ACOUSTIC AWARDS 2023

Now in their 10th year, the ANC awards highlight the unique skills of UK based acoustic and noise professionals, and the dynamic and diverse nature of the industry overall, to inspire the next generation of acoustic consultants. These accolades demonstrate excellence among ANC members in addressing challenges, championing innovation and originality and showcasing the significance of a profession which blends art and science to transformational effect.

Innovation

JOINT WINNERS ★ **Noise Consultants Ltd: Defra Environmental Modelling and TetraTech: AiHear**

Sponsored by **MASON UK LTD** Vibration Control Products & Acoustic Floor Systems

Defra Environmental Noise Modelling Design and Build – Noise Consultants Ltd

This is a massive piece of work which requires expertise in cloud computing and acoustic modelling. The judges noted it has great potential for use by Local Authorities and is a significant achievement in bringing together noise mapping into a centralised system.

Defra's Noise Modelling System transforms the way in which Governments can both understand the scale of impact from road and railway noise across the country, but also how Governments can work with stakeholders to integrate their own data sources and provide access to the underlying noise models.

The Noise and Nuisance Team at Defra said:

"Now that we have confident estimates of exposure for the whole of England (rather than the previous approach of a specified subset of the population) we can more accurately define the burden of disease and identify areas to target mitigation. By building a system accessible to all public bodies, local decision-making can be based on robust impact assessments contributing to the Government's levelling-up agenda by making high quality data available to all through either the system, or the provision of data in open standard formats."

AiHear – Portable AR/VR Auralisation Software – Tetra Tech

This is a software application that improves the understanding of acoustics by clients and end users. AiHear is unique due its ability to provide accurate and immersive auralisations, in a highly portable format. Audio playback with engineering accuracy is achieved by selecting one of the off-the-shelf headphone models which have been laboratory calibrated through the AiHear system. The use of calibrated headphones was seen by the judges as very clever, and the project is clearly innovative.

The aspiration was a system that could playback audio at specified decibel levels (with third octave adjustments), and model a wide range of reverberation times. It had to be portable and able to cope with presenting in places that did not have extremely low background noise levels or reverberation times, as could typically be found in a dedicated critical listening room. To enhance the auralisation experience, it was hoped to include 3D visuals and couple these with 3D spatial audio, to better explain the acoustic changes in the modelled world.

In the app, an iPad is used as the window through which the simulated space is viewed. Augmented or virtual reality visuals of the space are displayed and participants can look around. The auralisation audio processing takes place in real-time, enabling the binaural audio signal to be played through headphones, in synchronisation with the movement of the iPad within the simulated space.

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