

TAMPERE HALL

TAMPERE, FINLAND

The light dimming system in Tampere talo, originally opened in 1990, was renewed in 2008 and the problematic stage acoustics were tended to in 2011. Through the improvement of the acoustics of the amphitheater the orchestra now finds it easier to play together, and the acoustics of the entire hall improved tremendously. The audience can hear this through the ever growing warmth of tone of the playing orchestra.

The Tampere Hall is the home concert hall for the Tampere Filharmonia-orchestra. The players of the orchestra criticized the poor cross hearing across the stage in particular, as it made playing together difficult. Problems were also caused by the severe differences in acoustical conditions between the front and back parts of the stage. The stage was also slightly too deep in proportion to its width.

The decision to better the acoustics of the stage was made in 2006. Acoustic planner **Anssi Ruusuvuori**

started working on the project with the help of a questionnaire filled out by members of the orchestra. The answers pointed out the main acoustical problems that the stage was plagued with. The acoustics were measured and using the results the space was simulated onto a computer.

“Temporary structures were installed on the basis of the computer simulation before any final decisions were made. Four lines of 28 acoustic clouds were attached onto the ceiling of the stage. The

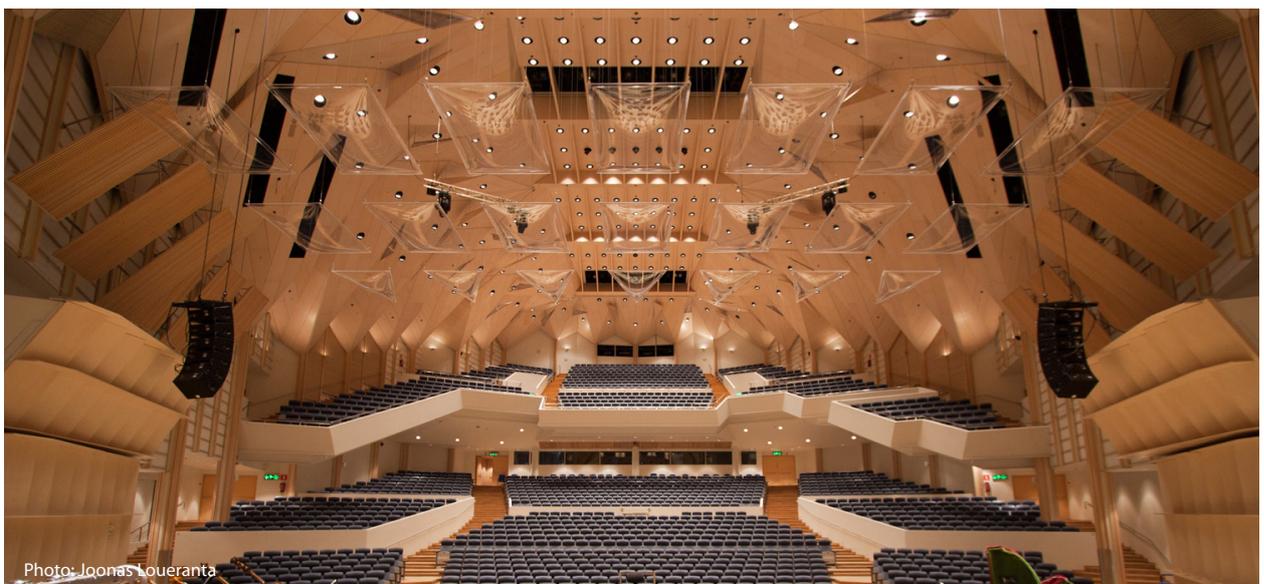


Photo: Joonas Loueranta

clouds are reflecting, convex acrylic sheets which were installed to improve the cross hearing of the orchestra. The reflecting clouds equipped with lift mechanics can be pulled up or taken completely out of the way of the PA system or the lighting. In addition, new reflecting surfaces were installed onto the walls and floor of the stage. Also, the remodeling of the balcony's borders was also done", explains Mr Ruusuvoori.

When the temporary structures were in place, the orchestra tested the acoustics again and answered another survey. On the basis of this survey, Ruusuvoori made the decision to move the back wall closer to the audience, which would lead to making the stage slightly shorter. New acoustic elements were also added to the back wall of the stage.

The answers from both surveys and new measurements indicated that all the changes which were experimented with in fact did improve the acoustics considerably. Mr Ruusuvoori planned the final structures together with the Tampere Hall architect **Esa Piironen**. **Timo Risku** from Akumek was involved in the planning of the technical aspects of the acoustic clouds' mobility.



Photo: Joonas Louelanta

Client	Tampere-talo Oy
Started	2007
Opened	2011
Project type	Renovation
Architect	Esa Piironen
Services by Akukon	Acoustical and audio visual design, theatre mechanical design
Akukon's team	Principal Consultants: Anssi Ruusuvoori, Tapio Ilomäki, Timo Risku (Akumek) Other team members: Henrik Möller (measurements), Tapio Lokki (acoustic computer model)
Total cost of the project	380 000 €

The changes were a success. Both the players of the orchestra as well as the director of the orchestra, **Hannu Lintu**, have been very pleased with the new acoustics of the stage and the possibilities that it has brought along with it for the orchestra.

The critic for the newspaper Aamulehti, **Harri Hautala**, wrote the following about the Tampere Filharmonia-orchestra in his review about the autumn opening concert 2011: "The big hall rings like it was reincarnated". In addition **Hannu Ilari Lampila** wrote in the newspaper Helsingin Sanomat, that the acoustic changes in the hall have brought translucent vulnerability, warmth and dynamic richness to the sound of the Tampere Filharmonia-orchestra.

The whole project lasted only two months. Ruusuvoori spares no praise in describing the cooperation between the architect, the orchestra and the Tampere Hall. "This was like a dream project; everything went so smoothly and effortlessly and in such a good mood".

The light dimming system was designed by **Tapio Ilomäki**.