Technical services for passenger terminals and public transport networks

Modern transport networks and passenger terminals depend on multiple technology solutions for their operation. Complex infrastructures of information systems and communication networks underpin the efficient running of rail networks, airports and public transport services. Telent is an expert technical services provider for the design, implementation, maintenance and support of these essential systems, delivering as a trusted services partner for many transport operators for over twenty years.
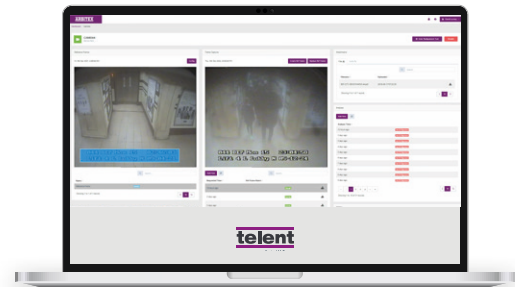
Telent focus on reducing maintenance costs, improving system uptime and extending the operational life of key assets for the transport sector. This expertise is founded on the core pillars of:

- A suite of specialised software applications
- Technical services and engineering capability
- Critical infrastructure expertise
- Knowledge of the many systems used by transport operators

The software applications support the management and monitoring of technology infrastructure. These were developed by Telent for the specific and specialist needs of transport operators, based on long-term relationships with Transport for London, Network Rail and many other regional public transport operators.
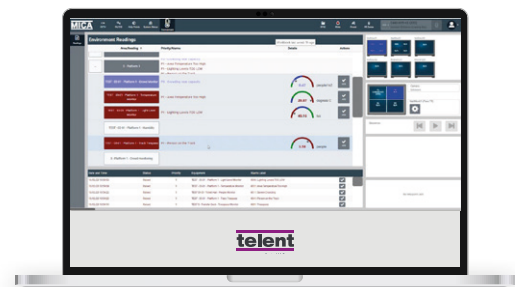
Arbitex – CCTV management solution

The Arbitex application continuously monitors the operation of cameras in large CCTV systems, automatically alerting if cameras are mis-aligned, dirty or not fully functional to optimise system performance and reduce maintenance costs. It may be deployed on any legacy, analogue or IP cameras and is used for 25,000 cameras across Network Rail and London Underground. Arbitex provides applications for pro-active monitoring, legacy camera integration and introduction of AI analytics.
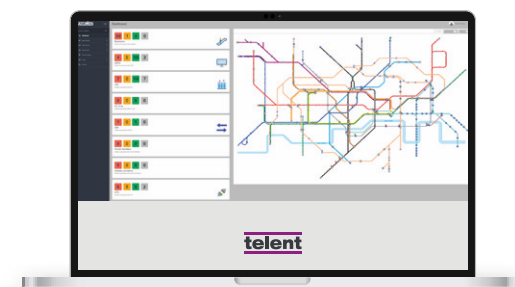
MICA – station management solution

Integrating fire detection, security, building management, communication and digital intelligence systems into a single, user-friendly single pane of glass interface that enables control room staff in public transport stations and airports to efficiently manage multiple systems. MICA integrates existing and new technology to control multiple systems including video surveillance, public address, help points and customer information displays. The addition of CCTV camera AI analytics and IoT sensors detects safety, trespass, security, environmental and operational incidents, providing a comprehensive management solution.

Acumen – IoT monitoring and management solution

Enables predictive maintenance and proactive fault reporting of IT and OT infrastructure, to deliver maintenance cost reduction and improved system uptime. The solution aggregates performance data from multiple devices and sensors. Data is stored, analysed and visualised via an intuitive user interface to provide real-time device and asset condition monitoring of lifts, UPS, heating and ventilation equipment plus environmental sensors. The solution delivers reduced downtime, an increase in first-time fix rates and the ability to adopt predictive and proactive approach to maintenance to save cost and increase efficiency.

IT Networks

Taking a best of breed approach, Telent delivers large, complex and mission critical IT networks. Combining wired, wireless and SD-WAN technologies with security designed in from the start and AI management applications to optimise network performance.

Wi-Fi

Telent have highly skilled teams, experienced in major Wi-Fi deployment projects. Successfully delivered complex projects for both operational applications and passenger Wi-Fi access at major stations managed by Network Rail.

Private 5G

Delivering high performance, high speed and secure wireless 5G connectivity for demanding operational applications, across passenger terminals, airport complexes and large transport depots.

Cyber Security

Bringing together multiple cyber security capabilities from teams across Telent into a dedicated cyber security business. Providing a full range of cyber security services for consultancy, design, penetration testing and managed services, all accredited to the highest standards.

Technical Services

A rich technical services portfolio for the complete project lifecycle from design, implementation, maintenance through to support and transformation. Telent has capability across multiple technologies and operates in the diverse environments of transport networks.

Public Address Voice Announcement (PAVA)

The design, installation and maintenance of PAVA systems to meet operational and emergency requirements. Proven expertise with specialist solutions for rail and underground stations, systems are scalable, fully zoned, and enable live or pre-recorded messages.

CCTV

Design, supply and maintenance of CCTV systems with the Arbitex application for management, analytics, legacy camera integration and remote download of recordings. Proven expertise with specialist solutions for railway, underground and airport terminals.

Passenger Help Points

Integrating passenger help points, fire call points, lift intercoms, door entry and video intercoms into the MICA station management solution enhances operations for control room teams. CCTV cameras automatically focus on areas that make a call and record events.

Customer Information Screens

Customer Information Screens (CIS) are vital for the passenger experience, Telent install and maintain these key systems. The operation of CIS is enhanced with integration into the MICA station management solution.

Electronic Access Control Systems

Electronic Access Control Systems (EACS) integrate into the MICA station management solution, providing alarm notifications with CCTV and analytics integration with doors, gates, barriers and secure areas.

Fire System Integration

The MICA station management solution integrates a range of fire panels and suppression systems to enable remote isolation to be carried out, provide condition and status update, and allows sites to be re-opened in the event of a false alarm.

SCADA

Telent's SCADA solutions are in use across London Underground, Elizabeth Line and the Traction Power Control System (TPCMS) for Network Rail controlling traction power nationally from two data centres and 13 regional control rooms.

Radio Services

Telent has proven capability and expertise with a range of radio technologies across deployments of PMR, TETRA, DMR and GSM-R system experience with Network Rail to deliver secure and reliable driver-signaller communications.

Case Study: Transport for London – CCTV Maintenance

Transport for London (TfL) has around 14,000 CCTV cameras to help ensure passenger safety and security. Arbitex enables Telent to proactively and remotely identify when cameras are out of focus, misaligned, dirty or faulty, without having to wait for station staff to report problems. This ensures increased availability of the camera estate, pro-active detection and faster resolution of problems leading to maintenance cost reduction of 30% and fewer engineer visits, resulting in reduced carbon emissions.

The Arbitex system works with both digital and analogue video systems and provides advanced AI analytic features such as people counting and options to detect specific scenarios to further enhance the safety and efficiency of TfL operations.

Case Study: London Bridge Station – Station Management

Telent carry out proactive monitoring of all network connected equipment, best practice preventative maintenance and reactive maintenance across the station's assets, keeping systems running for the 50 million passengers who pass through London Bridge each year. MICA provides the station management team with a "command and control system" to support the station's operations, integrated with the EACS, CCTV, PAVA and Station Data Network systems.

Case Study: Transport for London – Asset Monitoring

Acumen was created to support Transport for London (TfL) to identify potential lift and escalator failures in the build-up to the 2012 London Olympics. Vibration sensors were deployed on lift motors and temperature sensors were deployed on escalator oil sumps. The Acumen application established steady state data from sensors under normal operation, alerting if vibration or temperature increased so that proactive maintenance activity could be undertaken before failures occurred.

Today Acumen is monitoring lifts, escalators, UPS performance, equipment room temperature and air conditioning performance across London Underground. Remotely monitoring the performance of these assets has resulted in a significant reduction in faults and dramatic increase remotes fixes of issues providing maintenance cost savings and reduced carbon emission through avoided visits to site. Information on the performance of over 300 lifts across the London Underground network is supplied via Acumen to the TfL Go application, providing passengers with real-time information to plan their journeys.