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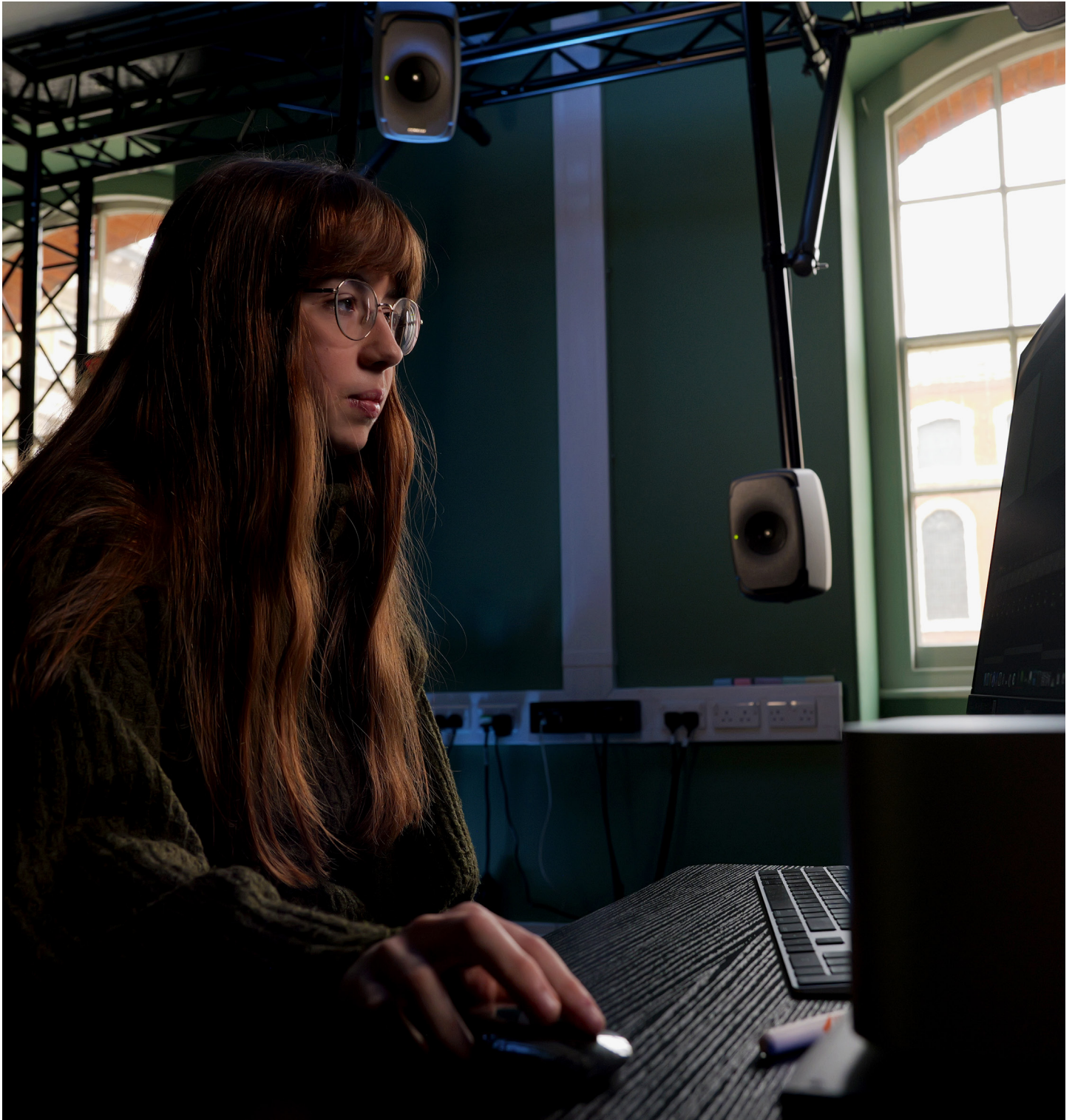
CASE STUDY

Spatial Power

UNIVERSITY OF
GREENWICH RELIES
ON GENELEC FOR
GROUNDBREAKING
SHIFT FACILITY



Andrew Knight-Hill, Professor of Music and Sound Arts/Lead of the SOUND/IMAGE Research Centre, University of Greenwich



32.4 GENELEC SPHERICAL ARRAY, FINE-TUNED WITH GLM, PUSHES THE BOUNDARIES OF MULTICHANNEL SOUND COMPOSITION



London's University of Greenwich has long been recognised for exploring the boundaries of sound technology. Recently, this dedication culminated in the expansion of its [SOUND/IMAGE Research Centre](#) and the significant development of the university's facility [Shared Hub for Immersive Future Technologies \(SHIFT\)](#).

With a £1 million investment from the Arts and Humanities Research Council, SHIFT's purpose is to push creative practices forward, bringing together sound, image, fixed media and live performance to increase innovation and accessibility across the electronic arts. "Our goal is to be format agnostic," says Professor of Music and Sound Arts and Lead of the SOUND/IMAGE Research Centre, Andrew Knight-Hill. "We're open

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to all solutions and seek to apply whatever is best for the creative task in hand.”

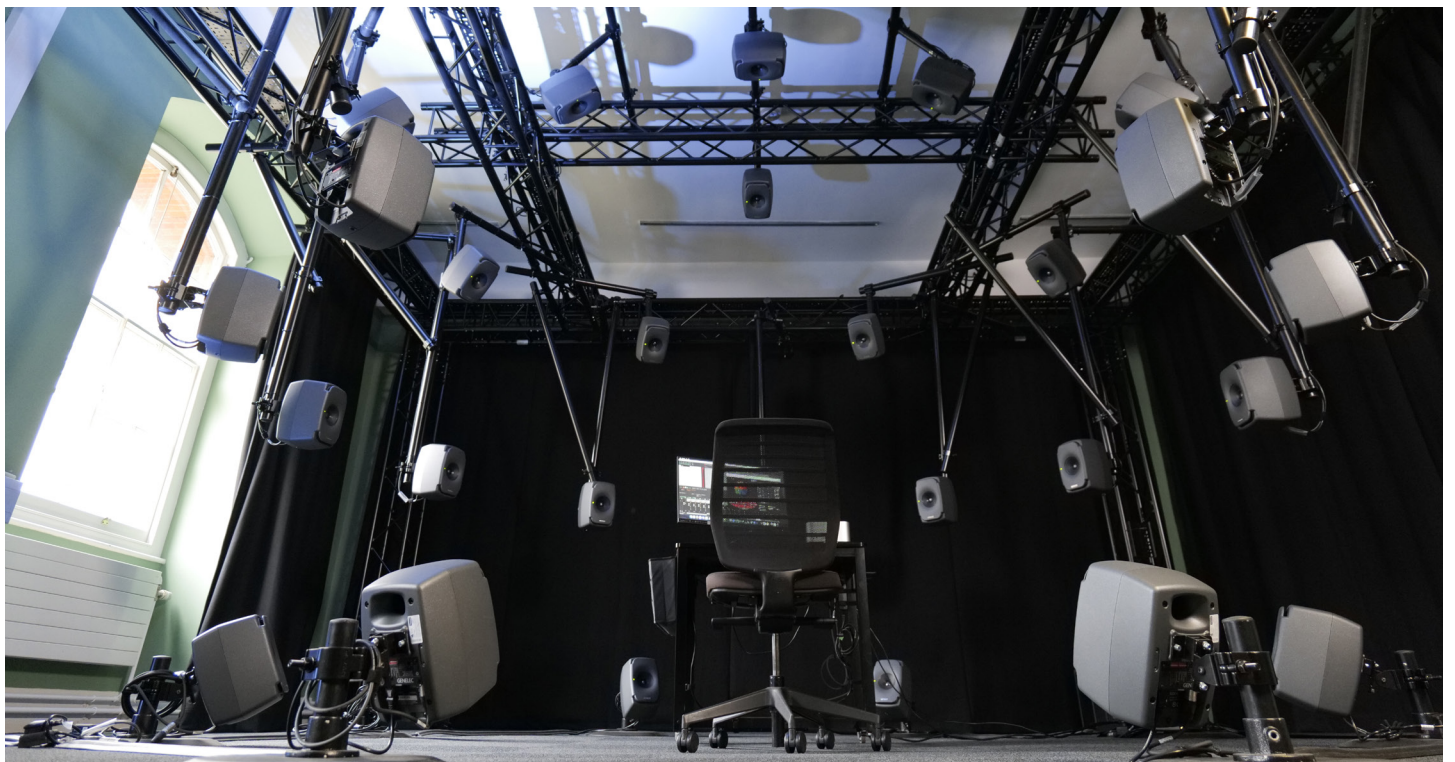
At the core of SHIFT’s sound technology lies Genelec. “We’ve had Genelec in all of our studios for the past ten years and they’ve served us incredibly well,” Knight-Hill confirms. “There was only ever one choice when we set out to deliver our new immersive labs.” Commissioning [Stage Electrics](#) to realise the infrastructure of the facilities and working with [HHB](#) to deliver the front-end audio systems, the latest expansion spans three distinct spaces; a Virtual Production Film Studio, an Immersive Sound Lab and a Digital Immersive Theatre.

The Immersive Sound Lab, located in the King William Building of the Old Royal Naval College, is the flagship sound studio, primarily used for composition and some recording and editing. Drawing from his experience working on IRCAM’s Studio One setup in Paris, Knight-Hill envisioned a space that could natively accommodate a wide variety of formats.

While the primary focus was on high-resolution ambisonic recordings, the studio was also designed to support Atmos, DTS:X, Auro 3D and traditional electronic art music formats like 8 or 16 channels. This vision led to the development of a 32.4 spherical array of Genelec Smart Active Monitors (comprising 32 [8331](#) three-way monitors and 4 [7350](#) subwoofers) controlled over Dante.

The university’s technical team, alongside Stage Electrics, utilised Genelec’s [GLM](#) calibration software to fine-tune the system, ensuring a balanced frequency response across the room. “The GLM software provided extra clarity and really tightened up the low-frequency performance, elevating the studio’s overall audio precision,” says Knight-Hill.

The Digital Immersive Theatre, housed a few miles up the road in the historic Victorian swimming baths of Woolwich Bathway, provides a 200-person capacity venue featuring a fixed 28.2 Genelec audio system (comprising [8030s](#), [8050s](#), [8350s](#) and [7382](#) subs) paired with an EH Acoustics PA



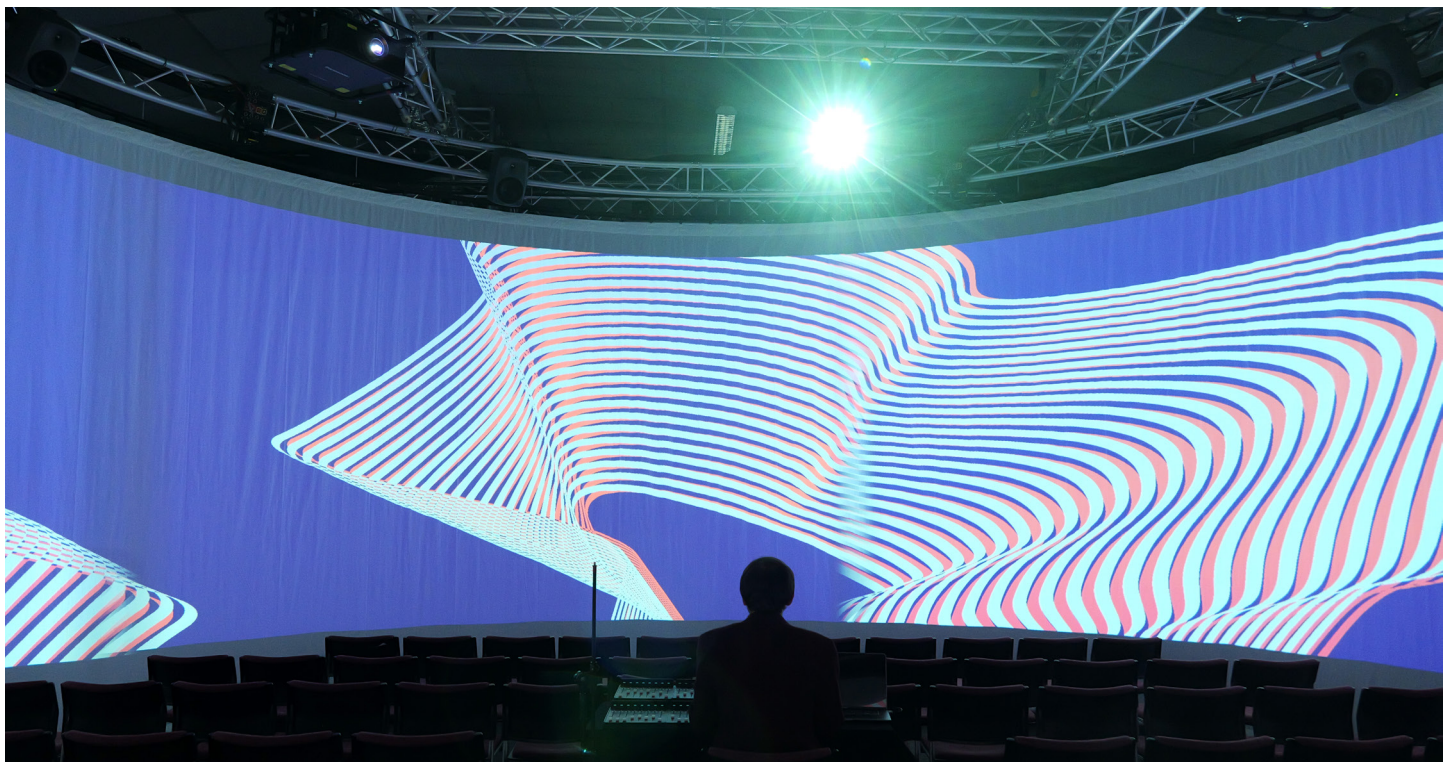
” I WAS REALLY IMPRESSED BY THE SPATIAL CLARITY AND ACCURACY.

system. The system can expand depending on the project, and most recently has been augmented with extra Genelec loudspeakers to create a 40.2 setup. The system incorporates zones with 12 loudspeakers at ear level, with eight overheads and eight more loudspeakers positioned on the floor. This space combines immersive 360-degree projection mapping, surround sound and dynamic lighting infrastructure to enable a diverse range of performances to be hosted, including works developed in the Immersive Sound Lab.

The project's greatest challenge stemmed from navigating the historical constraints of each building. "Preserving the heritage of these spaces was paramount," confirms Saul Eagles, Business Development Manager, Projects, at Stage Electrics. "Balancing the creative team's ambitious vision with practical spatial and technical limitations required constant collaboration and iterative design adjustments. Every step of the project was guided by close consultation with heritage specialists and the university team to maintain balance between preservation and technological advancement."

The Stage Electrics team employed a range of innovative and sustainable solutions to ensure the installation respected both the historic character and structural integrity of the two spaces. Custom designed truss systems were designed to minimise the need for intrusive supports, delivering more open studio space that enables greater flexibility and creative working.

Spatiality and its role in multichannel composition inspired the decision to rely on Genelec monitors for this project. As Knight-Hill recalls, "I heard a set of the 8341s when they first came out and I was really impressed by the spatial clarity and accuracy, and so there was only ever one choice when we set out to deliver our new Immersive Lab. Having that singular point source with the concentric drivers really provides the spatial accuracy that you need when utilising so many units in a near field monitoring spherical array. I'm really impressed with the spatial rendering of ambisonic recordings – even first-order ambisonic material, when up-mixed, can provide a truly powerful immersive experience."



Eagles adds: “The precision and versatility of the Genelec systems enable students and researchers to explore cutting-edge spatial audio formats like ambisonics, Dolby Atmos, and traditional surround sound with unparalleled accuracy. The lab’s adaptability now fosters an environment where creative experimentation flourishes without constraints.”

Reflecting on the impact of the Research Centre’s expansion, Knight-Hill remarks, “SHIFT has fostered a real sense of diversity, and allows us to work with a vast array of musical styles. With the Immersive Sound Lab, there’s something very special about the focus and clarity of the soundfield

in the sphere. The coherence and integrity of the spherical array with its coaxial monitors allows you to stand outside it, and yet still hear material inside the ‘bubble’ – the imaging doesn’t collapse.”

Looking ahead, Knight-Hill emphasises the team’s plans for 2025, including a series of Loudspeaker Orchestra events and a focus on making incremental improvements now that SHIFT is fully established. He concludes: “We’re committed to encouraging people to think about immersive audio as much more than a delivery format. We also want them to explore its potential to shape the creative process and become an expressive dimension.”



THE KIT

Immersive Sound Lab

- 32 x 8331A
- 4 x 7350A
- 1 x GLM Calibration Kit

Digital Immersive Theatre

This system expands from 28.2. to larger formats when required, and comprises a selection of these models:

- 8030C
- 8050B
- 8350A
- 7382A

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