Head: **MNEC — An Opportunity To Do Well By Doing Good**

Sub: Emergency notification systems have become critical than ever, and they present AV integrators with new opportunities

The stories have become numbingly routine: terrorist attacks, active-shooter incidents, school lockdowns and natural disasters that affect whole buildings or entire communities. While there's no panacea that can contain these dangers, there are systems-based solutions that can go a long way to mitigating the harm they can cause. MNEC — mass notification/emergency communication systems — can alert those in harm's way using audio, video and lighting components on a local and multi-location basis, getting them the information they need clearly, reliably and in a timely manner.

The phrase "audio, video and lighting" should ring a bell — these are the DNA elements of systems integration. Yet far too many AV integrators overlook the opportunities that MNEC systems can offer, in terms of providing deeper engagement with their clients and for additional project and recurring revenue.

"Too many AV integrators seem to leave MNEC systems to security systems vendors," says David Smith, vice president of marketing at Lencore, which develops system solutions used in corporate and other environments for applications such as sound masking, paging, audio and MNEC. "In the process, they're leaving money on the table as well as the chance to bring significant new benefits to their customers."

Sound Thinking

MNEC is a simple mnemonic for a complex proposition. While strobes, emergency house lighting and digital signage are important components of a proper MNEC system, its audio elements are what most clearly distinguish an MNEC system from the standard paging-system PAs they are often integrated into. For instance, a mass notification system must meet the STIPA requirement for speech intelligibility. STIPA, or the Sound Transmission Index for Public Address, is an industry standard, certified by the Acoustical Society of America, that tests for the clarity of a message received. A reading of 0.5 or greater on the STIPA scale certifies that the environment being measured meets the requirement for mass notification. STIPA is a more complex standard than most by which paging systems are calibrated. For instance, each STIPA measurement takes 25 seconds and results in a single value between 0 and 1 on the Speech Transmission Index. A more thorough explication of the process can be found here.

Then there is NFPA72, the part of the National Fire Protection Agency code that stipulates that a mass notification system must achieve a noise level at least 10 decibels greater than the ambient background sound in private spaces, and 15 decibels higher in public spaces, the NFPA's minimum for speech intelligibility in a noisy environment. (Ambient background sound is the indirect noise from all combined sources typically seven feet or greater from the receiving signal.)

Another standard is Acoustically Distinguishable Spaces (ADS). These are, according to the NFPA, "physically defined space[s]… that might be distinguished from other spaces because of different acoustical, environmental, or use characteristics, such as reverberation time and ambient sound pressure level." In other words, the acoustical nature of individual spaces within the MNEC environment have to be acknowledged and addressed, such as the difference between, say, an office, a conference room and a lobby that are all adjacent to each other. This could take the form of additional speakers, different speaker-placement configurations or acoustical treatments that diminish reverberation that can mar intelligibility.

While building codes inspectors are usually the arbiters of MNEC implementation ("authorities having jurisdiction" or AHJ in their parlance), building managers or corporate security officials may also have a say in evaluating and certifying MNEC systems under their authority. The one umbrella body that establishes specific standards for MNEC is Underwriters Laboratories (UL). Their UL2572 Standard for Mass Notification Systems outlines requirements for items such as electrical control units, communication units and other accessories for mass notification systems to be employed in accordance with the National Fire Alarm and Signaling Code, NFPA 72, as well as emergency-service personnel communication system interfaces (such as the quarter-inch RTS fireman's intercom jack in elevators). It also comprises a lengthy series of sub-standards that certify products used in MNEC systems, such as the Standard for Audible Signaling Devices for Fire Alarm and Signaling Systems, including Accessories (UL 464) and the Standard for Speakers for Fire Alarm and Signaling Systems Including Accessories (UL 1480).

On AV Integrators Radars Already

All of these specifications are explicitly particular to MNEC requirements, but they're also familiar to virtually all AV systems integrators. The standards aren't significantly more complex or onerous than most others that integrators regularly encounter, such as electrical codes. And there are financial incentives for tackling them. Smith estimates that the typical cost of an MNEC-compliant sound system installation in a 100,000-square-foot facility would cost $120,000 over the cost of a paging system alone. Then there is the potential recurring revenue from ongoing contracts to maintain and regularly test the system, which could be worth as much as $20,000 a year. And that regular system testing, which is paid for by the client in the maintenance contract, serves also to help indemnify the AV integrator against potential liability arising out of use of the MNEC system.

Further encouraging advocacy of MNEC systems by integrators to their clients is the fact that many MNEC systems manufacturers now do what many sound system manufacturers do and offer free or very low-cost system-design layout services, including flow and wiring diagrams, as well as providing periodic classes that certify integrators in their products.

Opportunity Is Worth The Effort

Scott Lord is director of innovation and national accounts at All Systems, A Kansas City integrator that specializes in life-safety, mission-critical technology for hospitals, universities, school districts, factories, corporate buildings and government facilities that provide solutions in areas such as nurse call, fire alarm, mass notification, paging/intercom, and video surveillance. He says the typical AV integrator might feel intimidated by the often-complex codes surrounding MNEC installations. However, he says, the updates to the NFPA MNEC standards in 2010 and the International Building Code (IBC) in 2012 both clarified and simplified what needs to be addressed in MNEC systems design and installation, and made them more widely applicable to a greater range of environments. And he acknowledges that the local and state variations of relevant codes, as well as various liability insurance requirements for systems installers, can be confusing. But, he emphasizes, the opportunity for recurring revenue from maintenance and testing is worth the extra effort.

"The fact is that most integrators already have the necessary skills in house," he says. "The biggest concern is following codes. Other than that, it's not rocket science. You can do it."

However, NSCA executive director Chuck Wilson wonders if it's as simple as that sounds. He's found from speaking to his membership that not everyone is interested in being immersed in the complexity of highly specific standards and codes. Wilson points to resources like PASS, a joint venture between the NSCA (about a third of whose members are active in MNEC, Wilson estimates) and the Security Industry Association intended to help schools and educators define and assess threats and risks, and offer security strategies, which include AV, to counter those threats. Those companies that are already in the MNEC pool, particularly those working in key MNEC verticals like healthcare and education, are already codes-savvy and are deepening their involvement, he says.

On the other hand, however, Wilson doesn't see this as an existential issue for integrators as a whole. It's not like the shift to digital two decades ago, where failure to adapt would have likely meant a company's demise. Instead, he says, MNEC is a solid market sector for those companies willing to make the commitment to its exigencies.

"Every company has to ask themselves, is this the right fit for us?" Wilson says. "Integrators in other growth markets, like entertainment and corporate, are already looking at all sorts of growth opportunities in those markets. I tell my members to think carefully about that. Not everyone is prepared to deal with the requirements that come with these very specific codes."

Adoption of MNEC certifications by AV integrators has been slow, mainly because awareness until now has been low. But the increased regularity of emergency situations, natural and man-made, could change that. Smith likens the slow adoption of MNEC systems by AV integrators to the implementation process of the Americans With Disabilities Act (ADA), which became law in 1990 but which is still unevenly implemented throughout the U.S. "ADA took over a decade to reach a certain level of compliance and MNEC is facing the same kind of challenge," he says. "AV integrators are overlooking a significant opportunity to expand their business if they're not looking at MNEC."

Sidebar: **Off The Shelf**

MNEC integration is becoming simplified by a number of dedicated products on the market that integrators can use. For instance, Lencore's new n.FORM Mass Notification system, recently launched to the market, is a packaged, engineered solution that puts all of the system's head end equipment in a single enclosure. It achieves stated goals of reach, clarity, redundancy and reporting that the company says comprise the basis of a successful MNEC installation. Edwards/United Technologies' EST3 MNEC solution combines emergency communications with threat detection capability. MIR3's Intelligent Notification system is offered in a cloud-based software-as-a-service format.