



MAGAZINE

March/April 2022 [www.avinteractive.com](http://www.avinteractive.com)

# IT REALLY WAS WORTH WAITING FOR

Delayed by the pandemic, Dubai's Expo 2020 hosts pavilions bursting with clever AV solutions

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# POETRY IN MOTION

**Many AV suppliers claim that their products are works of art but few of them actually deliver on that promise. PRG is one of the exceptions.**

*By Caroline Reid and Christian Sylt.*

**P**romoting the United Kingdom in an Expo pavilion sounds like a no-brainer. Surely all you need to do is line the walls of a building with Union Jacks and fill it with Minis, Grenadier Guards and pictures of the Queen. Tell that to Es Devlin, the renowned stage designer who has worked with Beyoncé, Kanye West, Adele and U2. She is the brainchild behind the UK's outpost at the Dubai Expo and it couldn't be much more unconventional.

Looking like a colossal cream-coloured cone on its side, the pavilion is a design marvel and has won widespread acclaim from architecture critics and visitors. That word-of-mouth exposure associates the UK with avant-garde architecture so it spreads a far more positive message than a pavilion containing cultural icons would.

It isn't home to any eye-popping AV installations. In fact, technology is integrated into the pavilion in such a subtle way that it is easy to miss. However, it is integral to its ethos, perhaps more so than in any other pavilion at the Expo, especially as it only has one room inside. It makes the most of it.

As guests stream through the walkway to the entrance they pass cabinets containing displays of British innovations in the science and space sectors. Then they are given tablet computers to enter a word which they would like to send as a message to space. It is inspired by Professor Stephen Hawking's ambitions of communicating with extra-terrestrial civilisations using words which are representative of humanity. Although


the words contributed by Expo guests stay on terra firma, they are presented in a way which is out of this world.

The pavilion's brain is an innovative AI algorithm which was created with the help of poetry experts and trained on 15,000 poems from more than 100 British poets. It strings together the words contributed by all of the guests to form an ever-changing poem displayed on LED screens which line the pavilion's sleek interior and its 25 metre-high circular facade.

## Alien mother ship

Inside, it resembles the nerve centre of an alien mother ship as pale slats curve around the edges and light floods in from the windows behind them. Adding to the atmosphere, an other-worldly soundtrack plays in the background as the guests' words flash up on the LED screens set into the slats. Despite their futuristic appearance the slats are actually made from wood along with the rest of the room.

It's only when guests exit the room and walk back past the front of the pavilion do they realise that the seemingly-random stream of words on the LED screens actually forms a coherent poem. It comes across as a beacon for collaboration as the words were contributed by visitors from all over the world. It is also a shining example of art and technology in tandem, and this is thanks to PRG.

"The creative direction for the UK Pavilion was clear," says Frederic Opsomer, general manager of PRG Projects. "The pavilion should communicate with the outside world via a form of technology that would engage visitors at Expo 2020 Dubai." 





The design integrity was also key for Es Devlin and the use of technology needed to be seamlessly integrated into the overall design."

### 2,000 LED tiles

PRG sourced 2,000 LED tiles for the pavilion which all have SMD bulbs, each made from a cluster of

around 20 very small LED chips. "The outdoor tiles were colour matched with the building finish. The indoor tiles are made from flexible PCB in order to follow the curved shape," says Gavin Short, senior project manager for PRG Middle East. "The entire r&d process took around six months from initial prototypes to the final product. Once the geometry

of the building was decided, PRG Projects worked closely with our team in Dubai, the UK and China to ensure the design and selection of the LEDs was suitable for the extreme conditions in the UAE.

"The climate conditions in Dubai were the main challenge. We conducted several tests in climate chambers and mockups to ensure the products





“The company divided the space into three sections that allowed us to be very precise in where we direct the sound.”

**Andy Theakstone,  
Polyphonia**

the output “is fed through a series of small speakers concealed within the cone providing an immersive sound experience for the guests. The system is played back from Q-Lab and is triggered from the video control servers.”

The end result sounds like surreal choral music. Individual tracks were pre-recorded and directed to different speakers so that listeners have a changing experience as they walk through the room. It also ensures that the music fills the unusual space and Polyphonia’s co-founder Andy Theakstone says that the company “divided the space into three sections that allow us to be very precise in where we direct the sound.” It can even be felt thanks to the vibrations from four large subwoofers installed under the flooring.

The technology package was installed by PRG in Dubai and Short says that “the installation was led by one of our experienced project managers who oversaw a team of eight specialist technicians. Over a six week period the LED and audio systems were installed working alongside other contractors on site who were constructing the cone.”

Moving image design studio, Luke Halls and creative production company, LUX Technical were behind the brains of the pavilion. They were responsible for the processing and display of the couplets generated by the AI poetry algorithm and PRG specified the media servers to host it. Watching a string of seemingly random words flash up on screens to generate a coherent sentence is the clearest evidence that the pavilion really is poetry in motion. ■

ALL PHOTOS: SUNEESH SUDHAKARAN/EXPO 2020 DUBAI

specified would perform across the duration of Expo 2020 Dubai.” Ironically, whilst the building held up well in the heat it experienced some damage due to freak storms that hit Dubai in January. It was far from the only hurdle,” says Short.

“Another challenge was the integration of the

electronics into the limited space within the cone. Our team worked closely with the design team and architects to ensure enough ventilation was factored in during the design and build process.”

PRG’s team in the Middle East designed a bespoke sound system with British audio installation artist, Polyphonia and Short adds that

## Companies

<https://www.luxtechnical.co.uk>

<https://polyphonia.io>

<https://projects.prg.com>