



**Case studies
PA/VA solutions**

Rail



PAVA LONDON UNDERGROUND



the requirement

In November 1987, a devastating fire took hold at King's Cross Underground Station in London, where 31 people were killed and 19 seriously injured. It was concluded that the fatalities would have been greatly reduced had there been a spoken voice alarm to direct the passengers out of the station.

In response to the tragedy, London Underground Ltd (LUL) ensured that installation of voice alarm across all 130+ stations was given high priority. The tragedy prompted the evolution of the first nationally recognised standards for Public Address and Voice Alarm (PAVA).

Certified to the most stringent voice alarm and safety standards, including EN54-16, ASL's PAVA solutions met LUL's safety needs.

the solution

ASL's solution began with the design and development of SIL2 rated matrix control and micro control products for LUL in 1993. From here, ASL then began developing its comprehensive PAVA and Long Line Public Address (LLPA) product ranges; adopting SIL2 standards for both hardware and software design.

ASL pioneered the use of Adaptive Class D amplification with fanless cooling and DSP routing. These unique developments in voice alarm technology gave marked improvements in space utilisation, energy efficiency and Mean Time Between Failure (MTBF) performance.



the result

Over 130 LUL stations now rely on ASL's PAVA systems. ASL's work on the project led to the award of the Whole Life Maintenance Contract for the Jubilee Line Extension over a 19-year period.

ASL continue to provide ongoing support for installation, commissioning and maintenance to delivery partners. ASL's long-standing relationship with LUL is further strengthened through continued investment in research and product development.



PAVA, IVENCS

DOCKLANDS LIGHT RAILWAY



the requirement

The Docklands Light Railway (DLR) required a PAVA system for their network which serves central and east London including Lewisham, Tower Gateway, Bank, London City Airport, and the financial district of Canary Wharf. The Public Address and Voice Alarm (PAVA) system was required to integrate with an existing signalling system and the operational control centres to provide automated train service announcements in addition to travel messages or emergency information. With 45 stations to manage, many unmanned, it was essential that DLR were provided with a solution that could be fully relied upon.

the solution

ASL provided a fully integrated IP solution to create a Long Line Public Address (LLPA) system incorporating Voice Alarm functionality. The system amplifiers and mainframe provide highly efficient amplification combined with low whole life costs and exceptional reliability. ASL's adaptive Class-D technology, coupled with the iVENCS based control system at the Operational Control Centres, is ideally suited to meeting the requirements of the large, modern, rail network.

The features of the DLR solution, including loudspeaker line monitoring, audio routing, Voice Over IP (VOIP), Text-to-Speech, and Digital Voice Announcements (DVA), are fully controllable via the iVENCS PA Control System. This system facilitated multiple operators to manage the network simultaneously and provided instant fault-reporting, easy management of automated train announcements, and the ability to select individual or multiple stations or PA zones for tailored live announcements.

Two iVENCS workstations and associated servers were supplied to the Operational Control Centres with an additional remote backup suite to provide full dual redundancy.

the result

ASL's solution was a success, where the system continues to operate across the DLR network. Clear announcements at optimum broadcast levels have improved the experience of both passengers and local residents. ASL continue to provide DLR with public address and voice alarm solutions, where ASL equipment has been used for more recent upgrades to the system.



PIDS, PAVA, iVENCs

KLANG VALLEY MRT, MALAYSIA



the requirement

The Klang Valley Mass Rapid Transit (MRT) railway line in Malaysia was the first of three new lines planned to serve the Greater Kuala Lumpur area, with 31 stations serving a population of 1.2 million. The 51km-long line required a multi-node distributed Passenger Information Display System (PIDS) to display live train information, synchronised PA/PIDS messages, images and logos, safety messages and billable advertising. This was also required to integrate with the Public Address Voice Alarm (PAVA) equipment, so that screens located on the station platforms would display emergency information and wayfinding in the event of an emergency.

the solution

ASL provided VIPEDIA-12 and V2000 PAVA amplification and routing, together with our iVENCs Control System for PIDS, with intuitive user displays that allow complete control at multiple workstations across the operational control centres and each station. Multiple server redundancy ensures peace of mind whilst each workstation also includes its own local server, so that each station's passenger information displays can continue to operate even if the line's IP network fails.

ASL's graphic passenger information displays include live train running information in multiple languages, videos, and revenue-earning advertising space, all controlled centrally from iVENCs workstations.

Besides controlling PIDS, iVENCs enables full control of the entire PAVA system, with redundant A+B routing and amplification. The system also seamlessly integrates with the third party fire alarm system, where both PAVA announcements and displays on the platforms show important passenger information in the event of an emergency.

the result

Feedback has been extremely positive and ASL continue to supply the Malaysian rail market with PAVA equipment, passenger information display and control systems.



PAVA & IVENCs

ST PANCRAS INTERNATIONAL



the requirement

London Continental Railways (LCR) and Union Railways North (UCN) required the design, development, installation and commissioning of an entire Station Control System (SCS) as part of the CORBER consortium supplying to London's St Pancras International high speed rail terminal.

The £1.2m contract included the required integration of over 8,000 field devices across 16 subsystems including CCTV, BMS, network switches, Passenger Help Points, ASL-supplied Long Line Public Address and Voice Alarm, Access Control, Passenger Information Systems (PIS), vehicle barriers and PABX.

the solution

ASL's solution was iVENCs - an intuitive 3D control system, designed and developed over a 4-year R&D programme, complying with TickIT ISO 9000-3 software quality practices and procedures, providing an alternative to the existing SCADA-based systems in the market.

iVENCs' advanced features allows for tiered user role operation across multiple sites, fail-over and redundancy between operational and backup locations, monitoring and control of all safety subsystems from a number of synchronised workstations, situated in the Eurostar control rooms amongst others located about the station.

iVENCs uses open source technologies, enabling long term development and support of the iVENCs platform without vendor lock-in.



the result

Following successful delivery against strict time and budget constraints, ASL won a number of awards including 'Best AV/IT Project' and 'Systems Product of the Year 2008'. Since the project, ASL have been providing support with the maintenance of the site, with daily remote health checks along with a support and maintenance strategy aimed at reducing overall lifecycle costs. The result has led iVENCs to achieve the highest availability figure out of all systems at St Pancras.