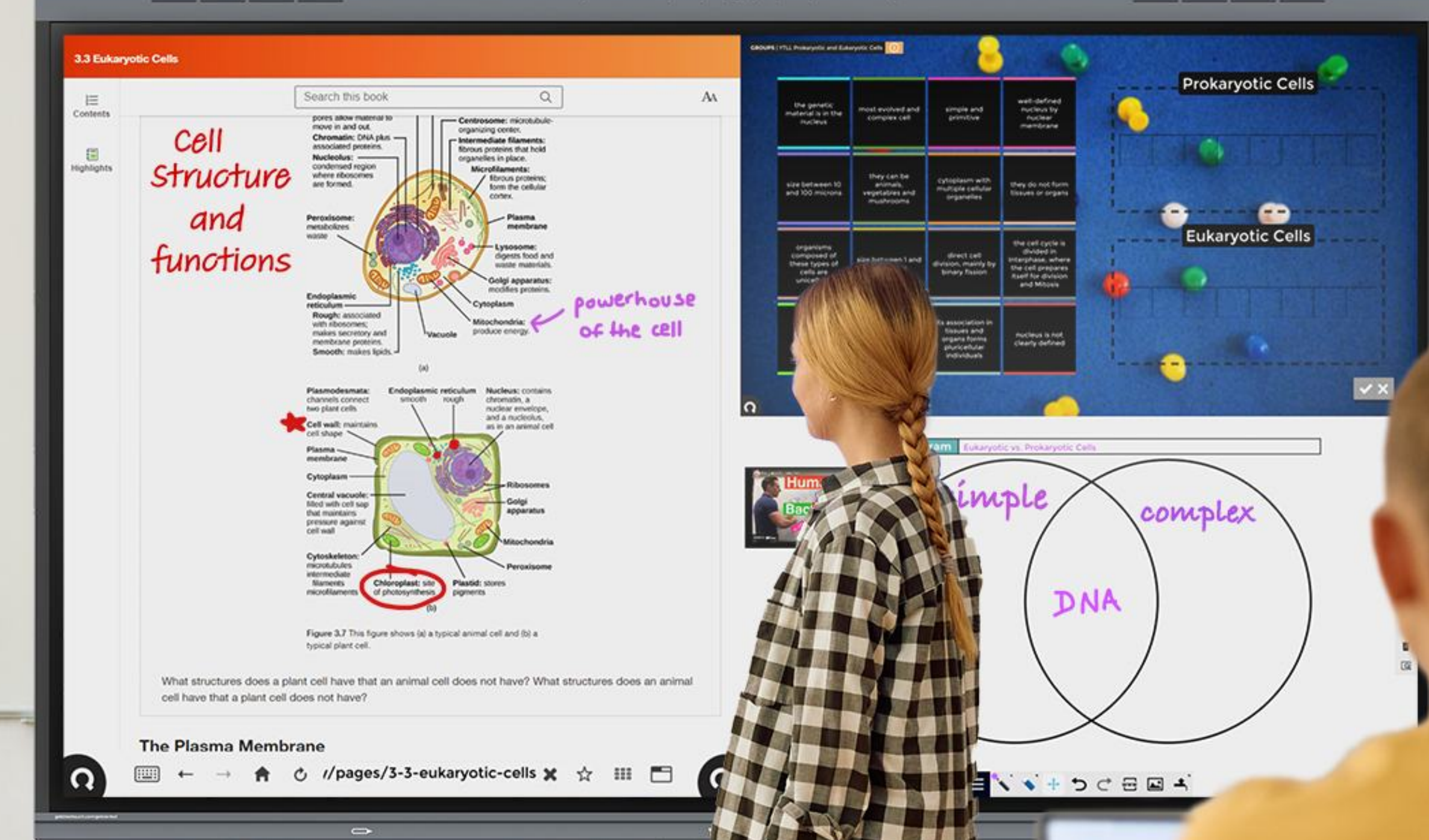
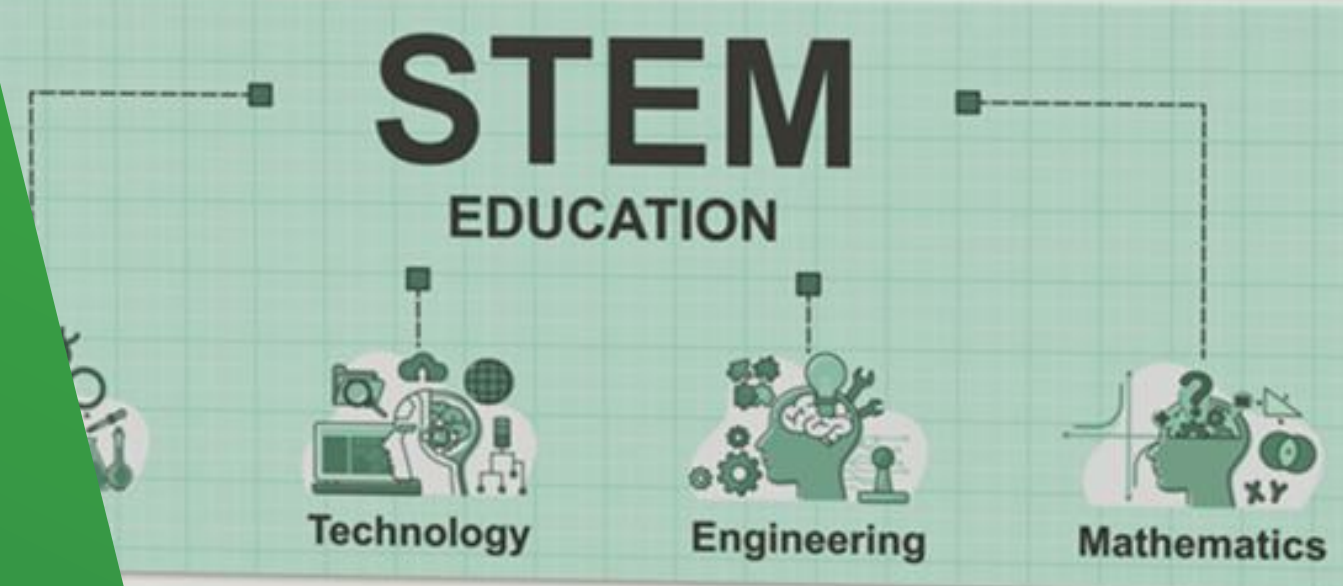




S3 TECHNOLOGIES

# Equipping Schools in the Digital Era

S3 Technologies' Solutions for Modernizing Education in the 21st Century



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# Adapting Schools for the 21st Century

Technology has significantly transformed schools in the digital era. The vast array of tools available today enriches the educational experience for both teachers and learners. On one hand, teachers can create interactive and engaging lessons in less time, freeing them for direct interaction with students. On the other hand, learners have new avenues to explore, collaborate, and be independent in their studies.

This technological advancement has expanded education beyond the classroom’s walls, allowing learners to access education anytime and anywhere. Moreover, it fosters a more inclusive learning environment, empowering students to excel in modern challenges and seize opportunities.

In this evolving educational landscape, S3 Technologies can provide personalized training programs and technology solutions to equip your school for 21st-century learning. This e-book explores the hardware, software, network, security, audiovisual, and emerging technologies we offer. You will find valuable insights into how you can integrate these solutions effectively to give students a future-ready education.





# Evolving Role of Technology in Modern Education

Learning in the 21st century is technology-driven. A 2023 study published in the Journal of Educational Technology Systems proposed a framework for classifying school technologies into four broad categories.<sup>1</sup>

- **Educational technologies** (EdTech), which are used primarily for teaching and learning
- **Management technologies**, which are used to manage student information and resources
- **Network and security technologies**, which help maintain stable and safe access to applications and devices
- **Support technologies**, which help facilitate the effective use of all school technologies

<sup>1</sup> Julia Bacak et al., "Examining Technologies Used in K-12 School Districts: A Proposed Framework for Classifying Educational Technologies," Journal of Educational Technology Systems 51, no. 3 (2023): 282–302, <https://doi.org/10.1177/00472395231155605>.

Of these categories, educational technologies are the most represented. A report by the research organization LearnPlatform found that during the school year 2021–2022, every student and educator accessed 143 and 148 unique EdTech tools, respectively.<sup>2</sup>

The integration of these tools alters classroom dynamics and reshapes how teaching and learning occur.

- One of the most significant differences is the shift from teacher-centered to **student-centered** learning. Teachers today no longer stand in front of the class as the main source of information. With the help of technology, they instead guide students to take greater control over their educational experiences, promoting independence and self-direction.
- Another critical transformation is the increase in **interactivity** within the classroom, which significantly enhances learning and retention. Interactive technologies engage students through hands-on experiences and real-time feedback, making learning more relevant and memorable.
- The tech-driven 21st-century classroom also has a new level of **flexibility**. It allows students to make choices and take ownership of their education by accommodating a variety of instructional methods and learning styles. This adaptability enhances the educational experience, making it more versatile and responsive to individual needs.

In the next section, we will explore the school technologies provided by S3 Technologies. We design these solutions to support and enhance modern educational environments, empowering educators and engaging students in the digital age.

<sup>2</sup> Mary Styers, "EdTech Top 40 Report Shares the Latest on the Usage of Digital Tools during the 2021-22 School Year," Instructure, August 24, 2022, <https://www.instructure.com/resources/blog/edtech-top-40-report-shares-latest-usage-digital-tools-during-2021-22-school-year>.



**140+ unique EdTech tools accessed by students and educators in SY 2021–2022**

# Tailored Solutions for School Environments

## Educational Technology

### Hardware Solutions

In a 2023 blog, Google revealed that 50 million students and teachers use Chromebooks every day. Since their launch, Chromebooks have provided schools in the digital era with secure and dependable access to high-performing computers at affordable costs.<sup>3</sup>

Millions of iPads are also in use in the education sector. Apple says iPad implementation in K-12 and higher education institutions worldwide has resulted in improved academic performance, increased engagement and motivation, higher cost savings and resource efficiency, and integrated focus on content quality and design.<sup>4</sup>

At S3 Technologies, we provide an extensive range of Chromebooks and iPads tailored to meet the diverse needs of students and educators. We are committed to collaborating with you and working within your budget so that you maximize your investment without compromising quality.

<sup>3</sup> Racha Slaoui, "Chromebook Plus is made for the way you teach," The Keyword, October 2, 2023, <https://blog.google/outreach-initiatives/education/chromebook-plus-education/>.

<sup>4</sup> Apple Inc., "iPad in Education Worldwide Results," Apple, June 2017, <https://www.apple.com/ca/education/docs/ipad-in-education-results.pdf>.





Each device comes with robust mobile device management. With this, you can easily control and secure your fleet of Chromebooks and iPads, simplifying the deployment, monitoring, and maintenance of these devices.

Besides Chromebooks and iPads, S3 Technologies provides charging carts, headphones, and document cameras.

#### TOP 4 TIPS FOR A SMOOTH DEVICE DEPLOYMENT

- Run a pilot deployment with a small group to catch unexpected issues and troubleshoot on a smaller scale.
- Prepare the devices in advance by installing the necessary apps and programs, setting up security features, and syncing with mobile device management systems.
- Coordinate with teachers for device integration support to ensure staff members feel prepared to utilize the devices.
- Plan for ongoing support and maintenance with a clear process for handling issues, repairs, and troubleshooting.

## Software Solutions

In 2019, US schools spent \$3.8 billion on educational software licenses.<sup>5</sup> The COVID-19 pandemic only boosted spending.<sup>6</sup> Software products are popular because they serve various purposes for learners, educators, and administrators.

S3 Technologies can assist in the administration of the following software solutions:

- **Google Workspace for Education** provides a suite of tools, including Google Drive, Docs, Meet, and Classroom. They enable seamless communication, file sharing, and real-time collaboration among students and educators, enhancing productivity and fostering a more interactive learning environment.
- **Learning management systems** (LMS) like Canvas and Blackboard organize and deliver course content, track student progress, and facilitate online assessments. They offer a centralized hub for managing instructional materials and student interactions, improving course management and engagement.

**\$3.8 billion** spent on educational software licenses

<sup>5</sup> Michele Molnar, "More Than \$1 Billion in K-12 Ed-Tech Licensing Fees Go to Waste," EdWeek Market Brief, November 20, 2019, <https://marketbrief.edweek.org/education-market/more-than-1-billion-in-k-12-ed-tech-licensing-fees-go-to-waste/2019/11>.

<sup>6</sup> Collin Binkley, "Schools' pandemic spending boosted tech companies. Did it help US students?," The Associated Press, October 9, 2023, <https://apnews.com/article/edtech-school-software-app-spending-pandemic-e2c803a30c5b6d34620956c228de7987>.

- **Software as a service** (SaaS) products are cloud-based software solutions for various educational needs, including virtual classrooms, educational apps, and administrative tools. These products offer flexibility, scalability, and accessibility from any device, supporting diverse learning and operational needs.
- **Student information systems** (SIS) manage student data, including enrollment, grades, attendance, and communication. They provide administrators with comprehensive insights into student performance and streamline administrative processes, ensuring efficient management of student records.

S3 Technologies ensures that your software operates effectively and provides seamless access and functionality for users. We handle setup, user account management, system updates, troubleshooting, and integration with other educational technologies. We also make sure that the software aligns with your institution's needs, complies with security standards, and supports educational goals.

## Network Solutions

As you expand your school's tech ecosystem, it's crucial that your network infrastructure can handle the increased demand. A reliable network is the backbone of any modern educational environment. Without a reliable infrastructure, even the most cutting-edge technology can falter, impacting the effectiveness and efficiency of your tech integration.

S3 Technologies can structure networks tailored to meet the specific needs of your educational institution. We handle the customization, design, and installation of these networks to support your tech expansion. Our services include thorough testing, detailed documentation, and ongoing maintenance to keep your network running smoothly. With expertise in fiber optics, wireless access points, point-to-point dishes, and servers, our experienced technicians ensure that every component of your network is optimized for performance and reliability.

**A reliable network is the backbone of any modern educational environment. Without a reliable infrastructure, even the most cutting-edge technology can falter.**

To maximize your IT budget, we encourage you to apply for the [E-rate program](#). This federal program provides funding to support Internet and related services in schools. With this, you can get a 20–90% discount on covered services.

- Category One services
  - Data transmission services
  - Internet access
- Category Two services
  - Internal connections
  - Managed internal broadband services
  - Basic maintenance of internal connections

S3 Technologies is well-versed in the E-rate application process and can guide you through it. Our E-rate solutions cover a wide range of needs, including network infrastructure and wiring, managed internal broadband services, and essential devices such as access points, switches, firewalls, and racks. Additionally, we offer a free network evaluation to help identify areas for improvement and ensure that your network infrastructure is aligned with your educational goals.

## Security Solutions

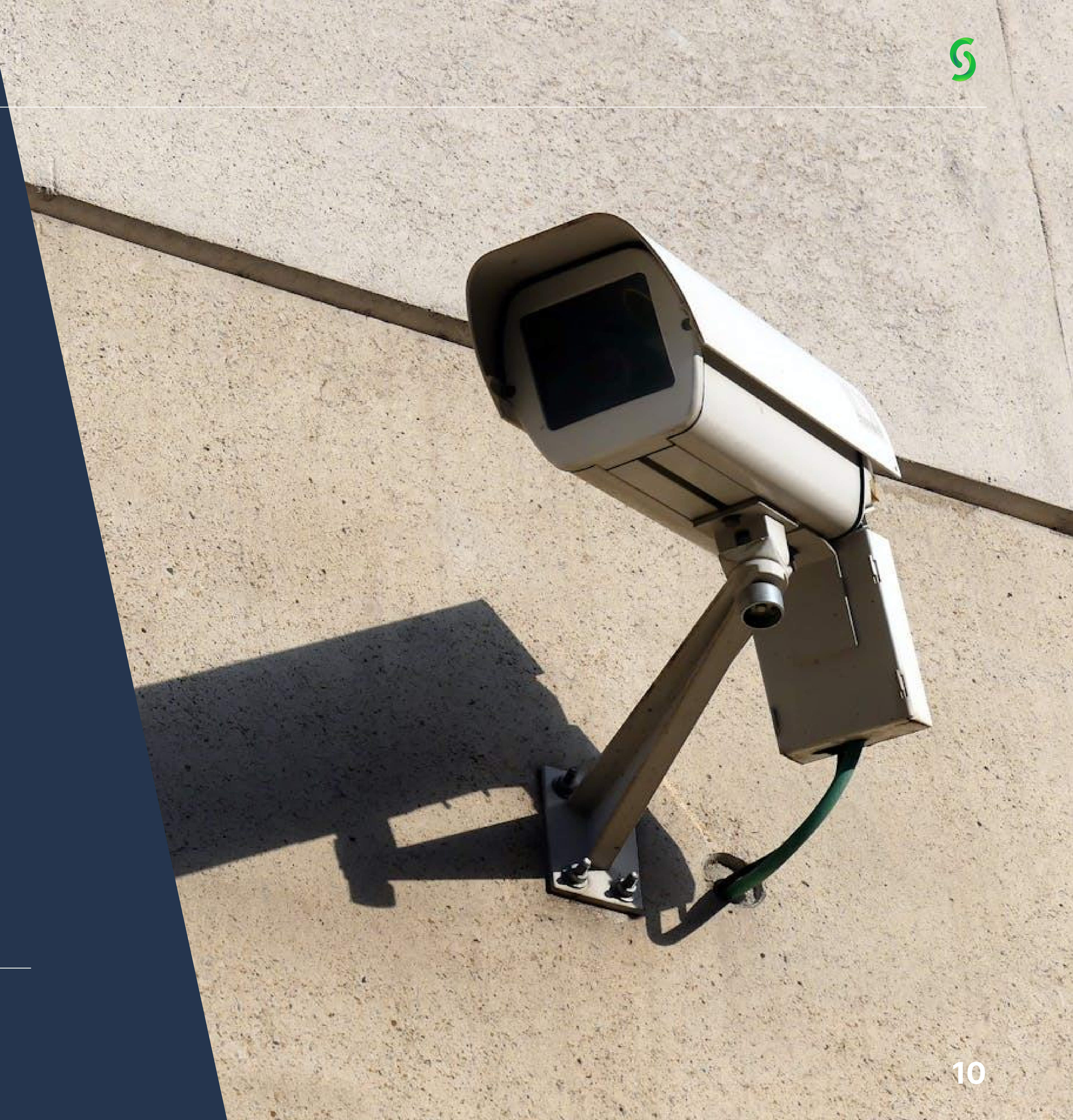
Safety issues in schools, such as bullying, drug use, hate crime, and violence, disrupt teaching and learning. Data collected in 2022 by the National Center for Education Statistics show that public schools recorded 857,500 violent incidents and 479,500 nonviolent incidents in the school year 2021–2022.<sup>7</sup>

Creating a secure environment is essential for fostering a thriving educational setting where students and staff can excel. Effective security measures alleviate anxiety, support personal development, and provide stability, enabling the school community to concentrate on education and growth.

S3 Technologies delivers robust and comprehensive security solutions for educational institutions.

- **Access Control:** Our access control solutions include door buzzers, intercom systems, keypads, RFID key cards, fingerprint readers, retinal scanners, and hand geometry readers. With these, you can manage entry points effectively and authenticate individuals with precision.
- **Video Surveillance:** Our video surveillance system comes with cellular and Internet backup that keeps footage accessible even during network disruptions. Administrators can manage access to the system to maintain high levels of confidentiality and safety.

<sup>7</sup> National Center for Education Statistics, “New Schools Data Examine Violent Incidents, Bullying, Drug Possession, 'Restorative' Practices, Security Staff, and More,” press release, January 17, 2024, [https://nces.ed.gov/whatsnew/press\\_releases/1\\_17\\_2024.asp](https://nces.ed.gov/whatsnew/press_releases/1_17_2024.asp).





Grace Berry  
1 review



★★★★★ 2 weeks ago **NEW**

S3 Technologies was great to work with! They installed a new camera and security system at my workplace, and it all works great! The system has provided us with an additional sense of security and safety and is exactly what we were looking for. When we had questions after it was first installed, the company was more than happy to answer any questions and assist as needed. They really went the extra mile to make sure everything was working well, and our staff was trained in the system. Highly recommend!

- **Smart Sensors:** We use the HALO Smart Sensor, a ceiling-mounted device that can monitor over 17 action items, such as gunshots, vape, THC, and air quality. Additionally, we provide the Triton Sensor, which enhances school safety by detecting vape usage as well as potential violence and vandalism through indicators such as spoken keywords, noise levels, crowding, and loitering. Both sensors integrate with your network and provide real-time alerts via text or email to enable swift response.
- **Mass Notification Systems:** These systems send out alerts and instructions through multiple channels to inform the campus of potential dangers and necessary actions. Their features include emergency messaging from various initiators, customizable notifications, and automatic volume adjustments on PA systems to enhance campus safety.
- **Visitor Management:** Visitor management software replaces traditional logbooks with a digital tracking system, which includes database searches and integration with door access control. The system can also integrate with emergency notifications for enhanced safety.

We manage every aspect of your security system, from initial planning and installation to continuous support. Additionally, we provide free security audits to help you identify potential vulnerabilities and make informed decisions about enhancing your school's security.

Our security technology solutions for schools have helped schools establish a thorough security framework that offers strong safety measures and improves emergency readiness.

## Audiovisual Solutions

Traditionally, AV technology has been viewed as mere equipment for projecting images, videos, and sounds. However, its role has evolved significantly—it is now an integral component of modern learning environments.

Today, AV technology is a powerful enhancement that transforms lessons into interactive and engaging experiences. The COVID-19 pandemic underscored the value of this. As schools transitioned to remote learning, maintaining student engagement became a challenge. According to a 2020 survey by EdWeek Research Center, 44% of K–12 educators observed a decline in student engagement with schoolwork compared to before the pandemic.<sup>8</sup>

Interactive displays and video productions are pivotal in addressing these engagement issues. With their high-resolution visuals and dynamic content capabilities, these tools can capture students' attention and make learning more interactive. Clear and vivid displays coupled with engaging video content help to illustrate complex concepts and keep students interested and involved.

<sup>8</sup> Micah Castelo, "How Audiovisual Equipment Boosts Remote Learning," EdTech: Focus on K-12, July 22, 2020, <https://edtechmagazine.com/k12/article/2020/07/how-audiovisual-equipment-boosts-remote-learning>.





Alexis Ayers  
3 reviews



2 weeks ago

NEW

I am a technology teacher at a local high school and Tricia and her team reached out about a few products (Air Quality Sensors and Interactive Displays) that might benefit our staff and students. They quickly set up demos with multiple options for both the AQSs and Interactive Displays- we're talking 1-2 weeks with the products, not just an hour or so. They were quick with any questions we had with the demos, and we really felt like by the time we were ready to purchase we knew what we were getting with the products. I highly recommend working with this small business. Their level of customer service cannot be matched by a larger company!

AV technology also plays a crucial role in improving accessibility and promoting collaboration within the classroom. Videoconferencing technology in particular enables real-time communication between students and teachers, regardless of their physical location. This fosters a more inclusive learning environment, allowing students to participate actively in discussions, collaborate on projects, and receive immediate feedback.

S3 Technologies offers a range of educational AV solutions that transform schools into dynamic environments.

- **Classroom AV:** Voice amplification, interactive displays, projectors, TVs
- **School-wide AV:** PA systems, bell systems, video production and live-streaming equipment
- **Theater/Auditorium AV:** Projectors, sound, live streaming
- **Conference/Meeting Room AV:** Videoconferencing, displays, speakers, microphones
- **Digital signage:** Displays for important announcements, event schedules, wayfinding, and emergency alerts

S3 Technologies has helped many schools build comprehensive AV systems that integrate and scale seamlessly. Beyond installation, we offer in-person training, detailed user guides, and ongoing support to ensure that our customers can fully utilize and benefit from our AV solutions.

## Emerging Technologies

New technologies are constantly evolving, and employers are increasingly expecting future workers to stay current and leverage these advanced tools effectively. To help students remain competitive and secure future employment in this rapidly changing landscape, schools need to design classrooms that integrate and adapt to emerging educational trends.

S3 Technologies supports schools in adopting emerging technologies. Here are just a few of the solutions we offer.

- **Virtual Reality:** VR immerses users in lifelike simulations of both real and imagined environments through advanced computer graphics, motion sensors, and display technologies. At S3 Technologies, we use VictoryXR to integrate VR learning environments into your curriculum, including simulations for career and technical education in trades, technology, and healthcare. We also supply headsets with mobile device management.
- **Augmented Reality:** AR enriches real-world environments by overlaying digital content on top of them. Current literature shows that educational AR and VR technologies are most represented in the fields of computer science, social science, engineering, and medicine.<sup>9</sup> S3 Technologies uses Merge EDU, which allows students to interact with 3D objects and simulations to enhance their learning experience.

<sup>9</sup> Abdullah M. Al-Ansi et al., "Analyzing augmented reality (AR) and virtual reality (VR) recent development in education," Social Sciences & Humanities Open 8, no. 1 (2023): 100532, <https://doi.org/10.1016/j.ssaho.2023.100532>.





- **Interactive Walls:** Interactive walls enable users to interact with displays through touch and motion sensors. S3 Technologies offers MultiBall's interactive sports wall, which projects interactive games. Though MultiBall specializes in sports, schools can customize the wall to adapt to any subject or curriculum.
- **3D Modeling:** 3D modeling technology allows students to create digital representations of objects, structures, or even entire environments, making it a powerful tool for subjects such as engineering, architecture, biology, and art. S3 Technologies provides software for 3D modeling, helping students develop essential skills in design, spatial visualization, and technical drawing.

# Building a Future-Ready Education System

By now, it should be clear that integrating digital tools into education is imperative in today's educational landscape. However, using technology for technology's sake is not the most effective use of time, resources, and funding. Some schools pay millions in contracts and software licenses only to use the tools rarely or not at all.<sup>10</sup> This is a missed opportunity for students to reap the full benefits of effective technology integration.

To avoid this scenario and maximize investment, S3 Technologies uses the **Technology Integration Matrix** (TIM) and the **Technology Uses and Perceptions Survey** (TUPS) to help schools design classrooms that implement technologies strategically.

The **TIM** offers a structured approach for incorporating educational technology to create a more student-centered learning environment that promotes critical thinking and problem-solving beyond what traditional methods can achieve. It defines five levels of technology integration across five characteristics of meaningful learning environments. By applying the TIM model, educators can purposefully integrate technology to enrich traditional teaching methods and provide a well-rounded educational experience.

<sup>10</sup> Binkley, "Schools' pandemic spending."

Meanwhile, the **TUPS** gathers valuable feedback from educators about which tech tools are essential for their classrooms and what they believe students should be using. Additionally, it assesses teachers' confidence in using and implementing these technologies, providing insights into their comfort levels and identifying areas where further support or training may be needed. This approach helps tailor technology solutions to actual classroom needs and enhances the overall effectiveness of technology integration.

### **S3 TECHNOLOGIES RESOURCES FOR FURTHER READING**

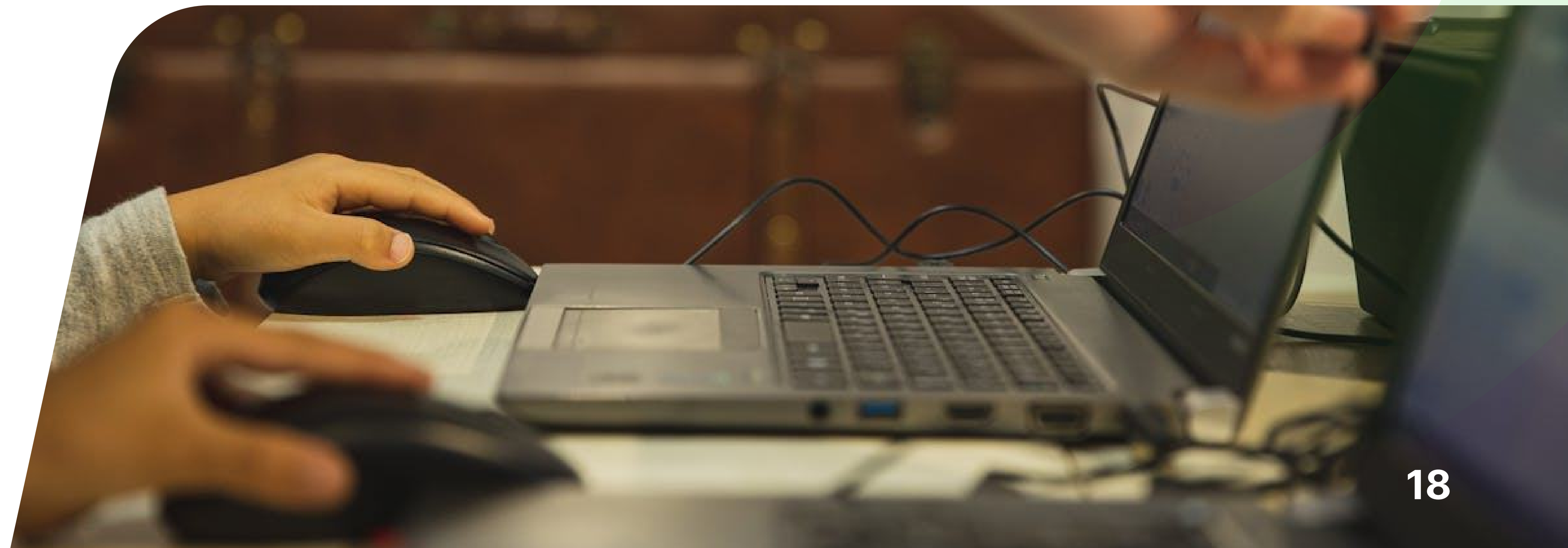
- [Enhance Student Learning with the Technology Integration Matrix](#)
- [Technology Uses and Perceptions Survey \(TUPS\) White Paper](#)



## Takeaway

Schools in the digital era must be an environment where students can interact with technology regularly. To achieve this, they should collaborate with tech experts to design and install essential school technologies, including hardware, software, network, security, and audiovisual solutions. They should also stay updated on emerging technologies and explore how these innovations can enhance teaching methods, improve student engagement, and address evolving challenges.

S3 Technologies can be your school's partner in creating classrooms that support 21st-century learning. Besides providing the tech, we offer professional coaching and ongoing support to ensure effective implementation and usage. Call (330) 648-5408 today to discover how we can help you enhance the educational experience in your school.



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