



Recordings for the sound installation at Gatwick's North terminal were made along the length of the Yangtze river in China

A river of sound runs through it

It's a global brand. It already advertises at airports. But HSBC took its marketing to new heights when it installed a sound installation on an aerial walkway at Gatwick's North Terminal. In a project celebrating a 15-year partnership with the World Wildlife Fund, the bank recreated the experience of travelling along the river Yangtze.

» HSBC is a global brand by any standards and the company has made advertising at airports a focus for this message. An opportunity to celebrate a 15-year partnership between HSBC's Water Programme, which provides and protects water sources worldwide, and the World Wildlife Fund triggered an idea. Could the bank do something more ambitious than branding a jetway, the enclosed passage between airplane and terminal?

The North Terminal at Gatwick has a Skybridge elevated jetway of 194 metres that takes passengers to Pier 6 and is high enough to allow the biggest planes to pass underneath. Since opening in 2005, it remains the largest airbridge worldwide and the millions of passengers who have taken its travelers to catch flights are a captive audience.

The Skybridge had never been used as an advertising space before so when it was offered to HSBC, the challenge of how best to use it was given to Tom O' Donnell, board event director at J Walter Thompson, a marketing agency that is as global as HSBC. A first visit revealed that there was no sensible way any screens could be deployed in the Skybridge without causing myriad problems and expense. A conventional video demonstration with audio would also not be suitable for practical and safety reasons. Another striking feature of the Skybridge experience was that it had elements of a fairground ride. There was a corridor leading to a long escalator, two travelers and a long escalator down - and there was an opportunity to introduce anticipation, an experience to enjoy and then a chance to reflect while descending. An obvious answer was to create an audio presentation.

Stages of progress

Another challenge for the project was which feature of the Water Programme could be best conveyed

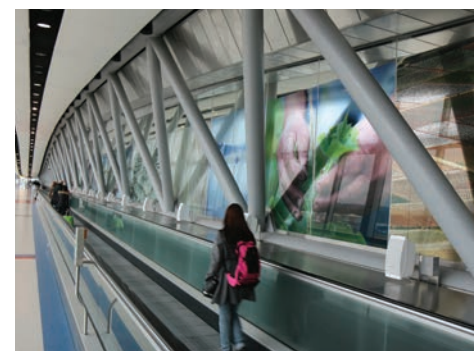
down a long corridor - perhaps something with a clear beginning and an end - just like a river in fact. The idea of portraying the stages of a great river's progress from its source through different landscapes, with the wildlife encountered on the way, to its final arrival at the sea via a great city was a natural for a spectacular soundscape.

The idea for 'A Living River' was born but which river to depict was another difficult choice. The Yangtze in China is a great river and flows for nearly 4,000 miles though one single country. Its progress encompasses remarkably different conditions, from pristine mountains to the threats of modern industrial life: pollution, erosion and flooding with parts of the river host to many endangered species. There was definitely a big story to tell.

But site visits had thrown up serious practical issues. A 200-metre bridge requires lots of speakers and cable. Because this is a busy part of a busy airport, there are stringent regulations for materials and fixings' security, plus it would be challenging to implement a project that is airside and open most of the 24 hours in a day.

J Walter Thompson's O'Donnell had partnered with Davey Williamson, a project manager at Delta Sound, on previous projects and he was chosen to manage the practicalities. Once Davey appreciated the size and complexity, he selected Merging Technologies Ovation Audio Server and Sequencer to manipulate complex sound tracks. He also suggested that motion sensors would add another dimension to the final result as they could trigger additional sounds 'on demand'.

Looking at the practicality of providing contiguous sound at volumes that were not excessive, it was apparent that many speakers would need to be deployed, and to get a realistic atmosphere, some of the sounds needed to come



from above. Then, the next odd condition presented itself; it was only possible to have speakers located on one side of the travelator as there was a walking lane on the left that could not be obstructed.

This ruled out conventional stereo sound, so ceiling speakers would have to double as the left channel and overhead effects speaker. With Davey appointed technical sound designer, and Delta Sound as the installation company, a final decision was made to deploy 80 speakers for departures and the same for arrivals.

When walking to the aircraft, you travel from the Jinsha (the name given to the upper reaches of the Yangtze, meaning Gold Sands River) to Shanghai. Conversely, when you land, you start at the mouth and head upstream. Because the speakers are always oriented the same way, the same sound track can be used.

The next task was to choose components and the first issue was that there was no room available near the bridge to house all the technical gear. The only room was 400 metres away, immediately dictating the use of 100V line speakers with suitable amplifiers. After months of tests, Bose DS 100SE units were selected for the low level system but JBL won out for the ceiling speakers with the Control 65 P/T model. Crown provided the amplifiers because its DCi 8|300 could be operated at any impedance without reducing channels. So with a reasonable idea of how the hardware could be configured, it was time to find a sound designer that could meet the challenge.

Nick Ryan is a specialist in binaural and spatial audio with a background that includes a spell at the BBC where he won a BAFTA for an interactive radio play called 'The Dark House'. Other credits are as diverse as sound for documentaries, and audio for games and fashion shows.

O'Donnell of J Walter Thompson says: "We had the full support of HSBC to do an 'end to end' sound project but this was a bit out of the ordinary. I have been involved with some pretty big projects including the Dolby Atmos launch and I have worked with some good designers. We pitched this to five designers, some of whom I knew and others my team researched. Nick Ryan's pitch was outstanding with a great video, so the choice was easily made."

How would random sounds convey the importance of the Water Programme and the stakeholders? Large expanses of blank wall provided the answer and the final decision to use rather abstract shots of the Yangtze with no captions was inspirational. Large panels in the corridor give the main message and the images on



Installation on an airside jetway was a challenge

the bridge provide you with a glimpse of life on the banks of the river.

Hydrophones

Faced with the constraints of the Skybridge with right ear and height as the source, Ryan elected to create multichannel spatial recordings by positioning eight mics, in the field, exactly where speakers would be in the Skybridge, thus capturing and reproducing a three dimensional soundstage. The same care was taken to select kit to take to China to capture sounds from the river and he and assistant Laurence Greed chose DPA 4060 microphones with custom built stands and a Sound Devices 788T recorder as the main rig.

Hydrophones were also used for recording the rushing water of the Jinsha plus Sennheiser 418 shotgun, Schoeps MS and binaural rigs for spot sound recordings. They adopted the standard layout of 1.5 metres between the mics with the height channels set back by 1.5 metres. Sites for recording were selected after much research and varied from the tranquillity of Lashihai Lake near Lijiang and Wuhan to the modern industrial cities of Chongqing, Nanjing and Shanghai. The 35 detailed

locations were suggested by a local Chinese guide and during an intense period of travelling down the river, hundreds of hours of sounds were recorded.

Tortuous

Back in the UK, the huge job of sifting through material began. A big barn was used and this was just large enough for a 16-speaker array to be used for testing looped sounds. Editing was done on Pro Tools and Q-Lab was used for payout. During this painstaking process it was decided to focus on five zones that would be influenced by the time of day, the weather in the zone and the motion sensors. There would be 10 scenes per zone so that it would be impossible for the same soundtrack to be heard more than once while travelling across the span.

Installing a system at a major airport is difficult enough but when it's airside and in use for most of 24 hours a day, it becomes tortuous. Despite the full co-operation of Gatwick management, the project still needed to negotiate tight security each night.

Attaching the speakers required custom mounts with additional safety brackets for the ceiling from Jon Bray at Summit Steel. Bolting the Bose units to the metal sheets next to the travelator also required custom mountings and after one supplier pulled out at the eleventh hour, a chance meeting in a pub resulted in R Concepts from Shepperton turning round 80 brackets in 18 hours which included a complex CNC design. A customised three-phase panel, cabling scheme and amplifier panels also had to be designed and detailed by Delta technical manager, Mark Powell.

It took a crew of five 25 nights to finish the installation using 28km of multicore cables plus individual speaker cables of up to 240m. No PVC could be used so instead of cable ties, fire retardant Velcro was used. The sensors were mounted in custom boxes with a Raspberry Pi in each. Reflection problems from the angled glass necessitated a last minute change to PIR sensors and the 10 boxes were linked via Cat 5 to local switches and then via fibre to another network switch in the PAVA room triggering Ovation.

How was it going to sound? After much tweaking of EQ and calibration of levels to compensate for the variance in ceiling height, they could hear the result. The immediate difficulty was the travelator masking some of the more ambient textures in the field recordings. A lot of on-site mixing for Williamson and Ryan was the answer and after nights of walking around with a laptop for five hours, every toe was blistered.

There was one big difference from the trial situation that Ryan noted: "You can use Pyramix to assemble the mix and the cues and then port it to Ovation. It's a quick process to make changes. We would never have been able to do all the mixing and automation programming with any other system. The first time we heard automated panning effects, like motorbikes, it was thrilling."

The Skybridge went live on 12 November and was an immediate hit with passengers.

O'Donnell says; "It's been very exciting to see this ambitious project being realised and HSBC is extremely proud of it. We think it sets a new standard in what can be achieved with an immersive audio experience." ■



With the travelator masking ambient textures from field recordings, careful on-site mixing was needed

