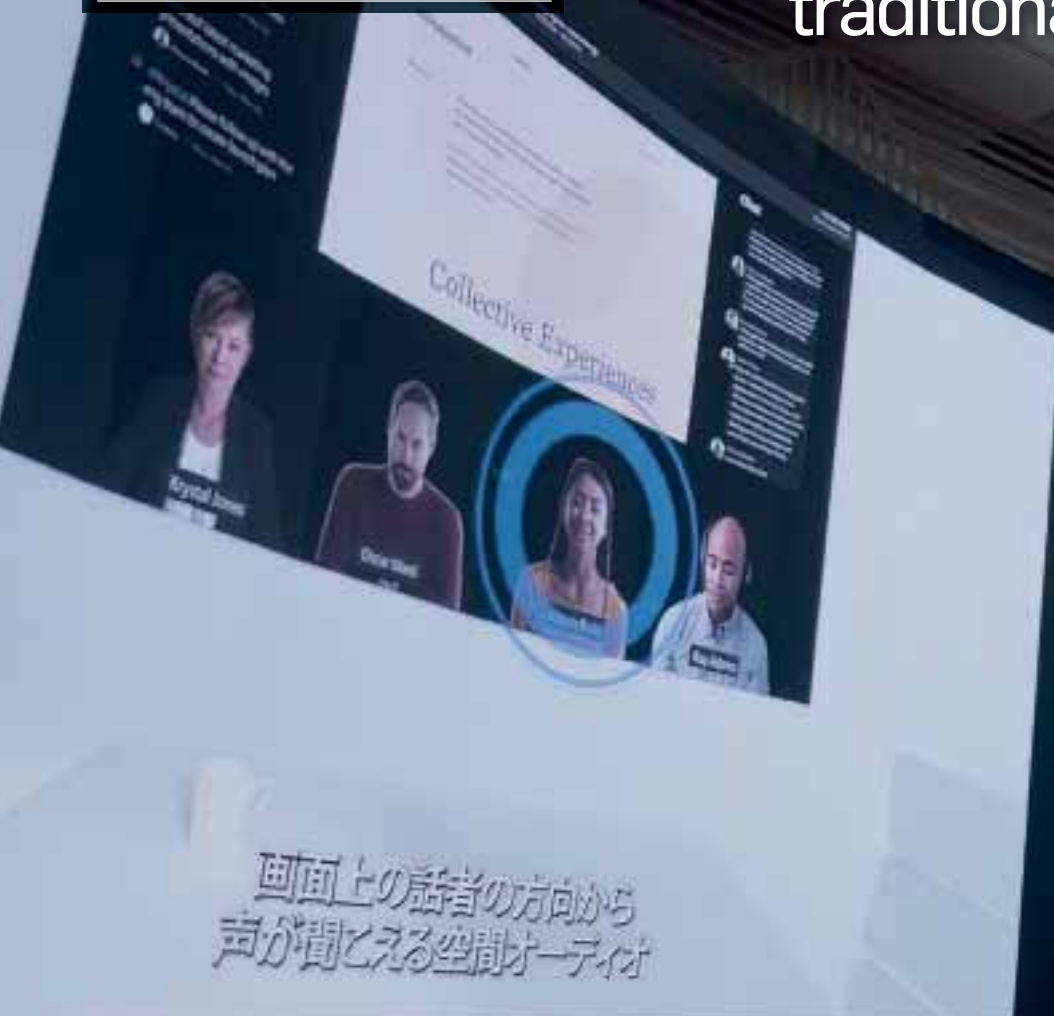


HOTEL RETHINK

Transforming hospitality's
traditional view of AV



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A JAPANESE AV RECORD BREAKER

Hotels aren't renowned for having innovative AV installations. Usually the most you can expect is a flat front or rear projection screen and some standing speakers – but not in Tokyo.

By Caroline Reid and Christian Sylte.

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ince the onset of the pandemic, the Japanese capital has been hit with so many waves of Covid that face masks, social distancing and hand

sanitiser have become a part of everyday life. Remote meetings are even more common in Japan than in Europe and one hotel has capitalised on this.

Hotels are famous for boasting about even the most minor of achievements in a bid to outdo their rivals. There's a never-ending battle to be the tallest, to have the highest bar, the biggest pool or the most expensive suite.

So when the Hilton Tokyo announced in autumn last year that it had installed the largest LED wall of any hotel in Japan it didn't sound particularly noteworthy. Hilton said that the sweeping 15.1 metre-wide and three-metre-high Barco screen was curved which was nothing new, so why did it warrant the announcement? It's only when you see it in person that the answer to this question becomes clear.

Curved screens were introduced to the consumer market in 2013 when both LG and Samsung unveiled OLED TVs for the home. They appeared to be an unnecessary frill designed to drive hardware sales rather than adding real benefit to users. It is rare to see super-sized versions in a conference setting but that's actually where they come into their own.

Flat front or rear projection screens have become the mainstay of conference venues but they have two fundamental flaws. The first is a limited viewing angle which means that anyone sitting on the fringes of the room often struggles to see the content on the screen. The second is that the host usually blocks part of their presentation by standing in front of the screen whilst giving a speech. A curved backdrop solves both of these problems and then some.

"The best way to demonstrate the benefit of the screen being curved is that from any seat there is no bad angle. If it was flat you wouldn't be able to see it well from the side," says Leo Frankel, commercial director of the Hilton Tokyo. "A curved screen allows the speaker to be flanked with their presentation so everyone can easily see both the presentation and the speaker. We also couldn't have got the size that we wanted without it being curved."

Standard square screen

The Hilton Tokyo originally had a standard square projection screen in its ballroom and decided to upgrade it in autumn 2021 when business was quieter than usual due to the pandemic. The hotel turned to technology solutions provider, Vega after seeing it give a presentation about its work at the local Chamber of Commerce. It led to a whirlwind partnership because borders were beginning to re-open which meant that the ballroom would soon be busier than it was at the time.

"One of the challenges we had was actually getting enough downtime in the room," says Vega's Japan country manager, Richard Johns. "We wanted to reduce the downtime and we were lucky with Covid in that sense."

He adds that power was another hurdle. "In order to get enough power necessary for the LED wall we had to lose the coffee machine in the bar area next to the ballroom. This whole thing uses two kilometres of electrical cabling." Barco provides support but it isn't always needed.

The screen has a resolution of 6720 x 1215 across 252 LED tiles and Jimmy Heil, Vega's managing consultant for new media technology, says that some of them didn't work at the start. "Whenever you build LED walls you do a burn-in test and some of the panels burn out. That can't be helped. You just pop them out and pop in new ones. We have replacement panels in the hotel so I don't even have to wait for Barco. It's plug in and play – two cables, power and data."

Frankel explains that "it wasn't always envisaged that the screen would be this big. Originally we thought it would be nice to replace the screen and projector with a built-in LED wall and then the conversations grew. Vega came back and said 'what about making it curved?' It enables a number of unique configurations which would not be possible with a flat screen."

One format allows content from different HDMI inputs to be shown on boxes scattered across the screen. "You could have a movie in a box on one

side of the screen and an interview with the actor on a box on the other," says Heil.

It's an aspect free screen so it's not 16:9, it's not 21:9, it's not any sort of standard native resolution or aspect ratio. What that means is you can get 16:9 images but if you fill them from corner to corner you cut off the top part of the movie or you get gaps and bars if you don't want to distort the image.

"The purpose wasn't to use the ballroom as a screening room but you could fill the centre screen and have velvet cinema curtains by the sides or creative background content that matches your brand colours." The hotel even takes care of that and this is arguably even more breathtaking than the screen itself.

Below ground

Buried in the bowels of the hotel is a studio which would make some film-makers jealous. Set in a room which used to be a wedding photography studio, it is filled with well over 50 pieces of professional production hardware. One part of the room is bordered by a green screen with an array of Blackmagic cameras trained on it and an antilaziness XR motion tracking system lining the floor. The Blackmagic array includes five Pocket Cinema 6K cameras, one URSA Mini Pro 12K and two with a 4.6K resolution.

There are also DJI RS 2 and 4D-6K gimbal cameras with the latter featuring a LiDAR range finder, 4-Axis stabilisation and wireless transmission. These are the same cameras used by cinematographers and they all feed into a Blackmagic ATEM TV Studio Pro 4K which can be used to switch between multiple cameras and create broadcast quality transitions, graphics and effects. Designed for broadcasters, it can process up to 2160p60 and has eight 12G-SDI inputs.

Five HyperDeck Studio 4K Pro systems allow broadcast-quality video files to be recorded directly on to SD cards or SSD media and no expense is spared on visualisation. There are two Blackmagic SmartScope Duos and SmartView 4K monitors for analysing image quality with two 50in NEC Confidence displays for output.

Then comes the audio kit which has a Dolby Atmos spatial playback system at its heart with an AVID pro tools HDX MTRX interface feeding into an Allen & Heath SQ-6 mixer. That's in addition to more than 40 top-of-the-line microphones from manufacturers such as AEA, DPA, Neumann and Shure.

There's also a mobile production kit to create content remotely from inside the hotel or



The width of the LED wall makes vistas look all the more stunning



At the heart of the Hilton Tokyo's production studio is a green screen setup for Chroma key compositing



The Hilton Tokyo's production studio is so complex that it needed to be rendered in 3D before it was built



externally and stream it to the screen. Remarkably, the studio's armoury even includes five virtual reality headsets from HTC and Oculus as well as three Rokoko full-body motion capture suits. It's a far cry from the washers, dryers and kitchens that you usually find behind the scenes in a hotel.

The studio is manned by a team of three who use the latest Unity, Unreal, Adobe and TouchDesigner video software to create content for conference clients.

"We can create concepts and layouts on the fly so

if somebody wants something different on the screen or if they want to move something we have got a team who can build it," explains Heil. "We have eight fibre strands going up to the screen so there is near realtime transmission from down here in the studio to up there. It only takes a few moments to get new backgrounds up whereas it would take a lot longer in a typical production. So the turnaround time is one of the benefits of having trained operators in the studio.

"It is so much more economical from a production

standpoint. You don't have to visualise it in your head any more. You can see it in realtime and then you can make adjustments really quickly without having to go back to the drawing board after you have made an edit or a cut."

Hilton has already put it to good use. The studio opened soon after the launch of the screen and since then the ballroom has been home to well over 50 events. "The ballroom hosts everything from anniversary parties to product launches," says Frankel. "We have done quite a few balls and social events as well as Meetings, Incentives, Conferences and Exhibitions (MICE)."

Last year the content team created a custom background to accompany a Ferrari which pulled up on to the stage in front of the screen at an event held by the storied motor marque's local dealer. Likewise, the American Chamber of Commerce annual ball featured a Blues Brothers tribute band which played in front of themed scenes on the screen. "They were like 'where do we sign for next year?'" says Frankel. That's just the start.

"Using the green screen we can chroma key people into scenes and then simultaneously stream them to the screen or to the internet," explains Heil. Chroma key compositing is a visual effects and post-production technique for layering two video streams together, and the studio uses it to great effect by superimposing people filmed against the green screen into scenery created by the in-house content team. Existing scenes range from snowy landscapes, beaches and apartments to undersea kingdoms.

"Normally pre-rendered backgrounds are inserted afterwards but here they are live," says Heil adding that the backgrounds move in synch with the participants as it would if they were actually there. "The participants are moving but the camera is not. There are IR emitters tracking their position in the virtual space. We can even shower them with virtual confetti or set off fireworks behind them."

Frankel says that it has encouraged some brands to film live product launches in the studio. This enables them to take advantage of its digital bells and whistles before making the short journey upstairs to the ballroom to appear in person with their new products in hand.

What of the VR headsets and motion capture suits? The former allow clients to inspect 3D sets or projects they are working on remotely. The latter is somewhat more surreal.

"Let's say you want to present an event but for whatever reason, you don't want to do it as yourself. Using motion capture you can do a sort of

"The best way to demonstrate the benefit of the screen being curved is that from any seat there is no bad angle."

Leo Frankel, Hilton Tokyo

Avatar-type thing where you are a virtual character," explains Heil. It's a perfect fit for tech and gaming companies which wouldn't usually think of hosting events at a traditional hotel like the Hilton.

"It has opened up a whole bunch of new markets from e-sports to entertainment," says Frankel. "We have got two YouTubers doing presentations this year. They are sell-out shows using us as an entertainment venue because most of the venues in Tokyo don't have this level of technology. If they have to build it it would cost them a fortune. We are positioning the hotel at both the high-end studio market and also as a full-service conference centre." It is paying off.

"I had a client who saw the screen the other day and said 'is this permanent?' I was like 'yes' and he said 'great, you have just saved me \$400,000.' He had the exact same curved screen in Singapore for their event but he had to build it and take it down. He said, 'we are coming here for our next event. Done deal.'"

Screen package deals

Frankel says that the packages for the screen start with a single input and stretch right up to a full show with a full production team. Studio packages begin at £4,423 (700,000 Yen) and rise to more than £5,686 (900,000 Yen) for renting key equipment and the studio for 12 hours. "Some clients initially want a basic package but by the time they are finished they have bought a high-end one and are custom-designing loads of different things," says Frankel. "We have been fortuitous with the timing. Very much so. The screen was literally completed just as Japan was opening up."

As the country is only just emerging from the pandemic, remote meetings are still common. Nevertheless, social distancing isn't the only reason for meeting remotely.

"Flight costs are crazy at the moment so it makes people think twice about travelling on planes to go to a meeting," says Frankel. He adds that "AV in general has always been extremely expensive in Japan. Before the pandemic we had

clients that would freight in their entire production because it was cheaper to do that. But it was such a huge waste of energy.

"People are now looking at sustainability. Do you need to fly six hundred people into one city in Japan when you can meet remotely on a screen like this?" Hilton hasn't launched it purely for altruistic reasons though. "Not only have you got private users of the screen who are not using the rest of the hotel, but you can sell it to clients coming in for MICE so you have doubled your base," says Frankel.

"The other bit is our ability to provide food and beverage, sleeping spaces and we have actually got a makeup studio. So you can have makeup done, you can have ante-rooms, you can have lunch downstairs. You come down here for a coffee, you have a brainstorm, go upstairs and start working on the AV. You don't have to go out. If you're hungry there are restaurants or even room service. If a client has got someone in as a guest speaker, or someone involved with production, they are housed here, they don't need to go out. So the screen and studio give us way more revenue streams."

He says that in ballpark terms, the screen "cost under \$2 million for everything" and adds that "we think it might take three years to make a return on investment on that."

The hurdle is that the screen and studio break such new ground that the market needs to be educated about it. "There are people who know about it and understand it but a lot of our clients have no idea. They are like 'why have you built this?' We are like 'let's show you what you can do.' With every event our sales teams learn more about the capability of the screen. Then they are able to sell it to the next client." It's a continuous process as Hilton isn't standing still.

"We are working with a local software developer to create a web application that will enable people, without even downloading an app or anything, to take a picture on their phone and swipe so that it sends the picture up to the screen. We are going to use it for weddings," says Heil. He adds that the screen and studio package could even be rolled out to other Hilton properties.

Frankel says the next step for the Hilton Tokyo is to introduce two portable LED walls for its smaller function rooms. "They would be hydraulic, on wheels with integrated speakers, cameras and microphones. A whole teleconferencing solution in a modern format, all custom-built by Vega. Customers could put them anywhere because AV is no longer just a square box in a room." ■