

CNI Situational and Environmental Awareness

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 Safet** and **Smarter, Safer Stations**.

Situational and Environmental Awareness Challenges

For CNI and trackside, all **criminal damage and theft** starts with trespass, but with thousands of depots, REBs and similar sites across the country it would be impossible to proactively monitor cameras for trespass at every site. With vandalism and theft causing £8.25m in UK delay costs annually, this is extremely costly in terms of delays, repairs, and performance.

Very few remote equipment rooms have **temperature and humidity** monitoring for critical CNI equipment. **Batteries** degrade over time requiring annual remote inspections with the risk of failures in between. Outages have also been caused by internal flooding and fires.

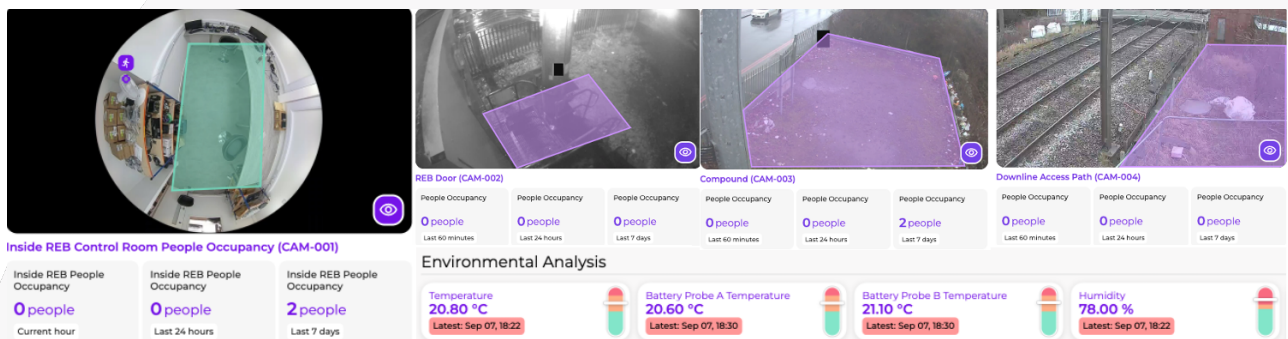
With targets on reducing boots on ballast, there is significant opportunity to reduce trackside side visits through remote inspections and image-based audits of visits.

SiYtE Smart Analytics for Extreme Weather Insights & Alerts

SiYtE leverages advanced AI technology to analyse real-time CCTV, using any camera, to identify potential trespassers and alert appropriate responders, providing **situational awareness** of incidents with the added ability to automate deterrent announcements.

SiYtE also consumes data directly from IoT sensors, enabling **environmental awareness** of equipment rack temperature and humidity, battery temperature, and water leaks. This enables **increased resilience and risk-based maintenance**. It also provides data for improved energy efficiency.

Internal cameras can assist **remote site surveys**, reducing boots on ballast, with SiYtE also providing the capability for image-based audit and change governance/compliance.



In addition, with many trespass hotspots associated with access gates or crossings close to REB sites, this provides the opportunity for improved trespass monitoring.

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

