Trespass Detection and Reduction

SiYtE Smart Analytics

Purple Transform's mission is to harness AI to enable the rail industry to improve safety and achieve train performance targets, using our Smart Analytics platform, SiYtE.

SiYtE provides solutions for *Trespass Detection and Reduction, CNI Situational and Environmental Awareness, Extreme Weather Insights and Alerts, Bridge Strike, Crossing Safety* and *Safer Stations.*

Impact of Trespass and Challenges in Detection

Trespass is a serious safety concern on the railway with significant financial impact, often the second largest cause of train delays. In the UK, a single incident in 2023 resulted in delay costs in excess of £161,000.

Trespassers at depots and CNI sites can cause criminal damage, vandalism & theft. In a single UK city area in 2024, theft caused 13,485 minutes' delay, costing >£725,000.
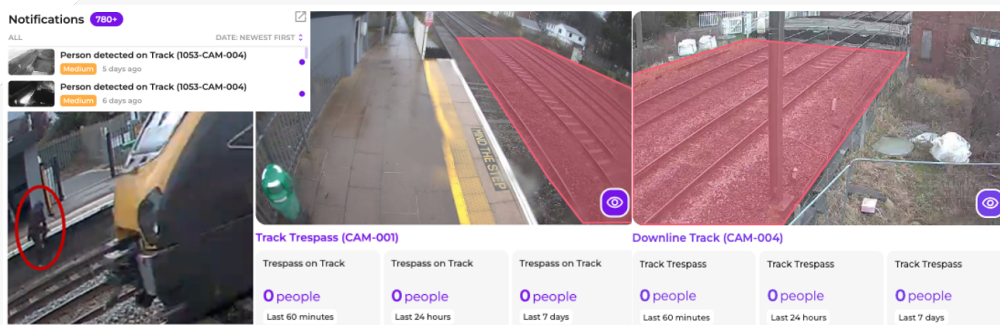
Technology solutions for the detection of trespass are often challenged by false detections, with responders losing confidence in these systems and ignoring alerts.

SiYtE Smart Analytics for Trespass Detection and Reduction

SiYtE leverages advanced AI technology to analyse real-time CCTV, from existing cameras, to identify potential trespassers and alert appropriate responders. It has been proven to work on the railway, with firm evidence of both detecting and reducing trespass.

o **Deterrent:** Trespass detection can be linked to automated announcements from speakers embedded in cameras or external speakers to deter trespassers.
o **Real-time alerting:** SiYtE alerts stakeholders to events via SMS, Email or Mobile App), with redacted snapshots/videos, and can add further context (e.g. wearing PPE).
o **Data Insights:** Logging and reporting of trespass events for analysis for better decision making (e.g. informing a business case for improved fencing).

SiYtE Smart Analytics vastly reduces false alerts, enabling responders to trust the system:
o **Removing False Alerts:** SiYtE re-analyses each detection using advanced models to ensure they are genuine. For example, it removes events with a person is seen in a train window.
o **Added Context, Better Decisions:** SiYtE can add context to alerts, such as detecting PPE, which assists in making more informed decisions.

For information or a demonstration please contact info@purpletransform.com