integration of systems, the capability to use that data in an actionable manner to support teaching and learning dramatically expands. As such, the work of actionable data focuses on supporting and promoting the use and development of instructional applications that are "Powered by MiDataHub."

The following Actionable Data initiatives have been in place prior to this year and continue:
- MiRead
- MiStrategyBank
- MICIP

The following Actionable Data initiatives were introduced during this year:
- MiPromisingPracticeExchange
- MiEWIMS
- MiEarlyChildhoodConnect

The following Actionable Data initiatives are planned for the next year:
- MiSpecialEducationResourceCenter
- The START (Statewide Autism Resource and Training Center) Data System

An Actionable Data Advisory was assembled in 2017 with curriculum and instruction, data, and educational technology leaders from across the State. During the 2021-2022 school year, the responsibility for Actionable Data transitioned to MAISA (Michigan Association of Intermediate School Administrators), with the Michigan Collaboration Hub assuming advisory responsibilities. MAISA is now working across its Professional Networks (General Education, Special Education, Early Childhood, and Educational Technology) and various projects (e.g., Early Literacy and Early Math) to coordinate and enhance Actionable Data Efforts on behalf of their membership and MiDataHub.

Work in four primary statewide priorities continues under this structure, with enhanced focus on early childhood and special education:

1. The statewide implementation of an online tool for the creation, management, and administration of Individualized Reading Intervention Plans **(MiRead)**.
2. The integration of **MiStrategyBank** to support best-practice student, parent, instructional, and improvement strategies in tools including but not limited to MiRead, MICIP, and MiEWIMS.

3. The development and integration of the web-based-platform to support Michigan Integrated Continuous Improvement Process **(MICIP)**. As anticipated in last years' report, 100% adoption was achieved in the summer of 2022.

4. The design and development, in partnership with and funded by Michigan's MTSS Technical Assistance Team (formerly MIBLSI) of a web-based platform **(MIEWIMS).** MiEWIMS, modeled after MiRead, is a platform to support the efforts of school and district teams in decreasing dropout rates while improving on-time graduation of students at risk for dropping out of school. Based on national research and MDE's EWIMS (Early Warning Intervention Monitoring System) process, MiEWIMS will blend best practices from state and national partners to support district efforts and will rely solely on MiDataHub for data in the areas of Attendance, Behavior, and Grades which are proven indicators of risk and student success. MiEWIMS is currently being piloted in ten districts across Michigan.

Based on the common standards and transmission processes promoted by MiDataHub, the applications, systems, and processes that are *Powered by MiDataHub* rely on the Hubs to populate most data used by these systems.

Examples of the actionable data initiatives that are Powered by MiDataHub include:

MICIP Platform: The most significant new effort in actionable data over the past year is the partnership with MDE, MAISA, and a range of other organizations and private sector vendors in the development of the online platform for Michigan's Continuous Improvement Process. Used by all districts in Michigan to assess needs, develop implement, monitor, and evaluate strategic improvement plans, MICIP will truly impact every student, family, educator and community in Michigan.

The MICIP Platform relies on MiDataHub and its associated systems for local district and building data, user accounts, improvement strategies, reports, and visualizations. The MICIP Platform is truly Powered-By and only possible because of MiDataHub:

 MiRead Version 2.0 of the MiRead platform is currently in development. For the first time, a fulltime project coordinator has been hired to lead MiRead efforts. Operational funding has been secured and MiRead will be offered statewide, free of charge, for a minimum of two years, to districts in the Spring of 2023.

 MiStrategyBank is powering MiRead with nearly 2,000 (1,000 a year ago) unique strategies assigned to thousands of students based on their individual needs to support literacy. National groups have begun the work of curating district improvement strategies. MDE and content area leaders from across the State have also worked on adding systems level strategies to support school and district improvement level. With over 850 systems-level strategies (250 one year ago), and growing, MiStrategyBank is prepared to support the statewide launch of the MICIP platform in January.

MiEarlyChildhoodConnnect (MiECC) is now used in 13 ISDs to coordinate supports and referrals for families with young children. The MiECC has begun planning on integrating with MiDataHub to bridge the divide between early childhood and K12 data systems.

Common Reports – The cockpit application is designed to house common reports that can be created and plugged into the framework to make them available to districts. This allows for a process of rapid prototyping and deployment of reports so that important reporting capabilities can be put in the hands of districts quickly. Also, a custom export tool allows districts to query their data in any way they would like, allowing for near-instant access to their information.

MiEWIMS – As described in the executive summary, MiEWIMS is being built to support district, school, and educator efforts to help individual and groups of students at risk for dropping out. Rooted deeply in decades of research, MiEWIMS will enhance efforts at the local level. Much like MICIP, MiEWIMS is Powered by MiDataHub, MiLaunchPad, MiDataExchange, and MiStrategyBank. Being Powered-by these systems means that the system relies on the other systems to operate. In the case of MiEWIMS this means:

- Powered-By MiDataHub: All data is provided by MiDataHub, this includes Students, Staff, Schedules, Attendance, Behavior, and Grade data.
- Powered-By MiDataExchange: Allows for student data to follow students as they move from district to district, allowing data to follow students ensures that educators are alerted when a student enrolls in their district who is already at risk and has recently moved, adding to the likelihood of dropping out, and allowing them to act quickly to provide supports to these students.
- Powered-By MiLaunchPad: If you have more usernames and passwords than you can remember, this means a lot to you. MiLaunchPad allows users to login using their district email. This means no new usernames, no new passwords, no password resets, etc. Users simply access the system without logging in if they are already logged into their email. This reduces the support cost of the system and more importantly makes access seamless for users.
- Powered-By MiStrategyBank: Reduces duplication of strategy research, identification, and alignment to district needs. It also offers Michigan schools a common place to both share and consolidate knowledge about effectiveness, best practice implementation steps, and outcomes. MiStrategyBank provides strategies that can be searched for based on student needs and included in plans to support student success. While encouraging collaboration and consideration of proven practices, it also empowers districts to be independent as each district can enhance their own 'bank' of strategies by adding their own local strategies to those visible statewide for use just in their district.

Conclusion: Goal expectations are being exceeded. MiCH serves to prioritize efforts. Priorities, training, and ongoing development efforts include MiEWIMS, MiRead, MICIP, MiStrategyBank, Open Educational Resources, and Competency-Based Education.

LEGISLATIVE GOAL 8G
CREATING A GOVERNANCE MODEL TO FACILITATE SUSTAINABLE OPERATIONS OF THE INFRASTRUCTURE IN THE FUTURE, INCLUDING ADMINISTRATION, LEGAL AGREEMENTS, DOCUMENTATION, STAFFING, HOSTING, AND FUNDING.

An extensive governance model is in place for the MiDataHub. The current governance model is based on the type of funding that has been provided, which so far has been state grant funding. The current Section 22m funding is provided through CEPI, which has sub-granted to Kalamazoo RESA as a fiscal agent. Kalamazoo RESA employs the MiDataHub staff including a Director, Actionable Data Manager, Operations Manager, Relations Manager and Support Manager, who are responsible for carrying out the various aspects of MiDataHub work.

The following aspects of the MiDataHub Governance Model have been in place prior to this year and continues:
- Kalamazoo RESA is the fiscal agent for MiDataHub
- Primary coordination and direction for MiDataHub is provided by the MiDataHub Advisory Committee, which is comprised of ISD representatives from MiDataHub regions. While this committee is advisory in nature, it represents the voice of the districts and serves to identify priorities as facilitated and recommended by the Director.
- A leadership team comprised of the Executive Director of CEPI, the CEPI Director of Integration and Support, the Director of the MDE Office of P-20 Data and Information Management, the MiDataHub Director, and the Director of the Michigan Collaboration Hub is in place to ensure that MiDataHub is meeting the legislative and grant requirements.
- Much of the work of MiDataHub is distributed to ISDs throughout the state. The Data Hub Support Specialist Operations Group is comprised of Data Hub Support Specialists (DHSS), with 50 DHSSs serving from more than 30 ISDs statewide. The DHSS work with districts in their region and/or districts using systems where they have expertise to provide support for MiDataHub use.
- Legal agreements have been developed to handle various aspects of MiDataHub operations. A contract for hosting services is in place between Kalamazoo RESA as a fiscal agent and Oakland Schools, which serves as the data hub hosting location. A new revised data hosting agreement (DHA) between Kalamazoo RESA and all districts joining MiDataHub is in place. The DHA ensures the protection of district data and identifies the terms and conditions that govern district usage.
- Strategic partnerships play a critical role in supporting MiDataHub initiatives. Agreements with the Michigan Collaboration Hub (MiCH) at MAISA provide for extended services and logistical support. Like many other statewide initiatives, MiDataHub looks to MiCH for support, guidance, and access to educational groups and associations. These relationships are paying significant dividends and will, in time, provide pathways to funding to support the long-term operation of MiDataHub. One example is MiRead. Developed in partnership with MiDataHub, MiCH, and the Ottawa ISD, MiRead is in full production this school year and is expected to be adopted by many, if not all districts in Michigan in the future.

The following aspects of the MiDataHub Governance Model were introduced this year:
- A Data Quality/Data Governance workgroup has been created to begin documenting processes related to the management of the data, with a focus on ensuring data quality.
- An Operations Manual workgroup has been created to document processes related to infrastructure, operations of MiDataHub, and security. This workgroup leverages expertise from MiCH and VDA Labs.

The following aspects of the MiDataHub Governance Model are planned for the upcoming year:

- As a result of work by the Data Quality/Data Governance workgroup, several data governance tools are being created that will assist both MiDataHub and the districts it serves with better managing data processes.
- The move of MiDataHub hosting to be fully in Amazon Web Services will further streamline the governance of MiDataHub.

Conclusion: This goal is an ongoing work in progress, as legal agreements, structure, staffing, and governance models continue to evolve in planning. Consolidation to one hub at Oakland Schools was a huge step in streamlining and securing the MiDataHub infrastructure, supporting long-range sustainability.

LEGISLATIVE GOAL 8H
EVALUATING FUTURE DATA INITIATIVES AT ALL LEVELS TO DETERMINE WHETHER THE INITIATIVES CAN BE ENHANCED BY USING THE STANDARDIZED ENVIRONMENT IN THE MICHIGAN DATA HUB NETWORK.

One of the most impactful results of implementing the MiDataHub infrastructure is that it has changed the way we approach new data initiatives. Not only does MiDataHub provide a standards-based framework that can be leveraged for new initiatives, but it also extends the ability for collaboration from districts to ISDs to State of Michigan entities like CEPI, DTMB and MDE.

The governance structure serves as a mechanism for the identification and evaluation of new initiatives. Having representation on both the MiDataHub Advisory and MiCH Steering Committee from districts, ISDs, CEPI, and MDE allows for early identification of new data needs. With all parties at the table, the data needs can be discussed and evaluated to identify if the initiative should move forward as a MiDataHub powered solution.

In addition to evaluating future data initiatives described above, CEPI also continues to change internal processes to evaluate requests received from internal and external stakeholders. Some of these requests are to streamline compliance reporting or data quality processes, and instead of simply adding more reports to existing systems, they are now evaluating whether the requested information would better serve students in a timelier manner if collaboration with the hubs can solve the issues. While data issues can be "fixed" at the time of compliance reporting, the reality is that the compliance report may be correct, but a student may not have received needed services for several months due to data inaccuracies. These requests for improving data quality can now be considered opportunities to instead provide improved student support or district efficiencies via the data hub.

MiDataHub continues to be called upon as a resource for research information. As indicated earlier, 516 districts have electronically signed an agreement to allow MiDataHub to share student assessment and other related data with researchers at MSU and the University of Michigan through a collaboration called the Educational Policy Innovation Collaborative (EPIC). EPIC received an IES grant to study the effects of the Read by Grade 3 law, and the availability of data and ease of receiving permission from districts, is enabling EPIC to be very effective in its work. In addition to the Read by Grade 3 research and providing data for the Return to Learn Benchmark Assessment mandate mentioned earlier, MiDataHub is also working with EPIC to provide data for several additional studies.

"It has been almost 10 years since the Education Policy Initiative (EPI) tackled a research study of this scale, using data held by local education agencies alone. *That influential study of charter schools*, required an entire team of researchers to simply access the necessary data. The existence of the Michigan Data Hub has catapulted researchers and LEAs forward, giving them the ability to answer tough questions with a level of efficiency not possible in the past. Even more, it provides a space for LEAs to come together and have direct access to new information about what is working in classrooms, schools, and districts in their home state." - Nicole Wagner, Associate Director, Education Policy Initiative

If nothing else, the pandemic of 2020 provided a reminder of how reliant individual education entities have become on their data being available, integrated, and actionable. Schools and educational organizations have needed to make quick pivots to allow information to be accessed and used in new contexts. The need for this type of integrated and actionable data was also very evident at the statewide level. The Michigan Data Hub should be looked on as an asset, resource, and part of the ultimate future solution for many of these current and future challenges.

"The needs that were exposed during the pandemic for which we did not have actionable statewide information to help guide our response should guide us in setting our future data priorities. The Michigan Data Hub provides us the best opportunity I am aware of to turn the data we have into the information we need." - Dave Cairy, MAISA

Many other examples of initiatives that are being enhanced by using the standardized environment of the MiDataHub have been described above. Rather than describe each again here, the following list should serve as a strong indicator of the empowering value of MiDataHub across a growing array of initiatives enhanced by MiDataHub.

The following initiatives have been enhanced by MiDataHub prior to this school year and continue:
- CEPI Services
  - Educational Entity Master (EEM) – Loads district and school building information to every district database, ensuring that districts have the most official details for processes that use the data.
  - Direct Certification – Provides the ability for connected systems to look up the supplemental nutrition eligibility (SNE) data for an individual student or an entire district.
  - Unique Identification Code (UIC) – Provides the ability for connected systems to look up or create a UIC for newly enrolled students, reducing user error in the process.
  - Michigan Student Data System (MSDS) – Provides the ability to error check and generate files for many MSDS collections, including the General Collection, Early Childhood, Teacher Student Data Link, and Student Record Maintenance. These processes can help districts address data quality issues much earlier in the school year, providing better quality data for all uses and reducing the time spent on MSDS processing during peak times.
- The following integrations support legislatively funded and/or mandated initiatives: Data aggregation for the Benchmark Assessment Mandate, SAS EVAAS, Eidex, Munetrix, and Math Nation
- The following integrations support MDE Initiatives: Assessment Services, Digital Equity Data Collection, MICIP, MiLearn, and MiMTSS

- The following integrations support Michigan Collaboration Hub (MiCH) Initiatives: Edupaths, MAISA Events Portal, MiEWIMS, MiRead, MiSafeStudent, and MiStrategyBank
- The following integrations support Research Initiatives: Comprehensive Literacy Grant Evaluation, Partnership District Data Analysis, Partnership District Email Address Information, Read by Grade 3 Study, and Transitional Kindergarten Study

The following initiatives have been newly evaluated in this school year:
- Michigan Virtual data integration

The following initiatives are planned for evaluation in the upcoming school year:
- Michigan Early Childhood Connect (MiECC)

Conclusion: Goal met. Systemic efforts are underway at MDE, CEPI, METL, MASSP, MEMSPA, MAISA, and others to leverage MiDataHub network across an increasingly wide range of current and future initiatives. Return to Learn legislation, the MICIP system, Digital Equity Data Collection, Direct Certification Services, research initiatives and much more show MiDataHub continuing to evaluate and innovate.

Summary

The MiDataHub project is exceeding expectations. With the return on legislative investment over 1000%, based only on the value of integrations, the net savings to the educational community for this year is estimated at over $53,000,000 for school districts. Currently, this equates to $23.55 for every dollar invested by the legislature this year. Productivity and actionable data enhancements are accelerating access to high-quality data for educators at levels that far exceed the direct ROI value.

APPENDICES

MIDATAHUB PRODUCTIVITY FEATURES AND INITIATIVES

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Account Federation	School districts have the option of federating their Microsoft or Google logins to MiDataHub. When that is completed, district users (staff, students), can log into data hub applications with their district login rather than a data hub login, further eliminating redundant logins.	Any district with Google or Microsoft Logins that wishes to complete the approximately 1-hour configuration
Activity Log	Provides a consolidated view of the various integrations' activities for district review. This review includes the log of the status of each integration and operation.	District tech directors, data hub system administrators and data hub staff review this information often
Agreement Reminder Email	Email reminders to superintendents to electronically sign agreements can be easily sent as needed.	Data hub staff and system administrators
Alerts	The Alert functionality will allow for districts to be notified either of audited events that occur (changes to their users/integrations) or scheduled events that check for data quality issues.	All districts will use these to ensure that their data stays up-to-date and accurate.
API Integrations	Provide bidirectional transfer of data and full interoperability between systems. Highly secure and scalable. This is the desired integration type for all systems. API integrations also allow vendors to access multiple years of data where that exists.	System vendors, State of Michigan Systems, Michigan School Districts
Application Username Management	Allows districts the ability to identify which field will be used to serve as the Username value in OneRoster integrations.	District technology contacts.
Audit Log	Provides an audit trail of all operations that occur with district data. Every time an integration is created, modified, activated, or inactivated is recorded. This provides districts with confidence that they will know if something is done with their data.	District tech directors, data hub system administrators and data hub staff review this information often
Cockpit application	Provides a secure place for districts to manage all aspects of their integrated data. Districts manage this from their district "landing page."	100% of districts, primarily superintendent and district technology/data staff

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Custom Export Tool	A tool was created to allow districts to design queries for data validation and to facilitate the export of data to other systems without the need for programming. This tool gives districts great functionality to answer questions, including legislative data needs.	District tech staff, data hub staff. ISD staff who may design re-usable queries for all districts
Data Hub Reports/District Reports	MiDataHub has an integrated report framework that allows for new reports to be easily added and deployed. Current reports available include data quality, status reports, error check reports and MSDS verification reports. Reports are available at both the hub level and the district level depending on the need.	District tech contacts, data hub administrators, school staff who need reports
Descriptor Mapping	Allows districts to map a source set of descriptor values to a target set. This is used for purposes such as MSDS reporting and OneRoster integrations but will likely be expanded in the future.	District tech contacts.
Direct Certification Services	This service allows approved systems to look up the Direct Certification of a student or all students in a district for free lunch. This alleviates the need for districts to manually download the data.	All districts will find this valuable as it is supported by their SIS and/or food service system.
District Parameters	Allows districts the ability to set an estimated number of students, staff, and school buildings for use in validating data.	All districts will find this valuable for a variety of purposes.
District SSO	Allows districts to submit their single sign-on federation metadata. MiDataHub staff uses this information to configure a district's connection to the SSO.	District tech contacts and MiDataHub operations managers.
Dynamic Data Dictionary	This tool allows for the data elements used in the Ed-Fi data specification to be enhanced with additional descriptions, best practices and business rules. Districts viewing the dictionary will be able to see which of their integrations utilize a given data element.	All districts will find this valuable, as will vendors and anyone else who uses or writes data to MiDataHub.
Electronic Agreement Capabilities	Allows for superintendents to sign agreements online to permit the use of MiDataHub or other optional features such as MDE applications like MiExcel and MiLearn. The capability also exists for districts to revoke their approval of any agreement.	Superintendents and any vendors that have functionality that a district would need to opt into using

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Exports Proposed for Sharing	When a custom export is designed that has value to other districts, it may be proposed for sharing. Functionality is in place to allow for that export to be reviewed and approved for use in other districts.	DataHub system administrators and data hub staff can approve. Any district technical contact may submit a request
Feature Manifest Import/Export	A feature manifest is a file that provides details on features available in MiDataHub. Importing a file can define a new feature. Features can be edited by exporting a file, making corrections, and then reimporting.	MiDataHub operations manager staff.
Frequently Asked Questions	This feature serves as brief documentation for users of MiDataHub, providing critical information on a variety of processes.	Accessible by any data hub cockpit user
Inbound Integrations	Allows for bulk-loading of data in Ed-Fi XML format into the MiDataHub from other data sources. Files are transferred on a scheduled basis in secure protocols such as SFTP.	Useful for vendors such as NWEA to mass send assessment data, where API integrations are not provided
Integration Inventory	Allows districts to record the status of integrations between their systems in the systems inventory. The information recorded assists with the planning of data integration needs.	District tech directors and eventually interested parties in the information to inform integration decisions
Launchpad	The launchpad leverages the SSO and federated accounts to provide easy identification of all applications that a user has access to and one-click navigation to them without the need to log in again in most cases.	All district staff, students and potentially parents
Maintenance Scripts	Occasionally there is a need to run a program (script) to make changes to the district database. This functionality allows for well tested and documented scripts to be executed by the districts.	District tech directors, data hub system administrators, data hub support specialists and data hub staff utilize this functionality
Manage MSDS Submission Dates	On a year-to-year basis, it is important to be able to update the due dates for CEPI MSDS submissions, as well as to make changes mid-year as needed. A simple interface exists to allow that functionality.	Data hub staff and system administrators
Manage Users	A district can manually add users who are not provisioned in any other fashion. Data Hub System Administrators and Data Hub Staff can manage users across districts on any given data hub.	District tech contacts, data hub system administrators and data hub staff

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
Management Portal	This portal allows for vendors, initiative support, and researchers to access information that will assist them in supporting the districts they serve.	Vendors, initiative support, and researchers.
Michigan Data Exchange (MiDX)	The Michigan Data exchange is an optional database that is multi-year and multi-district. When a district uses one or more of the solutions that leverage the MiDX, they enable the flow of their data into that database.	District technology contacts, data hub staff, and the MiCH Development Team.
MICIP Readiness Check	Districts that utilize the MICIP system can run a data check to make sure that all necessary data is available.	District technology contacts and data hub staff will run these data checks
MiLearn Authorizations	Districts that utilize the MiLearn system can specify permissions for the various roles of users in their district.	District administrators and technology contacts will have this capability
MiLearn Compatibility Checks	Districts that utilize the MiLearn system can run a data check to make sure that all necessary data is available.	District technology contacts and data hub staff will run these data checks
MSDS Collection Comparison	This feature allows for a district's MSDS file generated from their SIS to be compared with a file generated from MiDataHub. Records that are missing or do not match are identified, allowing for the data processes to be corrected. This functionality will be valuable for testing and certifying SIS vendors.	District state reporting staff and data stewards. SIS vendor feedback
MSDS Collection Extractor	The ability to generate various MSDS data collection files has been created. The General Collection and TSDL extracts have been used successfully for production data submission, with Early Roster, Early Childhood, and SRM in testing and expected to be used in production by July 2023.	District state reporting staff and data stewards
MSDS Error Check/Rules Engine	A flexible rules engine has been programmed into the MiDataHub so that district data can be checked against the rules, allowing records to be corrected. The initial implementation was to add all the CEPI MSDS rules for the error check process.	District state reporting staff and data stewards
Multiple Outbound Destinations	Allows for outbound integrations to flow to more than one destination. This feature was paid for by MDE for the MiLearn project but applies to all outbound integration uses.	Any district, vendor or initiative using outbound integrations
ODS Anonymization	To demonstrate the functionality of MiDataHub without jeopardizing student privacy, it is helpful to be able to work with anonymized data. This feature allows for a new and realistic data set to be created from an existing district's data.	Data hub staff and system administrators

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
ODS Management	Formerly ODS Reset - Allows districts to clear their data stored in the ODS so they can start over with a fresh database or if they choose to remove their data from MiDataHub. Additionally, districts can create an ODS for future or previous school years on demand.	District tech directors
One Roster Config	Provides an opportunity to prefix the identification codes that are used for OneRoster purposes to avoid duplicate codes between students, staff, and parents.	MiDataHub operations staff and district tech contacts.
One Roster Mapping	Serves to allow for additional "metadata" fields to be added to the OneRoster integration, providing data that otherwise could not be exchanged.	MiDataHub operations staff and district tech contacts.
Open Badge Import	This functionality will allow badge information to be imported to a district ODS for recordkeeping and future analysis.	All districts will find this valuable.
Open/Close District	When new districts need to be added or existing districts closed, this functionality provides a simple, easy way to do that work.	Data hub staff and system administrators
Outbound Integrations	Allows for sending data on a scheduled basis to other systems either in Ed-Fi XML format or other standard formats such as comma and tab delimited. Files are transferred on a scheduled basis in secure protocols such as SFTP, SSL, and Azure storage.	Useful by districts and system vendors for mass populating other systems and for the reproduction of legacy integrations where an API connection isn't yet provided by a vendor
Proxy Designation	Because many superintendents delegate the responsibility of signing agreements, the ability to designate a proxy has been provided.	Superintendents have this option when using the cockpit
SSO	The SSO capability scales across all data hub applications, allowing one user login and password to access the cockpit, dashboards, and any other applications that use the SSO.	All users of data hub applications, including school staff, students, parents, and any other educational stakeholders who have accounts
Student Snack-pack	This Portable Records (Snack-pack) functionality provides information for newly enrolled students so that districts have the information that they need to provide the appropriate services for the student.	All districts find this valuable as it is supported by their SIS.

MiDataHub Productivity Features and Initiatives

Feature/Initiative	Benefit	Audience
System Inventory	Allows districts to record the data systems in use in their district. This information is used for identifying integration needs and was valuable for the ROI study. Eventually, there is a desire to leverage this for an online, navigable statewide inventory.	District tech directors and eventually interested parties in the information to inform purchasing and support decisions
UIC Services	The Ed-Fi API has the capability for system vendors to look up identification codes for students. This functionality has been linked to CEPI UIC routines, allowing systems to effectively look up and create UICs.	System vendors will leverage this functionality, allowing their systems to look up UICs and auto-populate them in their systems, saving districts time and ensuring more accurate data

Appendix B

MIDATAHUB ACTIONABLE DATA FEATURES AND INITIATIVES

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
Digital Equity Data Collection	Gather information on student devices and internet access. This information allows for identification of gaps in equity of access.	100% of districts
Early Childhood Data Exchange	Integration of Child-Plus (SIS used by Head Start) and GSRP approved assessments TS-Gold and HighScope COR. Key to providing critical student developmental and academic data to schools to support the transition from pre-K to K-12. Greatly enhances the ability to track students from pre-K programs into and through elementary school to assess program effectiveness.	100% of districts
EWIMS (Early Warning Intervention and Monitoring System)	Universal dropout prevention toolset. Research identifies clear impact on attendance and grades, both significant early indicators of student dropout.	100% of districts
Kindergarten Readiness Assessment	The rollout of KRA as a new statewide assessment from 2018-2020 provides an opportunity to implement a common solution for rostering, administering and accessing information at the onset of this new initiative. Ensuring processes are consistent and streamlined will ease the burden of implementing a new assessment and will facilitate the sharing of this data as students transition between districts.	33% of districts in 2018 66% (2019) 100% (2020)
MICIP	The Michigan Integrated Continuous Improvement Process Application was developed by the Michigan Collaboration Hub (MiCH) development team in conjunction with MDE. MiDataHub has been identified as a primary data source for MICIP and the MiLaunchPad is the login method for district access.	100% of districts

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
MiRead	Online tool to support 3rd-grade reading law requirements, processes and supports. Includes consistent identification of students in need of IRIP, then to create, manage, and share (student-owned IRIP) across districts.	100% of districts
MiDataExchange	Developing and intermediate level database that is fed from district MiDataHub databases to facilitate the creation of common applications and sharing of student data across districts. In the example of the new MiRead tool, schools will opt-in to the system. Once connected, only the data needed for the IRIP will be transferred to MiDataExchange. There, data can be accessed to operate MiRead, MICIP and other similar tools. Data will then 'belong to the student' and follow them when they change districts immediately upon enrollment. Other examples include the Electronic Student Record Exchange and the Talent Transcript. MiEWIMS also relies on MiDataExchange for data to operate.	100% of districts
Student Record Exchange - Electronic CA60	Today, when a student moves between districts, a paper copy of their official student record follows them. However, the delay in requesting these records generally ranges from a week to six months. The electronic CA60, or Student Record Exchange (CEPI's Student Backpack), will ensure that new schools have student records within minutes. This instant access to data will ensure that students are placed in the appropriate grades and courses and receive much needed supports immediately. Significant progress toward this outcome was made in 2022. Initial development is scheduled for 2023 with pilot districts anticipated for the 2023-2024 schoolyear.	100% of districts

MiDataHub Actionable Data Features and Initiatives

Feature/Initiative	Benefit	Audience
MiStrategyBank (MSB)	A standardized tool to inform and manage the assignment of interventions based on individual student needs. Includes pre-populated interventions to encourage and support best practices. MSB supports programs such as EWIMS, MiRead, At-Risk, Title, and school improvement and has become educational best practice strategy hub for Michigan.	100% of districts
MORE Portal	Planning has begun to integrate MDE's educator certification system. Initial discussions with MDE have integration with this system scheduled for 2023. Potential automated integrations to support this area include Michigan Virtual, REMC, and EduPaths.	100% of districts
Read by Grade 3 Research Grant	Provides assessment data and other student information to help gauge the effectiveness of the Read by Grade 3 law. This information can help gauge the need for changes to the law and/or to show the benefits being achieved as a result.	100% of districts
Teacher Evaluation - SGP and SLO	Private sector solutions (Vendor partners Eidex and SAS EVAAS) emerged in 2019 to fill the gap identified in 2018. Support for these and other tools enhance MiDataHub's ability to support the field in this space.	100% of districts

LINKAGES TO OTHER INITIATIVES AND FUNDING

Linkages to Other Legislation and Initiatives

Title	MiDataHub Impact	Relative Impact
3rd Grade Reading	Transport roster and assessment results for approved assessments.	100% of students
Algebra Nation, section 99c	Providing authentication and rostering data to Algebra Nation and capturing use data for districts and ISDs	100% of students
Career Planning	Actively integrating student data, contact information, rostering for Career Cruising. SSO for Career Cruising and Xello.	44% of students
Directory Information, HB 5140, section 1139a	Exploring the development of directory reporting tool with local options and standard exports and reports	100% of students
Educator Evaluation, Value Added Growth 95b	Vendor partners Eidex and SAS EVAAS	100% of students
GSRP, Head Start, and other Pre-K Programs	Coordinating with statewide committees and vendors to connect CORE and TS-Gold Assessments and ChildPlus SIS	75% of students
First Robotics	Badging and Talent Transcript efforts will support students	10% of students
Food Service / Direct Certification	Working with MDE departments on enhancing direct certification (identification of eligible students) and automating billing and reimbursement processes to save schools time and improve cash flow for food service programs.	100% of students
Imagine Learning, section 99u	Initial planning for rostering and use data (see 99c above)	100% of students
Kindergarten Readiness Assessment (KRA)	Scheduled to connect KRA for student rostering and assessment results prior to required pilots, summer 2018	33% of students for 2018, 100% by 2021

Linkages to Other Legislation and Initiatives

Title	MiDataHub Impact	Relative Impact
MiSTEM Section 99s	Included in the MiSTEM Committee recommendation as a required component for participation. Providing data consistency and the ability to track MiSTEM efforts.	100% of students
MiLearn	An online portal, leveraging single-sign-on from local district parent and teacher portals to provide access down to student level M-STEP and WIDA reports. Note, MiDataHub is the only pathway for MDE to connect students and parents in partnership with local districts. Should replace the color printing of over 500,000 copies and result in significant cost savings.	100% of students
Return to Learn	Sections 104(8) to 104(15) of PA149 require districts to deliver benchmark assessments and report the results in aggregate form so that CEPI and MDE can provide reports on the effects of the COVID-19 pandemic on student learning. MiDataHub will collect assessment data and aggregate it in CEPI-approved subgroups for reporting.	100% of students

HISTORICAL DATA INTEGRATION EFFORTS

For as long as schools have been collecting data, there have been challenges in entering, managing and using that information. In recent years, the number of data systems that school districts use has increased dramatically as they adopt a wider variety of educational tools and student knowledge is assessed more often as part of the learning process. An Education Week article references the "fragmented nature of data systems in school districts," as well as the fact that "a lot of school data are siloed."

There have been several attempts to solve this issue over the years. The fact that the issue remains for schools is a testament to the difficulty of the situation. In 1999, a platform called Schools Interoperability Framework (SIF) was introduced as the first standards-based approach to solving this issue on a broad scale. SIF involved the exchange of data in a standardized format, referred to as XML format (the same format currently used for Michigan State reporting to the Center for Educational Performance and Information - CEPI). SIF could route the information to each software application that a school used. While the technical solution was ahead of its time, the complexity of it made it difficult and costly for districts and software companies to implement; thus, it was never widely adopted.
In 2006, the Michigan School Business Officials (MSBO) led an initiative to establish standard data definitions for student, financial and HR/payroll applications statewide. The Statewide Software Initiative (SSI), as it was called, was a collaborative initiative involving ISDs and districts statewide. Ultimately, SSI struggled due to a lack of funding to support the work and the reliance upon school staff who had lacked the free time to work on the project successfully.

The next initiative was the Regional Data Initiatives (RDI) grant. This grant spun up a number of data warehouse implementations that were designed to bring together data from disparate systems for district use. The RDI projects faced a number of challenges from difficulty in data integration: reliance on existing staff that were spread too thin, minimal collaboration between projects, vendors not fulfilling their promises on products and services, and, ultimately, to difficulty sustaining the work.
In 2012, planning was started on the Technology Readiness Infrastructure Grant (TRIG), which included a data integration project. Armed with a more collaborative process that leveraged data experts statewide, a dedicated project manager, and a toolkit and newly formed national data standards from the Ed-Fi Alliance, the MiDataHub concept was born and quickly began to gain support. The resulting MiDataHub initiative has exceeded the progress of all the preceding efforts, establishing a functional, reliable, secure, and scalable infrastructure that is beginning to deliver on the promise of interoperability.

DISTRICT AND VENDOR FEEDBACK

"The SAS EVAAS team cannot say enough good things about the partnership and working relationship that we have developed with the entire MiDataHub team. This year they have assisted us in the process of being able to receive more data than ever before, to include enrollment data and benchmark assessments such as NWEA MAP which has been integral into us being able to provide the best product possible for our customers. The technical ability of the MiDataHub team and the overall vendor service provided by their support team is unmatched and we could not be more grateful."
— Scott Peoples, Project Manager SAS® EVAAS®

The UIC services functionality saves us time but also has reduced the number of problems we were experiencing with data quality.

— Bryan Smith, Ingham ISD, Senior Systems and Development Analyst

Speaking about their integration with MiDataHub, "This is easily one of the highest value projects we have in the pipeline right now."
— Ben Pierce, Director of Data Systems, Xello Inc.

I just wanted to reach out and tell you how amazing MiLearn is. Our connection finally works, and I was able to look up a student's ACCESS scores today. This is going to save hours of time.

— Christin Silagy, Ed. S, Director of ELD, Federal Grants and State Assessments, Troy School District

Oakland Schools Technical Campuses are enthusiastic about our new implementation of Snack-pack. As technical campuses, we partner with sending schools and districts in educating students. The efficiency that Snack-pack provides by immediately alerting our team to valid data regarding the students we serve, specifically with special populations indicators, cues us to collaborate with sending schools to plan and prepare for prompt and deliberate delivery of necessary services. Ultimately, Snack-pack allows us to ensure that we are on the forefront of ensuring all students can experience success. This data initiative is gold. We see multiple areas for potential use should the project expand.

— JaCinda Sumara, Oakland Schools

Our vendor is still working towards getting these new functionalities built but I thought it would be best to give you our story. Our organization is very hopeful and have encouraged our vendor to work on the CEPI Integration and Snack-pack because we see the value that these tools will provide our districts. These two areas are recurring agenda items when we meet with our districts so that way they understand how the work the DataHub is doing will impact and improve their existing processes. We can't wait to take advantage of the hard work the DataHub group has put into these projects.

— Tony Howard, Student Data Application Lead, Genesee ISD

The time saving for districts of automatically being able to receive the UIC number is amazing. They no longer must wait until someone else uploads information into MSDS, and they have the UIC number to use in a variety of other systems, like Illuminate and NWEA.

— Melissa Tront, Data Base Administrator, St. Joseph County ISD

I just wanted to reach out and tell you how amazing MiLearn is. Our connection finally works, and I was able to look up a student's ACCESS scores today. This is going to save hours of time.

— Christin Silagy, Director of ELD, Federal Grants and State Assessments, Troy School District

We have just begun to use Snack-pack. So far, we have had positive feedback. Getting new student notifications via email is very nice compared to just receiving the notifications in MISTAR. Some of my staff are in MISTAR on a limited base but have their email open all day. Also, as the enrollment secretary, I can get important data on a new student even before they begin school. Examples:

- Special Education Info: Sometimes parents don't tell us that a student has an IEP.
- Previous Attendance: Schools can be alerted about the previous attendance and can monitor the student's attendance in the current school year before it becomes a truancy issue.
- Economically Disadvantaged: Students receive Free or Reduced school meals on the first day. No longer need to wait for a parent to complete a new application.
- Homelessness Program Participation: Schools can find out immediately if a student was homeless in the previous district and can continue services.

— JaCinda Sumara, Oakland Schools

The snack pack has been amazing. Having the information as soon as a student is enrolled is extremely helpful. I have set up notifications to all the people in the district who need the information provided from the snack pack. Knowing about previous Title 1, SPED, ESL, previous school and attendance info helps to make sure students are receiving the services that they may need immediately instead of when we figure it out ourselves. Parents don't always give the specific info that we need as an enrolling district.

— MISTAR System Administrator/Pupil Accountant, Allen Park Public Schools

Glossary and Web References

GLOSSARY

- **API (Application Programming Interface):** An API is the basis of interoperability, allowing other programs to GET (receive data), POST (write data), PUT (update data) and DELETE (remove data) from/to the MiDataHub in a secure manner. It is the most flexible of all integration types and can be put into place very quickly with just a few pieces of information.

- **Data Hub:** A hosting location where district information is managed for the districts in a region.

- **Data Hubs:** All MiDataHub hosting locations collectively, and often substituted for the MiDataHub.

- **Ed-Fi:** The Ed-Fi Alliance (www.ed-fi.org) is a non-profit funded by the Michael and Susan Dell Foundation out of Austin, TX. The Ed-Fi Alliance produces a free, open, standards-based toolset that is leveraged by the MiDataHub.

- **Funding Year:** The funding year for section 22m used for this report is October 1, 2020, to September 30, 2021

- **Integrated System:** A vendor system that has established connectivity with MiDataHub for testing and/or production.

- **Integration:** The exchange of key information between data systems to keep the systems in sync.

- **Integration Instance:** An integration of data between MiDataHub and a data system for a specific district.

- **Interoperability:** The seamless, secure and controlled exchange of data between different applications and technologies. (As defined in Edsurge article)

- **MiDataHub:** Represents the overall interoperability initiative as well as a collective representation for MiDataHub.

- **MIDataHub:** An abbreviation commonly used for The MiDataHub, (pronounced "My Data Hub").

- **MSDF:** Acronym for the Michael and Susan Dell Foundation, the funder and parent organization of the Ed-Fi Alliance.

- **ODS (Operational Data Store):** The database where district data is housed. Each district has an ODS with its own data for each school year. All integrations and interoperability are provided for a district from their ODS.

- **OneRoster:** One of many standards specified by IMS Global. OneRoster is used for the exchange of roster information.

- **SFTP (Secure File Transport Protocol):** This is a secure, encrypted method of sending data files.

- **Uptime:** The percent of the time in minutes that the hubs were up and running.

- **XML (Extensible Markup Language):** This is a very flexible and generic data format. It can describe data in a very comprehensive manner.

WEB REFERENCES AND BACKGROUND RESOURCES

- Legislative Language https://docs.google.com/document/d/1IlrmaO0ZWoZgtdj3BGHUOLgsD2vVrpA9D7GzfuECg_s/edit?usp=sharing

- MiDataHub Website www.midatahub.org

- EdFi Alliance https://www.ed-fi.org/

- Ed Surge Article 1 https://www.edsurge.com/research/guides/what-does-it-take-to-make-interoperability-work-in-k-12-education

- Ed Surge Article 2 https://www.edsurge.com/news/2017-10-28-tool-project-unicorn-making-the-mythical-idea-of-data-interoperability-real

- IMS Global Website https://www.imsglobal.org/

- Project Unicorn https://www.projunicorn.org/

- Education Week Article [1]https://www.edweek.org/ew/articles/2013/03/14/25datadelivery.h32.html

- Digital Promise League of Innovative Schools Report https://digitalpromise.org/wp-content/uploads/2017/08/DataInteroperability_Final.pdf

Cost Savings Calculations

There are no great sources for determining the amount of cost savings due to integrations. Probably the best source is the ROI Study that was completed in the Summer of 2016. That study found that the MiDataHub could potentially save districts more than $56M per year by eliminating duplicate efforts in data integration, providing shared tools to support ongoing data management tasks, and streamlining and partially automating compliance reporting submissions.

For purposes of this report, a figure of $7,371 per integration was used in determining cost savings. This savings was based on figures from the ROI study that indicate that the median district spends $71,500 on integrations and that the average district has 9.7 existing connections. Dividing the median cost by the number of connections yields the $7,371 figure used. It is important to note that in some cases, such as MiLearn, several integrations are required to provide the data properly for that solution. In other cases, one integration serves multiple purposes. Such is the case with an SIS integration, which also allows for UIC information to integrate, even though no specific integration is configured for that service. No attempt was made to adjust the numbers for either scenario.

Finally, the cost savings do not include the tremendous benefit achieved through the actionable use of data provided by MiDataHub and related applications. MiLearn, MiRead, MiStrategyBank, the MiDataHub dashboards, EWIMS and other applications in use dramatically add to the amount of value and return on investment from this work.

For more information, please review the ROI Study document: "[The MiDataHub: A Strategic Alignment and ROI Study](#)."