

Tyco Integrated Fire & Security brings The O2 Arena to centre stage

The O₂



Situated on London’s Greenwich Peninsula, The O2 is London’s state-of-the-art music and entertainment destination. The venue can hold up to 23,000 people and is surrounded by an Entertainment Avenue which boasts a myriad of leisure attractions that include an 11-screen cinema, exhibition spaces, an additional music venue, restaurants, bars and cafes.

The O2 was the first destination of its kind in the UK and is equivalent in size to 12 football pitches. In a space so vast, with the potential to be densely occupied, first class security and fire protection is vital.

Figure 1: Technical specification for the O2

	Arena	Waterfront	Other areas
MX fire panels	37	6	
Smoke and heat detector devices	922	146	
Call points	114	114	
CCTV cameras	168	85	100
AVA Personal Attack / Voice Alarm speakers	1,552	59	
VESDA Very Early Smoke Detection Apparatus	34	2	
Access Control doors	55	20	
IDS Contacts	549	70	
Optic cable (total)		14,000 m	
Fire alarm cable (total)		118,700 m	
Watts Power from PA/VA		1 million watts	

The O2’s requirements

The security solutions needed to be discreet but effective, as those managing security at the O2 needed to have continuous surveillance of the arena and its visitors. It was important to ensure that those experiencing the venue could do so in a safe, secure and enjoyable manner.

The fire detection systems also needed to operate in a unique environment, particularly in the concert arena that houses a sound system that pumps out 650,000 watts. Additionally, the shows that take place at the arena often use increasingly advanced pyrotechnic, light and atmospheric displays.

The solution

Tyco Integrated Fire & Security delivered security solutions that have met all of the O2's requirements. CCTV cameras have been installed in all areas of Peninsula Square that feed into The O2 Operations Room, enabling operators to view all areas of the Entertainment Avenue, from the entrance of Peninsula Square to the inside of the arena bowl. Discreetly placed, the cameras monitor the site for any unusual behaviour and also provide valuable data for evacuations. The CCTV system is supported by access control doors where necessary.



Very Early Smoke Detection Apparatus (VESDA) was installed in the arena and concourses. In a concert environment, VESDA can distinguish between particles given off as part of a show (e.g. pyrotechnic displays and dry ice) and smoke as a result of a fire, and alert The O2 Operations Room accordingly. This system is supported by call points and detection around the O2 as well as voice activated alerts. These alerts are connected to the extensive sound system that tells visitors what they need to do in

Figure 2: Key facts: Scope of project

Total venue capacity	60,000
Man days hours invested by ADT	44,000
Contract value	£8m+
Contractors involved	80 companies, 200+ employees
ADT full time project staff	120
ADT engineers on site following completion	3

the event of a fire. The system has also been designed so that the voice activated alerts can operate independently of each other, evacuating areas, if necessary, in an orderly and controlled way.

Tyco Integrated Fire & Security meets the challenge

Anschutz Entertainment Group (AEG) and their sub-contractor, Sir Robert McAlpine, set an ambitious target of less than three years to complete what has been one of the UK's largest development projects in recent years.

Tyco Integrated Fire & Security's biggest success with this project has been to deliver high quality technology within this tight timeframe. To achieve the completion date, Tyco Integrated Fire & Security managed deadlines scrupulously.

This involved the coordination of a team of 80 subcontractors (totalling more than 2,000 workers) along with 120 of Tyco's own staff working to install more than 5,000 pieces of equipment. To complete the project Tyco invested more than 44,000 days of manpower on the site.

Initially, Tyco had been commissioned to provide and manage installation of fire and electronic security systems solely for the arena. However, Tyco's proven ability to work to a tight schedule and manage its contractor base effectively secured further projects in the Entertainment Avenue and Waterfront area, bringing the total contract value to more than £7 million.

Results

Tyco provided a reliable and discreet solution to the O2 by installing innovative technology allowing visitors to have a safe and secure experience at the venue. David Campbell, President and CEO of AEG Europe, stated that "ADT has played an important role in delivering a safety and security solution that plays a vital role in enhancing The O2 customer experience."

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