

CASE STUDY:

Ensuring Good Acoustics at a Renowned Art Museum

ARoS Aarhus Kunstmuseum

Challenge

New Art Wing Design Presented Acoustical Challenges

The ARoS Aarhus Kunstmuseum is an art museum in Aarhus, Denmark. The museum was established in 1859 and is the oldest public art museum in Denmark outside Copenhagen. ARoS Aarhus Art Museum's striking architecture is created by schmidt hammer lassen architects. The 17,700 square meter building is cube-shaped and is sliced through by a curved "museum street", to which the public has access without admission charge. Forming a logistical pivot, a spiral staircase punctuates the mid-point of the "street" and, on payment of an entrance fee, affords full access to the various galleries and facilities. In May 2011, the spectacular *Your panorama rainbow* opened atop the museum, consisting of a 150-metre-long and three meter-wide glass circular walkway in all the colors of the spectrum.

ARoS wanted to open a new wing of the museum, ARoS public, which planned to present art in a new and interactive way. The new space would provide an innovative public forum for learning and interpretation. ARoS Public would occupy the third floor with new workshops, an artist-in-residence studio where artists could work for periods of varying duration, a salon, an auditorium, and three digital stations: *Blikfanger (the Eye Tracker)*, *Portrætmaskinen (the Portrait Machine)*, and *Kommentatorboksen (the Recording Booth)*. The space's architecture would facilitate interaction and experimentation, and the design would emulate that of the modern Scandinavian architecture of the other parts of the museum -- sleek lines of concrete and glass would abound.

Jakob Bay Gydesen, ARoS's Audio-Visual Coordinator knew these reflective surfaces would create acoustical issues in the new space. He had heard that sound masking, the process of adding a subtle, airflow-like background specifically engineered to target human speech noise, might be a viable solution to the acoustical issues. The sound, introduced through loudspeakers installed in the ceiling, raises the ambient noise level of the space, making conversations over 4.5 meters away fade into the background. Gydesen reached out to Claus Hansen from local acoustical consulting firm Ergoacoustic for a demonstration of the technology. Impressed with the results, Gydesen made sound masking a part of the new wing's construction.

“ We haven't really had any acoustical issues in the space. Sound masking is definitely a big part of that – we're very satisfied with the product. ”

Jakob Bay Gydesen
Audio-Visual Coordinator
ARoS Aarhus Kunstmuseum

Solution

QtPro® Sound Masking System

Ergoacoustic worked in concert with ARoS and their architect to develop a system design that would be effective and would mesh perfectly with the architectural vision for the space. Different zones were designated for the interactive exhibit area, salon, and corridor areas. Small, barely visible emitters (loudspeakers) were installed in the ceiling throughout the space. The emitters were connected by cables above the ceiling to a Qt® 300 control module rack mounted in a data closet.

Result

An Acoustically Comfortable Environment for Museum Patrons

ARoS Public opened in 2016 to rave reviews. “Despite all of the visitors interacting with the art and engaging in conversations, we haven’t really had any acoustical issues in the space,” says Gydesen. “Sound masking is definitely a big part of that – we’re very satisfied with the product.”

About ARoS Aarhus Kunstmuseum

ARoS is a house of art where guests can be pleased, enlightened and challenged. The architecture is of international class. The same is true of the art. And both offer experiences of high carat: from light to thrill, from attitude to entertainment, from joy to challenge. With thousands of square meters spanning ten levels the museum now has ample space to showcase its extensive collection of 1100 paintings, 400 sculptures and installations, 200 art videos and over 7,000 drawings, photos and graphics: a collection that ahead of the inauguration was enhanced by the addition of works by international artists such as Bill Viola, Tony Oursler, Carsten Höller, Miwa Yanagi and James Turrell. In large measure, a donation of DKK 40m by New Carlsberg Foundation over a ten-year period enabled the purchase of these works. ARoS features a shop, café and restaurant. The architectural vision of the museum was completed in 2011, with the addition of the circular skywalk Your rainbow panorama by Ólafur Eliásson.

About Cambridge Sound Management, Inc.

Cambridge Sound Management, the world’s largest provider of sound masking solutions, manufactures QtPro and DynasoundPro sound masking systems to help organizations across multiple industries protect speech privacy, reduce noise distractions, and increase workplace productivity. Cambridge Sound Management’s proprietary sound masking technology works by emitting a uniform, barely perceptible background sound at the frequencies of human speech. Cost effective and easy to install, their sound masking, office paging, and background music systems are deployed in hundreds of millions of square feet of space throughout the world including commercial organizations, healthcare facilities, financial services, government agencies, and educational institutions.



Case Study Overview

SPACE

1900 square meters

CHALLENGE

New art wing design presented acoustical challenges

SOLUTION

QtPro® Sound Masking System



RESULT

An acoustically comfortable environment for museum patrons