
POLAR PARK

A new Fulcrum Acoustic audio system delivers state-of-the-art sound to Worcester Red Sox's home ground.

ASCOT RACECOURSE

A venue first at the famous racecourse with the introduction of Amazon's Alexa for Smart Properties.

ELECTRO-VOICE

We speak to the E-V team about the recently-launched MTS Series, which sets a new standard for stadium audio.

LIGHTING FOCUS

We showcase sporting venue projects and state-of-the-art products from the lighting industry.

mondo | STADIA

ISSUE 21 - DECEMBER | JANUARY 2021/22

THE INTERNATIONAL PUBLICATION FOR TECHNOLOGY IN SPORTING VENUES



SWANSEA.COM STADIUM

Swansea, Wales

Images: Swansea City AFC / Athena Picture Agency Ltd, MONDO | STADIA

Opened in 2005 to provide a home for Swansea City and Ospreys Rugby, the Swansea.com Stadium is a venue the city can be proud of. Built on the site of the former Morfa Athletics Stadium and playing fields, the 21,000-capacity stadium has become one of the foremost sporting venues in the country.

With two hugely successful sporting teams, the ground also regularly plays host to international sporting fixtures, numerous sell-out concerts and thousands of conferences and events each year.

With an array of matches, concerts and events at Wales' third-largest stadium, the whole ground was in need of a full audio revamp to modernise the facility and enhance the atmosphere for the fans. Gordon David, Facilities Manager at Swansea City Football Club, takes up the story: "The decision to upgrade the existing audio system, which had been in place since the stadium opened in 2005, was taken in early 2020. The reasons behind that were partly down to the age of the system, but also, more importantly, to ensure it remained compliant to the necessary British standards. This was a challenge with the original system, as some of the infrastructure was obsolete and available spare parts were difficult to procure."

The club enlisted the help of Vaughan Sound Installations (VSI) for the project, having previously worked with them before on other projects at the ground, as Operations Director, Richard Vaughan, explained further: "We were first involved back in 2005, working on some of the suites as we did the screens for the hospitality areas, but we weren't involved with the PA system back then. I attend most games, too, so we had a few contacts and heard a whisper that they were looking at upgrading. So, from there, we did a bit of research and finally got the invitation to tender, which meant we started our conversations with NEXO."

"I think it got to the point where the club needed to do something to improve the audio, so working with ourselves, NEXO and Medialease, they did just that."

There were two elements to the project at Swansea.com Stadium, with a new audio system for the main bowl, as well as a public address and voice alarm system for back of house.

"What we needed was a fully integrated public address and voice alarm system that ensured safety and evacuation messaging was clear, concise and integrated into our fire alarm system," said Gordon. "The bowl system needed to have more intricate control and zoning ability to allow us to tailor announcements and messaging to specific areas if required, plus it needed to add high-quality audio for the fan engagement delivery on event days for both football and rugby."

Richard added: "The infrastructure in the ground was good – they've got



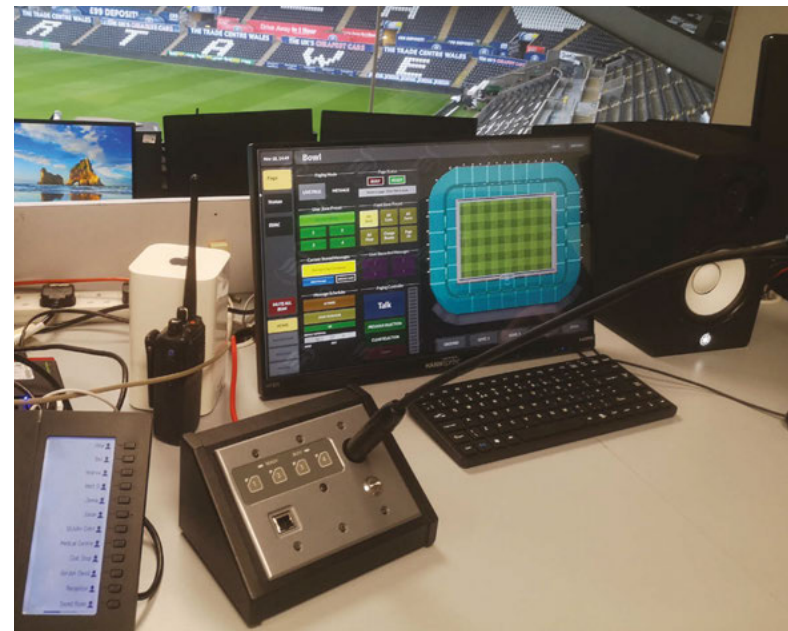




a great fibre network flowing around and all the switches are excellent. However, the PA system is a completely new installation, which included taking out the old kit, though we were able to use the rack rooms with everything being in place. So, with a couple of designs and tweaking things here and there, we came up with a solution that was the ideal fit for the stadium.”

After looking at various options, NEXO became the clear choice for Swansea City’s new audio system, particularly after listening to the quality delivered in other stadiums, as Gordon explained: “We looked at several options in terms of brand and decided to go with NEXO based on the quality and specification of they were offering. We needed to ensure that the system we were proposing was not only fully compliant and future proof, but that it would allow us more intricate control in all areas. After physically visiting other venues with a NEXO system, we made the decision to go with them.” VSI’s relationship with NEXO was a vital part of the project, too, as Richard explained: “We’ve got a great relationship

with NEXO that we’ve built up over the years and that’s hugely important as you want to trust who you’re working with on big projects like this to ensure the best results possible. Plus, NEXO has the reputation they do from what they have successfully delivered in the past as well. We always had the confidence when it came to working with Andy Simmons (NEXO’s UK & EIRE Sales Manager) and Gareth Collyer (NEXO’s Sales & Marketing Director). “NEXO were also able to deliver very good technical submittals, which crosses the credibility gap when you’re dealing with a club – basically, the system delivers what it claims to on paper. That’s really important for us when it comes to modelling spaces such as Swansea.com Stadium, as it’s quite a difficult acoustic space to fill.” Andy added: “We’re very strong on providing technical support from the design stage onwards – we’ve got a team of 20 people in our engineering support department. We not only designed the system according to the client’s specifications, but we also insist on coming in afterwards



to prove the concept and make sure it complies with the specifications set out at the design stage.

“For this project, that was hampered by the pandemic, as we couldn’t get people over from France, which is what we normally we actually called on the services of a consultant that we know in the UK, who came along and produced an independent report – and that showed that the system actually complied with the current UEFA standards, so we were very pleased with that.”

NEXO’s P12i loudspeakers from the new P+ Series were used for the main audio system at Swansea City, which everyone agreed were the ideal choice right across the board.

Andy added: “The P12i loudspeakers are great for this project – they actually utilise an asymmetric PS horn similar to that used in our older PS Series. One of the advantages of the P Series is that the horn flares are interchangeable, so you can change the dispersion characteristics. The P12i’s in place at the front are pointing quite steep, which allows for great coverage of the front row of seating, but also aims it towards

the centre of the stand, too. It really drops off as soon as you get onto the pitch as well. So, overall, they are absolutely perfect for this stadium.”

Elsewhere, a TOA VX-3000 system was utilised for the fully integrated public address and voice alarm setup, which works in conjunction with the NEXO loudspeakers.

Ian Bridgewater, Director at TOA, explained further: “The TOA system is based in a de-centralised VX-3000 system, covering all areas apart from the main stadium bowl. There are three VX-3308WM wall-mounted systems in three of the stands and a floor-mounted VX rack in the Southwest Stand. “The racks are connected via a Fibre Optic network and there is a fire emergency microphone and a general paging microphone, which allow routing of real time announcements, as well as pre-recorded messages. The system allows routing of music to any location, with the complete system having a battery backup for emergency use.”

“Putting the public address and voice alarm system in was



the easier side of the project, but we just reconfigured the hospitality suites and levelled it, so the club were able to evacuate floor by floor. We isolated the player areas and changing rooms, too. In the control room, everything can be done via a touchscreen system. We also have a Yamaha TF1 mixer, which is used for the matchday entertainment, as well as some Sennheiser radio mics. Everything is running off a QSC core processor, too, with a Dante network also," said Richard.

Andy furthered: "All our amplifiers have Dante modules in them and we also have a QSC Q-Sys software plug-in, which basically links up our system with the Q-Sys system for fault reporting and load monitoring."

Completing such a large project during a global pandemic wasn't without its difficulties, though there was also a planned pitch renovation to navigate, which meant that communication between VSI, NEXO and the club was key. "Working with VSI was a professional process throughout and they delivered the project in the timeframe over two phases," said Gordon. "Obviously, the project had some operational issues, such as the Covid-19 pandemic that halted work. Also, when we were able to recommence the project, we had a planned pitch renovation take place, which hindered some access to the areas of install.

"That being said, the VSI team worked with me closely on

the project management and they delivered the new, fully-compliant system in line with our requirements, which was to be fully operational ahead of the 2021/22 football season." Overall, the NEXO system has been a huge success for the club, particularly in terms of the fan experience.

"The feedback has been very good overall with no complaints received, particularly once the system was fine tuned when we welcomed fans back into the ground. It was difficult to tune the system in an empty stadium during the commissioning stage as the absorption and background noise that fans create was not present, hence the reason for the fine tuning during our first events," said Gordon.

"The new system has certainly improved the way we deliver front end fan engagement on event days and we now have a much better user interface that allows us to use the system in many different ways that we were unable to do before. For example, we can now tailor announcements to specific areas, rather than the whole footprint, which is a huge improvement."

The end result has received positive feedback all round, as Richard concluded: "We've had great feedback from the club. We tweaked things and improved everything once the whole system was in, but everyone is impressed with the finished project. That's on both the football and rugby sides, which are obviously very different, so that's great to hear."