



When old meets new

TOA solutions have added a modern touch to an iconic French cathedral steeped in history



TOA SR-H2S column speakers are fixed either side of the nave

ALÈS CATHEDRAL, ALSO KNOWN

as the Cathédrale Saint-Jean-Baptiste d'Alès, is a Roman Catholic church located in the southeast of France in the town of Alès. Registered in the list of French historical monuments in 1914, the cathedral's construction dates all the way back to the reign of Louis XIII in the late 17th century.

The cathedral was built on the foundations of a Romanesque priory, which itself was erected in place of a Carolingian church and an ancient temple. Aesthetically, the building features elements of 12th- and 15th-century French architecture, such as its giant square bell tower and ribbed-vault nave. However, over the course of several hundred years, the building has sat in various states of disrepair.

With the last maintenance work carried out in 1981, the City of Alès launched a campaign to fully

renovate the Saint-Jean-Baptiste cathedral in 2000. From 2005, attention focused on the exterior dome, the lead cover of which has been completely replaced. Then from 2011, exterior masonry work to consolidate the façades began and, later, the roofs were renovated. Following the restoration of the bell tower and the Romanesque bays at the main entrance in 2014 and 2016 and re-waterproofing of the building, attention turned to the interior. This work forced the cathedral's closure for another two years and presented the perfect opportunity to introduce some modern technology into the historic site.

Various institutions (DRAC, Occitanie Region, Gard Department and Alès Agglomération) came together to create a budget of € 3.1m for the exterior renovation and € 3.4m for the 1,000-capacity interior. Inside, the work included the design and installation of a professional sound system with numerous microphones and pickup points that would be easy to understand and operate for the church's non-technical personnel.

With a project specification seeking the use of column speakers with controlled directivity, as well as digital matrixing and amplification, French engineering firm ADRET worked with TOA to design a sound system to match the cathedral's challenging sound environment and maximise speech intelligibility. The



TOA SR-H2S column speakers are flanked by BS-1030 in-wall speakers

installation work was subsequently executed by systems integrator SPIE Industrie & Tertiaire.

The chosen design draws on a variety of TOA models. Distributed SR-H2S (Controlled Directional Columns) have been affixed to the columns on either side of the nave for audio reinforcement. These are flanked by BS-1030 two-way in-wall speakers, angled outwards to cover the wide pews, as well as additional BS-1030 cabinets to cover the upstairs galleries. Everything draws power from a pair of TOA DA-250FH 4x250W digital amplifiers installed in the nearby rack room. TOA WM-5270 handheld HF transmitter microphones, together with EM-700 surface and EM-800 electret microphones, cover the necessary pickup points.

The risk of microphone feedback was minimised with the internal feedback suppressor of the D-900 matrix, while several other products were called upon to meet the project's requirements, including TOA's MP-032B local listening panel, D-901 digital matrix, WT-5800 two-channel HF diversity receiver and WD-5800 HF antenna distributor with YW-4500 remote antennas.

Following installation and commissioning, the teams measured STI (Speech Transition Index) ratings of between 0.46 and 0.57, meeting the design's initial expectations.

"The TOA brand is renowned and the equipment is known to be efficient, reliable and of high quality. The TOA team was able to master the complexity of the site and the difficult acoustics by accompanying the engineering firm and the installer in the preliminary design studies but also during the entire construction phase and with the operators for commissioning, fine-tuning and training in the use of the system," explains Philippe Obara from SPIE Industrie & Tertiaire. "The advantages of this solution are based on the digital technology of the central system, the choice of directional columns, the high-quality HF microphones and a team that listened to our needs and comments throughout the project."

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