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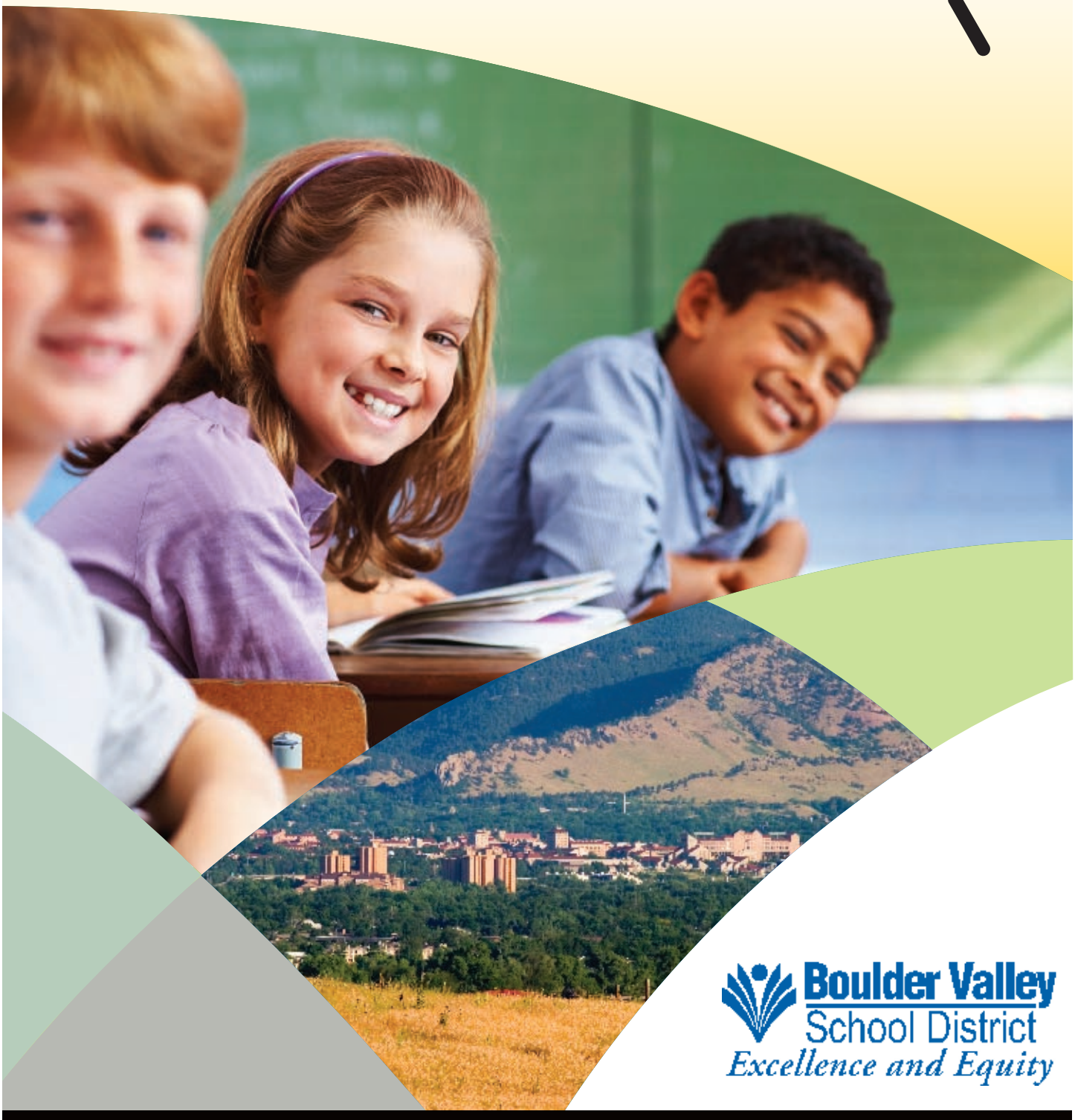

Boulder Valley School District
Excellence and Equity

Texas Instruments

Boulder Valley School District Adopts TI DLP® Technology to Bring Superior Classroom Projection In 3D – for Today and Tomorrow

Client:
Boulder Valley (Colo.) School District encompasses 54 schools across more than 500 sq. mi., serving approximately 28,000 K-12 students.

Challenge:
Deploy forward-thinking, vivid display technology that supports rich, interactive learning for today and minimizing total cost of ownership (TCO) while future-proofing their investment to support 3D content and instruction in the near future.

Solution:
An 18-month deployment of more than 1,000 fixed-mount Vivitek projectors based on Texas Instruments DLP® technology, providing clarity and visibility from anywhere in the classroom. Vivitek projectors are fully 2D and 3D compatible today.

Results:
Superior clarity and readability for students and teachers, a very low TCO, and immediate compatibility with emerging 3D curriculum content.

Stretching back to the earliest days of its widespread Internet deployments in the mid-1990s, Boulder Valley School District has carefully balanced its pursuit of cutting-edge classroom technology with prudent applications and careful cost management to ensure the longest possible life for its equipment and lowest total cost of ownership. It's a key to an overall school-management strategy that has paid off through an enviable track record of academic excellence, outstanding classroom facilities, smart programs that support student achievement and a motivated and engaged faculty. Given those results, it's not too surprising that the Boulder Valley School District receives strong community support. Voters recently approved nearly $300 million in capital improvements that will reach each of the district's 54 schools over the next six years.

One of the technical backbones for Boulder Valley is its 10Gb network, providing an exceptional level of throughput and enabling the district to take its curriculum to an entirely new level. "We had recently upgraded our network and recognized the tremendous opportunity this represented in our ability to transform the classroom experience," said Len Scrogan, director of instructional technology for Boulder Valley.

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Len Scrogan, Director of Instructional Technology Boulder Valley School District

"For example, science classes could enjoy live streaming from an ocean vessel to continuously follow – live – the research being conducted. And there are many companies that are emerging to provide 3D curriculum content that could dramatically enhance classroom learning. We wanted to get ahead of that curve by making smart investments to capitalize on these opportunities."

A linchpin for this initiative was equipping classrooms with modern panel-controlled video-projection equipment. The district devised a plan and identified the funding sources for a standardized deployment of projectors in every classroom in every school over an 18-month period. True to form, the evaluation was extensive - 46 different projectors were assessed – and the decision metrics reflected Boulder's unique vision of practicality for today and future-proofing for tomorrow.

Vivitek Projectors with DLP Technology: Better Performance, Lower TCO

The team eventually selected two standard projectors from Vivitek: the 2600-lumen D825EX and, for larger classrooms, the 3000-lumen D930TX. Both projectors are designed around DLP technology from Texas Instruments. "We looked carefully at LCD-based solutions, but there were just so many advantages to adopting a DLP solution," Scrogan said, "that it became an easy decision. From an immediate, tactical perspective, it starts with picture quality. And the Vivitek/ Texas Instruments projectors really deliver.

The color reproduction is superb and the brightness is consistently excellent. We knew from previous experiences that the color from LCD projectors fades over time. We didn't want a repeat of that. And the contrast ratio for DLP really stood out. We took the devices into different classrooms and asked ourselves what we thought was a key question, 'Can a student in the back of the room really see this?' That factor alone put DLP ahead of the others."According to Scrogan, the minimal maintenance requirements and lower TCO were also crucial metrics.

"The LCD projectors require you to replace a dust filter to ensure they remain in working condition and under warranty," he said. "And projector life isn't as long with LCD. These are huge support issues that create costs we couldn't afford."

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Ready for the 3D Classroom

Just as important to Boulder Valley – and exciting to faculty and students - is the built-in capability for the Vivitek DLP projectors to support 3D visualizations and content – with no additional hardware or installation costs. The only added cost: inexpensive 3D glasses for student viewers. Thanks to the speed of the TI DLP processor, 3D performance of 120 FPS is virtually identical to 2D 60 FPS imaging – in the same projector.

"2D projection with Vivitek is terrific, and we're very pleased with the results – but we see a tremendous potential with 3D imaging that leverages our 10Gb network," Scrogan said. "We firmly believe that 3D video will open up a world of new, enhanced learning by making visualization a core support for the curriculum. One of the most important educational techniques is identifying and debunking misconceptions – that often has a greater impact on students than straightforward lessons. 3D technology lends itself to these and numerous other styles of learning.

"The content is still evolving, of course, but we foresee using our 3D projection for things like on-screen lessons in frog dissection," said Scrogan. Indeed, with 3D projection teachers will be able to walk students through famous architectural structures or museums or explore the nuances of human anatomy. Geography lessons will offer stunning 'flyovers' of topography to bring the concepts to life. "And the fact that we can pursue this immersive, engaging way of learning without any changes to our projection systems is a tremendous benefit. We think the future of visual learning lies in this direction and we're pleased to have a smart long-term plan in place to make it happen."

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