

# Pivot to Profit+



## The Future of Systems Integration

NSCA members' guide to how integration businesses need to transform over the next 10 years. **PAGE P2P+ 4**

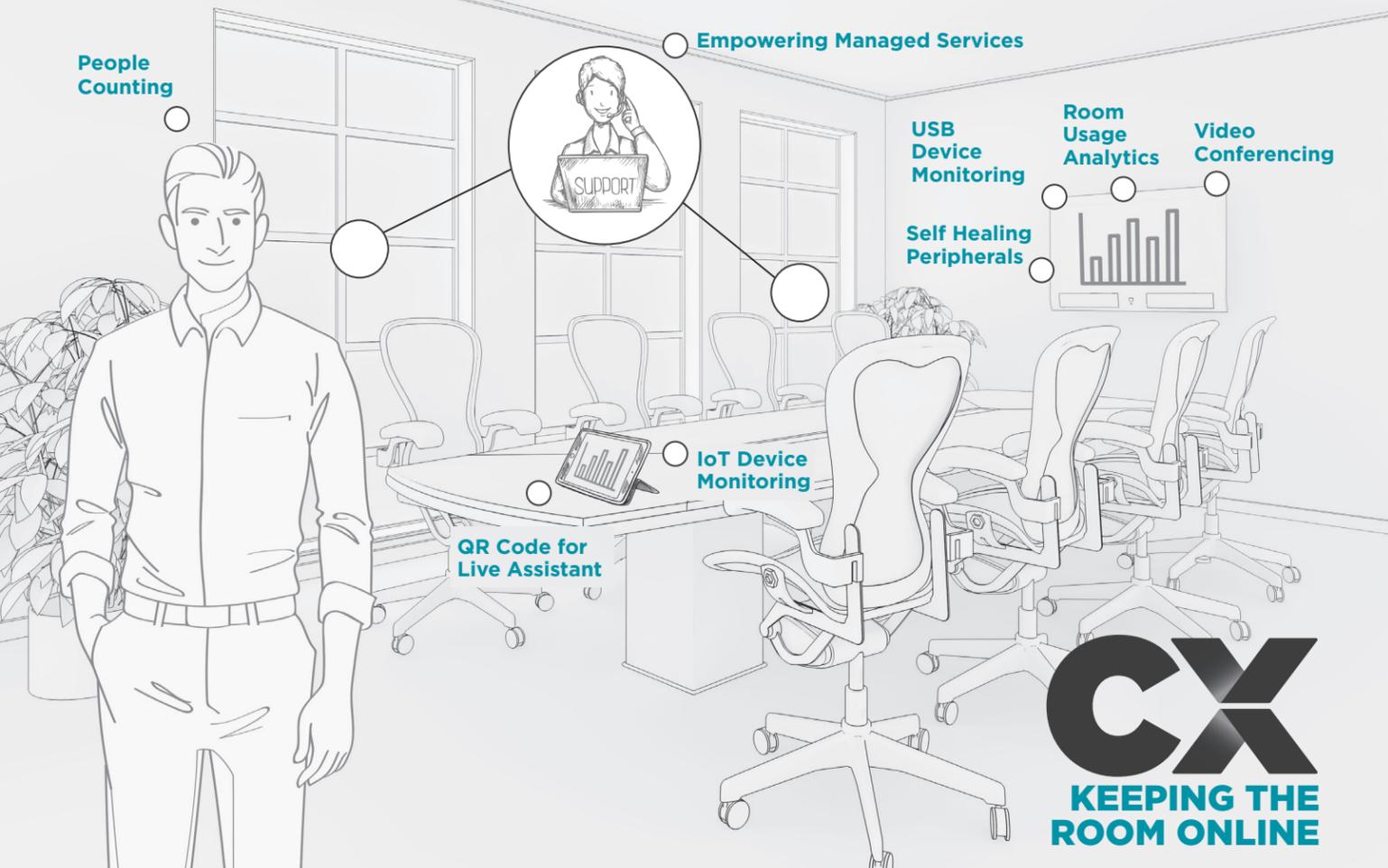
Plus, Insight from Pivot to Profit 2021 Thought Leaders

Integrate

SPECIAL  
PUBLICATION

# IS YOUR COLLABORATION ROOM...OFFLINE?

CXDetect enables you to offer proactive managed services for AV/UC spaces at work and in the home.



Liberty AV offers CXDetect for the AV industry. Our cloud-based SaaS platform was strategically created for the AV/UC space, providing self-healing, analytics, and the ability to manage multiple vendor-related UC software and hardware devices all at the same time from one dashboard. CXDetect is tailor-made to support your customers' technology needs.

Partnering with a managed services provider like us gives you the peace of mind of knowing that your AV/UC infrastructure is up and running.



PROACTIVE SUPPORT



SELF HEALING



IOT MONITORING



DEVICE MONITORING



STREAMLINE SUPPORT

Contact us at [CXSales@libav.com](mailto:CXSales@libav.com) or [cxunify.com](http://cxunify.com) for a FREE, no-obligation consultation

# What is P2P+ and How Do I Use It?

Thought Starter: NSCA's first Pivot to Profit+ companion reader challenges you to apply and build off what you learn at the event.

**Integrators are at a critical pivot point. The timing of Pivot to Profit 2021 will help you position your company for long-term success.**

**P**ivot to Profit is one of the industry's most unique conferences, focused on helping integrators elevate their businesses by considering new technologies and challenging their existing business models.

The goal of Pivot to Profit+—new this year and an official guide to Pivot to Profit 2021—is to bring even more value to the event's Toolkit Talks and breakout sessions and continue Pivot to Profit beyond the in-person conference.

Because the Q3 2021 edition of *Integrate* coincides with Pivot to Profit 2021, we're including the Pivot to Profit+ companion reader here and encourage you to use this special section to enhance your business-transformation conference experience.

## Pivot to Profit 2021 Highlights

As a business conference, Pivot to Profit aims to help integrators keep pace with customers' evolving needs. As the industry battles through the pandemic—and recovery—the value that integrators offer to customers has never been higher. You're at a critical pivot point: The timing of Pivot to Profit 2021 will help you position your company for long-term success.

### P2P 2021 discussion topics include:

- How to Lead Through Business Transformation
- New Opportunities with Today's Technologies
- Financial Leadership: Navigating Post-Pandemic
- Legal Guidance: Prevailing Wage, Cybersecurity, & More
- RMR: As a Service, Managed Services, & Strategies
- Networked Solutions that Differentiate and Drive Revenue
- Integrators' Evolving Roles in School Security
- Becoming Relevant to the Digital-First Buyer
- Business Model Optimization
- Insights from Experts: Moving Business Forward

### What's Featured in P2P+?

The theme of P2P 2021 is *Stay Relevant, Stay Ahead*. As such, P2P+ features columns and articles relevant to the industry and your changing needs.

### What's Inside P2P+?

- A must-read article outlining 11 ways your business will change this decade; each standalone section is contributed by a company represented on our NSCA Board of Directors
- Business transformation and innovation articles relevant to your business
- Sponsor highlights that support what you'll learn in Toolkit Talks and breakout sessions
- A workbook to document thoughts and comments from each sponsor's Toolkit Talk

Although *Integrate* is a digital journal, this special P2P+ section was printed for P2P 2021 attendees so they can read it in between sessions, peruse it in the hotel room, put it in their bag, and see what NSCA board members and other thought leaders have to say about how the industry will change in the next 10 years.

Whether you're in Atlanta or reading this in the digital version of *Integrate*, we hope the content here helps you "stay relevant, stay ahead." 📌



Max Johnson is senior marketing and channel manager for NSCA. To learn more about *Integrate*, *Pivot to Profit+*, or how to optimize your NSCA membership, contact Max at [mjohnson@nsca.org](mailto:mjohnson@nsca.org) or 319-861-8629.

## 11 Ways the Integration Business Will Change This Decade

The integration market is evolving, accelerated by the pandemic, and you need to adapt. NSCA board member companies outline the trends that will change your business in the next 10 years. *By Chuck Wilson*

I am very optimistic about our future. The technology that NSCA members provide has become mission critical for many reasons. It's difficult to even imagine what types of technology we will be providing in the upcoming decade—but, with great certainty, I feel that strong integration leaders will be essential at the helm to navigate the rapid change ahead. I'm certain that our role will become essential in every major vertical market we serve.

**To adapt, stay relevant, and afford to thrive in this new era, integrators must first stop devaluing themselves in relationship to pricing. Being competitive is important—yet knowing when to say “no” is smart business.**

At the annual Pivot to Profit conference, integration industry thought leaders speak frankly with the NSCA community about the need to evolve business. The theme for Pivot to Profit 2021 is: *Stay Relevant, Stay Ahead*. To do that, it's important for integration leaders to understand where the market is heading in the next 10 years.

Along those lines, in this special Pivot to Profit + feature section, we asked several NSCA board members to work with their company innovators to identify specific ways in which the integration market will change over the next decade. The business transformation topics highlighted here range from vital pivot points to critical customer technology demands that will become more prevalent.

Personally, I see many new facets of innovation developed at the integrator level with advanced solutions, improved internal workflows and processes, creative talent and workforce management, business optimization, improved organizational efficiencies, and new automation tools.

How you embrace change and invest in the future of your business will be dependent upon your ability to run a profitable integration firm and reinvest in your future. Profit is the fuel or oxygen you need to invest back into your business to grow and create jobs.

To adapt, stay relevant, and simply afford to thrive in this new era, integrators must first stop devaluing themselves in relationship to pricing. Being competitive is important—yet knowing when to say “no” is smart business. Losing a breakeven (or below) project is really a win for your company. A project without recurring revenue is a project without purpose.

I predict very strong growth in our core vertical markets, such as healthcare, education, and government, as emerging technologies including PoE-enabled endpoints, IoT and sensor technologies, AI, VR, and AR become added elements of mission-critical solutions for intelligent and sustainable commercial buildings. What we do is vital for client success—and that won't change at all. 

*Chuck Wilson is CEO at NSCA.*

## Healthcare Technology: Phasing in a New Era of Care

Expectations of healthcare customers will evolve exponentially over the next decade. Integrators should prepare for real-time communication, self-service, and more data-oriented solutions. *By Kyle Habben*

The last two years have challenged the healthcare industry to rethink how they support their patients, families, staff, and systems. Leaders are looking at new ways to meet the needs of their patients and families inside and outside the room while keeping their organization healthy from people and financial standpoints. Patient care continues to be at the forefront of technology decisions, including future factors such as:

### Real-time communication with patients and loved ones

After feeling disconnected during hospital stays, families are reevaluating what their expectations of patient care and satisfaction look like. They want to communicate with patients and providers whether they're in the room or 1,000 miles away. Families will look for interactive patient care systems and hospitals that support patient and loved-ones communication, diversity in patients (culture, language, and religion), and medical information (allergies, history, education), no matter the location.

### Hands-on or hands-off approach: the patient's choice

The generation of digital natives is shifting the approach to patient care and bringing in demand for self-service options from home or during a hospital stay. Patients want choices, whether a care provider stands in the room to guide them or they have a way to access pertinent medical information, such as education, recovery steps, medical charts, their stay, and ways they communicate with their care team and visitors.

### IT influence on patient systems and care

With a push for more data, easier-to-use systems, integration options, and maximizing budgets, more seats are being added to the decision-maker table, giving greater influence and decision-making to IT and informatics teams. These players will be a deciding factor in determining the technology resources (systems and people) needed to support and manage clinical workflow and data, what systems will integrate (EMR), and what systems are no longer needed.

Patient choices and care options will continue to drive technology purchases for the future. The technologies will be focused on rightsizing to the environment in terms of costs and size, meeting the patients where their needs are, and making the organization a “healthcare facility of choice.”

Ten years from now, no matter the location, the technology departments will give you options for care and access to those you love, those who care for them, and medical information with a device of your choosing. 

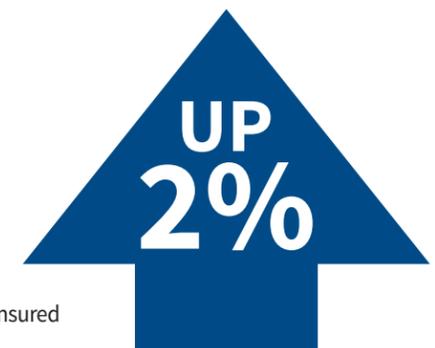
*Kyle Habben is president of Electronic Contracting Company and an NSCA board member*

## Healthcare Trends

Healthcare Construction: Up 2% in 2021 compared to 2020

- Expect declines through 2021 on specialty care facilities (e.g., testing sites and drug clinics) due to significant needs and growth seen through 2020
- Many large hospital investments are in planning stages and are likely to move forward across major metropolitans
- Aging demographics (i.e., Baby Boomers) support increased healthcare investment through the forecast period and beyond
- Key drivers include population change, population change in ages 75 and up, uninsured population, government spending, and nonresidential structure investment

Source: NSCA's Summer 2021 *Electronic Systems Outlook Report*



# Adapting to Post-Pandemic Collaboration

Customers are prolifically shifting to a hybrid/remote work culture, which changes demands related to unified communications and collaboration. *By Andrew Russell*

Whether we want to acknowledge it or not, COVID-19 has fundamentally changed how Americans work. The pandemic forced people and businesses alike to fully embrace the work-from-home movement, and, at least from the employee perspective, they liked what they saw.

I have seen a number of different articles all with the same basic message: A big portion of the American workforce is not interested in going back to their desks. An article in *USA Today* put the number of employees willing to change careers rather than return to the office at 30%. *Forbes* backs this up: Employees looking for new jobs list remote work second behind wages in terms of decision criteria.

Employers are clearly getting the message, as a recent survey by MSNBC indicates that 9 out of 10 businesses plan to have a work-from-home option as part of their return-to-work plan.

The most striking number in the articles I have read is that between 20% and 30% of Americans are now looking for a work-from-home position. That's important: Nearly 1 in 4 employees is going to be remote, and that means every meeting space in a facility has to support remote participation.

Enter video-based conferencing, with Microsoft, Zoom, Cisco, and many others offering budget-friendly solutions to turn every room into an online collaboration space. With 1 in 4 employees working remotely, every conference room, regardless of size, is going to need to support online collaboration.

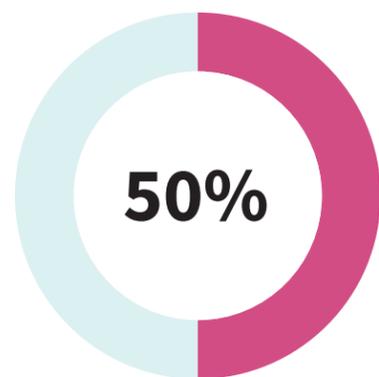
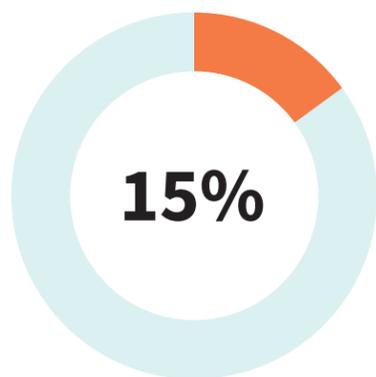
Opportunity, however, is never without challenges. In high-end spaces AV integrators are used to, features were often just as important as budgets. Smaller rooms are different. Price, reliability, consistency, and ease of maintenance are huge concerns for customers. Capitalizing on this type of work is all about efficiency: delivering reliable rooms as a value while maintaining profit margin.

We're already seeing this start: One of our largest customers just commissioned a remodel of their main campus as part of a return-to-work plan. They increased their conference room density by 300% and every room supports video.

This puts integrators in a great position to capitalize. Customers are hesitant to take on these types of spaces themselves. If we can provide a painless, cost-effective answer to their collaboration needs, the opportunity looks to be nearly endless. ▲

*Andrew Russell is the director of technical services for SVT. He works closely with Josh Shanahan, CEO of SVT and immediate past president of NSCA.*

## Pre-/Post-Pandemic: Working from Home ... A Lot



According to a survey of 160 technology-purchasing end-users, their employees are expected to continue to work from home ... en masse. Source: NSCA

# Finally ... Emergence of As a Service

Over the next decade, AV as a service will dominate the traditional installation market. How many integration companies will be prepared to compete? *By Tim Hennen*

Over the next 10 years, the AV business will transform from the traditional sale of hardware and installed solutions to AV as a service (AVaaS) as the dominant force in the market. Integrators will learn to build and develop a true service-based model that incorporates hardware, installation, and professional services. While not a new concept, it's one that is ready to mature and is a necessary step forward in the continued evolution of integrators and the industry as a whole.

Remember when all we would talk about was the convergence of AV and IT? For years, it was all the rage to talk about how the two fields were becoming one and prognosticate about what the future would hold.

Over a relatively short period of time (years vs. decades), convergence happened. It wasn't just a trend; it was the future back then—and is our present now. In the years since, those convergence conversations, AV integrators that were early adopters of learning and incorporating IT into their practices have fared the best over time. They've grown faster and larger than peers that caught on late. Conversely, those that were reluctant to get on board (or fight the trend) haven't performed as well over that same period, with many no longer being in business. Let this serve as a lesson.

We talked and talked and talked about convergence. We did that because it was important for our industry and the businesses that make it great. The same holds true today for AV as a service. It's not just a trend or some crazy, unachievable dream. It's what our partners and peers in IT figured out years ago. It's how they run their organizations, it's what they expect for their environments, and it's undeniably what AV is destined to become.

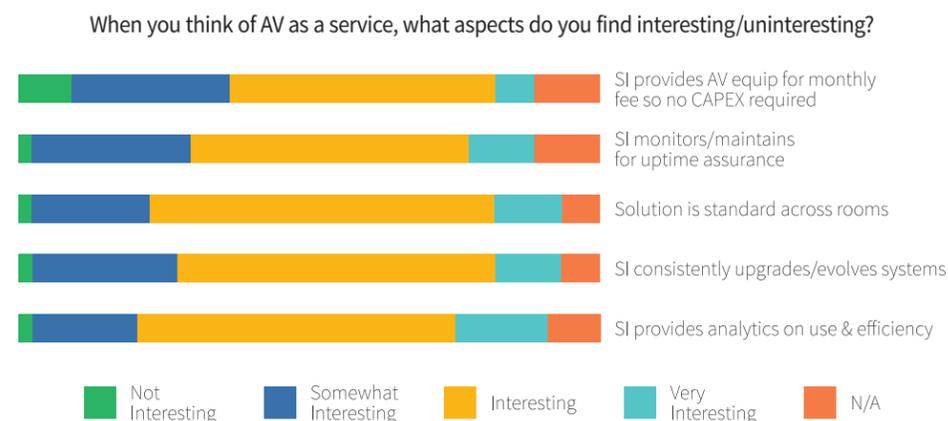
Video communication, remote collaboration, and the generalized use of technology in everyday work and learning are now the standard expectation for all environments. Some may say it took a global pandemic to cement that position but, regardless of how it came to be, that's the world we're working in today—and as far into the future as anyone can see.

AV as a service is the continued evolution of our industry and the future of how integrators will work. There has never been a clearer need to define what that means for your organization and how you will deliver to your customers. Learn from our recent past. Invest time in your business to develop this practice now and have a bright future. Or don't—just don't be surprised when you get left behind. ▲

*Tim Hennen is CEO of Digital Labor Solutions and an NSCA board member.*

**AV as a service isn't just a trend or some crazy, unachievable dream. It's what our partners and peers in IT figured out years ago.**

## The Value of AV as a Service



Based on a survey of 160 technology-purchasing decision-makers, there are many reasons why customers may find an as-a-service technology model more appealing than the traditional capital expenditure model. Source: NSCA

# K-12: The Importance of a Statewide Digital Learning Plan

K-12 integrators need to recognize the importance of helping school systems develop digital learning plan equity. *By Dan Schmidtendorff*

With the widespread shift toward remote learning brought about by COVID-19, many schools across the country are now facing a problem when it comes to equal access to education. While students with internet access are able to easily access new online resources, those with less economically fortunate situations are unable to receive the same quality of education due to a growing disparity in access to virtual learning technologies. Unfortunately, this disproportionately affects students in low-income neighborhoods, those with disabilities, and those in households with limited English comprehension, widening the already-growing gap in access to education.

Seeing the need to develop a learning plan suitable for students from all backgrounds, Wyoming has developed an exemplary digital learning plan that has become a national model in educational restructuring.

Implemented in 2017, Wyoming's Digital Learning Plan was developed as a means of ensuring equal access to education via technology. Over the course of five years, Wyoming has managed to transform its statewide education system into a digitally functional environment beneficial to all learners, educators, and even local community members.

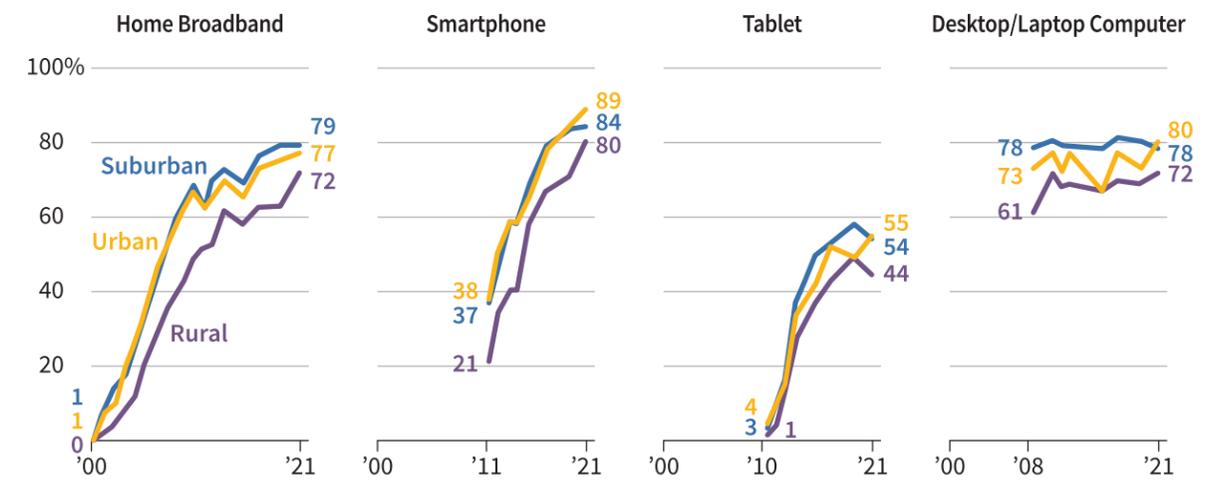
To promote digital learning for all, Wyoming adopted the Future Learning Framework as a roadmap for this process. This framework outlines seven key steps to building a successful digital learning plan that can serve as a foundation not only for schools in Wyoming, but also for schools across the nation as a whole.

- Curriculum, Instruction, and Assessment:** During this initial phase, Wyoming implemented initiatives aimed at fostering a synchronous learning plan throughout the state. New state standards were adopted to focus on computer literacy, and schools across the state were encouraged to participate in the Hour of Code program, featuring coding activities for a variety of interests and learning abilities. In addition, educators were given equal access to high-quality educational materials and provided with state-sponsored training. A statewide digital learning management system (LMS) was adopted for use by all Wyoming staff and students, allowing for a streamlined digital learning process across the entire state.
- Use of Time and Space:** After aligning the curriculum and instruction methods, as well as providing ease of access to digital learning materials, Wyoming decided to make digital learning opportunities easily accessible to all students within the state by personalizing learning styles. The state developed multiple learning options, including high-quality online and blended learning courses to appeal to those who may struggle learning electronically, those with difficulties focusing on self-guided learning, and those who would otherwise not be interested in computer science curriculum.
- Robust Infrastructure:** In order to achieve its goal of creating a uniform digital learning platform for all, Wyoming implemented the Wyoming Classroom Connectivity Initiative (WCCI). This plan provided the means for schools across the state to allocate their federal E-Rate Category 2 funds toward securing a stable LAN/Wi-Fi connection in all classrooms. The use of these funds for improving technology allows school districts to preserve money that would otherwise be spent on expensive technology to go toward other critical expenses, such as teacher salaries. In addition to the WCCI, the state launched a series of conferences, workshops, and Professional Learning Communities for superintendents, technology directors, and other school system personnel to develop their knowledge base when it comes to digital learning.
- Data and Privacy:** As is necessary with any digital platform, privacy and data security are major concerns when developing a digital learning plan, particularly when dealing with data usage of minors. To strengthen security and privacy efforts across the state, Wyoming launched a series of workshops and conferences for IT directors within school systems, as well as for educators when designing and implementing learning materials. The decision to use a single LMS across all state school systems narrows the scope of digital platforms with which schools need to familiarize themselves, allowing for a more in-depth understanding of the platform.
- Community Partnerships:** While developing a solid digital learning plan within the schools themselves is a major goal, developing a strong relationship with the outside community is crucial in the success and longevity of the plan. Wyoming recognized the need to form community partnerships for long-lasting program success and formed alliances with local businesses, libraries, and post-secondary institutions to learn from each other's successes in digital technology implementation. These partnerships also provide a glimpse into life after K-12 education and the necessity of a strong foundation in digital education for success after high school.

## With the growing presence of e-learning and remote work opportunities, it's more vital than ever to prepare our children for a digital world from an early age.

- Personalized Professional Learning:** In order to maintain the highest quality of digital education for Wyoming students, the state implemented a robust professional learning program to encourage and support continuing growth for Wyoming educators. Through the use of Statewide Professional Learning Communities, the development of the Wyoming Innovations in Learning Conference, and initiatives such as Open Range Wyoming and the use of a statewide LMS, the state has increased access to digital education opportunities. In addition, educators have been incentivized to further their digital education with a number of professional recognition programs that count toward continuing education credits and even higher degrees.
- Budget and Resources:** As a major concern for all U.S. school systems, education budgets are often difficult to work around. However, as demonstrated by Wyoming, developing a high-quality digital learning plan can actually assist in stabilizing the school budget by reducing long-term costs. The development of initiatives, such as the WCCI, has allowed Wyoming to allocate resources traditionally reserved for technology toward other critical needs within the school system by drawing on state resource funds for digital learning purposes. In addition, the partnerships created within the community allow for alternative sources of funding, particularly within fields that are heavily reliant on digital citizenship and computer literacy.

### % of U.S. adults who say they have or own the following



Despite growth, rural Americans have consistently lower levels of technology ownership than urbanites and lower broadband adoption than suburbanites. Source: Survey conducted 01/25-02/08/2021, PEW RESEARCH CENTER

Through the development and implementation of this multifaceted framework, Wyoming has become a national leader in successful digital literacy programming within the field of education. With the growing presence of e-learning and remote work opportunities, it is more vital than ever that we prepare our children for a digital world from an early age. Through the use of a successful digital learning plan, school systems can easily prepare students for the world of tomorrow—starting today.

For more information on the importance of digital learning plans in education, read the U.S. Department of Education's *ED COVID-19 HANDBOOK*. To learn more about Wyoming's Digital Learning Plan, browse the 2017-2021 Digital Learning Plan, or read about the highlights of the plan at the Wyoming Department of Education's Digital Learning Plan webpage. [▲](#)

*Dan Schmidtendorff is CEO of Communication Company and an NSCA board member.*

# Integration: The Business of Experience

It's time to evolve the traditional integration business model—or risk being left behind by your customers. *By Andrew Dorman*

How have people traditionally purchased technology? Contact a vendor and describe the challenge. The integrator then engages a design/build process to come up with a bespoke solution that addresses the challenge. Perhaps the integrator brings on a value-add of post-installation services or the two agree to an SLA for support. All in all, this has been a traditionally successful way to move a client through the technology lifecycle project-by-project. Now, how does the same client today—with more increasing regularity—purchase technology, clothing, cars, fitness memberships, and more in their personal lives? Through experience-based offerings.

**The future of AV tech is, in fact, commoditization. The technology partnerships we seek won't be from the tech, but the experience we provide.**

The traditional model of offering fantastic customer experience is not enough any longer. People are interested in the experience of business. BX (business experience) covers more than just website design and a path to purchase; it's the very nature of how products are bought and consumed. We were always heading in this direction, but the pandemic advanced it. Companies like Peloton, Stitch Fix, and even Tesla pivoted to reconsider how the very act of the purchase can be completed. Why is AV any different?

Consider the way people buy the Apple experience. That person has access to FaceTime on any number of devices (desktops at work, laptops at home, iPads, phones, etc.). An AV or UC company that can succeed in providing and supporting a collaboration and communication experience for their client first will be the one developing a future leaning partnership. Instead of considering the conference room and what devices should be populated in it, consider what the client is trying to do and simply provide that service for a monthly subscription. Then, the technology that supports that platform is secondary and is able to be agile as their company, paths of communication, and technology change.

Some call this UCaaS, but it goes beyond that. Sure, we can sell technology as a lease and wrap service and support into it, but all we're doing is offering a financed package. We need to shift the way in which we view our offerings. People are paying for the *experience* of Peloton. The bike, treadmill, etc. is just the tech that supports the experience. As AV technology becomes more compute-based, networked-based, and remotely supported, it has also become more flexible and agile. The days of needing a purpose-built codec are dwindling, PoE speakers will become the norm, and endpoints can be added as needed.

Any stakeholder wants to feel confident in the task handed to them. It's our job to get that person to focus and feel confident in the experience they will be purchasing—not the tech. To be sure, the integrator that can do so will see a strong revenue stream for years. The future of AV tech is, in fact, commoditization. The technology partnerships we seek won't be from the tech, but the experience we provide. [▶](#)

*Andrew Dorman is a sales engineer at New Era Technology. He works closely with Michael Boettcher, NSCA president and New Era Technology, US president, video collaboration.*

**On average, BX leaders outperform Customer Service-oriented companies in year-over-year profitability growth\* by:**

1yr	3yr	5yr	7yr
6.5x	6.4x	6.4x	6.3x

\* Accenture Interactive identified the top 15% BX companies based on their survey responses to questions around BX capabilities. Using publicly available financial data, Accenture Interactive calculated industry-indexed EBIT for each company for 1-, 3-, 5- and 7-year CAGR, and then compared BX companies to their peers.

# Becoming Proactive vs. Reactive

In order to be successful over the next decade, integrators need to create a culture of continual improvement. *By Bradford S. Caron*

I think the biggest challenge integrators will face over the next five to 10 years will be the ability to innovate and transform as organizations—in order to progress from *reacting* to client needs to *anticipating* them. Many integrators have been somewhat successful by doing things a certain way for a long time, without much change to people, process, technologies, or offerings within their business. As clients' needs evolve, they are shifting to needing true, proactive technology business partners that give them confidence to focus on their core business without worrying about keeping the blinking lights on for mission-critical systems.

The need for traditional reactive vendors will steadily decline in the future, and the mindset of clients "calling us if they need us" will become a thing of the past. Clients will need integrators to be their subject-matter experts and consultants on the technologies they choose. Current systems and technologies are too complex for clients to manage on their own.

Innovation requires significant changes and disruption to existing processes, employee skillsets, technology, culture, and team member mindsets. Taking a company through change and transformation is a difficult task and requires a specific skill that may not be obvious to those who have been with a company for a long time and seen some success doing it "the way we've always done it."

Unless a company is led by people who embrace innovation and change, it will remain in its traditional state.

An integrator must plan its innovation and transformation strategy, and it must be the key initiative of the leadership team to make sure the pieces are in place to execute on that strategy. The best company change agents want to be empowered to modernize and transform the organization. Many of the best ideas around change or innovation (business process, new technologies, and company offerings) come from those on the frontlines of the business. Everyone in the company needs to feel empowered to share their thoughts and ideas around how to become a better business partner to its clients. Integrators will need to create a culture of continuous improvement, tied to innovation strategies to stimulate growth. Integrators must be willing to take risks, fall down, learn from those failures and mistakes, and get up and start moving again. Leadership will need to stay the course and keep moving the company forward as it transforms into a true technology solutions partner for its clients. "The way we've always done it" is a thing of the past! [▶](#)

*Bradford S. Caron is president of SIGNET Electronic Systems, Inc. and an NSCA board member.*

**An integrator must plan its innovation and transformation strategy, and it must be the key initiative of the leadership team to make sure the pieces are in place to execute on that strategy.**

## Customers' Evolving Technology Budgets

Do you expect your budget to change for outsourced AV systems integration over the next 2-3 years?



According to this survey of 160 technology-purchasing decision-makers within end-user organizations, many customers will increase their budgets for integrated technology. Integrators need to put themselves in a position to solve evolving needs. Source: NSCA

# The Impact of Managed Services in the AV Industry

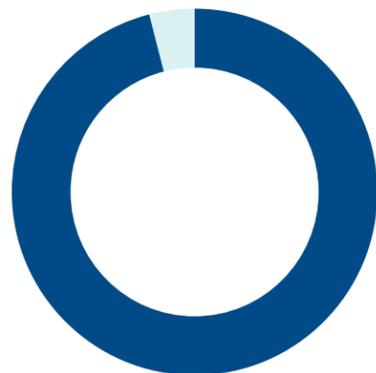
In a look forward to 2031, customers will expect integrators to conduct business differently—much like their IT partners in an ITIL/ITSM world. *By Donald Mastro*

We've seen it coming. It's been unfolding for years. And now, especially as we emerge from a global pandemic, the expectations of CIOs are crystal clear: They want the industry to behave like IT in an ITIL/ITSM world.

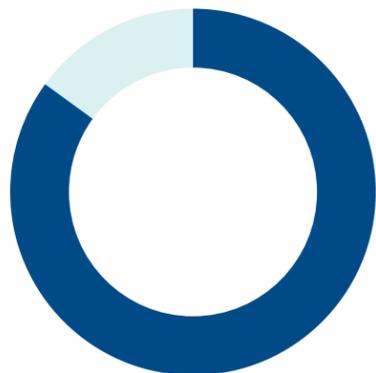
As return-to-workplace initiatives get underway and new demands are placed on meeting room technology for collaboration and productivity, IT leaders know the future success of business operations depends on the technology employees use to work together. These systems must work 24/7 and must be intuitive and seamless, no matter how many meeting rooms and locations an organization has.

In the past, CIOs often viewed AV systems and management as a second cousin in the larger IT family. Now, they're telling directors and managers to do whatever is necessary to make AV systems function like any other IT device. They must be easy to integrate and—more importantly—easy to manage remotely.

## Due Diligence



**96%**  
RESEARCHED  
Pricing, Structure & Offerings



**85%**  
TRAINING  
Applied to Employees



**38%**  
CONSULTING  
Received from Lawyers

NSCA and PSA conducted a survey of successful managed services providers. These percentages committed to these areas in order to achieve their success. It's a reflection of the business commitment it takes to make the transition to service-based revenue.

## The Managed Services Model for AV

With a full suite of managed services designed for AV that also meet IT expectations, CIOs will feel that their AV systems questions are answered. The problems that consumed IT teams yesterday—troubleshooting meeting room technology, upgrading systems, and training employees—become easily resolved thanks to managed services that include components for AV like:

- 24/7 AV/UC help desk with “service contracts”
- Onsite staffing support
- Remote monitoring software
- Advocate services
- Concierge meeting services

A full-time, always-on AV/UC help desk gives CIOs a new level of comfort. They can rest easy knowing that, when an AV issue happens, it will be covered by an extended warranty and a documented service level agreement (SLA) based on response times. This offer is staffed with help desk support technicians who can escalate a ticket through a Tier 1, 2, and 3 model. Service tickets can be opened or closed using a common software platform (i.e. ServiceNow). Like most IT help desks, the AV/UC help desk resolves two-thirds of incidents via chat, text, email, or live telephone conversation. If an issue requires more attention, then it can be elevated to a truck roll for repair and/or replacement of the AV component.

Onsite staffing support is another critical component of a complete managed services portfolio. Most organizations don't have the internal talent to support AV and UC systems. Providing onsite staff allows the CIO and IT team to focus on core IT responsibilities.

Providing monitoring of cloud-based videoconferencing systems is a valuable feature-add to any managed services offering. A remote monitoring software platform delivers 24/7 eyes on the glass of all AV and UC systems, providing proactive alerts to remedy issues before any meeting. This managed services offering can function in tandem with the 24/7 AV/UC help desk or sit onsite at the customer location. In addition to the day-to-day alerts that keep AV systems up and running, analytics can provide the CIO with valuable information to adjust meeting room strategy as needed.

Advocate services support the CIO in a variety of ways as well. Through a well-designed advocate services offering, software and firmware upgrades can be coordinated and pushed across an enterprise, streamlining the process and saving valuable time. Many organizations can also use advocate services to assist with the delivery of AV training modules so that employees gain skills needed to operate systems without having to call for help.

Lastly, customized concierge meeting services enable a dedicated, highly skilled AV technician to launch a remote video call on behalf of the end user. Such services are helpful—specifically for C-level meetings when the technology must work the first time. Concierge meeting services can be augmented with an onsite staff member who is on call in or near the scheduled meeting, depending on security clearance.

Through a clearly defined set of managed services specific to AV that function seamlessly in an IT world, the systems that drive collaboration and productivity will no longer be the second cousin. AV will be a critical component of the overall IT ecosystem.

**Through a clearly defined set of managed services specific to AV that function seamlessly in IT world, the systems that drive collaboration and productivity will no longer be the second cousin.**

*Donald Mastro is vice president of sales for AVI Systems and an NSCA board member.*

# Healthcare: These Emerging Technologies Will Change Acute Care

The following advancements are on track to vastly change the acute care arena of healthcare over the next 10 years. *By Justin Bailey, Cliff Switzer, Brian Banks, and Jeff Richard*

## Internet of Things (IoT)/Internet of Medical Things (IoMT)

We predict the push for integration to accelerate from systems that interconnect either directly or indirectly via APIs and third-party middleware not just to allow for better user experience from an operational perspective, but also to provide improved data aggregation capabilities for live, historical, and predictive insights. While vast amounts of data are collected via nurse call, electronic health records (EHRs), vital sign tracking systems, notification systems, and real-time locating systems (RTLS) today, it's rarely analyzed in a comprehensive manner. When it is, then analysts must manually merge data sets from independent systems, which is extremely time-consuming.

We will experience a push to standardize reporting across these systems, likely deploying artificial intelligence for the heavy lifting. As this happens, we will see increased integration, leading to additional interconnected devices. The data produced today is at the level of basic analytics, leading to advanced analytics in the short-term and ultimately predictive analytics, which will look and feel like artificial intelligence and machine learning in the long-term. Nurse call, RTLS, ancillary notification systems, and smart rooms will contribute, but we believe that EHRs will be richest of all. At some point, the data will be sanitized in a manner in which patient-specific information no longer exists, which will allow for sharing and processing. This will lead to quicker diagnoses, better patient outcomes, and an improvement to the health profession.

**Integration will be seen in IoT/IoMT, resulting in the proliferation of smart patient rooms. Everything in the room will be connected and will contribute to an improved experience for patients and caregivers.**

Integration will also be seen in IoT/IoMT, resulting in the proliferation of smart patient rooms. Everything in the room will be connected and will contribute to an improved experience for patients and caregivers. Caregiver workflows will evolve, allowing them to focus on the patient while rooms will “learn” patient preferences and adapt over time. This will likely include room temperature, room brightness, favorite TV channels at certain times, and nurse calling patterns (water, pain, toilet). It will incorporate voice control. Artificial intelligence (AI) will preemptively sense when the patient is attempting to get out of bed, automatically turn the lights on if dark, and notify the nursing staff, which mitigates patient falls. Additionally, AI will be used to predict the onset of post-surgical complications. Perhaps most importantly, AI will allow nurses to document unverified data in the EHR while in the room for confirmation when convenient, ultimately resulting in fully automated documentation.

Currently, hospital systems desire to keep all data, systems, and servers completely within their firewalls to avoid breaches of patient data. This will be a barrier to overcome—and we believe it will be in the long-term, possibly with the adoption of 5G. When the additional bandwidth of 5G is utilized to enhance security to the point that traditional wired networks are no longer necessary to reduce risk and are abandoned, we imagine that *all* devices we install today will have 5G chipsets incorporated for communications for standard operation and offsite data collection and monitoring. Couple that with predictive device failure, device stress monitoring, and automated service call generation, and we will have maximized IoT/IoMT in the acute care arena within healthcare from the nurse call industry's perspective.

## Augmented Reality (AR)

We see AR as the future of caregiving and system service/support delivery. Technicians require a unique combination of skills in IT and analog. We predict the analog skillset to become rarer as we continue to trend toward IT-centric skills. The dichotomy of these two needs makes it increasingly difficult to find staff who meet both requirements. Utilizing AR, technicians can be brought aboard who are not proficient throughout the required technical continuum and will allow the gaps to be quickly filled.

A team of experts can be located at the office and accessed by technicians wearing AR-enabled glasses. The centralized team can provide guidance to less experienced technicians, reducing operational costs with less travel, exposure of risk, and perhaps a promotion path for senior technicians who cannot perform the physical labor any longer. The centralized knowledge base will also help with system issue resolution in service and support scenarios.

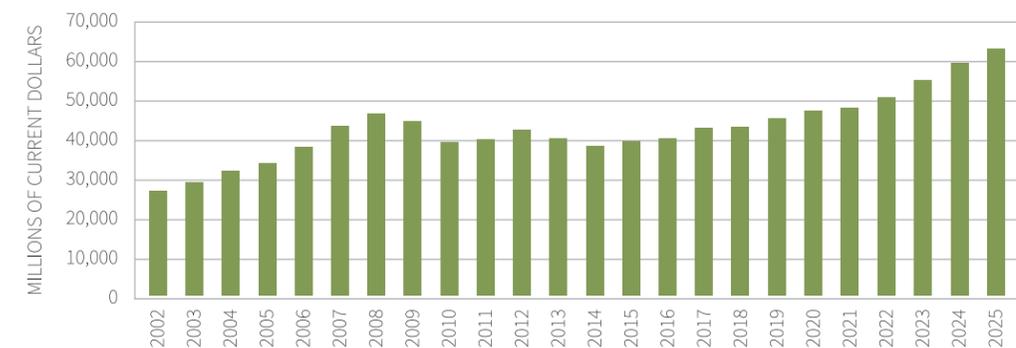
Building information modeling (BIM) will provide benefits in conjunction with AR; technicians can “see” an overlay of the infrastructure while they're walking down the hallway and know where to pull the cable, which conduit is theirs, pull in project management immediately when necessary, and call meetings with other trades for decision-making while they're standing at the location where the issue exists. This will shorten answer time, push projects forward, and allow continuous training while minimizing costs.

While there is a high upside regarding AR for system implementation and service delivery, we predict the largest impact will be the caregiver experience with the nurse call system. Initially, AR will function as an additional integration layer on top of the interconnected devices and systems in use today (nurse call, wireless phones, RTLS, EHR, etc.). Ultimately, AR could replace many aspects of the integrated nurse call ecosystem, and nurse call as we know it will cease to exist.

A notification initiated today without AR includes wireless annunciation, audible annunciation, and visual annunciation via flashing lights in the hallways.

With AR, staff on duty will receive a visual message of the patient's name and other information, call priority type, and room directionality/wayfinding. Room direction will be determined either in conjunction with RTLS or may render RTLS unnecessary as location information may be contained within the AR system. The caregiver will be able to open a communication path to the patient, rendering legacy integration to wireless phones and pagers unnecessary.

## Healthcare Construction Put in Place



Construction spending in the healthcare market continues to indicate a rising demand for continually improved integrated technologies. Source: NCSA's Summer 2021 *Electronic Systems Outlook Report*

High-urgency calls, such as code blue and staff assist, will have more aggressive tones and flashing or different visual indications. Depending on space on the AR device display and effectiveness, the patient's EHR documentation and medical history will be displayed to the caregiver when the notification is received or, if the call is received while working with another patient, when accepted by the caregiver. If never accepted, it will be shown upon entry into the room. These improvements will allow caregivers to provide better care and lead to better patient outcomes. ▲

*This is a forward-thinking document from the group led by NSCA Board Member Ray Bailey, CEO at Lone Star. This was written by Justin Bailey, Cliff Switzer, Brian Banks, and Jeff Richard.*

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## Integrating in a Post-4G Era

The transition to 5G will enable integrators to provide augmented reality, virtual reality, and IoT solutions for customers. *By Dan Schmidtendorff*

A hot topic for years, the much-anticipated transition to 5G is finally beginning to come to fruition. While the pandemic certainly interrupted the large 5G rollout planned for 2020, the need for faster connectivity actually increased with the rise of a remote workforce. Unfortunately for those already privy to 5G-enabled devices—such as the iPhone 12 or Samsung Galaxy S20—promised connectivity has been disappointing to say the least. This is due in part to the network specificities involved.

In order to operate as intended, 5G networks need to connect to a specific frequency: low-, mid-, or high-band. While low-band frequencies provide the most extensive coverage, they are notorious for slow connection speeds. On the other hand, high-band frequencies provide the opposite solution: high speeds with limited coverage. This means that mid-range is really the only acceptable existing frequency that would support 5G. However, as it is in such high demand, untapped mid-band frequencies are extremely hard to come by, making it that much harder for the competing mobile carriers to parse out sections dedicated to 5G. This results in limited connectivity for 5G, as there is simply not enough current bandwidth available for the hyped-up network to achieve peak performance.

To get over the hurdle that limited mid-band frequency has caused to the 5G rollout, the nation's top three carriers—T-Mobile, AT&T, and Verizon—have launched a series of consumer marketing campaigns. The typical strategy is to offer the latest 5G-enabled mobile device for little to no cost when consumers trade in their current devices. In choosing to receive the upgrade, consumers agree to pay lower monthly fees provided they stick with the carrier for a longer period of time (usually between two and three years). Not only does this allow the triopoly to get 5G devices in customers' hands at a much quicker rate, but it also assures investors that the costly development of 5G infrastructure is worth the massive price tag.

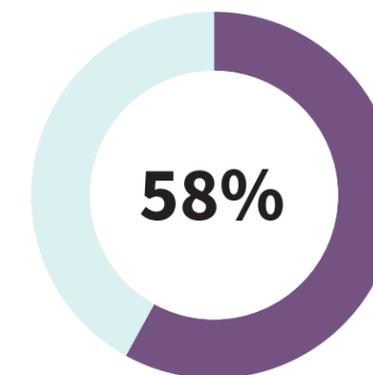
As the end of 2021 approaches, the importance of implementing standalone 5G networks is paramount to the full adoption of 5G into 2022. Carriers will continue to implement marketing strategies aimed at increasing adoption rates of consumers and appeasing investors, which will prove fruitful for expanded technology solutions in the near future.

Instead of relying on slow and unreliable 4G infrastructure for 5G connectivity, carriers will soon be able to provide standalone 5G networks with the option for network slicing and increased connectivity for augmented reality and virtual reality experiences and enhanced success within the Internet of Things. 

*Dan Schmidtendorff is CEO of Communication Company and an NSCA board member.*

## Leveraging IoT

Instead of relying on slow and unreliable 4G infrastructure for 5G connectivity, carriers will soon be able to provide standalone 5G networks with the option for network slicing and increased connectivity.



The percentage of surveyed end users who say they're very interested in leveraging IoT to better understand meeting room utilization and metrics. Source: NSCA

# The Need for More Corporate Social Responsibility

Integrators have an opportunity to embrace the 2030 Sustainable Development Goals, which provide a blueprint for our integration industry. *By Christina DeBono*

From climate change to growing income inequality, the next 10 years will challenge our economy, industry, and businesses in ways profound and widespread. The good news is: NSCA members have the power to affect meaningful change in ways that align with our business models. And we have a detailed plan to guide our efforts.

As a sponsor of the Commission on Voluntary Service and Action (CVSA), a U.S.-based NGO, ClearTech has joined in CVSA's Community Education Campaign for the Implementation of the 2030 Sustainable Development Goals (SDGs) in the United States. The 2030 SDGs consist of 17 goals with 169 specific targets for economic, social, and environmental progress and were adopted by all 193 member nations of the United Nations, including the United States.

Understanding the need for public- and private-sector participation, my leadership team and I studied the agenda, identified the goals and targets that most apply to our business, and are incorporating them into our strategic planning. Our commitment will also figure into our marketing plan and become even more integrated into our brand.

**My leadership team and I studied the agenda, identified the goals and targets that most apply to our business, and are incorporating them into strategic planning.**

## Sustainable Development Goals



The 2030 Sustainable Development Goals consist of 17 goals with 169 specific targets for economic, social, and environmental progress. Not all are applicable for integration companies, but ClearTech is focused on finding ways to make an impact.

What can NSCA members do to implement the 2030 Sustainable Development Goals? Let me share the goals that ClearTech plans to act on:

**Goal 4:**

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. We will promote Target 4.4, which addresses increasing the number of youth and adults who have relevant skills for employment, decent jobs, and entrepreneurship.

**Goal 5:**

Achieve gender equality and empower all women and girls. ClearTech will address two targets: Target 5.5, which advances women's opportunities for leadership at all levels of decision-making, and Target 5.b, which uses enabling technology to empower women.

**Goal 8:**

Promote sustained, inclusive, and sustainable economic growth; full and productive employment; and decent work for all. We will promote Target 8.3, which supports productive activities, decent job creation, entrepreneurship, creativity and innovation, and promoting the growth of micro-, small-, and medium-sized enterprises.

**Goal 12:**

Ensure sustainable consumption and production patterns. We will implement Target 12.5 to substantially reduce waste generation through prevention, reduction, recycling, and reuse.

Watch our website for details as we translate our commitment into formal action. In the meantime, I encourage you to download the 2030 Agenda for Sustainable Development and begin your own planning efforts. Don't hesitate to contact me for advice and assistance. We're all in this together.

*Christina DeBono is president of ClearTech and an NSCA board member.*

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# A 10-Year Prediction on Education

NSCA members are well positioned to drive decisions when it comes to systematic approaches to making our schools safer. *By Chuck Wilson*

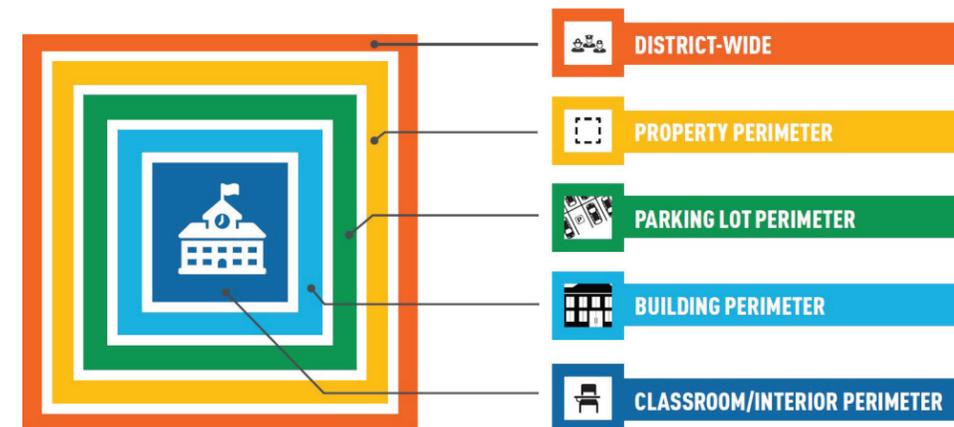
**K**-12 schools in the United States used to be the safest places in our communities. Sadly, that's not the case today. It's quite likely that, by taking no action on the way we design and equip our buildings, the trend will only get worse. For that reason, PASS K-12 (the Partner Alliance for Safer Schools) was formed. A fundamental principle of PASS leadership is to recognize that our nation's teachers are educators and not technology experts. Their jobs are hard enough, and, for that reason, we provide resources that serve as a guideline for them to follow. Administrators who are often constrained by funding are now faced with the challenge of safety resource officers being removed from their buildings. They also grapple with using advanced technology to identify people coming and going and constant concerns from parents regarding drills and lockdown procedures. Establishing policies and procedures alone is a divisive and daunting process.

**Standards-based technology works!  
What doesn't work are random approaches to deploying security and life safety technology.**

Emerging technologies, such as artificial intelligence, facial recognition, prohibited item detection, video and voice analytics, visitor management, location detection, intelligent access control, mobile notifications, and lockdowns, will become the norm for schools of the future. Safety and security technology standards will likely follow the path of fire alarm systems: no building can be occupied without them. No student has died from a fire in a U.S. school in over 50 years. Standards-based technology works! What doesn't work are random approaches to deployment of security and life safety technology. Without systematic sequencing of what happens first, and without standards and guidelines, it's hard to develop the best course of action and the most effective use of available funds. By creating a universally accepted guideline based on tiers and layers, you can deploy solutions that make logical sense and ultimately end up with an integrated approach. Our industry is mission critical. The NSCA community plays a huge role in making schools safer. Meanwhile, school projects are bigger than they've ever been. Multi-million-dollar K-12 projects are increasingly common.

Qualified integrators that leverage the PASS K-12 program are well positioned to play consultive roles on these projects. They are the ones who can integrate these solutions. They are the ones who can become trusted advisors and bring the PASS guidelines in as they work with local school districts. They are the ones who can do the heavy lifting so teachers can teach and administrators can focus on student achievement. They are the ones who can build out these systems to improve the odds that no parent loses a child to senseless acts of violence. For that to happen, integrators must embrace the idea that they are solutions providers and trusted advisors. You must become as knowledgeable about policies and procedures as you are about intercoms and cameras.

## Layers of Protection



PASS provides a systematic approach to school safety that allows integrators to play a consultative role with their education customers. Shown above are the layers of protection.

In many cases, you have to stand back and allow schools to invest in systems you don't sell until the time is right for your solutions to become implemented. During that time, you need to be alongside those administrators, guiding them through the myriad codes, laws, regulations, and compliance issues that you are trained to deal with. I believe NSCA members are the best of the best when it comes to the future of making schools safer. Commitment to a code of ethics sets you apart. Commitment to the PASS guidelines, risk assessments, and toolkits gives you the credibility and professionalism that makes you the preferred choice to protect our nation's most precious resource.

*Chuck Wilson is CEO of NSCA and cofounder of the Partner Alliance for Safer Schools (PASS K-12).*

# A CASE FOR Network Audio

Hear us out: Network audio improves security and operational efficiency in a variety of applications. *By Axis Communications*

As humans, our connection to the world around us is based on senses. Only with the help of sight, hearing, touch, and smell are we able to interact with our surroundings, navigate, and stay safe and secure.

In the form of surveillance systems, we've started to replicate the capabilities of these senses through technology: video surveillance cameras as our sight and microphones and audio-in as our hearing.

Network audio speakers provide a channel for us to communicate verbally based on what we've seen and heard. Our voices are especially important when at risk or facing a dangerous situation, as they allow us to send a warning signal to those around us or direct them to safety. Network audio can also play that role.

But audio isn't valuable only in enhancing safety and security: It can also support operational efficiency across various industries. Network audio can be utilized in a variety of different ways, like creating an atmosphere using background music or playing automated announcements.

## How Network Audio Improves Security

Installing network speakers and other audio technology can help transform a reactive surveillance system into a proactive deterrence tool to prevent crime and elevate security.

Once a camera locates a potential threat—trespassing, vandalism, parking violations, etc.—a voice message (live or pre-recorded) can be played, allowing a real-time intervention. This fast response can help halt illegal activities completely or before severe damage is done.

Reducing the number of incidents can mean less downtime for a business, prevention of theft, fewer manhours to repair damage, and potentially reduce loss, insurance costs, and more.

## An Extra Security Layer for the Chester Zoo

To optimize security and respond faster to threats for animals, staff, and visitors, Chester Zoo upgraded its surveillance solution. The zoo installed over 300 network cameras combined with numerous horn speakers, such as AXIS C1310-E, at doors, entrances, and parking areas. Based on surveillance camera footage, the zoo provided real-time communication with visitors through live and recorded audio messages, guiding them toward the entrance and deterring any potential wrongdoing that could pose a threat to people or property. In combination with cameras, these proactive solutions also helped the zoo's security team locate and act

**Network audio is a versatile technology that delivers many benefits. Audio speakers not only deter and prevent crime, but also improve public safety in a variety of applications and help optimize customer experience and efficiency.**

upon security threats faster than before, tightening perimeter security, optimizing retail operations, and preventing losses at the zoo's many eateries and souvenir shops.

## Safe and Sound

Network audio solutions can also contribute to the safety of the individuals in a location. Being able to audibly alert people can be even more effective than putting up signs with warnings or other visual factors.

Messages played via network audio speakers can not only communicate with large numbers of people simultaneously, but also provide useful safety information. For instance, they could play reminders of social distancing rules during the recent pandemic or assist with occupancy management.

## Fighting Natural Forces and Crime with Audio

In Chile's Valparaiso region, where earthquakes and natural disasters are relatively common, the City of Concón discovered the true benefit of installing horn speakers. Following an earthquake with a magnitude of 8.4 and subsequent tsunami, which caused significant damage to surrounding cities, authorities installed an advanced surveillance system at strategically chosen locations. The combination of cameras and network speakers enabled better communication between public authorities and residents and improved safety for citizens and tourists.

During extreme weather, operators can provide safety instructions and information via speakers along the coastal walk. These messages

can be played manually or automatically in response to a pre-set event. In addition, the City of Concón uses the cameras to detect, deter, and prevent crimes in these areas while safeguarding residents by alerting them via the speaker system. The cameras help with the detection of potential crimes, and the footage can be used for forensic purposes to identify suspects.

## Binghamton University: Safe Education with Network Speakers

Binghamton University in the United States was in need of an advanced security system for its campus, which had grown significantly to around 120 buildings.

Adding network speakers throughout the campus allows the university to communicate with students and directly address those intent on crime. By connecting new speakers to the emergency notification system, it's also possible to quickly evacuate the whole campus thanks to an integrated mass communication system. The solution also provides the flexibility to broadcast announcements in specific zones, providing students with location-relevant information.

## Improving Operational Efficiency through Network Audio

Network audio can also help increase operational efficiency and commercial performance in various sectors, including retail.

In-store advertisements and news about special offers in shops and atmospheric background music have shown to be effective in improving sales and elevating customer experiences while quickly directing employees to certain areas of the store. The options are endless and, most importantly—thanks to zoning features—not limited to the size or number of zones that need to be targeted.

The retail supply chain can also benefit from the use of network audio in the context of safety or to deter and prevent crime.

## Pump Up the Jam

The case of the gym chain U Time Fitness demonstrates the flexibility of network audio speakers. The solution implemented at U Time Fitness allows personal trainers in different zones to play their playlists during exercise classes. This is possible thanks to the zoning audio system, which lets the operator target what music or message is being played in which area of the gym.

## Safety, Security, and Songs: The Holy Trinity

Network audio is a versatile technology that delivers many benefits. Audio speakers can not only deter and prevent crime, but also improve public safety in a variety of applications and help optimize customer experience and efficiency. Plus, they're easy to install, cost-effective, and highly scalable. 



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# Fiber Optics REDEFINED

The systems that your customers will demand over the next decade require significant broadband connectivity. Consider taking advantage of optical fiber. *By Cleerline Technology Group*

Early on, traditional fiber optic technology was no walk in the park. Fiber was fragile and difficult—and even dangerous to handle. Installing connectors was cumbersome and failure-prone, requiring hours of complicated training. Even though fiber's high bandwidth potential was a strong selling point, related components were so expensive that cabling was often left dark in the wall. Fiber could be great—in the future.

## The future is now here.

In the early 2010s, Cleerline Technology Group recognized that fiber was the best way to support increasing bandwidth demands. However, traditional fiber's considerable drawbacks made it inaccessible to busy integrators and installers. Cleerline went to work on the problem, leading to the development of Cleerline SSF: Stronger, Safer, Faster-to-terminate optical fiber.

With the introduction of technology like Cleerline SSF™ optical fiber, terminating fiber is easy and safe. Fiber's bandwidth potential is more accessible thanks to improved and cost-effective technology, and managing cabling is easier than ever. In fact, the many benefits of fiber optic cable mean that today's fiber infrastructure is just as easy to manage as copper. The time for waiting is over.

## Access Higher Bandwidth

Bandwidth demands increase constantly. Category cables have required constant updates to keep up. Just look at Category 8! In contrast, fiber optic cable has remained relatively consistent in terms of its available bandwidth. The main changes have been to hardware components, which continuously advance to access fiber's native bandwidth potential.

Just how much bandwidth? Multimode fiber optic cables can transmit 10 Gb Ethernet up to 1,300 feet (396 meters), depending on the grade of multimode, or 100 Gb Ethernet as far as 500 feet (152 meters). Single mode fiber can send data even farther. In fact, the electronics are the only limiting factor on single mode's bandwidth potential. Comparatively, Category 6A can transmit 10 Gb Ethernet a maximum of 100 meters, with potential for EMI/RFI interference. Even Category 8 has a channel limit of 100 feet (30 meters) for 25 Gb or 40 Gb Ethernet.

Fiber also offers low latency and resistance to electromagnetic and radio frequency interference. Interrupted signals and dropping downloads are less of an issue—a major asset for any business or home environment.

Most importantly, as data demands continue to balloon, fiber will be able to easily accommodate increases. Plus, related electronics like switches and converters are now widely available at budget-friendly price points. Designing a fiber network that will survive the next generations of data requirements is easier than ever.

## Manage with Ease

Fiber is ideally suited for any network design. Depending on the cable construction, fiber cables (including internal strength members and outer jacketing) can be as small as 3 mm in diameter for up to 24 strands of fiber (less than half the size of a Category 6 cable). Cleerline SSF optical fibers are available in many cable configurations, from compact SSF Micro Distribution cables to robust armored cables. Fiber can be installed anywhere it is needed.

For those whose introduction to fiber termination involved complicated polishing procedures, there is good news: For most applications, the process has gotten significantly easier. Cleerline SSF offers improved mechanical splice connectors, which can be installed as quickly as an RJ45 connector and will hold up to long-term use.

Cables and connectors are easily available, but what about the rest of the system?

For common installations, like residential prewire and AV racks, fiber hardware and accessories now look very similar to those of copper. In-premises, keystone inserts that accept fiber optic connectors allow easy customization of wall plates. Rack- and wall-mount enclosures with fiber optic adapter plates fill the same role as Category patch panels, allowing multiple fiber terminations to be managed easily. For outdoor applications, fiber optic outdoor terminal boxes keep connectors securely protected, a must for applications like security cameras. Cleerline SSF End-to-End Solutions incorporate all of these items, simplifying specification and design.

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In addition to having similar components, fiber infrastructures are very similar in layout to Category UTP networks, but without the concerns of proximity to high-voltage cabling. Designing a fiber optic system requires many of the same considerations, so knowledge is transferrable from one system to another. Plus, online resources like the Cleerline Training Academy are available to help!

## Stronger, Safer, Faster

Cleerline SSF optical fiber incorporates a patented polymer coating at the glass level. This coating dramatically improves bend insensitivity and strength of the glass. In fact, SSF polymer coating makes Cleerline SSF optical fiber up to 200 times stronger than traditional, non-SSF fibers. The polymer also increases SSF fiber's performance compared to Category cable. While the average Category cable can only tolerate 25 pounds (11 kg) of pull tension, SSF can handle up to 225 pounds (over 100 kg).

SSF fiber's greater durability makes it safer to handle. Traditional fiber lacks protective coating directly on the glass, so the glass is fragile and can easily shatter, creating hazardous microscopic shards.

Conversely, SSF polymer coating prevents skin punctures and protects the optical fibers from dust, contamination, and, most significantly, moisture ingress.

SSF fiber's strength and flexibility make it extremely easy to terminate. With practice, connectors can be installed in less than one minute. The simplified SSF termination process requires far less training than traditional fiber. Training can be as simple as watching a 4-minute instructional video. No scheduling commitment required! With SSF, any integrator can add fiber termination to their skillset instead of relying on fiber-specific contractors.

With Cleerline SSF technology, fiber's benefits become easily accessible. High bandwidth, low latency, and EMI/RFI resistance are within reach.

At Cleerline, we believe integrators and end users deserve the highest quality and most efficient products. That is why we designed Cleerline SSF fiber: to provide access to the best technology possible. With Cleerline SSF End-to-End Solutions, fiber network design, specification, installation, and management are simplified. Cleerline SSF is fiber optics redefined. ▲

# The Need for Continual Evolution

Integrators are no strangers to the need for reinvention. In the post-pandemic market, NSCA members are once again faced with the demand to pivot. *By Liberty AV Solutions*

The Tools You Need to Manage  
and Adapt to Today's Challenges

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**C** OVID-19 has fundamentally changed our industry. Remote and hybrid work have sharply increased demand for touchless control, automation, and collaboration products. With corporate campuses closed, companies are purchasing technology for home offices instead of installing videoconferencing systems. Providing customers with the support and service they need has never been more challenging for an integrator.

But even before the pandemic, our industry was undergoing a paradigm shift from AV and IT to information communications technology (ICT). Pro AV has become increasingly networked, cloud-based, and integrated with traditional IT systems. HDMI matrix switches are giving way to IP video distribution. The integrator awarded the project is increasingly determined by IT leadership. IT solution providers, AV integrators, and security contractors compete for the same projects. End users demand standardized, scalable solutions that can be remotely managed and monitored like other IT assets. Expectations for how systems are designed, purchased, and supported continue to evolve.

As integrators, you had to adapt to succeed. You hired technical resources: people who understand network infrastructure and firewalls. You learned to design and deploy lower-cost, lower-complexity solutions at scale while preserving margins. You rebuilt your service teams to provide customers with remote monitoring. You established relationships with new suppliers. You learned how to sell to new kinds of buyers. Every day, on every jobsite, you work to do it better than last time.

But you don't have to do it on your own.

## Evolving with Industry Partners

Liberty AV Solutions has always designed products for integrators. Our goal is to provide hardware, software, and services that make it easier to design, deploy, and support systems for your customers. We are committed to the channel and invested in helping you grow.

We've continued to expand and improve on our collaboration products. Our new TeamUp+ series of USB cameras, microphones, and HDMI/USB switchers offers excellent quality at a surprisingly low cost. We added new products to our line card like Sennheiser, Atlas, Bose Professional, Ashton Bentley, Mimo Monitors, and SimplyNUC. And we designed preconfigured solutions for the conference room and the home office with our Room with a SKU.

We developed software like CX Detect (which won an NSCA Excellence in Product Innovation award this year) to manage and monitor soft codecs, hard codecs, USB peripherals, and other IoT devices in a single tool. CX Detect also supports desktop clients for Zoom and Microsoft Teams, so your customer is covered whether they're in the office or working from home. With CX Detect, you can even remotely remediate many issues in real-time. Don't roll a truck tomorrow when you can save the meeting today!

We launched CX Support+, a global 24/7/365 help-desk offering. Whether your business is large or small, you can provide your customers with expert support whenever and wherever they need it.

**You had to adapt to succeed. You hired technical resources: people who understand network infrastructure and firewalls. You learned to design and deploy lower-cost, lower-complexity solutions at scale while preserving margins.**

We partnered with Teleportivity to make it incredibly easy for your customers to get support. Your customer simply scans the plaque on the wall with their phone and instantly connects to the help desk. Manuals, how-to-videos, technical documents, and other content can be available at the press of a button.

We offer a range of value-added services. Bundle any hardware into a kit orderable as a single SKU. Asset tagging, firmware updates, and other tasks can be completed before the product leaves our docks. Need help selecting the right products for your job? No problem. Our team is always ready to help!

We work with GreatAmerica Financial Services to enable our customers to offer AV as a service to their customers: hardware, software, support, installation, and remote management for a single monthly payment. And the best part is that GreatAmerica makes it quick and easy to transact!

Need to help your customers with licensing and subscriptions for Zoom, 8x8, RingCentral, and other UCC platforms? We have you covered. We partnered with AVANT Communications to offer these services. Their experienced, knowledgeable team will work with you and your customer to scope their needs and provide multiple options to meet them. They also offer cloud, connectivity, SD-WAN, security, and data center services.

With Liberty's Inventory Services (LIS), you can have the product you need on hand without paying for it until you need it. Easily check product in and out of your consigned inventory. Track costs by order and/or project. Add product from any of WESCO's 30,000+ suppliers. Use an LIS account for a long-term project so that it's cash positive from start to finish. You can even use LIS to power consignment programs for your customers.

Each of these offerings are available separately, but more powerful together. We'll help you design standardized solutions, source hardware, services, software, and licensing, and bundle everything into a single orderable SKU. We'll kit it all up for you, consolidate packaging, and add it to your consigned inventory or ship it anywhere it needs to go. We'll help you manage and monitor your customers' assets, and support end users anywhere, anytime. And whether your customer wants to buy, lease, or rent, we've got you covered.

Navigating evolving technologies, shifting customer expectations, and uncertain market conditions is tough. But whatever changes tomorrow brings, Liberty is ready to help you adapt and thrive! 

CONTACT YOUR LIBERTY SALES REP TODAY!

[www.libav.com](http://www.libav.com) 800-530-8998

**LIBERTY**  
AV SOLUTIONS

*Liberty AV Solutions recognizes that integrators need to continually evolve and is prepared to help companies in the post-pandemic market.*

**PIVOT**  
TO PROFIT

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# How to Optimize Microsoft Teams for Your Customers

Shure's IntelliMix Room® software-based DSP for AV conferencing and collaboration with Crestron helps integrators optimize Microsoft Teams audio.

Clear communication is key for effective meetings. Without it, productivity can dip and opportunities can be missed. Most contemporary meeting rooms require numerous microphones, which can be a huge audio challenge for AV teams. This is when having digital signal processing (DSP) software becomes crucial. DSP polishes and refines raw microphone signals and combines them into a balanced, harmonious mix. The DSP can be a standalone hardware appliance or part of an application that runs on a PC, but it should be dedicated to audio rather than part of the same processing that deals with video, call management, etc.

A good audio DSP will automatically select the right microphone for each talker, adjust levels, remove echo and noise, and improve interactivity for more natural communication. Furthermore, virtualizing the per-channel DSP needed to integrate in-room audio systems with collaboration platforms is a game-changer. It makes it possible for businesses to easily scale their meetings and conference rooms. Because it's software based, deployment is easier and firmware management is more efficient. The result is a more consistent user experience across all rooms in the enterprise.

Shure's IntelliMix Room is the world's first software-based DSP for AV conferencing to achieve official certification for Microsoft Teams when installed on the Crestron UC-C100-T Flex Video Conference System Integrator Kit. Now users can deploy end-to-end certified solutions for Teams systems without the need for a separate DSP device. This is key because DSP is valuable in ensuring that meeting room audio sounds intelligible and natural for all meeting participants.

Shure's collaboration with Crestron helped enable IntelliMix Room software to achieve this industry-first certification. Crestron has been a Microsoft partner for more than 15 years, and AV integrators rely on the UC-C100-T Crestron Flex Integrator Kit to bring Microsoft Teams Rooms into custom spaces. The Crestron Flex series provides users

with the essential components needed to build a fully customized videoconferencing space, whether for a company-wide annual meeting in the auditorium, sharing content in the boardroom, or connecting stakeholders around the world.

Paul Gunia, director of technology partnerships at Shure, is understandably proud of the teams behind the technology itself and the journey to accreditation. "This is the first piece of software certified in a Microsoft Teams Room Bundle. Up until now, it has all been USB-based connectivity. When we first showed this to the team at Microsoft, they didn't have a certification to fit it under. It was too different."

This certification wasn't given lightly, as he explains: "We had to demonstrate the performance of our software. We had to prove the resiliency of the audio and that our CPU load was minimal. We couldn't interfere with other programs or Microsoft's own roadmap for future features. A third-party lab tested its performance before Microsoft itself used IntelliMix Room in its own conference rooms. Our case was rock solid as we demonstrated the reliability and robustness of the IntelliMix DSP technology. This certification complements our Microflex® Ecosystem mics, and loudspeakers were already certified for Microsoft Teams. We are now thrilled that, with the addition of our DSP software, the whole end-to-end audio signal chain is Microsoft Teams certified. This is hugely important for Shure."

Gunia explains that, while the Shure hardware has been installed along with Crestron gear for decades, Shure's latest certification for IntelliMix Room on Crestron's UC-C100-T opens a whole new set of use cases for system integrators to take to their customers. "We have a laser focus on ensuring consistent audio quality in every room to meet mid- to large-size room videoconferencing needs and have built our solutions on this. With no DSP hardware required, installs are simpler and faster while meeting spaces are kept free of the clutter associated with traditional AV racks."

**Virtualizing the per-channel DSP needed to integrate in-room audio systems with collaboration platforms is a game-changer. It makes it possible for businesses to easily scale their meetings and conference rooms.**

"This is truly game changing," he adds. "It's an innovation in our industry supported by the combined powerhouse of Shure, Crestron, and, of course, Microsoft Teams. Software-based audio is the future of videoconferencing, whether you are deploying it in one room or hundreds. And IntelliMix Room is leading the way to that future."

Available through several licensing options, IntelliMix Room software offers flexibility as a long-term investment over the lifecycle of multiple meeting spaces. It can be more cost-effective than the leading hardware-based audio DSPs.

To learn more about IntelliMix Room, visit [shure.com/imxroom](https://shure.com/imxroom) or contact Shure for a free, 90-day trial license of IntelliMix Room. 



*Pivot to Profit 2021 sponsor Shure recommends taking advantage of IntelliMix Room. Visit [shure.com](https://shure.com) to learn more.*



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# Customers Demand Cohesive Technology Solutions

TD SYNnex, one of NSCA's Pivot to Profit partners, lays out technologies you can consider as you evolve your offerings.

**W**e are living in a world where demand for robust, immersive, and safe experiences in commercial, institutional, and public spaces is driving the need for cohesive technology solutions in digital signage, pro AV, and physical security.

TD SYNnex VISUALSolv unites the industry's top AV, IT, and CE technologies to help you build the cross-functional solutions your customers need. With comprehensive capabilities covering everything from pre-sales design to integration, installation, and post-sale support, our experience advisors enable you to expand your reach. TD SYNnex VISUALSolv's industry-certified experts provide additional guidance and support through a personalized training curriculum. Leverage our broadline capabilities, technical expertise, and subject-matter experts to diversify your business. Let's talk: VISUALSolv@SYNnex.com

Amid the pandemic and entering a season of recovery, helping your customers improve their productivity to support the "anywhere, anytime" workforce is apparent. Our COLLABSolv team is ready to support you! New-gen collaboration tools enable teams to work with unprecedented speed and efficiency. However, it works best when enabled with the right combination of network, application, and hardware platforms.

Collaborative environments today involve multiple participants, in-person and remote, and everyone needs the ability to share documents and presentations easily and securely. Help your customers design the right team-focused solutions to create better collaboration with real-time updates, video streaming, and touch-point displays. Reach out to our COLLABSolv team for information: COLLABSolv@SYNnex.com

NSCA members, we're making investments daily at TD SYNnex to provide you with the resources and tools needed to support your business. This education buying season, lean on our EDU to help you navigate E-Rate and special funding streams like the Emergency Connectivity Fund Program. Our team of subject-matter experts include former educators who have a deep understanding of public policy and the grant-writing process. Engage with TD SYNnex GOVSolv today to maximize growth this education buying season: GOVSolv@SYNnex.com.



## Check These Education Solutions:

### Power Hybrid Classrooms with the Poly Studio USB

Educators who teach students from their homes want the freedom to move around just like they do in the classroom. But when they're using cameras on PCs and laptops, getting up and pointing to something on a board or a makeshift chalkboard takes them out of frame and audio quickly degrades.

The Poly Studio video bar solves this problem by delivering powerful audio and incredibly sharp video through a single USB cable. Teachers can use any video platform of their choosing, from Zoom or Google to Skype or Microsoft Teams. The Poly Studio presenter-mode tracking feature lets the camera follow naturally, from a sitting position, to walking about, to anywhere in-between. See how Boston Public Schools implemented this solution at <https://bit.ly/3yDgSRG>.

Reach out to the TD SYNnex Poly team today to help with your next opportunity at [poly@SYNnex.com](mailto:poly@SYNnex.com).

Learn more about TD SYNnex's family of offerings at [TDSYNnex.com](https://TDSYNnex.com)

### SAMSUNG CHROMEBOOK + Logitech Accessory Bundle

Unleash the power of Chromebooks with Logitech. Discover Logitech solutions certified to work seamlessly with Chromebooks. Adding certified peripherals to a Chromebook transforms how people work and play. Logitech-certified works with Chromebook solutions allow users to enjoy ergonomic and productivity benefits across a variety of product categories.

Reach out to the TD SYNnex Logitech team today for customizable bundles, including the Samsung Chromebook 4 and Logitech Mice, Keyboard, Gamepads, Webcams, Headsets, and Microphones. Our team is ready assist: [logitech@SYNnex.com](mailto:logitech@SYNnex.com).

**SONY EDGE Video Analytics Solution for Higher-Education Learning Environments**

What is the Sony Edge Video Analytics appliance, you may ask? A great tool for hybrid and hyflex classrooms, this powerful device improves the quality of presentations and collaboration systems that include cameras with the use of AI-driven GPU video analytics technologies.

Their network cameras can be connected to the Edge unit to capture live presentations and create dynamic video content that previously would have required significant time, expense, and human resources to produce.



SYNNEX  
**VISUALSolv.**

**SONY**

*Learn more about TD SYNEX's family of offerings at TDSYNEX.com*

**Just a few of the many benefits of Edge Analytics Appliance (REA-C1000):**

- Use tracking to keep the presenting teacher in focus and within the frame.
- Extract characters and diagrams in real-time from whiteboards or blackboards.
- Create animated imagery, still pictures, and supporting graphics without a dedicated studio.
- Show two different images at once for added impact.
- Zoom in on a student or presenter to show reactions or highlight questions.

The TD SYNEX Sony team is ready to help guide you with SONY Education Solutions that will add value to your customers. Engage with us at [sony@SYNNEX.com](mailto:sony@SYNNEX.com)



**Chief Fusion Dynamic Height-Adjustable Mobile Carts**

Ideal for interactive applications, Fusion mounts with dynamic height-adjust capability create better accessibility to technology in the classroom. The height-adjustable box provides ultra-smooth and fast vertical travel with almost no effort. Round edges and sleek features give it a softer feel that fits perfectly anywhere—from faculty meetings to the classroom.

**Chief Fusion Dynamic Height-Adjustable Mobile Carts feature:**

- Height-adjustable box that allows up to 15.75" (400 mm) of vertical adjustment instantly.
- Starting height can be set at 3" (76 mm) intervals over a span of 12" (305 mm) for the cart and floor support solutions.
- Storage space with magnetic covers.
- ControlZone for post-installation fine-tuning of height and leveling.
- ClickConnect offers an audible click when the screen safely engages with the mount.
- Integrated security flag.
- Easy-grip handles and display stabilizers for easy transportation.

Contact [LegrandAV@SYNNEX.com](mailto:LegrandAV@SYNNEX.com) to speak with our chief specialist about your next opportunity and learn how you can take advantage of current promotions!



*Learn more about TD SYNEX's family of offerings at TDSYNEX.com*

**Modern Communications for Schools with 8x8**

IT leaders continue to struggle with outdated, unreliable communications systems that take up too much precious IT time to maintain. These systems also lack the capability to deliver the collaboration and engagement needed to drive targeted educational outcomes. IT leads can leverage 8x8's decades of experience and secure, integrated platform for a risk-free transition to cloud communications to reinvent how education is delivered.

Securely connecting with other staff, parents, students, and community members is just a click away using 8x8's platform for voice, video, chat, and SMS capabilities for any device. Empower your teams to connect, collaborate, and create exceptional student outcomes with 8x8 XCaaS. Featured for education, 8x8 Meet removes the obstacles educators face in connecting students with the broader world and enables exploration of the possibilities that video communications can provide by bringing the outside world into the classroom. To learn more, contact the TD SYNEX team at [ucaas@SYNNEX.com](mailto:ucaas@SYNNEX.com)

**HAVRION Protect**

HAVRION leverages technology to create safe, connected, and thriving communities. By developing a PROTECT suite of innovative hardware and software solutions, HAVRION delivers advanced situational awareness and protection that reduces the vulnerability gap in schools, buildings, and facilities.

HAVRION goes beyond enhancing your emergency response and communications to drive life safety in new ways that directly affect the most vulnerable. HAVRION looks to provide more meaningful outcomes by delivering customized communications and notifications in seconds by utilizing Mobile Devices, Active Sensor Integration, and digital display content all managed through a simple, centralized management portal. HAVRION is keeping communities safe.

To learn more about the HAVRION PROTECT solution, or to schedule a demo, reach out to the TD SYNEX security team at [securitysales@SYNNEX.com](mailto:securitysales@SYNNEX.com)



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# Pivot to Profit 2021 Action Items

Pivot to Profit + is your companion to P2P 2021. Use it to jot down your most important action steps.

## Toolkit Talks: Takeaways

Solutions Provider <input checked="" type="checkbox"/>	Action Steps and Key Contacts
 8x8 <input type="checkbox"/>	
 ascom <input type="checkbox"/>	
 Atlas IEO <input type="checkbox"/>	
 AXIS <input type="checkbox"/>	
 DEFENDIFY <input type="checkbox"/>	
 domotz <input type="checkbox"/>	
 EAGLE EYE NETWORKS <input type="checkbox"/>	
 GENISYS <input type="checkbox"/>	
 HAVRION <input type="checkbox"/>	
 IntelliSee <input type="checkbox"/>	
 AV BEYOND THE BOX <input type="checkbox"/>	
 legrand   AV <input type="checkbox"/>	
 LIBERTY AV SOLUTIONS <input type="checkbox"/>	
 poly <input type="checkbox"/>	
 primex <input type="checkbox"/>	
 QSC <input type="checkbox"/>	
 Sennheiser <input type="checkbox"/>	
 SHARP <input type="checkbox"/>	
 SHURE <input type="checkbox"/>	
 SOLUTIONS 360 <input type="checkbox"/>	
 TELEPORTIVITY <input type="checkbox"/>	

## Post-P2P To-Do List

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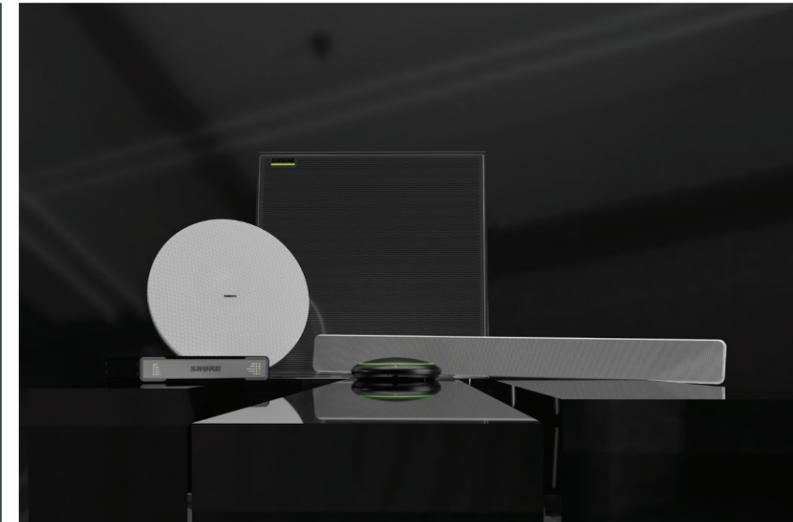
# SOLUTIONS FOR VIDEO CONFERENCING & MEETINGS



## STEM ECOSYSTEM FOR VIDEO CONFERENCING



## MICROFLEX ECOSYSTEM FOR MEETINGS



## EXPERIENCE EFFORTLESS AUDIO.

The Shure Stem Ecosystem™ gives you the freedom to create, manage, and scale your meeting space audio the way you want it. Address your essential conferencing needs and achieve the perfect, high-quality pickup across your organization, with straightforward solutions designed for any room.

## ENDLESSLY FLEXIBLE, FOR THE MOST DEMANDING SPACES

From microphones to DSPs to loudspeakers, the Shure Microflex Ecosystem offers a complete portfolio of networked audio solutions that can be precisely tailored to your needs, for best in-class collaboration experiences in any room.

Visit [shure.com/ecosystem](https://shure.com/ecosystem) to learn more.

## The SYNNEX COLLABSol<sup>v</sup> Ecosystem

SYNNEX established the COLLABSol<sup>v</sup> community to support market demand for more cohesive solutions in collaborative environments. We're well-positioned to support our customers by bringing together a full vendor ecosystem of AV, IT, UC, network security, mobility, and meeting platform technologies to provide an all-encompassing solution.



Learn more today! **Contact us at [collabsolv@synnex.com](mailto:collabsolv@synnex.com)**

