

GENELEC®

CASE STUDY

**Genelec plays key
role in creating better
living conditions**

AKUKON'S DEMOLAB
AURALISATION FACILITY
POWERED BY GENELEC
SMART IP LOUDSPEAKERS





**AKUKON'S PIONEERING DEMOLAB ENABLES
ACOUSTIC MODELLING/LISTENING** IN SPACES
PRIOR TO CONSTRUCTION



Akukon is the number one expert in acoustics, noise abatement and audio-visual design services in Finland and the Baltics. Their aim is to create better living conditions by protecting people from environmental noise and promoting the safety and operability of facilities, as well as their visual appearance. Consequently, well-being

and even efficiency at work may be significantly enhanced.

In late 2021 the company opened a pioneering new facility — the [Akukon DemoLab](#) — which is a tool for modelling and listening to acoustics and noise in spaces prior to their construction. The room is equipped throughout with Genelec [4430](#) Smart IP loudspeakers

” WE WERE CONFIDENT THAT GENELEC WOULD DELIVER TRANSPARENT AUDIO QUALITY.

supplemented by a pair of [7350](#) Smart Active Subwoofers.

“Acoustic design is an essential part of modern construction and environmental projects,” says Akukon acoustician and project manager Perttu Laukkanen. “Akukon's DemoLab takes acoustic design to the next level.”

Laukkanen explains that the DemoLab was designed to enable auralisation, a technique by which a virtual sound environment can be reproduced with multiple loudspeakers to provide a realistic impression of the acoustics or noise environment of a space. “For example, DemoLab allows us to compare the effects of different levels of sound insulation between rooms, understand the effect of room acoustical design in a certain space, or set a design target for, say, train noise ingress for residential or office buildings,” he says.

“Trying to explain these differences using numeric values of decibels and hertz is extremely difficult. However, when customers can actually hear the difference for themselves, it suddenly becomes real rather than abstract and allows them to make informed decisions on cost vs. acoustic quality.”

Akukon selected [Genelec Smart IP](#) loudspeakers as the optimum audio solution for their new facility. Akukon acoustician Javier Gómez Bolaños explains why: “To achieve a realistic reproduction of the simulated sound field, auralisation requires loudspeakers that provide absolute neutrality and no colouration of the sound. Moreover, we were interested in a loudspeaker setup that can grow and be easily manageable, in addition to minimal installation efforts. For this reason, we were looking for audio-over-IP loudspeakers.



” POE+ CAPABILITY MEANS WE CAN ADD LOUDSPEAKERS SIMPLY BY RUNNING EXTRA CAT CABLES.

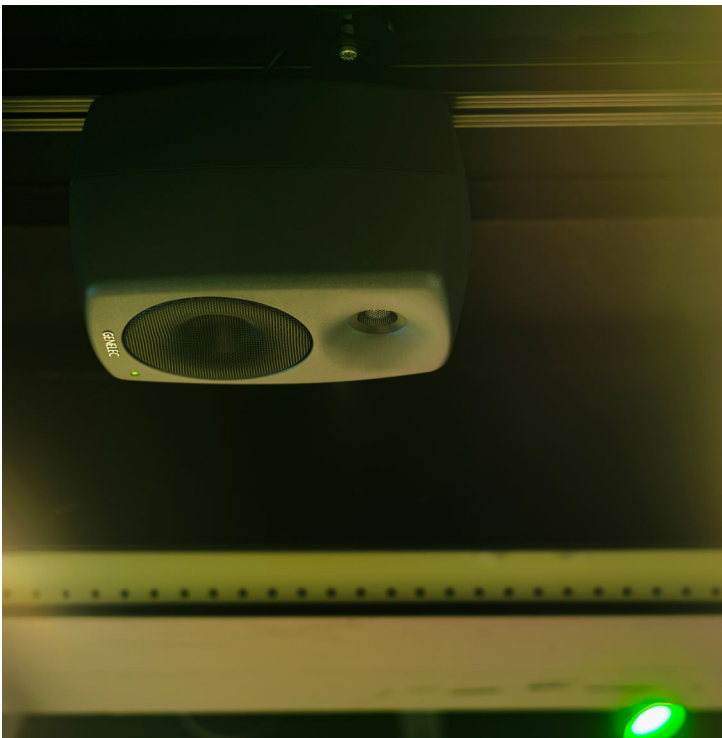
“Naturally, as a Finnish acoustics and audio-visual company, Akukon is very familiar with Genelec solutions, having worked with them extensively and specified them on many occasions. We were completely confident that Genelec would deliver the transparent, crystalline audio quality required for this project, and it’s also nice to be working with a Finnish company,” Gómez Bolaños adds.

“The 4430 Smart IP loudspeakers offered us an ideal solution,” he continues. “They provide the high quality and fidelity inherent in Genelec’s studio monitors; they can be configured easily using the Smart IP Manager software; and thanks to the PoE+ capability, more loudspeakers can be installed simply by running extra CAT cables. Their active design means that there are no external amplifiers (or amplifier cables) to worry about, so installation is exceptionally straightforward.”

The Akukon DemoLab setup consists of nine 4430s in the horizontal plane, five additional 4430s as overhead loudspeakers and two 7350 subwoofers for low frequency extension. All loudspeakers were calibrated using the Smart IP Manager software to provide a flat frequency response in the listening area.

“We are extremely pleased with the results,” notes Perttu Laukkanen. “We have created a room that is particularly quiet and neutral in terms of room acoustics and enables accurate listening and comparison of various acoustic phenomena. The sound environments created in DemoLab can be calibrated to match almost exactly the actual sound conditions using the most advanced calculation methods to reproduce acoustics and surround sound. Thanks to the powerful subwoofers, we can even model and experience the effects of low frequency vibration in a space.

“Hearing acoustics offers priceless added value in solving complex issues,” says Laukkanen in conclusion. “DemoLab is a truly unique facility — in which Genelec has played a key role — that adds a new dimension to understanding acoustics.”



THE KIT

- 14 x 4430A
- 2 x 7350A
- 1 x Smart IP Manager Software

GENELEC OY OLVIETIE 5 | 74100 | IISALMI, FINLAND | TEL. +358 17 83881 | ENQUIRIES@GENELEC.COM | WWW.GENELEC.COM

