



# SONIC CHALLENGES

NEXO's high-specification audio systems have been installed at top sporting venues across the globe.

With live music entertainment becoming ever more prominent in and around sporting fixtures, sharper emphasis is being placed on high-specification audio systems for the venues which host them.

French manufacturer **NEXO**, one of the leading suppliers of high-quality sound reinforcement systems, draws on 40 years of experience supplying the concert industry. Its high-output long-throw loudspeakers, refined especially for stadium and arena applications, are now being used by acoustic consultants as the tendering benchmark.

NEXO technology has just been installed at the 30,000-seat **Stade de Sclessin** (officially called **Stade Maurice Dufrasne**) which is home to **FC Standard Liège**, a team that has won the Belgian league on 10 occasions and which has been in the top flight without interruption since 1921, longer than any other Belgian side.

Brussels-based audio-visual installers **Arto** implemented a major PAVA system upgrade at the stadium, choosing NEXO's GEO 512-ST line array, specialist high-output modules that have the long-throw characteristics which allow them to be roof-mounted in a stadium environment that is predominantly metal and concrete.

## NOISE RETENTION

This was not just a building design issue: FC Standard Liège had concerns about retaining as much noise as possible inside the stadium.

The NEXO GEO 512-ST is notable for its tight dispersion pattern, which delivers clear and intelligible sound precisely where it is aimed.

Using NEXO's proprietary modelling software, Arto's system design team was able to predict the exact SPL (volume) that would arrive at every seat in the house.

Loudspeakers that can throw audio over large distances without loss of intelligibility or power are just one aspect of the sound and communications challenge in stadia and arena installations. That the loudspeakers will deliver quality sonic performance is almost a given! Venue management now has to consider a host of other criteria.

Venues are multipurpose, hosting many different types of event. The choice of audio system must perform equally with rock music or marching bands, sounding musical while meeting the Speech Transmission Index (STI) targets which measure intelligibility.

The design of that system must ensure that sound is delivered uniformly to all parts of the stadium, at a level that is dynamically entertaining and exciting, but not deafening.

Now being specified for Perth Stadium in Australia, NEXO's new ID Series of compact full-range cabinets have been specially designed to address awkward seating positions and under-balcony areas.

## FLEXIBLE SOUND

With a range of directivity options, as well as horizontal and vertical mounting possibilities, this super-flexible loudspeaker fits neatly into acoustically challenging spaces, enabling sound to be delivered by close sources rather than by blanket high-SPL coverage.

At FC Standard Liège and **Stade d'Anderlecht**, home to another famous Belgian side **FC Anderlecht**, the NEXO PAVA systems are powered by proprietary NXAMP amplifier/system managers which support the latest networking protocols such as Dante.

Over extensive networks, these devices allow a high degree of centralised remote control, together with fault monitoring and diagnostics of all the elements in the audio chain. Benefits accruing to the venue include the ability to scale the system, to zone the audio, and manage the audio.

At FC Anderlecht, for example, safety messaging can be tightly targeted to a specific zone, as requested by the police, and their network can also accommodate the future addition of more loudspeakers to extend the system.

From the flagship stadium installation at the **Stade de France** in Paris, to the latest installation in Western Australia, NEXO's specialist engineers work with acoustic consultancies and system designers, using special proprietary software tools and calculators. These anticipate precisely the performance of very large-scale audio systems in stadium and arena environments, and allow the optimum selection of loudspeaker and processing elements from NEXO's dedicated range of installation products. ■

