

Trespass Detection and Reduction in Rail



On many routes, trespass is 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 of 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.

Impact of Trespass and the Challenges in Detection

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

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

Utilising smart analytics, SIYTE vastly reduces false alerts, enabling responders to trust the system.

- **Removing False Alerts:** SIYTE re-analyses each detection using advanced models to ensure genuine trespass events. For example, it can detect if a person is seen through a train window and remove such false alerts.
- **Added Context, Better Decisions:** SIYTE can add context to alerts, such as detecting PPE, which assists in making more informed decisions.
- **Adaptive Learning for Continuous Improvement:** SIYTE's AI refines its detection accuracy over time by learning from past alerts and user feedback, reducing errors and enhancing reliability.

