Melbourne Museum, Museums Victoria

MELBOURNE, AUSTRALIA

Genelec Smart IP brings history to life at Melbourne Museum's new exhibition

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OUR WONDROUS PLANET

On Australia's southeast coast, the nation's largest public museum organisation, Museums Victoria, welcomes over two million visitors annually to discover the environmental and cultural past, present and future of the state of Victoria. One of the organisation's five unique venues, Melbourne Museum, explores the wonder of life on Earth. The recently opened immersive exhibit, Our Wondrous Planet, invites visitors into vibrant ecosystems filled with over 800 animals from the museum's collection, tracing four billion years of life. At the heart of this exhibition is a series of hands-on interactive experiences powered by spectacular lights, projections, and an immersive layered soundscape delivered through Genelec Smart IP loudspeakers.

IMMERSION WITHOUT INTERFERENCE

Our Wondrous Planet was due to be the largest gallery redevelopment in Melbourne Museum's history, setting expectations high for their new immersive experience. "The museum knew what they wanted the exhibit to be from

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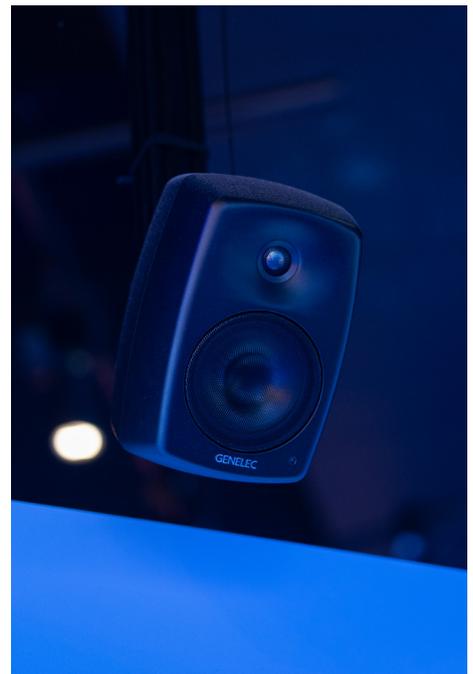
the outset," says Mike Miller, Technical Project Manager and System Designer for the museum. "The rest of the multimedia team and I joined the project during the early development stage as the discussion around interactive elements began to evolve. The plan was to create seven new gallery spaces — all fitted with multimedia systems, including an immersive audio solution."

The exhibition is a showcase of Earth's living systems, introducing visitors to ocean currents, root networks, coral reefs, rainforest canopies, and the creatures that inhabit these ecosystems. "We needed a sound system that would create an immersive soundscape, while also isolating audio in each zone to reflect the individual habitat," Miller explains. "A particular challenge was the large projection screen in the centre of the gallery. It hangs over the open gantry and causes unwanted sound to project down to the gallery floor below. We needed a solution that would allow for clarity and coverage in each zone, without overpowering the surrounding spaces."

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BUILDING THE SOUNDSCAPE

Many previous exhibitions at the Melbourne Museum have successfully relied on Genelec loudspeakers to create immersive environments. "Although this project was more technically demanding, Genelec loudspeakers offer exceptional sound quality and an advanced feature set that has proven crucial in the past," notes Miller. "As a result, Genelec was my first choice for this new exhibition."

Australian audio-visual specialists, Lumicom, were responsible for installing the new sound system, carefully curated by the museum's multimedia team in collaboration with musicians and sound design duo, Fuligin Sound. "We chose a combination of Genelec's Smart IP series because we required an easy-to-install PoE solution to connect to the museum's Dante network," Miller continues. "A total of sixty-nine Smart IP loudspeakers were installed throughout the exhibit."

The system comprises forty-one compact 4430s, seven 4435 in-ceiling models, and three 4436 pendant

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loudspeakers to provide the general environmental sounds in each ecosystem, while eighteen super-compact 4410s are positioned for more detailed elements to enhance the immersive soundscape. "We wanted the audio to sound like it was coming from specific interactive elements or animals in the exhibit, so the 4410s are discreetly positioned to isolate sound to these areas. Two loudspeakers are even placed inside an octopus," reveals Miller.

Larger 4430 loudspeakers are deployed around the open gantry and the walkway on level one to guarantee that wherever visitors stand, they feel part of the immersive experience. "In parallel with the Genelec system is a network of Yamaha passive loudspeakers to deliver the general soundscape, while the Genelecs serve the immersive experiences with the more detailed sound." To avoid overpowering the gallery below and to ensure sound is localised to each zone, eleven channels of audio are mixed in Dolby Atmos to sync loudspeakers with their immersive elements.

Due to the complex loudspeaker configuration, a central point of control was required to adjust volume, mute sound, or mix each zone. "We used Nodel — an open-source platform developed by Automatic in collaboration with Museums Victoria — to connect and control the gallery system," Miller explains. "In each zone, DSP was handled by a Biamp TesiraFORTÉ DAN AI processor and distributed over the museum's Dante network, allowing us to mix the different loudspeaker models and ensure consistent sound throughout the exhibition space without audio bleeding between zones.

"This gallery used to hold temporary exhibitions, meaning there are a lot of network patch points," he adds. "Having a PoE loudspeaker that only needs one cable plugged into the existing infrastructure to be up and running saved significant time during the installation phase. Smart IP Manager also proved incredibly useful for controlling and identifying each

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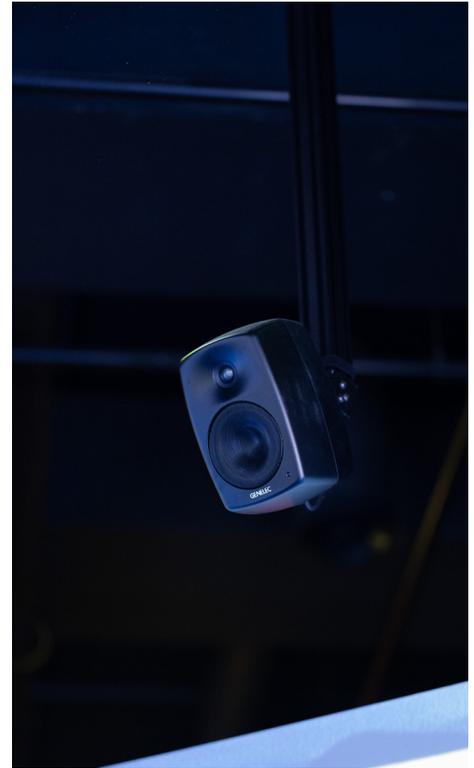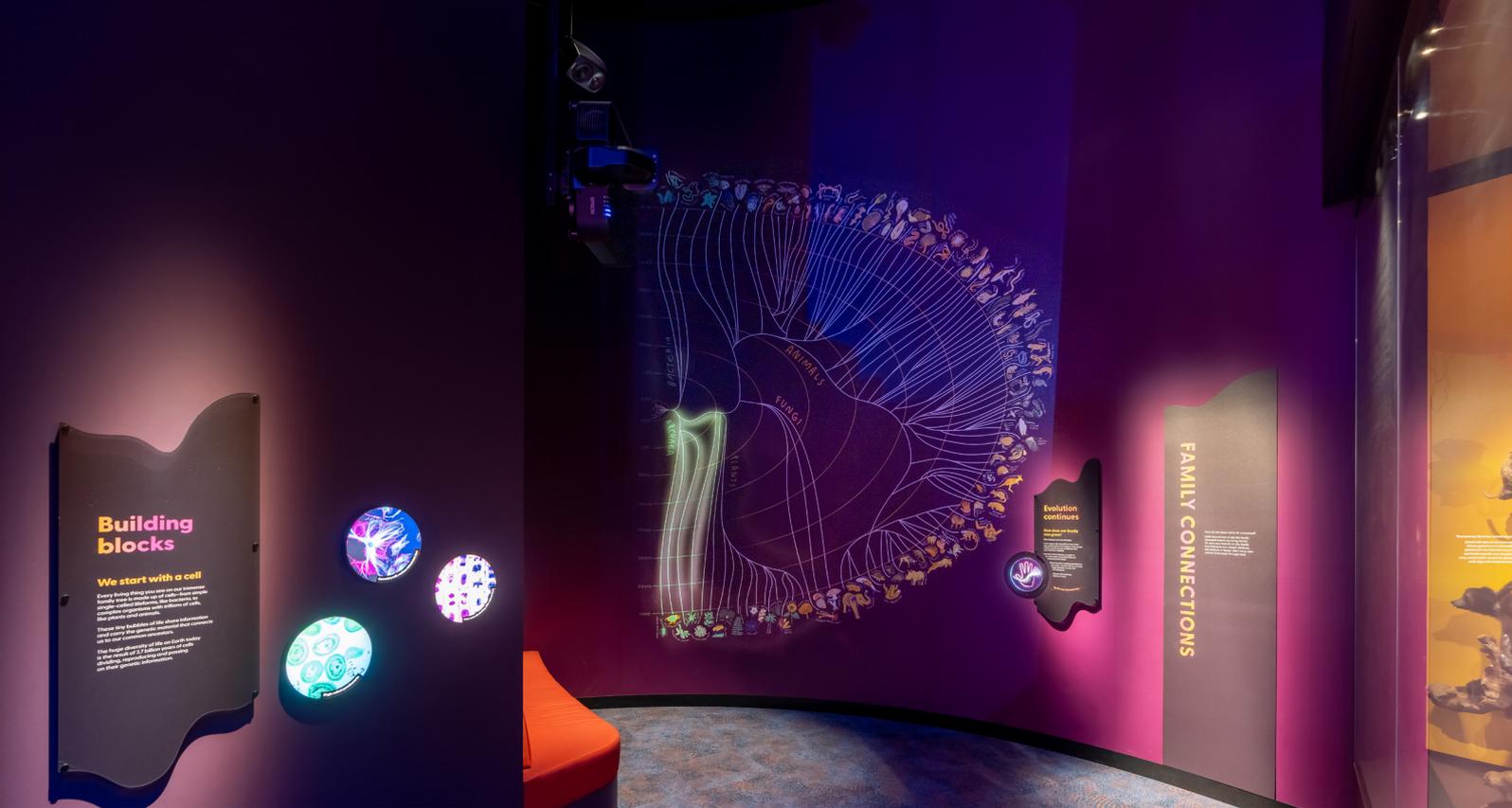
loudspeaker during the setup, as well as for day-to-day system management."

In addition to the audio system, the exhibition's complex visuals are powered by Epson LCD projection and Samsung video screens, supported by HPE Aruba network switches and a combination of custom-built rack mount PCs and NUCs operating behind the scenes. "We used a Show Cue System to control timing and volume of the interactive elements," says Miller. "Large-scale mapped projections were managed using Dataton Watchout 7 media servers, while BrightSign media players took care of the remaining content."

WHERE SOUND FEELS NATURAL

Visitors can discover different animals and ecosystems while surrounded by a carefully constructed soundscape that sounds as though it originates from the environment around them. "Genelec provides an outstanding combination of exceptional audio quality and a practical feature set that makes a complex installation like this so much easier," reveals Miller.

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Mike Miller, Technical Project Manager and System Designer, Melbourne Museum

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"Our Wondrous Planet has become one of Melbourne Museum's most popular exhibitions. I'm extremely proud of how the immersive elements have come together to create an experience that feels natural. The detail and precision delivered by Genelec loudspeakers have been pivotal in making this happen."

THE DETAILS

Client
Museums Victoria

Audio Design
Fuligin Sound
Museums Victoria

Integrator
Lumicom

Genelec Distributor
Studio Connections

Loudspeakers
- 41 x 4430A
- 18 x 4410A
- 7 x 4435A
- 3 x 4436A

Network & Control
Dante
Nodel by Automatic
HPE Aruba
Show Cue System

Media & Processing
Dataton
BrightSign

Audio, Video & Projection
Yamaha
Samsung
Epson

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