AV BEST PRACTICES

Look for qualified teams

When looking at the qualifications of the potential AV team, individual certification and company commitment make a difference. Those organizations with InfoComm certified staff (CTS) have committed to ongoing education to stay abreast of new developments in the field and to the best practices of the industry. To find a qualified company, please visit our AV Pro Finder.

Keep the AV manager involved

The staff AV manager is very involved with the details of the AV design and installation. The AV department establishes the owner's AV standards for the project. The manager is also knowledgeable about the needs of the end-users in relation to the current systems. The AV manager is motivated to ensure that the project goes smoothly, with communication being a vital part of that success. Consequently, good communication between the AV manager and the AV providers is critical.

Create a technical subcommittee

To ensure that a building committee has a technical voice, an enlightened owner may assign a separate subcommittee to allow the various technical representatives to work together and represent the owner as a group. This allows the AV providers to work through a point of technical responsibility for the owner and provides a venue for the owner to resolve conflicts, duplications or other issues internally without getting the AV providers involved in internal politics.

The committee is essentially concerned with the same issues as an individual AV Manager, perhaps with broader interests if data/telecom, security or other interests are represented. The committee has information about standards (which may first require definition), as well as about the end-users' needs. In addition, the committee can convey concerns about AV systems interconnections, operations and maintenance that will have an impact on the systems design.

Involve technical consultants early

Since AV costs can be a crucial component in the contract, it is recommended that the architect confer early in the process with the AV designers to determine what impact the proposed AV systems will have upon the building plan and budget. AV systems considerations include acoustics, lighting, sightlines, and space requirements that may require design adaptations. Examples are additional space to accommodate projection rooms, thicker wall construction to enhance acoustics, additional energy requirements and budget for lighting systems, and, in some cases, a taller building to allow for increased floor-to-floor dimensions required for optimal sightlines. It is critical that the AV designer lead the client to timely decision making on behalf of the overall design team, whose work depends on this information.

Involve the AV designer early to coordinate building structural design

Sufficient ceiling heights are critical to AV sightline concerns. For example, if a very large audience area is planned, the required image size and location may necessitate raising the ceiling, altering the floor structure, or even increasing the height of the entire building to allow for AV presentations. To avoid the budgetary and disruptive consequences of these changes, it is important to discuss these concerns with the AV designer early in the process.

Involve electrical consultants early

Discuss the AV operations with the building design engineers early. Coordinate with the mechanical engineer to determine if dedicated HVAC systems or services will be required for specific rooms and equipment. Confirm the hours of operation of building HVAC systems. AV equipment may require 24x7 HVAC services which would require separate HVAC controls or services. Coordinate with the electrical engineer to determine the reliability requirements for electrical power and communications servicing the AV systems. Mission-critical AV and information systems may require dedicated and redundant power systems. Remember that supporting HVAC systems, lighting and life safety systems must have redundant power as well to maintain the operational environmental conditions.

Construction managers should include AV in project budgets and management

The CM is concerned about schedule, scope and budget, and it's important to understand how the AV process is similar to or different from traditional building trades. AV affects a wide variety of project areas. It adds cost to the base building for infrastructure, and the AV systems have the potential to be a significant and unexpected budget line item. In fact, the AV contract may not be issued until after the base building has been contracted for. Experienced construction managers are prepared for issues related to audiovisual needs.

Put AV systems in the capital budget

Always determine the appropriate category for the AV budget at the beginning of the project budgeting process.

Normally, the AV systems in a large installation project should be identified as capital budget (the same as other traditional building trades). It should not be considered FF&E. The operations, upgrades and augmentation after installation would be appropriately considered operations and maintenance budgets. The only AV equipment that might constitute FF&E would be portable equipment that is not associated with permanently integrated systems.

Get educated about AV

If an organization is considering an AV project, it is imperative to get up to speed quickly. That requires research and education. Understanding the players, their roles, and the available options will improve the chances of greater AV project success. The best way to learn quickly is to become active in AV industry trade organization, such as InfoComm International, which offers numerous vehicles for learning and peer-networking. The exchange of ideas provides "real world" perspective and confidence. Fore more information, please visit www.infocomm.org/education.

Stick with the same provider after a design-only contract

Under a design-bid-build option, it is best to contract initially with an independent consultant and include construction administration services

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in the contract to begin with. If the construction phase services are not included, then the same consultant should be hired for the remaining services if the project continues. Consistent technical construction administration can be a determining factor for success of the AV system.

Under an integrator-led alternative, following through with the same integrator for the systems installation is critical. When contracting with an integrator during the design phase with a design-build path in mind, don't "shop" the design documents to other integrators at the end of the design phase in the hopes of reducing cost. The documents are not likely to be appropriate for comparable bidding and may lead to inconsistent or incorrect pricing; they also may not convey the owner's full expectations for the systems performance.

In either case, the discontinuity that results from "changing horses in mid-stream" will undermine the advantages of the delivery method being used.

Contract AV integration directly when possible

When all is said and done, a contract directly with the owner is the better option for AV integration. Since the AV contractor may not be engaged until the general contractor's work is well underway, a coordination allowance may need to be established in the general contractor's contract before the AV integrator is brought on board. However, this should be substantially less than the traditional contractor markup for a standard subcontract arrangement, especially for larger AV projects.

Don't shop the program document

On some projects, general contractors may be tempted to "shop" the program document with potential AV bidders to obtain review comments and preliminary pricing. This is often done with good intentions, but without an understanding of the AV design and bidding process. The program report is not a bid document and should not be considered as such. It may also include anticipated system costs that would be detrimental to a future bid process. The general contractor should be informed about the purpose of the program document and agree not to distribute it inappropriately.

Carefully evaluate Owner Furnished Equipment (OFE)

Supplied equipment can work if it is evaluated for acceptable performance. The age, type and brands of the technology or equipment need to be taken into account. It is critical to assess whether or not the equipment will still be serviceable when the project comes to fruition as well as far beyond.

Provide infrastructure design for all potential AV systems in the program

In some cases, the programming process may result in systems that are beyond the available funds to install. If this is the case, it is best to provide the infrastructure to support the complete system — even if the initial systems installation does not include the full program. This increases flexible options for future planning.

Consider the impact of time and money on quality

There is a powerful connection between quality AV design and installation and the time plus money that is necessary to attain them. Longer projects are almost always able to better accommodate a tight budget than fast-track projects. In a fast-track project, one can almost count on spending more money to get the job done while maintaining a quality installation compared to a project schedule with a more comfortable schedule.

Get organized for design reviews

How the owner/user is organized, and/or how the project is contracted, will have an effect on how the owner review process takes place. For owners and end-users with non-technical personnel, the review may require face-to-face meetings to explain the documents and interpret different parts of the system in layman's terms. In other cases, the reviewers may be more technically capable and can review the documents without significant assistance. In some cases (particularly on larger projects), a meeting is required at the conclusion of each review to discuss any comments or issues that have arisen.

AV consultant and integrator work as a team
Open communication and respect between the AV consultant and integrator is essential under any method involving both, especially within the design-bid-build model. To deliver a technically correct product while maintaining the schedule and budget, these professionals must work together as a team.

The consultant brings a broad knowledge of AV solutions and an intimate understanding of the client's needs. After evaluating those needs, the consultant applies and defines AV solutions for construction.

The integrator brings a depth of field experience, specific product knowledge and a trained technical staff, and is responsible for delivering a complete system, based on the design specifications from the consultant.

As professionals, the consultant and integrator are committed to communicating any concerns with the AV component of the project to each other as well as to the CM or PM and those to whom they are contracted. The sharing of ideas, technology, product demonstrations, solutions and samples promotes teamwork, opens the way for better products, ensures greater client satisfaction and ultimately promotes the AV industry as a whole.

Coordinate the move-in schedule with the AV installation

The AV equipment requires a clean environment and the system cannot be fully commissioned until the facility construction is completed. This may create an overlap of the AV installation on-site and the move-in by the facility's end-users. The "first use" and other scheduling of AV events by users should be closely coordinated and sequenced to allow for completion of the AV systems installation process.

Get Graphical User Interface (GUI) approval before programming

Under the design-bid-build process, a touchscreen GUI should be designed and approved during the design phase. For the design-build process, the GUI design may come a bit later in the overall project schedule. In either case, it is important to get approval for how the GUI looks and functions before developing the "back-end" programming that actually sends commands to the equipment.

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Where possible, the end-users should be included in the review and approval process, as well as the AV consultant under design-bid-build. The GUI submittal may be in many formats, including HTML, PowerPoint, web or proprietary control manufacturer formats.

Plan for AV equipment security

Making a provision for creation of a secure area should be in the contract. Often the safest way is to wait until the owner takes delivery of the entire site before creating the "safety zone." Though environmental conditions might prevent it, external storage strictly under the integrator's control is another option (e.g., trailer). In any case, an equipment security plan should be made before delivery of any equipment to the site.

Develop a training department

For more sophisticated systems, some larger integrators have training departments that can put together a customized professional training program for each project with the help of the technical staff who worked on the project. Such a structure is an excellent benefit to the end-users and is highly recommended for integrators whose operations can support such a department.

In these cases, even though a professional trainer may lead the training session, the system designer and other technical integrator personnel who worked on the project should be in attendance. For training technical users, the system designer will usually be required to lead the session.

The same concept holds true for end-users. When an organization is large enough and uses a significant amount of AV, an internal training program (or an outsourced one) should be considered to keep end-users comfortable with the systems and accommodate new users entering the organization.

Review the installation prior to the end of the warranty period or service contract

Toward the end of the warranty or service agreement period — usually four to six weeks before the term is to end — a representative of the integrator, owner, and any other appropriate stakeholders should review the installed system to ensure that all contractual obligations have been met and note any issues that may require resolution before the end of the contract term. The owner may choose at this time to negotiate the renewal of the contract and continue working with the integrator or use in-house staff, provided the adequate internal expertise and capacity has been developed.

Be careful with software updates

The warranty and/or service agreement may (and should) include software and firmware updates. In general, these updates should only be performed when the update improves the performance or reliability of the system. Careful consideration should be made prior to the installation of any updates, including those to owner-furnished equipment (e.g., computers and network services). An update to one system or piece of equipment may trigger unexpected results from associated equipment or systems. In all cases, the integrator and/or service contract provider must be notified prior to update of any equipment associated with the system.