

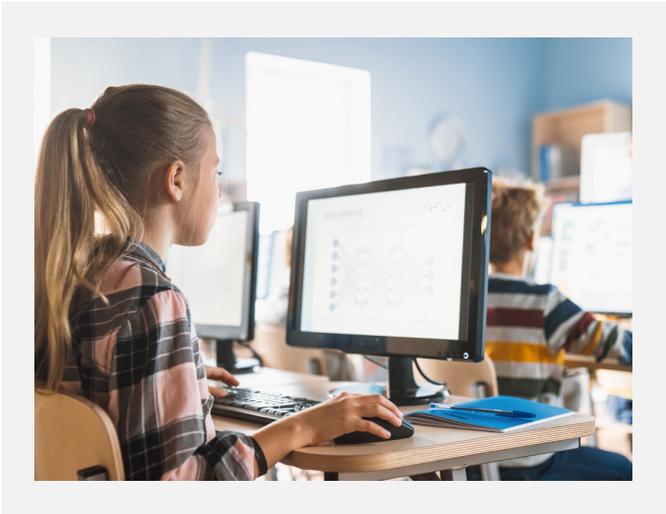
K-12 FACILITIES OPTIMIZATION

ENHANCING K-12 LEARNING ENVIRONMENTS FOR MAXIMIZED STUDENT PERFORMANCE



BOOST STUDENT PERFORMANCE WITH ENHANCED LEARNING ENVIRONMENTS

Education is the backbone of a flourishing society. In a world of constant technological advancements, students are beginning to require more than just standard learning environments to reach their desired maximum potential.



Research has shown that a student's physical surroundings have a direct impact on learning engagement, motivation, and social interaction among classmates, according to the International Journal of Education and Practice¹. It is crucial for school districts to properly update and maintain essential building infrastructure and invest in energy-efficient building management technologies to keep their students safe, comfortable, healthy, and productive.

As the world advances, so do our expectations and standards of how and where we educate our children.

For school districts to maintain or increase student enrollment and improve performance, they must focus heavily on four critical factors:

- ▲ Enhancing learning environments by increasing comfort – and therefore focus – through smart building technologies.
- ▲ Developing safety and security measures for student and staff protection.
- ▲ Improving Indoor Air Quality (IAQ) through proper ventilation and filtration.
- ▲ Transforming learning experiences through the use of interactive, high-performance audio and visual technology.





INVEST IN SMART BUILDING TECHNOLOGIES

According to the National Center of Safe Supportive Learning Environments, a “Physical Learning Environment” refers to the level of upkeep, ambient noise, lighting, indoor air quality, and thermal comfort of a school’s physical building and its location within the community. ²

Maintaining the attention of a classroom full of students for 6+ hours a day is hard enough. When those students are too hot or cold, or can’t see the board because of poor lighting, they are much more likely to become irritable and distracted.

Smart building technologies optimize physical environments inside facilities through a single pane of glass via smart sensors and controls. The smart sensors automatically adjust to user-specified settings when a space is occupied vs. unoccupied. This capability ensures consistent student and staff comfort while saving on maintenance time and costs. Gone are the days of managing facilities blind! Investing in these technologies will not only improve operational efficiency and occupant comfort day-in and day-out, but it will ultimately save on maintenance and energy costs as well.

Achieve Your Facility Optimization Goals with Smart Building Technologies

- ▲ Master Systems Integration
- ▲ Energy metering, reporting, & tracking
- ▲ Thermal control (temperature & humidity)
- ▲ Smart lighting controls
- ▲ Mechanical system integrations
- ▲ Fault detection & diagnostics



² “Physical Environment.” National Center on Safe Supportive Learning Environments, safesupportivelearning.ed.gov/topic-research/environment/physical-environment.

OPTIMIZE SAFETY & SECURITY

A “Safe Environment” landed in the top five factors that parents consider when sending their child to a public school and was second only to Academic Quality or Reputation, according to a poll conducted in 2021 by EdChoice.³

School districts can demonstrate their commitment to student and faculty safety by investing in best-in-class protective systems like CCTV and surveillance cameras, access control systems, fire alarm systems, weapons detection systems, and emergency response mechanisms that immediately alert staff, administration, parental guardians, and emergency personnel if a situation occurs.

Protective systems are vital in keeping students and staff safe and protected throughout the school year. By implementing master systems integration, building security infrastructure can unify with building management systems for faster, more efficient, and potentially life-saving decisions in the field. A centralized platform provides proactive risk management and enables real-time monitoring and quick response to potential threats. As a result, students can focus on learning knowing they are safe and protected.

Students thrive in environments in which they feel safe and protected.



Protective Systems that Keep Your Campus Safe

- ▲ Access Control
- ▲ CCTV /Video Surveillance
- ▲ Public Address/Crisis Management Systems
- ▲ Weapons Detection
- ▲ Intrusion Detection
- ▲ Visitor Management
- ▲ Fire & Life Safety
- ▲ Vape & Chemical Detection

IMPROVE INDOOR AIR QUALITY FOR HIGHER PRODUCTIVITY

Nearly 1 in 13 school-age children have asthma, the leading cause of school absenteeism due to chronic illness.

Poor indoor air quality inside school buildings can increase the severity and frequency of asthma cases in students and faculty. In addition, it can lead to increased skin irritations, allergies, headaches, and reduced cognitive function.

A direct correlation exists between absenteeism and reduced productivity levels in the United States in K-12 school-age children. According to Attendance Works⁴, a nonprofit organization that promotes student attendance, “the risks associated with chronic absenteeism include difficulty learning to read by the third grade, achieving in middle school, and graduating from high school.”

While many outside factors affecting absenteeism are out of a school district’s control, the indoor air quality inside their buildings is something that can be directly monitored, controlled, and improved to reduce sickness and absenteeism significantly. School districts must develop sustainable indoor air quality strategies to meet the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)’s core guidelines and recommendations for ventilation and filtration inside school buildings. In addition, routine inspections and regular maintenance and updates of all building infrastructure, including HVAC systems, boilers, and critical power, will enhance the quality of education and contribute to cost savings and energy-efficiency.

Equipment Solutions for both New and Existing Infrastructure

- ▲ Disinfection Filtration Technology
- ▲ Microenvironment Solutions
- ▲ HVAC
- ▲ Boiler & Combustion
- ▲ Building Controls & Monitoring
- ▲ Critical/Backup Power Systems
- ▲ Generator Service
- ▲ 24/7/365 Emergency Service

4. “Chronic Absence.” Attendance Works, www.attendanceworks.org/chronic-absence/the-problem/.

MODERNIZE YOUR DISTRICT WITH PROFESSIONAL AUDIO & VISUAL SYSTEMS

“Technology access when equitable can help close the digital divide and make transformative learning opportunities available to all learners,” claims the Office of Educational Technology. ⁵

High-Performance Systems for Enhanced Learning Experiences

- ▲ Video Walls & Digital Signage
- ▲ Audio Monitoring
- ▲ Assisted Listening
- ▲ Networked Audio Systems
- ▲ Sound Masking
- ▲ Public Address/Intercom
- ▲ Indoor/Outdoor Speaker Systems
- ▲ Video Presentation Systems



Technology is a powerful tool that can reimagine the learning experience and accelerate growth and development for all students. Providing access to cutting-edge tools like interactive monitors, video presentation systems, digital signage walls, assisted listening systems, and more will not only make education more engaging but will improve student concentration and information retention.

In contrast, outdated and unreliable systems can result in student and staff frustration and distraction. This not only wastes valuable class time but hinders the students' ability to engage and understand the topic at hand. School districts should invest in updated classroom technologies that offer an advanced, engaging learning experiences. Furthermore, outside of the classroom, other learning and development spaces like virtual learning, music rooms, auditoriums, gymnasiums, stadiums, and more can all be optimized for engaging learning environments.



INVEST IN YOUR DISTRICT'S FUTURE

State and federal funding programs, incentives, and grants are readily available for school districts to invest in infrastructure and energy upgrades.

In the last several years, state and federal governments have made a significant push towards improving the environmental impact of educational facilities across the United States. They have recognized the importance of building a more sustainable future for our children, starting with the spaces where they spend most of their time.

Well-maintained, energy efficient school buildings can enhance learning environments and improve student attendance, comfort, productivity, and overall well-being. Because of this, the government has allocated substantial funds for school districts to finance infrastructure upgrades like modernizing classrooms and other learning areas, improving indoor air quality, and reducing carbon emissions through clean transportation.

Stark Tech works directly with school districts and engineering firms to analyze, design, and implement sustainability strategies that help accomplish the unique goals of the district. We will collaborate with your in-house facilities team to meet compliance codes and state guidelines to qualify for funding assistance, and help you obtain the funding.

Federal and State Funding Programs & Grants

- ▲ NYSERDA
- ▲ ESSER Funds
- ▲ Clean Green Initiative
- ▲ Clean School Bus Program
- ▲ Smart Schools Bond Act

SERVICES OFFERED

- ▲ Clean Heating/Cooling
- ▲ Clean, Local Power Generation
- ▲ Battery Energy Storage
- ▲ Energy Efficiency and Management
- ▲ Green Buildings
- ▲ Indoor Air Quality Improvements
- ▲ High-Tech Security Features

For more information on how Stark Tech can advance your school district, and help you obtain the funding to do so, visit starktech.com.





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