

The palace Qasr Al Watan, opens its doors to the public with d&b.



Qasr Al Watan, Abu Dhabi, United Arab Emirates

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Composer and sound designer

Qasr Al Watan or the 'Palace of the Nation' opened its doors in March 2019, and it's every bit as dramatic and impressive as its name suggests. Based inside the Presidential Palace complex in the UAE capital, Qasr Al Watan pays homage to Arabian heritage and design. Complete with magnificent white domes, an abundance of marble and intricate mosaics, dramatic chandeliers, and lush gardens, the new landmark aims to inspire visitors while giving them a stronger understanding of the UAE's governing traditions and values.

Setting the scene

The grand finale of any visit to the Palace is a dazzling sound and light show titled 'Palace in Motion' held outside in the vast courtyard. The show features projection mapping on to the Palace itself accompanied by a custom-written score that tells the story of the UAE in three acts. A fully weatherised d&b V-Series system with custom rigging delivers the audio element that is crucial to the success of the show. World-leading AV supplier, Creative

Technology (CT) was engaged to provide technical design, installation and integration of the project as a whole, including system control, projection design, media servers and audio systems. CT worked with Olivier and Tony award-winning design studio and production company, 59 Productions, who was responsible for creating the video projection. In turn, 59 Productions brought in Tom Hackley, composer and sound designer, to bring their creation to life from an aural perspective.

Setting objectives

Hackley explains that while the brief was straightforward, achieving it was a challenge for several reasons. "As with everything else in Qasr Al Watan, the most important consideration was quality," he says. "The client wanted the best possible audio for the show. I specified d&b from the outset, firstly because they make great-sounding loudspeaker systems, and secondly - something that was critical in this instance because of the Qasr Al Watan, Abu Dhabi, United Arab Emirates



incredibly tight timeframes involved - because of d&b's ArrayCalc simulation software. Using measurements that were supplied by the teams on the ground in Abu Dhabi, I was able to design a system and accurately plot its response in ArrayCalc, which was a huge timesaver, and with it, I knew that I could guarantee the required results."

The design in question is essentially a L/R system with four delay towers for a total of 64 Vi8s, 12 Vi12s, and 18 Vi-GSUBs to cover an area no less than 53m wide by 150m deep. The main arrays in the broadest part of the courtyard in front of the Palace consist of eight tops and six ground-stacked subs per side. Serving the long, narrower esplanade where the majority of the audience finds itself are L/R hangs of twelve V-Series tops with six subs and subsequent delay towers of six tops

and two subs. The system is optimised with d&b ArrayProcessing technology. However, as Chadi El Masri of Lightbox, the d&b distributor in UAE, explains, for this particular project, the system design was only half the battle. There were also the elements to contend with.

"Built at the head of a peninsula, Qasr Al Watan is surrounded on three sides by the sea, which is only 300m away. It can be incredibly hot and often humid because of the proximity to the sea, so it's a pretty hostile environment for loudspeakers," he remarks.

"Weatherisation is therefore essential, so d&b supplied SVS (designed for stadia) versions of all the loudspeakers along with custom, weatherised rigging. We were able to supply everything, including rigging, in a custom colour to match the decorative lamp posts that were used to suspend the arrays."

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The weatherisation process includes a UV-resistant polyester powder coating for the grille, a special fabric behind the grille to repel water ingress, the treatment of all metal parts with an anti-corrosive cathodic dip before powder painting, and connectors designed with a cable gland to make them weather resistant.

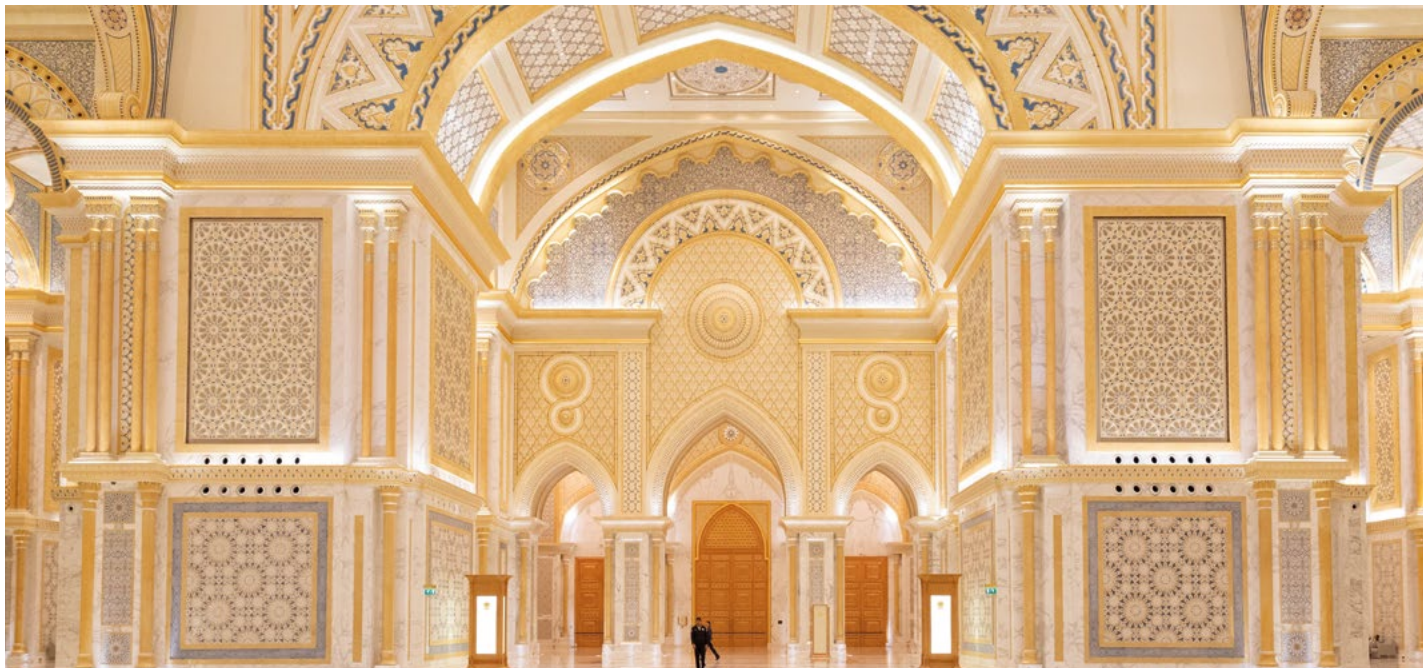
The rigging was specially designed by the d&b Custom Solutions department at the company's headquarters in Backnang, Germany, using cutaway drawings from the integrator aligned with the ArrayCalc files. Wolfgang Schulz, who heads up product management for d&b's installation products, oversaw the whole process. "We designed the frames firstly to accommodate the specific splay angles of each array as calculated in ArrayCalc," explains Schulz. We also

designed them so that the arrays could be built in blocks of four or six loudspeakers, which makes them much easier to handle for annual maintenance and storage at the end of the season. In total, we designed three different types of bracket for this project."

Schulz continues, "We had something like a month from receiving the signed order to delivery on-site for final commissioning. During that time, we were able to design the rigging and manufacture every single piece of the system – so 114 loudspeakers plus all of the rigging, everything custom-built and custom painted – and then make sure it arrived in Abu Dhabi in time for final commissioning. I'm delighted to say that we rose to the challenge and the results speak for themselves."

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Wolfgang Schulz,
Teamleader Product Management,
Installation



► System: Vi8, Vi12, Vi-GSUB