Established in 1859, the ARoS Aarhus Kunstmuseum in Aarhus, Denmark is the oldest public art museum in the country outside Copenhagen. The 17,700 square-meter building is cube-shaped and sliced through by a curved “museum street,” to which the public has access without an 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 rainbow panorama opened atop the museum, consisting of a 150-meter-long and three-meter-wide glass circular walkway encompassing the entire color spectrum.

ARoS wanted to open a new wing of the museum, ARoS Public, to present art in a new and interactive way. The new wing would provide an innovative public forum for learning and interpretation, with the third floor dedicated to workshops, an artist-in-residence studio, 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, with the design emulating the modern Scandinavian architecture of the other museum wings. But while aesthetically pleasing, the sleek surfaces of concrete and glass were sure to be an acoustical nightmare. A sound reinforcement solution was required.
SOLUTION

Jakob Bay Gydesen, ARoS’s Audio-Visual Coordinator, 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.

Ergoacoustic worked in concert with ARoS and the project’s architect to develop a system design that would be effective and 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.

CONCLUSION

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