

L-Acoustics L-ISA Makes History Hyperreal for Puy du Fou España

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For A Pluma y Espada De Vuelta, a frontal L-ISA configuration, using a combination of L-Acoustics A and X Series cabinets, is positioned above the 40-metre wide stage.

Expanded five-hectare theme park opens for 2021 season with immersive audio

Toledo, Spain - August 2021 - A theme park with no rides, Puy du Fou has a magic of its very

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own. In the late 1970s, French entrepreneur Philippe de Villiers gradually began to build a vast historical reproduction theme park in Western France. Every milieu portrayed is authentic, ranging from Viking and Roman times to Richelieu, Revolution, and Resistance. Today, Puy du Fou attracts over two million tourists every year and provides a mini economy for the local community. The park installed its first L-Acoustics sound system in 2000, became an early adopter of L-ISA Hyperreal Sound technology in 2016, added L-Acoustics to the prestigious Puy du Fou Club of Partners in 2017 and today, the entire park is equipped with L-Acoustics sound.

In 2017, when plans were revealed to open Puy du Fou España, L-Acoustics was asked to bring its trusted audio formula to the massive new Toledo site.



L-Acoustics L-ISA spatialisation gives the impression of a real orchestra in front of the 1,500 spectators of A Pluma y Espada De Vuelta, with the hyperreal technology allowing the sound to naturally follow the action on the stage.

A €200m investment brought Puy du Fou España to life for its 2019 ribbon-cutting, including the unveiling of the first show, *El Sueño de Toledo*, billed as 'the biggest show in Spain.' The ambitious spectacle transports visitors through 1,500 years of Spanish history performed by 200

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actors, with knights in armour, staged fights, fireworks, and parades set within a huge crenelated backdrop. A show which aims to transport an audience of 5,000 from the discovery of America to the arrival of the railway demanded substantial sound reinforcement. Which is provided by an immersive sound configuration, comprising 25 K2, nine Kara, and ten KS28 subs covering the entire arena in natural, spatial sound.

The 2021 opening of the park sees four new shows added – *El Último Cantar*, *A Pluma y Espada*, *Allende la mar Océana*, and *Cetrería de Reyes*, all benefiting from L-Acoustics systems, with *El Último Cantar* benefitting from an L-ISA Immersive Hyperreal installation. “We applied the same design principles in Spain as we did in Puy du Fou France: the successful technical formula of the park is repeated, but with clear cultural differences in its theming,” says Arnaud Delorme, L-Acoustics Head of Application, Installation. Delorme worked alongside Puy du Fou’s in-house technical team, including Mix Engineer Samuel Briand, Integrator Ugo Poletto, and onsite Sound Technician Daniel Garcia.



The entrance to Allende la Mar Océana, which features 150 L-Acoustics X and A Series cabinets.

El Último Cantar is a sword-swinging show featuring onstage jousting and singers. The tale of legendary 11th-century Castilian knight El Cid is brought to life with 24 clusters of A15 Wide and

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Focus accompanied by 5XT coaxials providing front-fill. The speakers are positioned around a centrally rotating, 2,400-seat platform, which revolves to reveal multiple stages around its circumference, the largest of which features a large swimming pool representing the sea. An array of eight KS21 subs beneath the audience seating ensures the lowest rumbles of battle are realistically conveyed with a high level of directivity control. “This is a fully immersive L-ISA 24.1 hyperreal mix, with an encoder that sends OSC messages to tell the L-ISA Processor at which angle the seating is rotating. The processor controls 24 objects, one for each cluster piloting them to turn with the seating assembly.

A Pluma y Espada follows the adventures of an exuberant swordsman, from his battle with soldiers across Toledo’s rooftops to his appearance before the King. The audience area is covered by nine hangs of A15, a mixture of Focus and Wide, and four KS28 in a central cluster above the 40-metre wide stage in a frontal L-ISA configuration, all powered by an L-ISA Processor. Six A10i Wide dotted around and behind the audience provide surround sound, and eight X8 provide front-fill and a further two A15 per side in horizontal configuration for out-fill to ensure coverage of the lateral audience while minimising interference with the L-ISA zone. “There is orchestral music throughout the show, and the L-ISA spatialisation gives the impression of a real orchestra in front of the 1,500 spectators,” explains Delorme. “In addition to the music, the hyperreal technology allows the sound to follow the action on the stage naturally. From left-to-right, front-to-back—wherever the action is, the sound is there, too, with the full 360° immersive setup bringing the spectacular action scenes to life.”



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The power for Allende la Mar Océana's storm scene is provided by L-Acoustics X12, X8, A15 Wide, KS21 and 5XT in a room that's 5m wide and 10m deep.

Allende la mar Océana is a walk-through journey telling the story of Christopher Columbus' discovery of the New World, featuring special effects to allow visitors to experience the sensations of the high seas and the bustle of the port of Palos before the crew set sail. Installed here are 150 coaxial enclosures and subs, from X4i to A15, and additional subs, each on a separate channel, controlled by LA4X amplified controllers. Visitors enter through an outside area, and their journey continues through 21 rooms, with the L-Acoustics ecosystem ensuring storytelling continuity. M1 measurement software allows for standardised response curves and levels wherever the speakers are integrated into the scenes. Almost a thousand measurements were needed, something that could not have been achieved before M1 was released last year.

“Because the enclosures need to be hidden, the smaller their size the better. But they still needed to be sufficient depending on the objective,” says Briand. “For the storm on the high seas, there are a total of four X12, four X8, then two A15 Wide, four KS21, and 5XT in a room that's 5m wide and 10m deep. The boat is sinking, so it's quite a stressful experience, and there's a lot of power here. In the library, where you take just five or six steps to complete the room, there are still seven cabinets, but smaller-sized, because we wanted to produce a more realistic and refined ambiance.”

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In Cetreria de Reyes, where birds of prey fly amongst the audience requires power, bandwidth, homogeneity and quality from L-Acoustics A and K Series.



Cetreria de Reyes has two tiers of identical audience seating areas positioned on opposite sides of the

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arena. Each tier features L-Acoustics A15 Wide and Focus with KS21 positioned on observation towers at each side of the arena. A central stack of Kara II conveys the powerful show narrative with A10 used for surround.

“We needed a lot of LF and power, intelligibility, and bandwidth for the narrative,” explains Briand. “Thanks to signal routing and equalization via the M1 suite of measurement tools from L-Acoustics, we could deliver coherency between the centre and the sides.”

Following the success of the last two seasons, the addition of the new shows meant that Puy du Fou España opened its doors in April to much anticipation, which has been more than equalled.

“It took more than 40 years to build Puy du Fou France to one of the world’s leading theme parks. L-Acoustics played a key role in achieving that success, especially in pioneering immersive audio to create an unforgettable experience,” concludes Poletto. “We’ve been able to apply our decades of experience to Puy du Fou España, and the immediate success of the audio systems throughout is undeniable. Audiences already appreciate exceptional audio throughout the park, with L-ISA technology adding to the feeling of being right in the middle of history.”

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24 clusters of L-Acoustics A15 Wide and Focus with 5XT providing front-fill are positioned around El Último Cantar's centrally rotating, 2,400-seat platform.



About L-Acoustics

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Founded in 1984 near Paris, France, L-Acoustics is the market leader in professional sound reinforcement technologies. With over 550 team members worldwide and offices in Paris, London, Singapore, Los Angeles, and New York, L-Acoustics is present in over 80 countries via our network of Certified Providers. Focused on solutions that elevate the audience experience, more than 20% of L-Acoustics' talent is devoted to R&D in the areas of acoustics, applications, mechanics, electronics, signal processing, and software development. In recognition of creating innovative professional sound technology, L-Acoustics was named as one of *Fast Company's* Most Innovative Companies of 2020.

Recognized for pioneering the line source array, L-Acoustics continues to shape the future of the professional audio industry with L-ISA Immersive Hyperreal Sound technology, a multidimensional, object-based approach to designing, mixing, and processing sound that results in extremely natural and intelligible audio, and a more vibrant, authentic connection between artists and their fans. Now also available for exceptional private sound spaces with L-Acoustics Creations designs.

L-Acoustics technologies can be heard in places like the Hollywood Bowl, Dickies Arena, Allianz Arena, home of Bayern Munich, or the Philharmonie de Paris, as well as the world's top-grossing festivals, and on tour with world-class artists such as Mark Knopfler, Aerosmith, and P!NK.

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