

CASE STUDY

State University Of Music And The Performing Arts Stuttgart

STUTT GART, GERMANY

'The Ones' Power University's New 9.1.4 Audio Control Room



GENELEC®



THE BACKGROUND

Founded in 1857 and located along the city's Cultural Mile, Stuttgart's State University of Music and the Performing Arts ([HMDK](#)) has developed into one of Germany's largest and most prestigious universities for the arts, while also playing an important role as a concert promoter and cultural centre. With an increasing focus on immersive audio, HMDK has recently upgraded its recording facilities with a 9.1.4 control room – powered exclusively by Genelec [Smart Active Monitors](#).





THE CHALLENGE

Hosting around 1,000 students, HMDK prides itself on its very personal level of tuition – providing one professor or lecturer for every 15 students – with that same expert teaching staff helping to drive the university’s strong research and development ethos. With HMDK’s newly upgraded recording studio serving multiple spaces, the university took the opportunity to fully embrace the opportunities that immersive technology now offers.

“We have four performance spaces: our large concert hall, a chamber music hall, a theatre and an orchestra rehearsal hall, which can also be used as a performance venue,” comments **Arne Morgner, HMDK’s Deputy Technical Director**. “We host 500 to 550 events per year, which actually makes us the largest event organizer in Stuttgart!”

As Morgner points out, HMDK’s recording studio fulfils multiple important functions beyond recording classical music. “We’re also responsible for livestreaming and broadcasting, including collaborations with the public broadcaster SWR, and we function as the technical backbone for all event technology. It’s also the centre for all servers and networks related to audio, video, and lighting in the building.”

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Arne Morgner
Deputy Technical Director



THE SOLUTION

While the studio itself has evolved organically over the years, Genelec has always provided a reassuring element of continuity. “Control Rooms A and B both started out as compact stereo spaces equipped with classic [1031A](#) and [1032A](#) models,” Morgner explains. “After successive upgrades to 5.1 then 7.1 surround systems, we finally adopted 7.1.4 immersive in 2024. Then, with the recent development of our ‘Klangmobil’ 9.1.4 immersive mobile recording truck, we upgraded the system in Control Room A to the same 9.1.4 format – powered by Genelec’s [‘The Ones’](#) monitors.” The Klangmobil allows children in the region to experience the music of Bach in immersive – with all the content for the truck being produced, edited and programmed back at the studio.



Crafting immersive experiences: HMDK’s sonic journey with Genelec

Morgner explains the background to HMDK’s journey into immersive: “That probably has a bit to do with me, because I completed both my Bachelor’s and Master’s degrees in

Engineering with a focus on 3D audio. In our broadcasting operations, we started very early with binaural livestreams to transmit 3D audio, and that's how we encountered 3D audio microphone arrays. We also regularly supervise master's theses in cooperation with the Stuttgart Media University, focusing on 3D audio, under the supervision of **Professors Oliver Curdt and Frank Melchior.**”

So, while they were able to produce binauralized 3D audio content, HMDK lacked a proper room with the necessary monitoring capabilities. “We wanted to be able to work with established formats like Dolby Atmos, but also to produce 3D audio independently of any specific standard. As a result, we decided on a 9.1.4 setup,” says Morgner.

With Morgner handling the planning and implementation alongside HMDK colleague **Walter Schimon**, Control Room A's 9.1.4 system features [8351As](#) in the LCR positions, with [8341As](#) as surrounds and overheads, supported with a [7370A](#) subwoofer for LFE. Control Room B is equipped with a stereo pair of [1032Bs](#), plus a 2.1 system comprising 8341As with a 7370A sub. Lastly, a pair of [8350A](#) two-way monitors powers the studio's Recording Room. The Klangmobil truck itself is powered by [4430A](#) Smart IP two-way loudspeaker models, which deliver studio-quality Genelec performance with the added power and flexibility of Dante/AES67 network connectivity.

Elevating audio education through reference monitoring

“For us, The Ones models were particularly interesting for Control Room A because we're not just a traditional production studio – we also work extensively with students,” adds Morgner. “Therefore, it was important for us to offer as many people as possible a balanced listening experience – we wanted a large sweet spot. We also appreciate the deep low-frequency extension of these models, since we work a lot with classical music and value a sense of true envelopment, especially in the low-frequency range.

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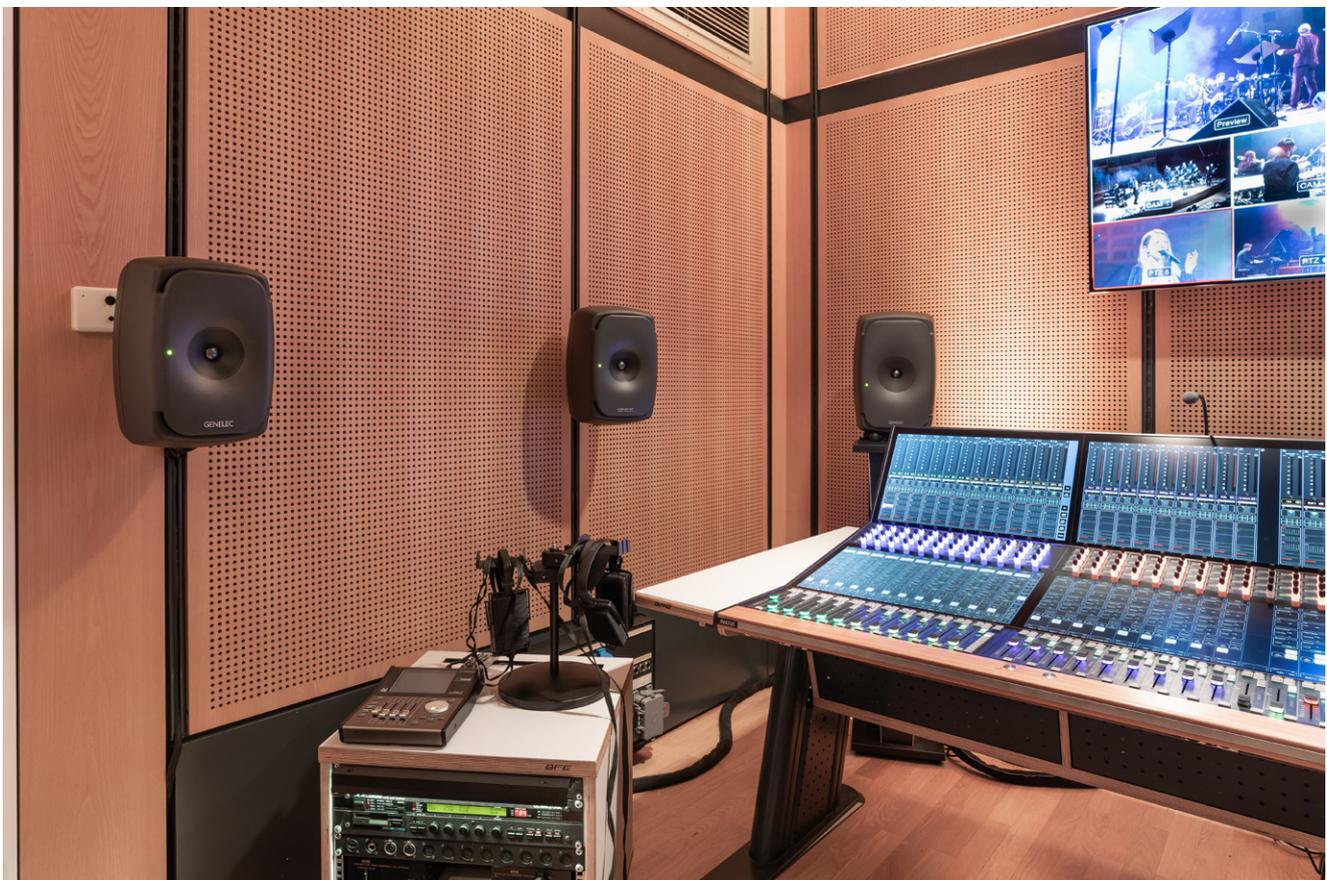
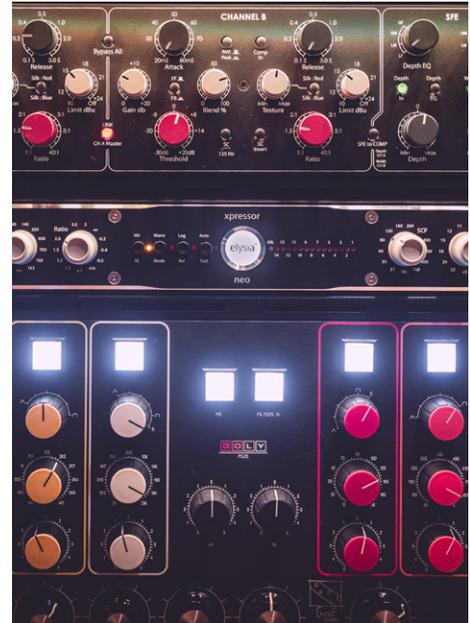
Arne Morgner

Deputy Technical Director



That's why The Ones operate in full-range mode in our immersive setups – the subwoofer only handles the dedicated LFE channel, without bass management.”

The tight integration of The Ones with Genelec GLM loudspeaker manager software is also bringing significant benefits, as Morgner explains: “We use GLM constantly, because it allows us to switch from standard stereo 2.1 operation to 3D audio with just one click, eliminating the need for an external loudspeaker management system. The calibration function is also very helpful. The room is acoustically well-designed, but in combination with GLM, we can achieve significantly better results.”



THE CONCLUSION

With the studio upgrade now complete, Morgner is very happy with the quality of the mixes now being produced. “Sonically, we all benefit from the wider sweet spot, and I clearly feel that our mixes now translate better to other playback systems. Much more often, my colleagues and I find that when we listen to our mixes on a different system elsewhere, the result is much closer to what we originally intended.”

Additionally, HMDK’s continuously evolving studio facilities have provided a deep understanding of how the university’s technology choices can help prepare their students for the future. “What has become increasingly important to us in recent years is that, when we implement new systems at the university, we stay close to industry standards – and use the same kinds of products that our students will encounter later in their professional careers,” concludes Morgner. “That starts with microphones – understanding their specific characteristics – and extends through audio systems to modern IP-based networks like Dante, helping students develop a sense of what they can rely on in the future.”



THE DETAILS

Control Room A

- 3 x 8351A
- 10 x 8341A
- 1 x 7370A
- 1 x GLM Calibration Kit

Control Room B

- 2 x 1032B
- 2 x 8341A
- 1 x 7370A
- 1 x GLM Calibration Kit

Recording Room

- 2 x 8350A
- 1 x GLM Calibration Kit

Klangmobil Mobile Truck

- 13 x 4430A
- 1 x 7370A
- 1 x Smart IP Manager Software