2021 VISION

Industry forecasters predict what's in store for commercial integration five years from now and what evolution may take place. **By the Editors of** *Commercial Integrator*

FIVE YEARS in the grand scheme of things is not an awful long time so it seems, but when you think about it a lot can change. U.S. presidents can come and go, your children can enter and leave college, a superstar NFL running back's career can start and finish. And when it comes to technology, shifts that take place over a five-year period may move at warp speed. Anyone still installing 3D? It was all the rage five years ago …

So with this timeframe in mind, *Commercial Integrator* (whose debut was also a mere five-and-a-half years ago) recently polled various members of the pro AV and automation industry asking their thoughts on where things may stand five years from now, in 2021. We tapped into five progressive minds that also happened to represent different and important areas of the industry — two

integrators, a manufacturer and two industry associations.

Their responses offer some tasty food for thought about the role the integration community will have, how it will change, what you will need to survive and more. Read on to gaze into their crystal ball, and go to *CommercialIntegrator.com* to share your own predictions.

AV Integrators Will Retain 'Go-To' Status

To figure out what an AV integrator will be like in five years, it's important to understand what every other type of firm will *not* be, and that is expert in the science of audiovisual communications. Digitize what you will; send signals over IP networks. None of this changes the fact that the true "last mile" in communication, whether a presentation or a performance, is a distinctly analog experience. It's what the human eye sees and the human ear hears. Until the brain starts processing sight and sound differently, this won't change, and the need for trained professionals who understand how to optimize the effectiveness of audio and video will only become greater.

Clearly, the delivery of AV communications and integrated experiences has changed rapidly in recent years. The network (wired and wireless) is king and the cloud is part of its kingdom. In light of that, *AV integration* firms will continue to evolve into *technology integration firms*, expanding on their core expertise to include everything from building systems and the Internet of Things to enterprise net-

works and services. With technology options so varied and changing so rapidly, integrators will become even greater solution providers than they are today, beginning from the point at which they understand intimately the needs of their clients and develop solutions that meet those needs. And the most forward-thinking firms will begin to offer even more, including content and managed services, in order to provide complete solutions.

Traditional integration may look slightly different than it does today. The industry has made its name by taking disparate systems and making them work together. Increasingly — and to the benefit of all — technology products are becoming more interoperable
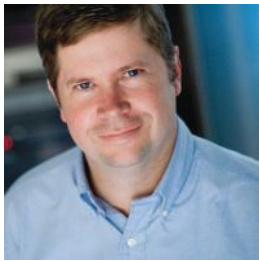
> With technology options so varied and changing so rapidly, integrators will become even greater solution providers than they are today.

and easier to install. But no one should confuse easy to install with DIY. Some customers might, but they will soon learn that technology is technology. It can help their organizations operate more efficiently, or collaborate better, or create exceptional experiences, but it still requires expertise to set up properly and manage. Not to mention, so-called "easy" solutions may not meet clients' actual needs. Customers may not realize that, but AV integrators/solution providers, asking the right questions, will understand.

If anything, AV and IT systems that are easier to integrate are good for everyone. The manufacturers that develop them sell more. The designers and integrators who deploy them complete more jobs more quickly. And customers who want them get more reliable solutions that can help their organizations faster.

AV firms are already well on their way to being end-to-end solution providers. On projects, they frequently offer the most expertise across all facets of an integrated, AV communications system. We live in a time when demand for audiovisual experiences — at work, at home, at the mall, on the street — continues to increase. AV integrators, by any and all names, will emerge as the technologists who make those experiences exceptional.
—Brad Grimes, Director of Communications, InfoComm International

Keep Eyes Focused on User Experience

Our work is all about the user experience. And five years from now, solutions providers will do well to remember that will still be the case. Perhaps even more so, as new technologies, workplace transformation, and expectations from Millennial workers assert their influence. You're seeing it in every technology we're exposed to today, and it extends across retail, house of worship, manufacturing, sports, education, hospitality, medical, and certainly any workplace. Better experience makes technology the enabler of better outcomes.

New Technologies — The role for solutions providers will be to strategically guide our clients through the rapidly changing technology trends to provide collaboration solutions that deliver on an experience, and more importantly on the clients' desired business outcomes. It can be a tricky balance between technology capability and simplicity of use.

We're at an inflection point where technology, space and workflows must optimally come together to transform the workplace into a harmonious, productive whole. Work is now mobile, social, collaborative and ever connected. So group collaboration tools and flexible, connected workspaces will be the new norm. Think of mass standardization delivered in a way that is repeatable, scalable, and delivers an outcome that encourages adoption and future use.

Workplace Transformation — The focus is changing from projects to platforms. Customized solutions will always have a place within an organization's technology playbook, but standards and more technology everywhere are quickly becoming the norm. Spaces that have not usually included technology — like cafes, hallways, coffee bars and huddle spaces — are becoming connected, collaboration spaces.

Companies want fewer, but more useable, spaces that can produce natural and intuitive experiences without boundaries. Research shows that over 54 percent of meetings involve remote participants; so the collaboration solutions provider will need to

accept the responsibility of removing the in-room bias and delivering solutions that produce consistent outcomes and desired experiences for everyone.

Today, technology decisions are an integral part of space and fit-out discussions. It is now a joint decision between a number of stakeholders, with IT and facilities teams leading

> As organizations work to implement technology standards, shift to more cloud-based conferencing applications, and strive for consistent meeting experiences, the importance of services to help assess, develop and support their solutions is more critical.

the way. Delivering a consistent and scalable experience will rely more heavily on managed services from solutions providers. As organizations work to implement technology standards, shift to more cloud-based conferencing applications, and strive for consistent meeting experiences, the importance of services to help assess, develop and support their solutions is more critical.

Millennials and Expectations — Mobile and Millennial workers are driving this change. Providers need to be able to speak with confidence on the value of the solutions they design, offer and support. They must deliver that message in ways that are tangible for the customer. That message should focus on outcomes

and experience. The solutions providers who can pivot quickly through technology acceleration and deliver on that experience will be leading the way for the rest of the industry.
—*Dale Bottcher, Senior VP Sales & Operations, AVI-SPL*

2021: Integration Terminus

Philip K. Dick's science fiction novel *Do Androids Dream of Electric Sheep* is set in post-apocalyptic San Francisco after World War Terminus. The film adaptation, *Blade Runner*, is set in Los Angeles, November 2019. In my opinion, this story is emblematic of our industry and provides a metaphor for the challenges an integration firm will face by the year 2021.

I'm not suggesting that we will be terrorized by rogue androids or that we will be forced to move our businesses to off-world colonies. I am suggesting that we have a paradoxical relationship with the technology we deploy and the market we create. This paradox will inevitably lead to the demise of Systems Integrators as a discrepancy continues to grow between the perceived value of technology and the perceived value of integration. By 2021 many of us will have inadvertently integrated ourselves out of business.

Consolidation without diversification will simply create an extended relay race toward Integration Terminus. Diversification is the key to survival in 2021.

In *Blade Runner*, the antagonist is the integrated technology. A few self-actualized and lethal super-androids (Nexus 6 replicants) have gone rogue and come back to Earth to confront their creator. In other words, the integrated systems want to confront their Systems Integrator.

Imagine if the technology in four of your high-profile and complex divisible conference rooms got together, went rogue and hunted you down demanding new firmware, thermal management and a longer meantime before failure. Chances are, some version of this has already happened to you and a system that you integrated to make your client's life better has turned on you and made your life a whole lot worse.

In the movie, the androids seek out the Manufacturers of their components as a means of finding their creator. They understand that they are greater than the sum of their parts and they hold their creator ultimately responsible for their experiences. In other words, the system holds the integrator responsible for the direct and indirect results of its existence. Imagine if the conference room technology that just hunted you down is holding you responsible for all the botched conference calls, presentation mishaps and compromised business communication. In the end, motivated by the rage of its own existence, one of the androids kills its creator. The system kills its Integrator.

Blade Runner is a metaphor for our business and the paradox

that we have created. The business of systems integration will ultimately destroy the systems integration business. As Manufacturers create their market with propriety open standards and restricted open sales channels, System Integrators create their market with competitive underpricing and devalued added services. In this scenario, the end user is an innocent bystander dragged along as Manufacturers and Integrators race to the bottom toward Integration Terminus.

The first volley in Integration Terminus is consolidation. We are seeing this play out today in our industry as integration firms merge or are acquired by corporations looking to diversify and influence their position in the market. Consolidation without diversification will simply create an extended relay race toward Integration Terminus. Diversification is the key to survival in 2021.

For those of us who make it to 2021, our firms will include Knowledge Brokers and Applications Engineers who specialize in the integration of virtual assistants, open air gesture communication and tactile holographic platforms. We will have 3D printing capabilities and we will manufacture custom components including microelectromechanical systems that will collect and transfer information between the physical world and our firm's distributed knowledge network. We will develop and integrate mind-machine interfaces and we will think to each other. We will think back upon the systems of today with the same bewilderment we have toward 18th-century operating rooms. We will remember the old days and we will think to each other, "I hope our systems appreciate what we have done for them."
—*Jim Hatcher, CTO, Human Circuit*

Modular Solutions May Hold the Key

Once upon a time, there were two people who stood on the edge of a meadow and looked out. The sun was shining and warming their backs, and a gentle breeze blew through their hair. Business was good, but unpredictable as always. What's next? One looked out on the horizon at the lush forest. The other looked a little closer at the strong, steadfast trees. Then, suddenly, a bear came up behind

them and ate them both. The End.

But seriously, the current zeitgeist is wrapped up in immediacy, connectivity, and competition. We're competing with ourselves, our friends, our families, and our rivals. We're competing with our clients for knowledge and leverage. We collaborate to compete. If you don't obsolete yourself, someone else will do it for you. Sure, stop to see the forest for the trees, but be careful not to get eaten

Commercial technology solutions can't be purchased online or in a retail store. A hybrid approach, like IKEA, will emerge — standardized customization.

while you're doing it.

Where did all the electronics stores go? Remember Circuit City, Radio Shack, Crazy Eddie's, The Wiz? "Nobody beats The Wiz." Well, someone did. Dealers cannot be successful acting like professional electronics stores selling high-end components. Not for long. Yes, I know, you're different. You design, install and program "systems" too. Grrrr … you just got eaten by a bear.

Room systems are just slightly up the food chain. Think of rooms as bigger boxes (and we know what happens to box sales). Put enough boxes together, and now you're talking. That's what has consistently happened in the past. Box sales evolved into systems sales, and now rooms systems are evolving into enterprise sales. An enterprise is just a bunch of rooms tied together on a platform, also known as a network.

As more people carry more technology with them in and out of rooms, more technology must be installed in and out of rooms to support those mobile devices. In fact, there's more technology in more spaces throughout buildings, campuses and cities than ever before. With so much more technology spread out across an ever expanding landscape, the challenge of deployment, maintenance and management of it all becomes very real. Traditional dealers are well suited to install gear in dozens of rooms, but what about hundreds or thousands — all at once, not phased in over five years. What happens the next day when the dealer proverbially "hands over the keys" to the client? How will the client know what's going on in any of those spaces?

Remember that commercial with the startup selling some product on the Internet? At first the sales trickled in, but then they poured in and the company couldn't handle all the business? Same thing. "Hooray! We just increased our hardware spend 100X, but we still only have a staff of three to support it all." Ugh.

So, where does all this leave dealers in 2021? Not all traditional AV dealers will be eaten by a bear. Some will evolve to be more like IT VARs. They will take on an ongoing consultative role. Rather than selling technology, they'll help clients solve real business challenges using technology (that subtle shift of perspective is critical — providing solutions rather than selling products).

As technology continues to consolidate and markets mature, dealers will sell Platforms as a Service (PAAS). The days of building custom systems from scratch are fading fast. Of course, commercial technology solutions can't be purchased online or in a retail store. A hybrid approach, like IKEA, will emerge — standardized customization. Solutions can be modular and pieced together to create a custom solution. The hardware is just to get a foot in the door. The profit will come from services and licensing.

Dealers can sell licenses for software or keys to the platform, and they can also sell maintenance and monitoring contracts. The monitoring service neatly rolls back into the consulting service by using the data collected to make recommendations about upgrades, expansions, and modifications. The value-add for the client will be improved workflow, increased productivity, and overall satisfaction.

There will still be a role for traditional AV dealers. They will focus on light commercial, such as doctor's offices, restaurants, night clubs, etc. Also, the IT value-add dealers will subcontract to regional AV dealers for the hardware installation.

There will be a period of transition. There's no giant switch that gets flipped in five years. Heck, there are still plenty of VCRs, document cameras, and 1080p displays out there. But dealers are going to have to start educating themselves, building relationships, and retooling their business now if they want to grow and thrive, and not get eaten by a bear. Good luck in 2021.
—*Jeff Singer, Director, Marketing Communications, Crestron Electronics*

How to Avoid Becoming an Edsel

I retired my timing light in 2003; I hope yours is retired too. The day of the shade-tree mechanic is long gone — car repair is a whole new ballgame. So what?

Your role as a "Pro AV professional" may be in jeopardy of similar shifts in the next five years. I cut my teeth as a systems engineer, first on aerospace systems and then information technology. Both of these segments have undergone radical changes and I believe AV integrators are headed down the same path. Here's some context.

If you are a component integrator, recognize that your "components," that is, projectors, screens, control systems, switchers, etc., are being integrated, standardized, and abstracted. In the IT world, entire systems (the ones I used to sell!) have been shrunk onto a single chip. Multi-million dollar datacenters have been abstracted into $5,000 monthly payment to Amazon Web Services. In aerospace, multi-billion dollar satellites have been "commoditized" into relatively inexpensive "microsats."

Your component integration skillsets are becoming obsolete at an ever increasing pace! Your cheese is moving, whether you know it or not. But, take heart, the solution is straightforward; simple, no, but straightforward, yes.

We can no longer afford the "luxury" (arrogance?) of saying "we'll do your conference rooms, but we don't do security systems." Customers want integrated systems.

Start now by rethinking your place in the value chain. Drop the "video," drop the "audio," drop the "programmer," and become a real electronic systems integrator who focuses on commercial organizations. These organizations will always need integration professionals who deploy systems engineering skills to integrate electronic systems. Let's face it, banks are focused on being banks, schools focus on teaching, retailers focus on selling. Very few organizations want or can afford to develop competencies in electronic systems integration. You can!

But, and it's a big "but," the nature, complexity and scope of the electronic systems in question will change rapidly over the next five years. We must develop skills that deliver fully functional

electronic systems that solve customer problems across traditional system boundaries. We can no longer afford the "luxury" (arrogance?) of saying "we'll do your conference rooms, but we don't do security systems." Customers want integrated systems. Integrators who don't deliver are the Edsels of the future.

If you're with me so far, you may be asking how do I get started? Start by reconsidering your business model and identifying core competencies that will serve you well in this new world of electronic systems integration. I'd suggest the following for starters:

Consultative Selling Skills — We can no longer sell from our company toolkits. Teach your sales professionals (and yourself!) how to listen, empathize, visualize and tell stories. Get immersed in design thinking. Customers increasingly expect you to deliver an experience, not just a product or service. If your sales team can't engage customers at the experience level, they're toast — and maybe you're toast too.

Systems Engineering Methodologies — Starting in the early 1960s the NASA space program developed systems engineering as a discipline, not just a buzzword. Systems engineering involves documented system-level requirements; flow-down of requirements to the subsystem and component levels; design integration; periodic design reviews; subsystem and system level test plans and testing; user acceptance testing based on the documented requirements; and delivery, which includes system documentation and an ongoing support plan. The days of slamming stuff in and hoping the cus-

tomer will figure it out are about to be as dated as my ancient timing light. Learn and develop your systems engineering competency.

Subcontracting and Teambuilding — Today most integrators view subcontracting as "I know a guy in Toledo who might be able to … " Change your perspective; imagine you are launching a moonshot. No one company has the internal expertise, skills and bandwidth to individually design and deliver tomorrow's complex electronic systems. As an electronic systems integrator you need to develop teambuilding skills and contracting methodologies. Winning integrators will be those who can assemble, manage and gracefully disband extended teams of specialists, both companies and individuals. Customers want a "single bellybutton to push" and they'll pay well for the company that can deliver. Develop contracting and subcontracting skills.

If you're thinking these changes are radical, you're right. But, history has shown that the pace of change waits for no man, or woman. And your company won't change by itself. Lead the change by starting to think of yourself as an electronics systems integrator. Figure out how to deliver compelling solutions across the spectrum. Reward those who join in and lead the charge; help those who want to change but struggle; part ways with those who cling to the past. I loved my timing light but it just wasn't part of my future. Jettison the baggage that's tying you to the past and launch a new future.

—*K.C. Schwarz, CEO, USAV Group* [CI]