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TJ SMITH

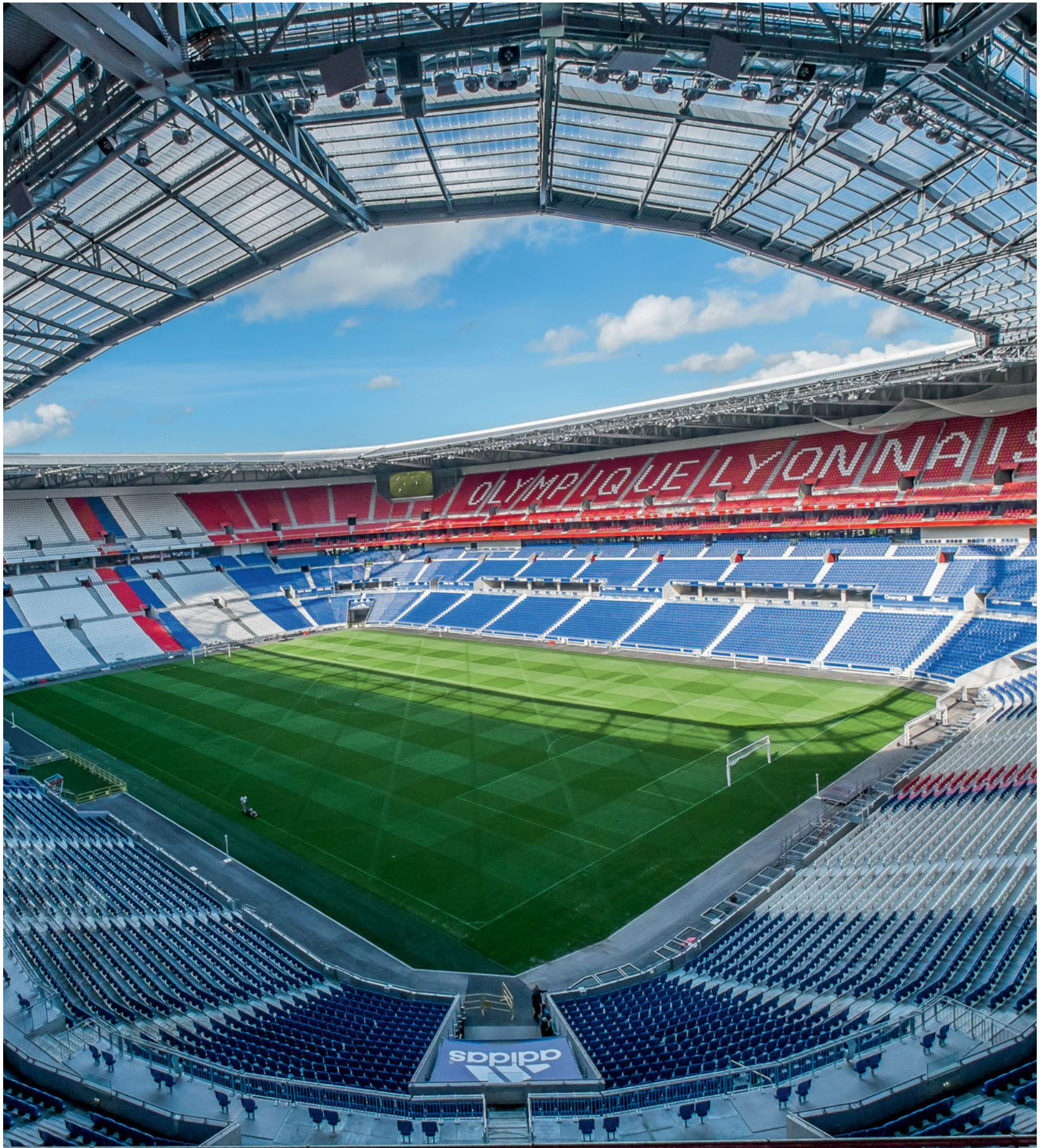
The new EAW President and GM talks pastures old and new.

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PARC OLYMPIQUE LYONNAIS



LYON, FRANCE
EUROPE, MIDDLE EAST & AFRICA

The new stadium built for the Euro 2016 and home to football team, Olympique Lyonnais has been kitted out with a state-of-the-art audio solution courtesy of EAW, Powersoft and Symetrix. Sam McLean reports on the install.

The Parc Olympique Lyonnais, also known as the Grand Stade and the Stade des Lumières, is being heralded as the stadium of the future. The new 59,186-seat stadium - built for the French football club of the same name - is located in Décines near Lyon and boasts HD Wi-Fi for 25,000 and a cash-free payment system that utilises a smart phone app, for everything.

The city had been looking at the possibility of building a new stadium since 2007 but had trouble getting the project off the ground financially. When France was awarded the Euro 2016 tournament and Lyon was selected as a host city, the club of Olympique Lyonnais decided to finance the project independently and the deal was sealed. With an estimated cost of €450 million, construction began in 2012 and the stadium opened its doors in January 2016.

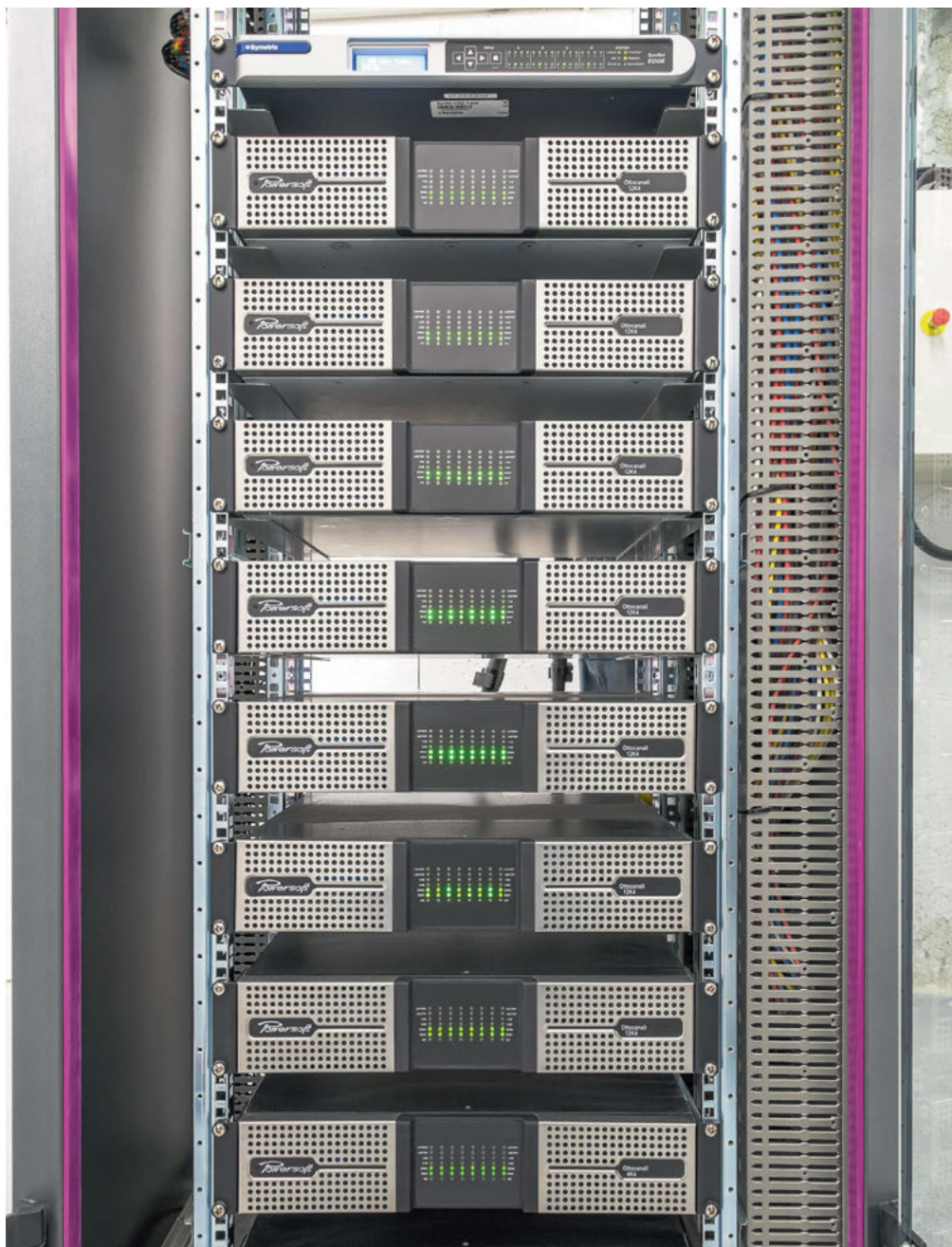
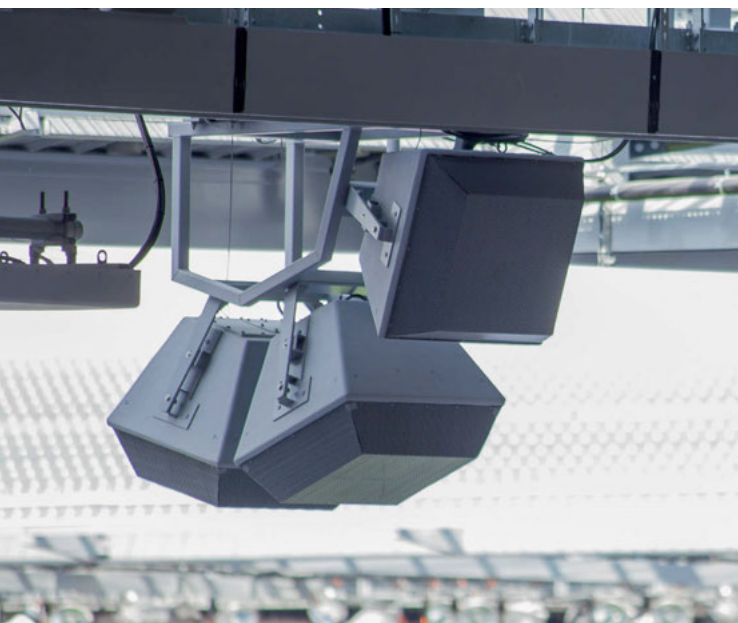
One of the goals for the new stadium was to provide fans with a game day



experience not found anywhere else. The design office of Atelier Audiovisuel Equipements, the engineering consulting firm brought in by Vinci Construction, put out a tender for the sound reinforcement system. Axente, a well-respected professional audio distributor in France, and integration specialists SNEF and Axians worked together to design the distributed system that ultimately won the tender. The goal was state-of-the-art sound reinforcement that would rival audio at the highly regarded Wembley and Nou Camp Stadiums. The new system features Eastern Acoustic Works (EAW) loudspeakers powered by Powersoft amplifiers on a Symetrix Edge network. Alain Hercman, Audio Department Director at Axente, stated: "This was an amazing project from the start - the stadium provides visitors with free HD Wi-Fi, more than 175 sq metres of video screens and the highest quality audio system available. They spared no expense

and it shows everywhere you look." The Grand Stade is part of a new sports complex that stretches over 50 hectares and features a training ground for Olympique Lyonnais as well as hotels and office buildings. The oval-shaped stadium - the centerpiece of the grounds - provides three tiers of covered seating designed to provide fans with maximum visibility regardless of seat location. The roof canopy not only covers the stands but also extends over a large part of the podium surrounding the stadium, creating new spaces for fans to come together outside of the venue. "The goal of the sound system was to provide intelligibility, high output and pattern control throughout the space not only for games but for events the city might host during the off season," explained Rodolphe Roellinger of SNEF. "We designed a distributed system made up of EAW QX500 Series loudspeakers that provides more than 105dB / STI sup 0.5 and extended bandwidth which easily

"The QX Series are state of the art for venues like Grand Stade that that require high output and intelligibility."



"Powersoft has an excellent reputation in this area and the eight-channel units are ideal for this application."

• **Top**
The EAW clusters feature two QX596i and one QX564i loudspeaker.

• **Left**
The Yamaha QL1 is located in the commentator booth.

• **Right**
The Powersoft Ottocanali amps and Symetrix Edge in the rack.

delivered on that objective."

Frankie Celeste of Axians added: "The system was designed to inter-operate with the public address system and with the EVAC audio system. We also managed Dante and MADI interfaces via Symetrix and Riedel components. The end result exceeded expectations."

The distributed system consists of 20 loudspeaker clusters with the majority of the clusters made of two EAW QX596i and one EAW QX564i loudspeakers. The QX596i shoot down to cover the first and second tiers of seating while the QX564i covers the upper tier. Four corner clusters consist of one QX596i and one QX564i aimed to cover the corner seating areas. The clusters are mounted 35-metres (115ft) high under the gangway utilising custom hanging hardware designed by SNEF.

The three-way, point source QX596i and QX564i loudspeakers load ultra-efficient mid-high compression drivers (90° x 45° and 60° x 45° respectively) with a constant directivity horn. Four

phase aligned 12-inch low frequency transducers arranged as vertical and horizontal pairs leverage beneficial interaction based on their spacing to extend pattern control will into the low frequency range.

"The QX Series are state of the art for venues like Grand Stade that that require high output and intelligibility," Frankie noted. "The four 12-inch LF cones were exactly what we needed to achieve excellent low end without compromising intelligibility."

When it came to powering the loudspeakers, the design team looked for reliability, power and efficiency. It was important that the amplifiers could not only power the system but provide the flexibility it required. Four eight-channel Powersoft Ottocanali 4K4 and 14 Powersoft Ottocanali 12K4 were specified to drive the 20 loudspeaker clusters. The 12K4's feed the low end sections - mono bridged at eight ohms - and the 4K4 manage the mid and high sections into a four ohm load. The amplifiers were rack



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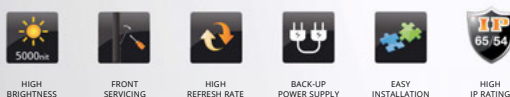
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"Each of the manufacturers in this project represent the top of the range, and they work together perfectly."

mounted in amplifier rooms located on the catwalk at the north and south ends of the stadium.

"Together the amplifiers provide more than 184,000W of power," Rodolphe stated. "Because each provides eight independent configurable channels, they had the power and flexibility we needed for such a large multi-zone system." Dual redundant power supplies ensure not only great efficiency and reliability, but also provide backup in case catastrophe strikes. Powersoft's patented SRM (Smart Rails Management) technology maximises the efficiency of the system as well as reduces power consumption. Fixed frequency switch-mode technology in both the power supply and output stage translates into lower crosstalk and perfect matching between the two. Fortunately, Ottocanali amplifiers handle over and under voltage extremely well without affecting performance. PFC lowers peak current adsorption, fostering the reduction of the wiring gauge which translates into lower installation costs.

"One of the main characteristics you look for in amplifiers is reliability - especially in a large venue like Grand Stade," said Frankie. "Powersoft has an excellent reputation in this area and the eight-channel units are ideal for this application."

Alain added: "The quality of this amplifier platform is far superior to others and allows us to use fewer amplifiers. It was a win-win situation." "DSP with built-in Audinate Dante that would work around networking technology in place was a necessity," Celeste pointed out. "Edge from Symetrix with its flexible input / output configuration was ideal. Fortunately, EAW has designed dedicated super modules for the Composer software that make it easy to monitor, control and process the audio distribution network." Two Edge units - one rack mounted in the amplifier room, the other was rack mounted in the control room - provide the crew with consistent support for the Dante media networking technology. A Symetrix Radius 12x8 EX DSP along with Symetrix expansion I/O units offer audio sign routing and distribution of the signal to VIP rooms, player areas and other spaces equipped with ARC-2e wall panels used to tap into the system. "Each of the manufacturers in this project represent the top of the range, and they work together perfectly," explained Alain. "With the Symetrix Composer software it was simple for us to import pre-sets for the EAW QX system, and that was a big advantage - there is no difference between the Symetrix processing and the manufacturer processing. Also using ➤

• Above When France was awarded the Euro 2016 tournament and Lyon was selected as a host city, the club of Olympique Lyonnais decided to finance the project independently and the deal was sealed.



• Above
Marc Kocks
(Powersoft),
Alain Hercman
(Axente),
Christophe
Carles (Axente),
Maxime
Jonda (SNEF),
Frankie Celeste
(Axians),
Rodolphe
Roellinger
(SNEF), and
David Thiebaut
(Atelier
Audiovisuel).

TECHNICAL INFORMATION

SOUND

36 x EAW QX596i loudspeaker; 20 x EAW QX564i loudspeaker; 4 x Powersoft Ottocanali 4K4 amplifier; 14 x Powersoft Ottocanali 12K4 amplifier; 2 x Symetrix Edge DSP; 1 x Symetrix Radius 12x8 EX DSP; 1 x Yamaha QL1 console

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Symetrix Composer meant we were able to design a user friendly interface for simple control of the system.”

With the UEFA Euro 2016 championships in sight, the Parc Olympique Lyonnais is ready to host the championship. Over the course of 30 days, thousands of fans will pass through their gates looking forward to an incredible game and experience in the new stadium.

“This was a project that was a long time in the making,” concluded Alain. “I think the owners and fans would agree that it has been worth the wait. The audio system is stunning - it provides everything necessary for what is needed now and well into the future due to great team work between manufacturer, distributor and integrators. Everyone is extremely pleased with the end result.” 

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