

ENERSENSE AREENA

Pori, Finland

Images: Aura Audio

Enersense Areena is a venue nestled in the heart of Pori, Finland. Serving as the home for the renowned ice hockey club, Porin Ässät, this multifunctional arena that has been a focal point of entertainment since its inauguration in 1971. With a seating capacity of 6,150 for hockey games and 4,000 for concerts, Enersense Areena has recently undergone a revamp of its audio system. The venue faced a unique challenge with limited rigging weight capability due to the presence of essential machinery, such as air conditioning, occupying most of the available capacity. After detailed inspections, only specific lifting points were identified: a central point with a capacity of 300kg and ten additional points around the hall seating areas, each with a 90kg capacity. To meet the stringent sound pressure level (SPL) requirements of 110dB/C/peak for the lively hockey fans and 120dB/peak for the centrally positioned subwoofer above the screen, a meticulous approach was essential. Mikko Kiviharju, Audio Consultant from Mixa, who assisted in the system





design, takes up the story: “When we began planning and design the Enersense Areena’s sound system upgrade, we faced several diverse challenges in advance. Hanging loads and the durability of the roof structures required extensive negotiations and drawings with mechanical engineer to find the best solution for the quantity and placement of speakers. “The arena’s user base includes league games, figure skating, junior practices as well as concerts and exhibitions. Therefore, the sound system needs to be able for serve a wide range of events.

“We aimed to minimise the acoustic challenges of the large and reverberant hall from the early design stage, beginning directly from careful physical speaker selection instead of wondering what we can do on the DSP side. Aura Audio emerged as the winner and, consequently, the installer.”

Aura Audio devised a solution through distributing the main speakers into 22 single points, departing from the 4-8 line array configuration. The newly-designed S3 speaker model, designed from the ground up during the pandemic, played a pivotal role. Weighing in at a mere 25kg per speaker, the S3’s horn-loaded design incorporated a 10” LF driver and a 1” compression driver loaded with a turnable 90x60 degree CD-horn. The unique orientation of the HF horn, set at 60 degrees horizontal and 90 degrees vertical, ensured precise coverage of the audience area from challenging rigging locations.

The S3 also boasts the patented Passive End Fire Technology, enhancing directivity and elevating low-frequency capabilities, resulting in improved speech intelligibility and overall SPL performance.

For the subwoofer system, Aura Audio deployed the powerful XQ48, a horn-loaded subwoofer comprising four 18” drivers. Two of these subwoofer configurations, facing each other and capable of producing 150Db SPL bass range, seamlessly covered the entire venue, with the central position guaranteeing uniform coverage.

In addition to the main system, Aura Audio provided tailored solutions for the venue’s three restaurants and pubs. i3 point

sources and XD10 subwoofers, all powered by Aura Audio D2Q amplifiers, ensured an exceptional sound experience in each area.

Over 100 i3 fills were strategically placed to cover VIP areas and remote audience locations beyond the reach of the S3 main system. The result is a cohesive audio environment, seamlessly blending with the dynamic nature of the venue. To manage the complexity of the entire audio system, an Allen & Heath AHM32 processor, operating through a Dante network, was chosen. Covering 30 zones and 28 inputs, the system accommodates diverse needs – from ice hockey matches to concerts and even restaurant services. Customised Allen & Heath IP1 controllers and tablets are used to deliver streamlined control, making the system user-friendly even for non-technical personnel. A total of 12 D2Q amplifiers were employed to drive the entire S3 system, i3 fills, and restaurant setups, while D120 amplifiers handled the powerful subwoofers, supported by around two kilometres of speaker cable.

Aura Audio’s transformative audio system at Enersense Areena not only met, but exceeded the demanding requirements of this multifunctional venue, providing an unparalleled audio experience for hockey fans and concert-goers in the main bowl and throughout the hospitality areas. “I have been extremely pleased with the solutions provided by Aura Audio. The new S-series line of speakers has proven to be a perfect solution when managing challenging acoustic conditions at the speaker level without compromising the volume and quality of sound in the audience area,” Mikko concluded.

“Similarly, the low-frequency system designed for most equal sub-bass reproduction over the audience is incredibly efficient, considering the extremely limited allowed hanging mass. Fantastic, functional solutions.

“We can be pleased with the successful project; the S-series offers excellent tools for the needs of a sound-system designer, and I believe it can change the game in both live- and installation industry in future.”