Shure once again used the unique setting of the Montreux Jazz Festival to bring together high-level stakeholders in the AV/IT sector to discuss the latest trends and possible future developments facing the industry.

This year’s event took place under the heading ‘Expanding Horizons’, with discussion centering around how change is creating opportunities, whether that’s new technology and new ways of working as AV and IT unite, or new markets. Some sessions had a particular focus on the government sector where clear communication is an essential element of democratic procedure.
The day began with a presentation by Mike Bedford, technical director at multidisciplinary engineering consultancy Hoare Lee. Mike heads up the Intelligent Buildings Group, putting him in an ideal position to explain how the approach to building technology design has changed in recent years, creating opportunities but also requiring a new way of thinking when it comes to designing and constructing buildings.

No matter the building, Mike explained that the key is to work out how they can interface with users and their personal devices to create a more convenient and personalized experience.

“I don’t need to tell you that there’s massive digital transformation happening across all industries. In general, that means buildings and spaces need to be more personalized to the user, more agile, more data-driven and more collaborative.”

At Hoare Lee, the Intelligent Buildings Group combines AV, ICT and connected services in order to create a more holistic approach to building technology design.

As he explains: “If we think of ICT as a conduit for the data and control within the building, AV is the human interaction, the interface, and connected services is relating to IOT sensing, data analytics, machine learning, AI implementation for buildings. All of these are connected. Everything in buildings now can be over IP but it’s a struggle to get that going and actually implemented correctly, so we’re working at that solidly.

“One of the lessons we’ve learnt is that very early engagement is necessary to do AVoIP well on projects, I’d say at the beginning Work Stage 3, at the latest.”

While the benefits of AVoIP are clear – namely that it’s standardized, modular and easily upgradeable – there are a number of other challenges affecting building design. Top of this list is user expectations. As users increasingly integrate voice assistants and chatbots in their everyday life, so they are questioning why this isn’t available in a corporate environment. “In people’s homes we’re now more connected to personal data systems than ever before – wearable tech, lighting control, thermostats, and more.”
“That’s all happening on a consumer basis, but what’s happening in construction is also very interesting. It’s generally a quite slow-moving industry, but we’re gradually converting analogue process to a more digitized workflow in a number of different aspects, whether that’s identification, logistics, asset management or site reporting.”

Not only is there digital progression in the construction industry but there’s also pockets of innovation, particularly involving IT professionals with a background in computer science who are working out how to apply contextual data in the operation of buildings for higher efficiency, maintenance of plants and the like.

Mike believes it’s essential to push this forward, particularly when it comes to the lifespan of buildings. “The systems being installed within our buildings are going to be for future occupants. Those future occupants are going to have a different kind of vocabulary – acronyms such as AR/VR, AI, IoT, as well as automation and blockchain will be the norm.”

The good news is that it is already possible to futureproof buildings, and it is data that holds the key. In recent years it has been possible to amass huge amounts of data on buildings, how they’re being used, how efficient they are, and so on. However, the problem was a lack of strategy regarding how this was analyzed.

The Fourth Industrial Revolution

Now that we’re in what Mike calls “this emerging fourth industrial revolution of cyber physical systems”, strategy has become more important and it is possible to gather intelligent notification and reporting that has actual, tangible impacts on the way buildings operate, while offering business intelligence in terms of saving money or improving experience.

Having a data strategy is even more important due to the proliferation of IoT devices on the market. Making the right decisions about these devices at the building design stage will lead to both hard and soft benefits.
Data for ROI

Hard benefits include the easily quantifiable things such as energy. Mike explains: “This is one of the things people have grabbed onto as it’s quite empirical information; you can demonstrate a return on doing some work or investing capital expenditure on something.”

However, of the operational costs of a building, energy is 1-2%; the main cost is staff, and it’s here that the soft benefits become important.

“People are becoming a lot more cognizant about the fact that we need to consider wellness, staff retention and impact on brand as super important, and we need to somehow quantify that. If you can start to learn from the behaviors of people using the systems and the spaces in a building and how they interact with each other it can have real tangible, quantifiable data return for you to be able to make decisions and demonstrate the quality of the work environment. Staff don’t take jobs just on the basis of salary anymore.”

Despite this, Mike has a mantra that buildings shouldn’t be technology-driven, but rather user-centered spaces that are supported by technology. He explains: “The whole process of designing the technology that we’re going to integrate into buildings should be centered around use cases and informed by engagement with user group representatives. Unless you have that stakeholder involvement in the process, designing the technology and putting it in front of a bunch of users will never be that successful.”

“Change will become easier, more centralized and more remotely driven.”

Post occupancy analysis

This emergence of data-driven design is also affecting the whole approach to building design. What was previously a linear model that began with a brief and ended with a handover to a client and a token post-occupancy analysis is now much more of an ongoing relationship.

As post-occupancy analysis can now be based on data sets that provide real insight it is possible to make decisions based on that data. Mike explains: “We can now fully monitor that over a period of time we can determine the shifts in user requirements and technology capabilities and how does the infrastructure that we’ve strategically designed for this building and the data strategy support us optimizing this system or process. Using this kind of process supports a continuous commissioning model.”

This is all part of ensuring buildings are futureproofed and can adapt to changing requirements, and AV should be considered in this infrastructure phase rather than being an afterthought, especially with more and more devices sitting on the network.

This level of planning can also help the client, creating the opportunity for strategic phased investment. Mike adds: “If all the bones are there in the infrastructure, you can add end devices over time. So make sure connectivity methods, room control interfaces and room booking systems are common for all rooms and are part of the infrastructure, then phase in additional elements over time when you can see how spaces are being utilized.”

No matter how the future looks, change will always be a part of it, concludes Mike: “Change will become easier, more centralized and more remotely driven – everything from firmware updates to processor chips changing in the actual hardware.”
Government Opportunity
Another aspect of the ‘Expanding Horizons’ theme was the opportunity offered by the government sector. Abdelbaqi Chelqi, AV Event Manager from the French Ministry of Finance, Sally-Anne Sader from the Inter-Parliamentary Union (IPU), a global organization of national parliaments, and Nick Welsh, CTO at the Government Property Agency in the UK developed this theme.

Abdelbaqi is the AV Event Manager for the French Ministry of Finance responsible for AV equipment selection and installation for all events organized by the Ministry. Abdelbaqi started his presentation by reminding the audience of the Ministry’s key missions when it comes to AV: AV & IT support during events, multi-purpose rooms management, videoconferences and photography support, which includes 994 AV events and 211 filmed events, per year.

Abdelbaqi highlighted the daily challenges and specific requirements that he faces, and the importance of flawless preparation and equipment installation for public institutions. Any failure can have a big impact on the credibility of the participants and the organization. Finally, in order to maintain good diplomatic relations when international meetings like the G7 are being held, the protocol needs to be followed to ensure no one gets offended: If dual delegate units are being used, each participant’s name needs to be displayed.

Abdelbaqi concluded by explaining how he would like to see the products evolve in the future to fulfill his needs. Chad Wiggins, Shure’s Senior Director of Product Development for Integrated Systems, responded to these suggestions by providing insight on the future roadmap.
As the Inter-parliamentary Union’s (IPU) events manager, Sally-Anne is responsible for the technical and organisational aspects of the organization’s two major conferences each year, which bring together more than 2000 people. The IPU tackles topics like Human Rights globally – working with local MPs to ensure standards are being followed. Collaboration is critical to these large scale events and audio equipment plays a huge role in this process.

As she explains, “IPU’s assemblies provide an inclusive forum, where every member of parliament, regardless of their political beliefs, religion, race and sexuality, can speak freely.”

Of course, for this to happen, clear communication is crucial. But what does it actually take for MPs from around the world to be able to communicate as part of the ongoing democratic process? “We need 40 interpretation booths, 450 microphones, 1750 headsets, and cabling, lots of it, as well as a team of qualified technicians from a professional company to run the whole system.”

During the five-day assembly, six meetings run in parallel. To enable this, the IPU recruits 50 interpreters, covering English, French, Spanish and Arabic; another four booths in the main meeting rooms work in Chinese, Japanese, Russian and Portuguese, while other members are able to rent booths. This creates logistical challenges as “depending on the meeting room, we can have 10, 12 or 14 languages in parallel; obviously excellent communication technology is crucial to the smooth running of an IPU assembly.”

Better Connections

Sally-Anne highlighted how new technologies have had a major impact on the operation environments and cultural landscape of parliaments.

A parliament that harnesses the power of these new digital tools can now connect with those it represents in ways that were hard to imagine just a few years ago.

One thing to remember, however, is that communication and freedom of speech is one of the cornerstones of democracy. As Sally-Anne said: “As you all know, democracy is facing some serious challenges in today’s world. People, especially young people, have less faith in their elected representatives. Youths today communicate in different ways, and they are future parliamentarians. We need to learn from them and listen to them, as well as to make use of the latest communication and IT technologies for our conferences.”
A parliament that harnesses the power of these new digital tools can now connect with those it represents in ways that were hard to imagine just a few years ago.

Sally-Anne Sader
The Government Opportunity

Creating the Best Environment

Following up on the theme of preparing for the next generation and their expectations when it comes to technology and workplaces, was Nick Welsh, CTO at the Government Property Agency in the UK. The GPA is an executive agency of the Cabinet Office established to manage the UK Government Office estate and provide UK civil servants with great places to work.

The Government sector has now recognised the importance of the working environment when it comes to getting the best out of employees and ensuring they are happy in their work.

“We’ve got to try and protect the workforce, and make sure that they enjoy coming to work as much as anybody can enjoy coming to work. In order to do this, we’re in a program of building 40 new government buildings around the UK.”

This is creating some unique challenges, however, with one building housing 26 different departments and agencies that all have their own building policies and ways of doing things. Not only that, but every time there’s a change in government it invariably means departments splitting, merging or changing in size. In the past, the government would simply go out and find new office space, even if another site was only was half full.

The aim of this new building program is that it will create flexible spaces enabling people to move around them easily.

Nick explains: “The GPA will provide all the core services, FM, IT, AV, meeting rooms, all of that will be a common service. Meeting rooms have also been standardised with a HDMI screen and a USB video camera that users can plug in and use their own laptop as the codec, something Nick says “has made the integration a lot easier.”

Surviving Convergence

Having been in the IT industry for some years, Nick has been involved in the convergence of IT and AV and has devised a focussed strategy that blends the two worlds. “The specification we’re writing for these new buildings, specify AV as part of the IT team’s delivery, rather than the fitout contractor. Luckily, I run the IT team so I can do that, but some departments still say they don’t do AV, or they don’t understand it.”

Security was also highlighted as a major concern when it comes to government buildings, “because if the contracts aren’t in place to try and protect these systems, there will be a compromise. And that will be the worst thing because everybody’s going to panic and the shutters will come down. So we need to start thinking about this now.”

The final issue raised by Nick was the steep learning curve when it comes to getting IT teams to understand the vagaries of AV. “We need to start understanding both worlds better and getting a cross-capable team. This is the way it’s going so everyone has to start thinking about it, but I’ve now got buildings that are doing it, that are really moving into this world.”
Following Nick’s presentation, a lively panel discussion featuring Nick, Abdelbaqi, Sally-Anne and Mike alongside Shure’s Chad Wiggins and Rob Smith took place. This particularly focused on how government and governmental users differ from conventional enterprise markets and the distinct challenges that define this vertical.

One aspect raised by both Mike and Sally-Anne was the expectation of support for multiple languages. As Mike said: “I think that element exists in the corporate space and education as well. But it’s oftentimes the exception and not the rule, whereas it seems to be an absolute rule in government.”

Other factors including security concerns, the challenge of refitting historic buildings and supply chain management were also discussed.

When it comes to security, Mike suggested that this is now often driven by an organization’s security protocols, rather than the manufacturer.

“We’re working on some projects at the moment where the organization’s IT team pre-qualifies any IP device going on a common network. So a manufacturer has to submit a file which describes the attributes of their device, from a security point of view, and its IP communication capabilities. That device will not go on the network until it’s passed that verification process.

Nick also highlighted the fact that spaces that are particularly sensitive can be taken off the shared network. “If you’ve got some sensitive rooms, you may actually take the view that this has become so sensitive it will be in a standalone system, not on the shared network; it’ll have its own IP network, because that’s the key asset.”

Explaining Shure’s approach to security now and in the future, Chad said: “We’re taking security extremely seriously right now and some of our brightest engineers and our security tech tactical team have defined for us what our security policy is; we know which protocols we need to adopt and we have a timeline along which we’re going to roll those features into the products.”

Nick added his own thoughts on what makes the government sector both challenging and unique from a procurement perspective: “The government frameworks that all UK government departments have to use doesn’t have an
AV component because, traditionally, the AV is provided by the fitout contractor or the FM contractor. And that's a problem; if I'm going to procure and try it and get the IT team to procure the AV equipment, there isn't a framework we can go and buy it from.”

Mike suggested “the industry thinks a bit more about hardware as a service, potentially, as a procurement model. I think I’d encourage people to innovate not just in design and product, but in process. The human element of this sector also came up for discussion and how users can be educated about what’s possible with technology.

### AV out of sight

Rob explained: “I think it’s our role as an industry to make it so our technology is easy to use. Certainly in a video conferencing-type environment, if you’re aware of the technology, we failed at our job.”

The group very much agreed with this. Mike added: “I think there’s a big push towards reducing technology barriers to users, reducing the amount of interactions required and making rooms and architectural spaces more responsive to users, and not just a room being occupied, but who is in that room and what did they do last time they were in that room. There’s a lot of intelligence that could come out of that now, even anonymized data can be fantastically valuable and give us great insight into how to optimize spaces and communications.

“However, from the users’ point of view, they should be abstracted from the detail and rooms should be simpler to use. We’ve got a hard job; to implement these technologies requires discussions about business case and return on investment, capital expenditure, operational expenditure, and more so software, licencing structures, with various people involved in large projects. How we discuss that is really important. Our approach at the moment is to talk about three elements – infrastructure, end devices and software, and frame all discussions around those three boxes. I think it’s useful to have no more than three elements that you talk about at once.”

Chad added: “We need to also remove that technical layer, even for systems integrators, so that they can provide a level of quality for the end user without having to be very technically skilled.”

As expected, the day of discussions raised a number of talking points, covering not just technology issues but also how people and business models are changing. While there is undoubtedly the opportunity to expand horizons, these new areas come with their own challenges that need to be explored and understood before embarking on projects.