Strategic Technology Plan

2021-2031

Progress Monitoring

Using This Document

Action Step 7.3.1 of the MDUSD Strategic Technology Plan, 2021-2031 states that the District will "Regularly communicate progress on the District Strategic Technology Plan through the District website, family communication platforms, and presentations to the Board of Education." This document serves as a "dashboard" to outline our efforts to date. Items are color-coded as follows:

Fully Implemented	Implementation in Progress	Planning in Progress	Not Started

Goal 1: Modern Learning and Teaching

We believe MDUSD should foster a culture of lifelong learning. Students and staff should learn and use modern strategies and methods of utilizing technology to work effectively and efficiently. Teachers should be empowered to implement strategies for engaging every learner.

Strategies

Strategy 1.1: All students will regularly use technology to engage with curriculum	Progress through 8-3-21
Action Step 1.1.1: Adopt and implement a framework for learning and teaching with technology that articulates a core set of instructional practices that support student modern learning skills and technology literacy skills as outlined in the Common Core State Standards, International Society for Technology in Education (ISTE) Standards for Students, and California Model School Library Standards.	**Planning in Progress**
Action Step 1.1.2: Develop and implement a District-wide Digital Citizenship Curriculum, designed to be embedded within curricular content at all grade levels.	**Implementation in Progress**

Strategy 1.2: Provide quality, curriculum-aligned digital resources for learning and teaching	Progress through 8-3-21
Action Step 1.2.1: Maintain a set of core digital platforms, such as Google Classroom, to ensure consistent, reliable access to curricular materials for students across learning modalities.	**Fully Implemented**
Action Step 1.2.2: Establish and maintain a list of approved digital tools for learning and teaching that meet MDUSD data privacy and security standards, and create a process for the submission of new tools.	**Fully Implemented**
Action Step 1.2.3: Ensure that whenever possible, adopted technologies meet the needs of all students, including those with special needs.	**Not Started**

Action Step 1.2.4: Ensure that new curriculum adoptions include a robust digital component to support digital access to content for students and teachers.	**Implementation in Progress**
Action Step 1.2.5: Establish a District-wide curriculum guide with a clear scope and sequence for technology skills and modern learning skills to ensure consistent high expectations for all students.	**Planning in Progress**

Strategy 1.3: Support all teachers and instructional staff with high quality resources and professional learning	**Progress through 8-3-21**
Action Step 1.3.1: Create and maintain a schedule of required and suggested training opportunities to ensure staff in all job functions have differentiated, timely access to professional learning. Encourage all educators to complete the Google Educator Level 1 course.	**Not Started**
Action Step 1.3.2: Create and maintain a comprehensive digital repository of training and professional learning resources to support instructional use of core digital platforms and applications, digital tools, data privacy and security practices, and other technologies. This site will include documentation, videos, how-to guides, and training schedules.	**Implementation in Progress**
Action Step 1.3.3: Maintain the District Technology Integration Leader (TIL) program to support schools with expert technology integration leadership.	**Fully Implemented**
Action Step 1.3.4: Create a set of supportive resources to foster a common understanding of instructional priorities, including walk through protocols, and examples of strong technology-rich instructional practices.	**Not Started**
Action Step 1.3.5: Communicate a list of suggested technology proficiencies for staff in various job roles with aligned supports and training opportunities.	**Not Started**

Goal 2: Equitable Access to Technology for Learning and Teaching

We believe that educational, socioeconomic, neurodiverse, and racial equity are best advanced through a centralized plan and clear recursive process for all students to have regular access to technology regardless of school location or access levels at home. Resources should be allocated equitably across levels.

Strategies

Strategy 2.1: Ensure all students and staff have access to modern technologies necessary for modern learning and teaching	Progress through 8-3-21
Action Step 2.1.1: Continue and expand the increased access to devices begun under Distance Learning by supporting and sustaining 1:1 take-home programs at all secondary schools beginning in the 2021/22 school year. Redistribute devices as possible to support a 1:1 ratio (non-take-home) at elementary schools. Explore 1:1 take-home programs at elementary schools through the 2021/22 school year.	**Implementation in Progress**
Action Step 2.1.2: Refresh teacher laptops at 1:1 schools in 2021/22 and at non-1:1 schools in 2022/23 through 2023/24, by providing a supported District standard laptop device.	**Planning in Progress**
Action Step 2.1.3: Establish a District-wide technology refresh plan to centralize technology purchasing on a three-to-four year cycle and ensure student and teacher/administrator devices are up-to-date and capable of supporting daily tasks.	**Planning in Progress**
Action Step 2.1.4: Create and maintain a centralized asset management system (currently Destiny Resource Manager) to serve all District sites as a single repository for mobile device inventory.	**Implementation in Progress**

Action Step 2.1.5: Manage District mobile technology assets in 1:1 programs through centralized support for warranty repairs, break-fix, and device deployment coordinated collaboratively through the Technology and Information Services and Purchasing and Warehouse Departments.	Planning in Progress
Action Step 2.1.6: In collaboration with stakeholders, maintain and regularly update a comprehensive list of standard devices, peripherals, assistive technologies, and other equipment to ensure equitable support can be provided for technology in schools. Ensure that purchases made by school sites conform to established standards.	Implementation in Progress

Strategy 2.2: Support home device, connectivity, and technical support needs to the extent possible	Progress through 8-3-21
Action Step 2.2.1: Maximize opportunities for students and families to access the District network while at school outside of regular school hours by providing external WiFi coverage in common areas and facilitating access at school programs.	Not Started
Action Step 2.2.2: Regularly maintain and communicate lists of resources for families with low-cost options for Internet service. Collaborate as possible with industry partners to provide information and access to programs. Provide information to schools to assist families in accessing these options.	Fully Implemented
Action Step 2.2.3: Provide resources to schools to assist site staff to support families' questions.	Not Started

Goal 3: Professional and Timely Support

We believe that all students, staff, and families should be expertly and professionally supported in their effective use of technology within learning communities to maximize student achievement and build modern learning skills.

Strategies

Strategy 3.1: Establish an enterprise model of technology support to best meet the needs of a modern, technology rich organization.	Progress through 8-3-21
Action Step 3.1.1: Deploy and support an equitable District-wide work order system allowing user submission and resolution of technology support requests that allows clear prioritization of tasks to best meet the needs of users. Ensure all staff can enter work orders. Minimize the use of alternative channels for requesting technical support, such as email and shared support mailboxes.	**Implementation in Progress**
Action Step 3.1.2: Transition to an equitable zone system of deploying field technicians, prioritizing need rather than "time on site," and fostering collaborative support among technicians.	**Implementation in Progress**
Action Step 3.1.3: Maximize the capacity of all Technology and Information Systems staff to use remote support software to address user needs quickly, including deployment, troubleshooting, and technical support.	**Implementation in Progress**
Action Step 3.1.4: Strengthen collaborative efforts between Technology and Information Systems staff and site Technology Integration Leaders (TILs) through resources and training and by allowing access for TILs to the work order system.	**Planning in Progress**

Action Step 3.1.5: Refresh and regularly update the Technology and Information Systems web page enabling users to more readily access resources for self-help and include commonly requested support and training resources.	**Implementation in Progress**
Action Step 3.1.6: Identify additional innovative ways to increase technical support capacity, such as through technical support electives for students, internships, etc.	**Not Started**
Action Step 3.1.7: Establish clear, ongoing, and job-embedded training options for Technology and Information Services staff that empower technicians to perform their important functions expertly and efficiently, and provide opportunities for all staff to improve their skills and advance to more senior positions as they become available within the District.	**Planning in Progress**

Strategy 3.2: Standardize device management, deployment, and removal from service, to ensure efficient, timely support.	**Progress through 8-3-21**
Action Step 3.2.1: Support all schools to utilize the District asset management system for mobile devices for all check-in / check-out of devices, ewaste, and invoicing.	**Implementation in Progress**
Action Step 3.2.2: Ensure all District devices are managed centrally through systems that allow efficient deployment of hardware and software and allow remote support.	**Implementation in Progress**
Action Step 3.2.3: Ensure all devices approaching end of life are removed from the District inventory and eWasted in a timely manner to increase compatibility, reliability, and functionality of devices in service.	**Implementation in Progress**
Action Step 3.2.4: Detail and communicate tiered support levels for all District-standard technologies to clearly outline what support users can expect, and identify end-of-life dates.	**Planning in Progress**

Goal 4: Robust Network Infrastructure and Technology Operations

We believe that a student-focused, results-oriented organization must provide secure, reliable, and effective technology services to enable a first-rate learning environment where students, staff, and families can achieve their collaborative and individual goals.

Strategies

Strategy 4.1: Provide adequate connectivity for learning, teaching, and business operations through a reliable future-proofed modern network.	Progress through 8-3-21
Action Step 4.1.1: Increase Internet and WAN throughput, utilizing the federal E-Rate program where possible, to ensure user needs are met, and bandwidth is scalable. In future planning, consider the recommendations outlined by the State Educational Technology Directors Association (SEDTA) for peak utilization capacity for digital learning.	**Implementation in Progress**
Action Step 4.1.2: Complete a thorough network discovery process to assess the current state of District infrastructure.	**Implementation in Progress**
Action Step 4.1.3: Create thorough, detailed standards for network infrastructure at all District sites to support anticipated needs and a 40 Gbps backbone, including wired and wireless networks, structured cabling, fiber optic and ethernet cabling, routing and switching, MPoE/MDFs/IDFs.	**Planning in Progress**
Action Step 4.1.4: Create a complete network design, including designs for each site, informed by assessments, educational specifications, and standards.	**Planning in Progress**

Action Step 4.1.5: Coordinate the implementation of a managed project in prioritized phases - initially prioritizing 1:1 schools and schools with known critical connectivity issues - to efficiently and responsibly utilize available funding sources, such as Measure J, E-Rate, the California Assembly Bill No. 86 (A.B. 86) COVID-19 Relief Package, and the Elementary and Secondary School Emergency Relief Fund (ESSER I, ESSER II, and ESSER III) in modernizing the network at all District sites.	**Planning in Progress**
Action Step 4.1.5: Concurrent with the network modernization project, create an infrastructure refresh plan to ensure the cyclical replacement of network infrastructure components, including an annual budget.	**Not Started**

Strategy 4.2: Modernize and sustain core business and academic systems	**Progress through 8-3-21**
Action Step 4.2.1: Evaluate the functionality and interoperability of core business and academic systems to determine current and future needs and inform potential changes or acquisitions of new business and academic systems.	**Not Started**
Action Step 4.2.2: Explore cloud hosted options for critical business systems, such as our Enterprise Resource Planning (ERP) system, and Student Information System (SIS), to improve reliability, sustainability, and disaster recovery.	**Not Started**
Action Step 4.2.3: Evaluate existing business systems to consider current and future needs and determine if a transition to new systems is warranted and feasible.	**Not Started**
Action Step 4.2.4: Evaluate the viability of deploying a District-wide document management system to meet the document storage and retrieval needs of District departments.	**Planning in Progress**
Action Step 4.2.7: Consider transitioning from the current outdated Private Branch Exchange (PBX) phone system to a modern VoIP system as part of the network refresh program.	**Not Started**

Action Step 4.2.8: Define standards and a long-range plan for site security cameras, including purpose, standard locations, and refresh cycle.	**Not Started**

Strategy 4.3: Ensure continued, reliable information technology operations by aligning available resources to technology needs.	**Progress through 8-3-21**
Action Step 4.3.1: Align staffing and funding resources to adequately support existing and future district technology systems. Consider the need for failover for critical services to avoid knowledge loss in the event of staff turnover by establishing training and pathways for junior technicians to support core systems.	**Not Started**
Action Step 4.3.2: Work alongside union partners to modernize job descriptions in accordance with the technology needs of a large district.	**Not Started**
Action Step 4.3.3: Provide technicians with dedicated and job-embedded training aligned to District systems, including time within the contract day for training.	**Planning in Progress**

Strategy 4.4: Establish modern business continuity and disaster recovery practices and deploy needed systems to ensure the continued, reliable operation of critical business systems.	**Progress through 8-3-21**
Action Step 4.4.1: Streamline and improve reliability of data center operations through a modern Hyperconverged Infrastructure (HCI) model.	**Implementation in Progress**
Action Step 4.4.2: Modernize backup strategies to apply industry standard practices to protect critical District data from disasters and security incidents, and provide for timely recovery.	**Implementation in Progress**
Action Step 4.4.3: In collaboration with all District departments, conduct a thorough business impact analysis and prepare a business continuity / disaster recovery plan. Ensure that MDUSD	**Not Started**

department "business owners" are designated for all critical business systems to inform desired service levels.	
Action Step 4.4.4: Develop a clear cloud strategy for core services to ensure adequate backups and disaster recovery and meet business continuity needs as appropriate. Explore options for cloud hosting of business and academic systems, such as our Student Information System (SIS) and Enterprise Resource Planning (ERP) system, to determine feasibility.	**Not Started**
Action Step 4.4.5: Assess the feasibility and desirability of establishing a secondary data center to provide additional failover and disaster recovery capacity, and the potential addition of a second Internet Service Provider.	**Not Started**

Goal 5: Comprehensive Cyber Security and Data Privacy

We believe that effective technology use by students, staff, and families requires safe and secure tools and an environment in which all technology users value privacy and security and are prepared with skills and knowledge to interact appropriately with technology.

Strategies

Strategy 5.1: Improve, sustain, and test the District's cybersecurity posture	Progress through 8-3-21
Action Step 5.1.1: Create and implement a comprehensive District Information and Cyber Security Plan.	**Not Started**
Action Step 5.1.2: Sustain updated systems to protect District users, technologies, and data, including firewall, antivirus, network access control, authentication and user access management.	**Implementation in Progress**
Action Step 5.1.3: Develop an incident response plan to ensure an effective, timely response to a variety of possible technology and security incidents.	**Not Started**
Action Step 5.1.4: Conduct regular security vulnerability assessments and penetration tests to verify and improve security protections.	**Implementation in Progress**
Action Step 5.1.5: Assess, manage, and mitigate security risk by maintaining an up to date risk register discussed regularly by District leadership.	**Fully Implemented**

Strategy 5.2: Establish a clear and comprehensive culture of data stewardship, data privacy, and data security.	Progress through 8-3-21
Action Step 5.2.1: Establish and implement data privacy and security standards and practices as outlined in the Consortium for School Networking's (CoSN) Trusted Learning Environment (TLE) framework (trustedlearning.org), and strive to earn the TLE Seal.	**Not Started**
Action Step 5.2.2: Consolidate and reduce options for user, department, and school data storage to provide ready access to needed data while minimizing the potential for unintended exposure of sensitive and personal data.	**Planning in Progress**
Action Step 5.2.3: Incorporate data privacy and cyber security awareness into training for all staff.	**Planning in Progress**

Goal 6: Sustainability

We believe that ensuring students, staff, and families have regular access to essential technologies demands that technology be acquired purposefully and sustainably.

Strategies

Strategy 6.1: Identify efficiencies and cost-savings created by technology acquisitions and clearly articulate funding sources when acquiring technology.	Progress through 8-3-21
Action Step 6.1.1: Develop and clearly communicate a technology refresh plan outlining which technologies are provided centrally to all sites and which are the responsibility of individual sites.	**Planning in Progress**
Action Step 6.1.2: Leverage one-time COVID-19-related funding sources to deploy technologies with the potential to create ongoing efficiencies, such as 1:1 programs and data center / core infrastructure modernization.	**Implementation in Progress**
Action Step 6.1.3: Create a 1:1 technology sustainability plan to ensure program continuation and to identify potential cost savings and efficiencies created. Include the acquisition of tools to monitor 1:1 technology use and impact, digital tools use and impact, and overall program cost. Develop and communicate expectations for cost saving efforts, including reduced use of paper and increased use of digital communication for students and families.	**Planning in Progress**

Strategy 6.2: Maximize the strategic use of available targeted, one-time, and grant funding opportunities	Progress through 8-3-21
Action Step 6.2.1: Establish a clear review process for technology hardware and software purchases utilizing targeted, one-time, and grant funding to ensure the District can identify best practices and scale as appropriate.	**Not Started**

Action Step 6.2.2: Maximize E-Rate reimbursements by incorporating eligible projects into the overall technology infrastructure refresh plan.	**Planning in Progress**
Action Step 6.2.3: Create a register of proposed learning technology projects to enable appropriate targeting of grant opportunities informed by District priorities.	**Not Started**

Strategy 6.3: Modernize technology purchasing practices to leverage efficiencies	**Progress through 8-3-21**
Action Step 6.3.1: To the extent possible, leverage allowable cooperative and piggyback contracts to streamline and standardize purchasing and assure a professional level of service for technology acquisitions. Reduce time-consuming bidding processes to enable staff to focus on vendor partnerships, and establishment of and accountability to District standards.	**Implementation in Progress**
Action Step 6.3.2: For proposed technology hardware and software acquisitions, require multi-year budgeting be considered prior to approval.	**Not Started**
Action Step 6.3.3: For proposed software acquisitions, require vendors complete a District software acquisition checklist in collaboration with sponsoring departments and schools to ensure compatibility, appropriate privacy and security, and to ensure any additional costs or resources required due to the acquisition are minimized.	**Planning in Progress**
Action Step 6.3.4: Seek and maintain long-term partnerships with vendors that provide stability, support, professionalism, and commitment to the needs of MDUSD.	**Implementation in Progress**

Goal 7: Technology Governance, Continuous Improvement, and Communication

We believe that technology oversight, policies, and capacity building exercises should be inclusive, consultative, guided by best practices, and reflect the needs of all stakeholders.

Strategies

Strategy 7.1: Align the prioritization, acquisition, management, implementation, and progress monitoring of District technologies with District priorities.	Progress through 8-3-21
Action Step 7.1.1: Create a comprehensive technology policy framework to ensure vertical and horizontal alignment of District priorities and compliance efforts. This framework should encompass board policy, administrative regulation, administrative procedures, and Department processes.	**Planning in Progress**
Action Step 7.1.2: Establish a stakeholder-driven technology standards committee to create, revise, and communicate District technology standards for devices, systems, and software. This committee would also consider emerging technologies to ensure the District can best anticipate future educational needs.	**Not Started**
Action Step 7.1.3: Continue governance activities related to the approval of digital tools to effectively assess educational need, security and privacy implications, and cost considerations for all digital tools used in MDUSD. Ensure the continuation of a clear process for submitting additional digital tools for consideration.	**Implementation in Progress**
Action Step 7.1.4: Establish a clear process whereby District leadership is empowered as decision-makers regarding information security and cybersecurity, including the identification,	**Not Started**

assessment, and management of risk.	
Action Step 7.1.5: In coordination with the development of District policy regarding data use, management, retention, and access, consider the creation of a formal data governance structure to oversee District data priorities.	**Not Started**
Action Step 7.1.6: Annually update the District Strategic Technology Plan to reflect changing needs, incorporate stakeholder input. Establish a process to ensure active, meaningful participation of stakeholder groups in the plan revision process.	**Planning in Progress**

Strategy 7.2: Support schools to focus on continuous improvement	**Progress through 8-3-21**
Action Step 7.2.1: Require annual submission by all schools of a five-year technology plan based on a simple template to outline and clearly communicate instructional priorities, device acquisition priorities, and professional learning supports.	**Not Started**
Action Step 7.2.2: Require all schools to maintain an active technology committee representative of stakeholders, including students, families, and staff.	**Not Started**

Strategy 7.3: Communicate progress with stakeholders	**Progress through 8-3-21**
Action Step 7.3.1: Regularly communicate progress on the District Strategic Technology Plan through the District website, family communication platforms, and presentations to the Board of Education.	**Implementation in Progress**
Action Step 7.3.2: Rename the Technology and Information Services (TIS) Department to the Department of Information Technology (IT Department) to better reflect a modern, professional organization supporting a large user base and sizable network.	**Planning in Progress**