



# Digital Advisors & Mt. Diablo Unified School District

School Board Meeting | July 27<sup>th</sup> 2020

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## Digital Advisors

### Our Vision

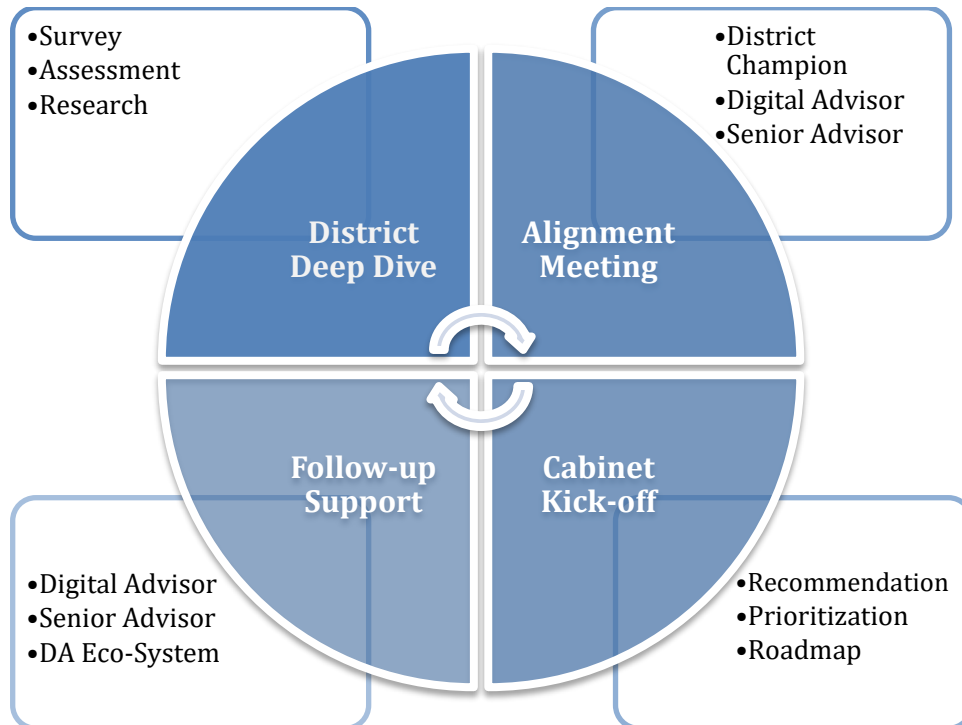
Ensure that all School Districts have access to the expertise they need to unlock their full potential in leveraging innovation and technology.

### Our Mission

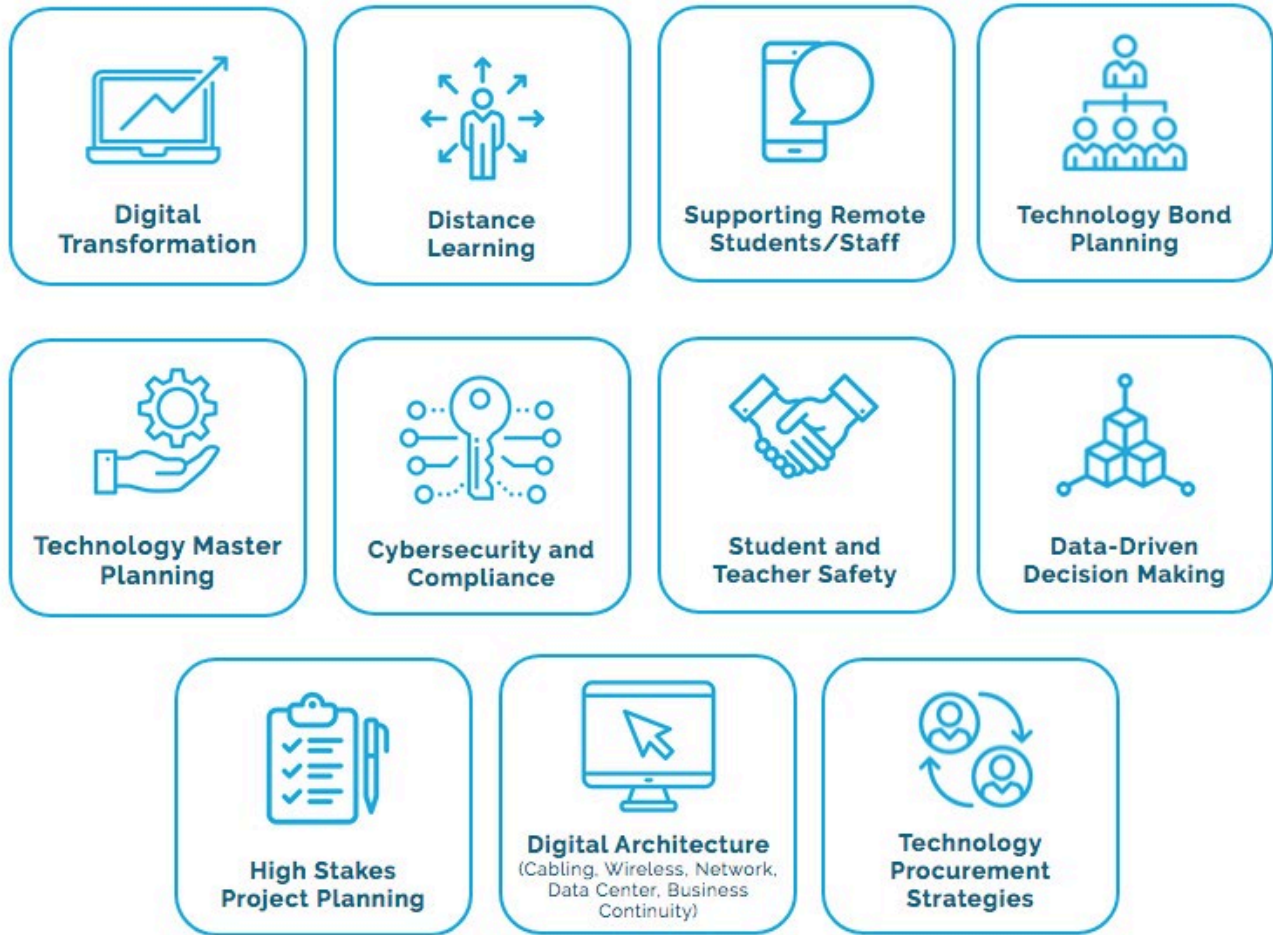
Support cabinet level administrators on high stakes initiatives across all departments, through our team of innovation and industry experts, that otherwise districts would not have access to or afford

## Engagement Model

This is the methodology that guides our engagement.



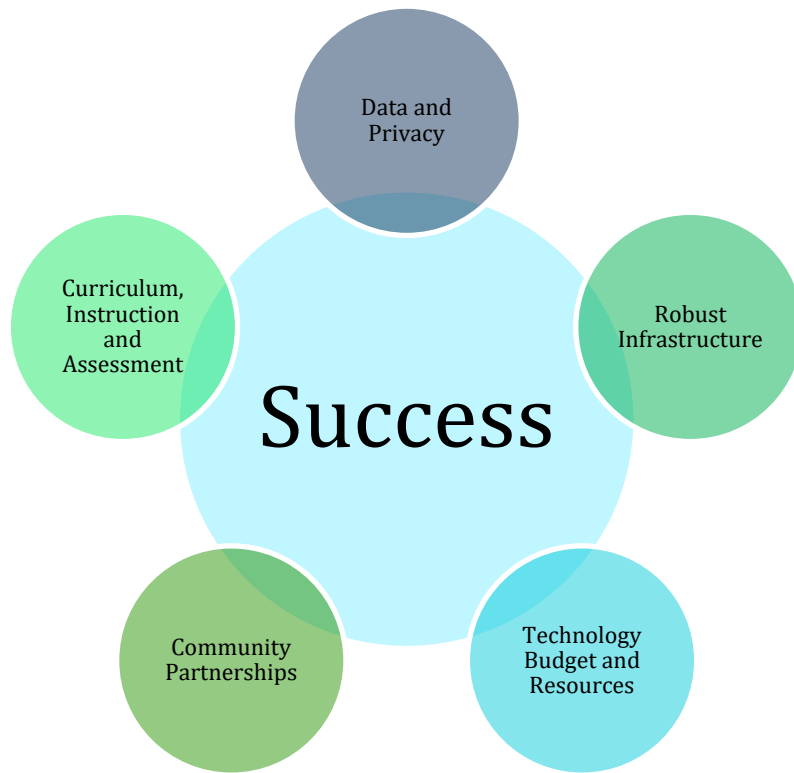
## Areas of Engagement



## Framework

Upon completing our due diligence, we analyze the needs of the district and organize the priorities and correlated recommendations into five pillars that drive toward a Digital District that enables 21<sup>st</sup> Century learning. These pillars are: **Data and Privacy, Robust Infrastructure, Technology Budget and Resources, Community Partnerships, and Curriculum, Instruction and Assessment.** These pillars align with the Future Ready Framework. By focusing on each of these areas, Digital Advisors can help guide the district toward success.





## Five Pillars of Digital District Success

### Data and Privacy

Data and Privacy protections build a foundation of trust in the district and with its community stakeholders. Strong policies for student data privacy, student records, staff data, and responsible use that address FERPA, HIPPA, CCPA, and ADA with commensurate communication and training establish the baseline for a district to address data security and privacy. With Risk Management, the Technology Department needs to adopt a cybersecurity framework such as NIST (National Institute of Standards and Technology) Cybersecurity Framework – Protect/Detect/Respond/Recover/Identify. This allows the district to put in place policy, procedures and controls.

Digital Districts need to have the basic tools in place to protect the district which includes a firewall, content filter, logging system, anti-virus, and email filter.

### Robust Infrastructure

The district needs a network with bandwidth to provide adequate use for all students simultaneously. Generally, a district will need a 1 gigabit connection (Gb) from each site (500-1000 users) and a 10 Gb (20-40 schools) internet connection. Wireless should be allocated with a modern “AC” access point (or two) in each classroom/workspace able to handle 40-60 connections.



The District should adopt a cloud first strategy with Microsoft, Google, or Amazon at its core. Directory services and security for authentication and authorization are core foundation for a robust infrastructure. With a core, a multi-cloud and SaaS (Software as a Service) applications can be deployed. A district's core infrastructure is the beginning of its productivity suite which must address ADA, document retention, compliance, and legal requirements.

## **Technology Budget and Resources**

A technology program that supports teaching and learning has budget and resources that are addressed in the same manner. The budgets need to be, as much as that state and voters allow, predictable. Technology can be at an advantage when it can tap into bond or special levy opportunities to create recurring revenue to support the need. E-rate is an excellent resource for network infrastructure funds covering 20%-90% of costs.

## **Community Partnerships**

Inclusive and authentic engagement is paramount to a successful technology program in school districts. Partnering with students, families, and communities particularly those historically underserved ensures a voice and equity when looking at how technology can support the district mission. Successful districts proactively and consistently work in partnership with students, families, and communities to identify needs, determine solutions, and support the implementation of the initiatives that will best meet the needs of all students. Districts must use culturally responsive ways to engage to build trusting relationships and empower the voices of those who can help meet these needs.

## **Curriculum, Instruction and Assessment**

Curriculum, Instruction, and Assessment (CA&I) owns the teaching and learning goals of a district's strategic plan and, perhaps, the framework(s) adopted (e.g. Danielson, Future Ready, Culturally Responsive Teaching, etc.). Technology, the hardware, software, services and digital resources, can, as Michael Fullan teaches, accelerate, facilitate, amplify, and deepen the learning process<sup>1</sup>. Technology departments must have the staff to support hardware at schools, staff to facilitate effective use of tools for teaching and learning, and the systems staff to support the applications that make it all possible. Key hardware includes devices for all staff and students and a standard classroom technology package that includes display (interactivity optional), document camera, sound, and wireless projection. Districts must also focus on the core systems which include collaboration/productivity suite (Google, Microsoft, or both), Student Information System (SIS), Learning Management System (from simple like Google Classrooms or Microsoft Teams to Schoology, ITS Learning, or Canvas), and an Assessment & Data system (either an extension of the SIS or standalone system like Illuminate.) Only when these are fully supported and integrated with instruction should other solutions be prioritized.

<sup>1</sup>Fullan, Michael, Joanne Quinn, & Joanne McEachen. Deep Learning, 2019 p. 8



## Prioritization of Recommendations

The following table highlights the priority and time frame that recommendations should be considered.

<b>Immediate Action</b>	<b>1</b>
•Act within 3 months	
<b>Near-Term Action</b>	<b>2</b>
•Act within 6-12 months	
<b>Long-Term Action</b>	<b>3</b>
•Act within 12+ months	

# Summary of Recommendations





Opportunities	Priority	Notes/Comments	Recommended Solution
<b>Data and Privacy</b>			
<b>Complete Cybersecurity Assessment</b>	<b>1</b>	A thorough security assessment provides and in-depth analysis to clarify the district's current security program, platform and policies.	We recommend partnering with a consulting firm specializing in working with districts to analyze your current security policies, architecture, and program that will help make recommendations on the steps to take to implement a mature security framework and program.
<b>Adopt a Security Framework</b>	<b>1</b>	Adopting a security framework will allow the district to have a set of guidelines and standards that are followed to ensure data is being handled & protected in an appropriate manner. Without a framework we are simply doing best effort without really having a methodology we are following to ensure our best chance at success and minimize our exposure to outside threats.	We recommend partnering with a consulting firm specializing in working with districts to analyze your current security policies, architecture, and program that will help make recommendations on the steps to take to implement a mature security framework and program.
<b>Create DR [Disaster Recovery] Strategy</b>	<b>1</b>	Also known as a Business Continuity Plan. This type of strategic thinking involves creating a system of prevention and recovery from potential threats to the district. The <b>plan</b> ensures that personnel and assets are protected and are able to function quickly in the event of a disaster.	We recommend partnering with a consulting firm specializing in working with districts to analyze your current security policies, architecture, and program that will help make recommendations on the steps to take to implement a mature security framework and program.
<b>Encrypt Devices</b>	<b>1</b>	Critical that all staff and student devices are encrypted.	Ensure that there is a policy in place to encrypt all devices across the district. This will help prevent ransomware.



<b>Digital Citizenship Program</b>	<b>2</b>	This type of program helps to empower students and teachers to recognize the impact of their behavior as it relates to cybersecurity and digital citizenship.	The Common Sense Media curriculum is aligned to the ISTE standard and provides K-12 curriculum to implement digital citizenship standards. Add the Digital Citizen and Media Literacy training in Safe Schools to train teachers.
<b>Anti-Phishing Campaign</b>	<b>2</b>		A Phishing Awareness Campaign helps to raise awareness about the prevalence of phishing, what it is, and what to do if you suspect that phishing has occurred. 70% of attacks in North America in 2019 the attack vector was through human error.
<b>Mitigate Cyber-Bullying and Self-Harm</b>	<b>2</b>	With the appropriate tools in place, districts can help monitor online communications to mitigate cyber-bullying and self-harm.	We recommend adopting a content filter. This will help your students safe on all devices—including Chromebooks, iPads, Macs, and Windows devices— Get full visibility into online activity, download or email reports, and receive notifications for flagged content with the most sophisticated AI engine in student safety.
<b>Triage Network concerns</b>	<b>2</b>		Consider integrating a Log-Aggregator. Examples include Greylog or Splunk, to triage what’s happened on the network. The former is free, the latter, Splunk is more expensive but enterprise class.
<b>Robust Infrastructure</b>			
<b>Complete a Network Assessment [Assess Wireless]</b>	<b>1</b>	A thorough Network Assessment will allow the district to get insight into the current state of the network and better understand what the needs are across the district, so that a customized, site specific upgrade can take	We recommend engaging a consulting firm to complete a thorough Network Assessment. This way you can get the full picture of the network across the district; understanding your current state allows you to plan strategically for network upgrades.



		place.	
<b>Define Technology Infrastructure Standards</b>	<b>1</b>	This will ensure each campus has the same IT Infrastructure and supporting foundations to ensure the same capabilities across the entire district. This will greatly help from an IT perspective to support all your school sites, troubleshoot and enable next generation learning opportunities.	We recommend partnering with Security Force to be the conduit between IT and Facilities, to ensure the all standards are being followed across all sites, to ensure the RFPs for each site have the correct verbiage to ensure the district is getting all the correct standards followed and to hold the contractor and vendors accountable.
<b>Firewall</b>	<b>1</b>	A Firewall is critical to the success and security of the network. Palo Alto Networks (PAN) is a top tier enterprise firewall which is worth renewing. Be sure it is architected to detect internal (east-west) traffic.	Renew Firewall contract.
<b>Standardize Email System</b>	<b>1</b>	This creates consistency that will lead to greater efficiencies around workflow and communications across the district.	The transition to GSuite is in progress with the support of AmplifyK12.
<b>Refine Procurement Strategy</b>	<b>2</b>		We recommend partnering with a large and well-known device manufacturer that sells devices directly to school districts. Working with them to build procurement and lease strategy that will refresh devices every ~ three years.
<b>Standardize Devices and Classroom Technology</b>	<b>2</b>	Age of device on a network can have major implications in user experience, access to the latest applications, versions of popular software, browsers, and perhaps most importantly security patches.	We recommend the following guidelines on how long each technology should be used before refreshing: Network Equipment (5-7 years), Servers & Storage (3-5 years), Client Devices (3 years) We recommend partnering with Lenovo or Dell Financial Services.

<b>Policy and Platforms to support Blended Environment</b>	<b>2</b>	The COVID-19 crisis has illustrated the need to support remote learning environment for students, staff and leaders across the district.	Adapting board policies and ensuring that the district has access to platforms that support this new remote reality is critical. This will ensure that students have equitable access to devices, connectivity and learning opportunities in a blended learning environment.
<b>Cloud First Strategy</b>	<b>2</b>		Cloud-first means that the district will consider products and platforms on cloud infrastructure as opposed to only exploring tools that live on the district server. This can provide meaningful cost savings, and greater efficiencies for the district.
<b>Integrate PD</b>	<b>2</b>	Professional Development is a critical element to the success of any technology implementation. Consider this when procuring technology and negotiate PD as a line item within the larger procurement strategy. This enables training for staff and teachers as a part of the technology implementation. When staff and teachers are empowered through training, the technology will be more effective, and the investment will be more meaningful for the district.	Working with a large manufacturer, the district can ask to bundle PD as a component of the larger technology purchase. This helps to ensure the success of the technology once deployed.
<b>Password Resets and MFA</b>	<b>2</b>	We recommend starting with key personnel: Cabinet, Fiscal, HR and phase in MFA for all adults in the district.	Consider implementing Azure AD.
<b>Budget, Accounting, Finance and Payroll Systems</b>	<b>2</b>	Streamline and systematize to increase efficiencies and more effective reporting capabilities.	Consider the transition from Business + to Escape



<b>Technology Budget and Resources</b>			
<b>Technology Budget</b>	<b>1</b>	It is critical to plan for technology as a scheduled, recurring line item; and important to align budget and resources to core technology needs.	Working in collaboration with Lisa Gonzalez, the CBO, Digital Advisors can advise on an operational budget for technology.
<b>Technology fiscal planning</b>	<b>2</b>	Analyze E-RATE Status. It is critical to design an E-RATE strategy that looks five years into the future, to create a cohesive application process.	It is important that your E-RATE application include both category 1 and category 2 expenditures.
<b>Prioritize bond funds efficiently and align funds to goals and initiatives</b>	<b>2</b>	Assess Measure J: Clarify priorities around the modernization of facilities and the technology needs of the district. It is critical to ensure that there is cohesion around understanding the cost to modernize facilities and the cost to cover technology infrastructure that supports the facilities.	Working in conjunction with the District bond management company and bond legal team, we believe the best way to create sustainability across your technology needs [ex. Network infrastructure, and Device refresh] is to create a consistent draw [ex. every three years]. This will support your technology needs for the next ~ ten years.
<b>Software Usage</b>	<b>2</b>	Analyze software in use and systemize; this will help guide decision making about the use and effectiveness of the deployed software.	Consider a platform like CatchOn or Learn Platform to track and analyze the usage of the applications staff and students are using to provide data to teachers, principals, and the central office.
<b>Industry Partner that supports Professional Services</b>	<b>2</b>		It is important to develop a strategic relationship with an Industry Partner and the IT Department when it comes to IT infrastructure implementation to help ensure the success of the implementation.



<b>Community Partnerships</b>			
<b>Maximize Community Access to District Facilities</b>	<b>2</b>	Facilitron makes it easier for the community to access and book your facilities.	We recommend partnering with Facilitron. Facilitron offers school districts a unique partnership, which combines an industry-leading software technology and operational services, focused on improving the management of facility use. Through the unique partnership with no up-front costs, Facilitron helps design a strategy to help districts reduce their cost-burden from after-school facility use and provides support services to reduce staff workload. The result is more money back in the schools and a streamlined operational system, which provides data/analytics to help shape future board policies and greater community satisfaction due to increased and organized access to district facilities.
<b>Engage with Government Leadership</b>	<b>2</b>		In collaboration with local governments, identify areas of partnership particularly for digital equity and home access.
<b>Create Technology Advisory Committee</b>	<b>2</b>	Student voice is a priority of district leadership; we recommend integrating students into the Advisory Committee with a thoughtfully designed role and expectations clearly communicated where students can make a meaningful impact.	A diverse technology committee comprised of community members and staff and students to discuss technology needs of the district.
<b>Engage with Union Leadership</b>	<b>2</b>		It is important to ensure that the technology needs are being met by the union. As technology needs evolve with the dynamic landscape of technology in education, we recommend bi-annual technology check-ins with the Union.



<p><b>Enable College and Career-Readiness</b></p>	<p><b>2</b></p>	<p>This was a high priority and major objective for many of the Cabinet members.</p>	<p>Engage with local technology companies to determine if they can offer Service-Learning opportunities and/or Internships to the students at MDUSD.</p> <p>Consider adding programs and certifications for employable skills – consider the following:</p> <p>Cisco Networking Academy AWS Cloud Certification Cyberpatriot</p> <p>In addition, students learning how to fix devices and maintain them can help with the overall care and maintenance over time.</p>
<p><b>Curriculum, Instruction and Assessment</b></p>			
<p><b>Data Assessment System</b></p>	<p><b>1</b></p>		<p>Continue with Procurement of Data Management and Assessment System [RFP 1853]</p>
<p><b>Adopt EdTech Framework</b></p>	<p><b>1</b></p>	<p>Align Framework to the strategic plan.</p>	<p>We recommend that the district take the Future Ready Pledge and become a Future Ready District. Other frameworks to consider include: 21<sup>st</sup> Century District, and/or adopt the ISTE EdTech Standards.</p>
<p><b>Enable College and Career Readiness</b></p>	<p><b>1</b></p>	<p>This was a high priority and major objective for many of the Cabinet members.</p>	<p>Leveraging technology to enable this objective includes the following:</p> <ol style="list-style-type: none"> <li>1. Consider dashboards of KPI's to track.</li> <li>2. Adopt or build an Early Warning System.</li> <li>3. Provide tools for College/Career Planning; examples include: Naviance, Career Cruiser.</li> </ol>



			<ol style="list-style-type: none"> <li>4. Build skills with Turnitin.</li> <li>5. Provide 1:1 where 9<sup>th</sup> grade students receive it and keep it throughout high school.</li> </ol>
<b>Continued Support and Professional Development for SIS</b>	<b>2</b>	Configuration and training are critical to the success of this robust platform.	Work in conjunction with Aeries to provide ongoing support and professional development for staff.
<b>Standardize on Digital Learning Platform [LMS]</b>	<b>2</b>		A robust LMS solution provides school districts with a digital space for everything from documentation and tracking to the delivery of teaching and learning and on-going professional development training. In this new distance learning environment, it is ever-more critical to leverage technology to support remote teaching and learning.
<b>Positive Behavioral Interventions and Support [PBIS]</b>	<b>2</b>	This is an essential priority of the Cabinet leadership team.	Building out multi-tier systems of support by leveraging technology to ensure that students with diverse and higher needs are being met across the district. The data and assessment and management tool [RFP1853] can be utilized to support this objective.
<b>ELL Management</b>	<b>2</b>	This was a high priority and major objective for many of the Cabinet members.	Consider Ellevation as a platform for supporting ELL success across the district.
<b>Data Warehouse System</b>	<b>3</b>	This longer-term strategy will allow for higher-end reporting that integrates financial and HR data.	Illuminate has a robust data warehouse system that enables broader reporting.

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