



8 November 2023

SAFETY WEBINAR

Objects left on
the Line

Innovative Solutions

Darryl Hopper, RSSB



INTERNATIONAL UNION
OF RAILWAYS

Overview

OOTL Issue	Technical Solution	Suppliers used
Incorrectly placing objects on the line	Geofencing	Onwave, Tended, Track Tracker
Leaving objects on the line	Geotagging, Geofencing	Onwave, Tended, Track Tracker
Objects fouling the line	Limiting devices with Geofencing, trackside hand back to signaler	Onwave, Tended, Track Tracker, ZKL, Trackside Guardian
Approaching infrastructure objects	Train Protection and Warning System – Continuous Supervision (TPWS-CS)	Thales
Runaway objects onto the line	Runaway Risk Model	RSSB

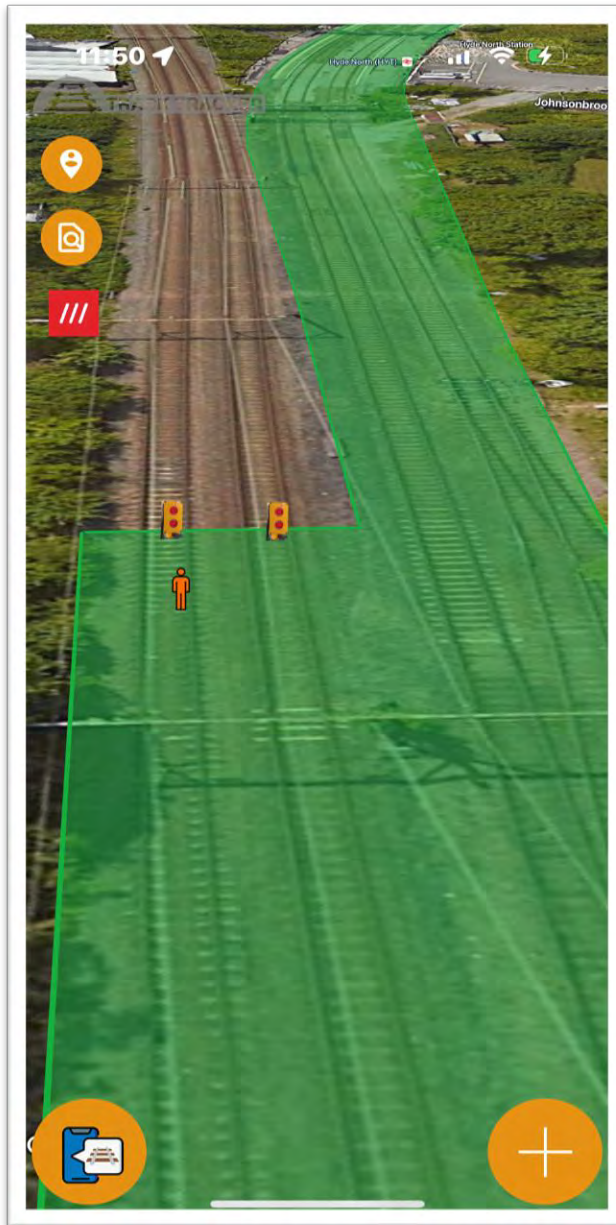
About Geofencing Technology



Incorrectly placing objects on the line

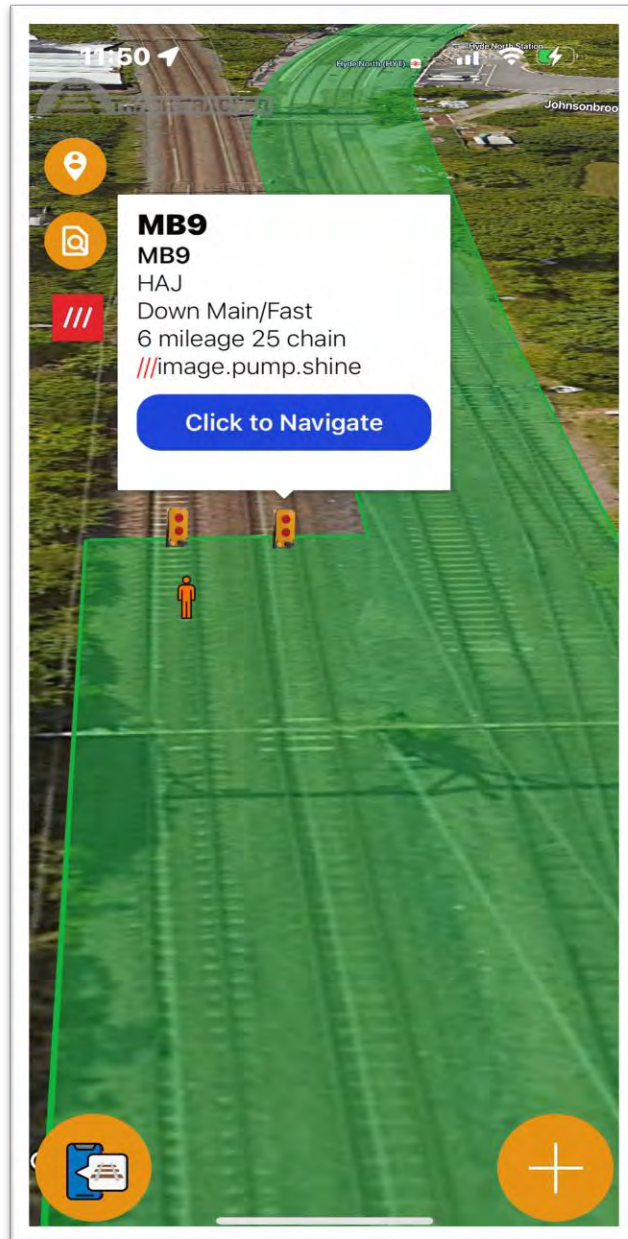


Believing they had been told to place the marker boards, the COSS accessed the track and walked to the required position and placed the marker board on the Down line, whilst placing the marker board they heard a train coming and moved quickly onto the open Up line as the train hit the marker board.

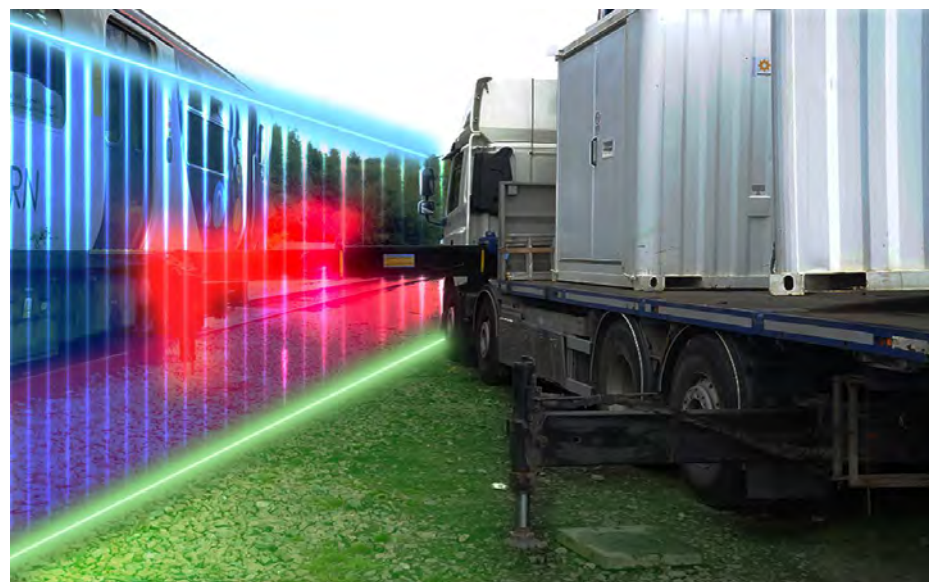


Providing total visibility of all Worksite Marker Boards. Allowing the ES and ES support to have 100% confirmation that they have placed their protection in the correct location.

The technology is able to confirm locations of possession support staff and display ELR, Miles, Chains, Yards of all assets on the network.



Incorrectly placing objects on the line



 onwave

 OWL

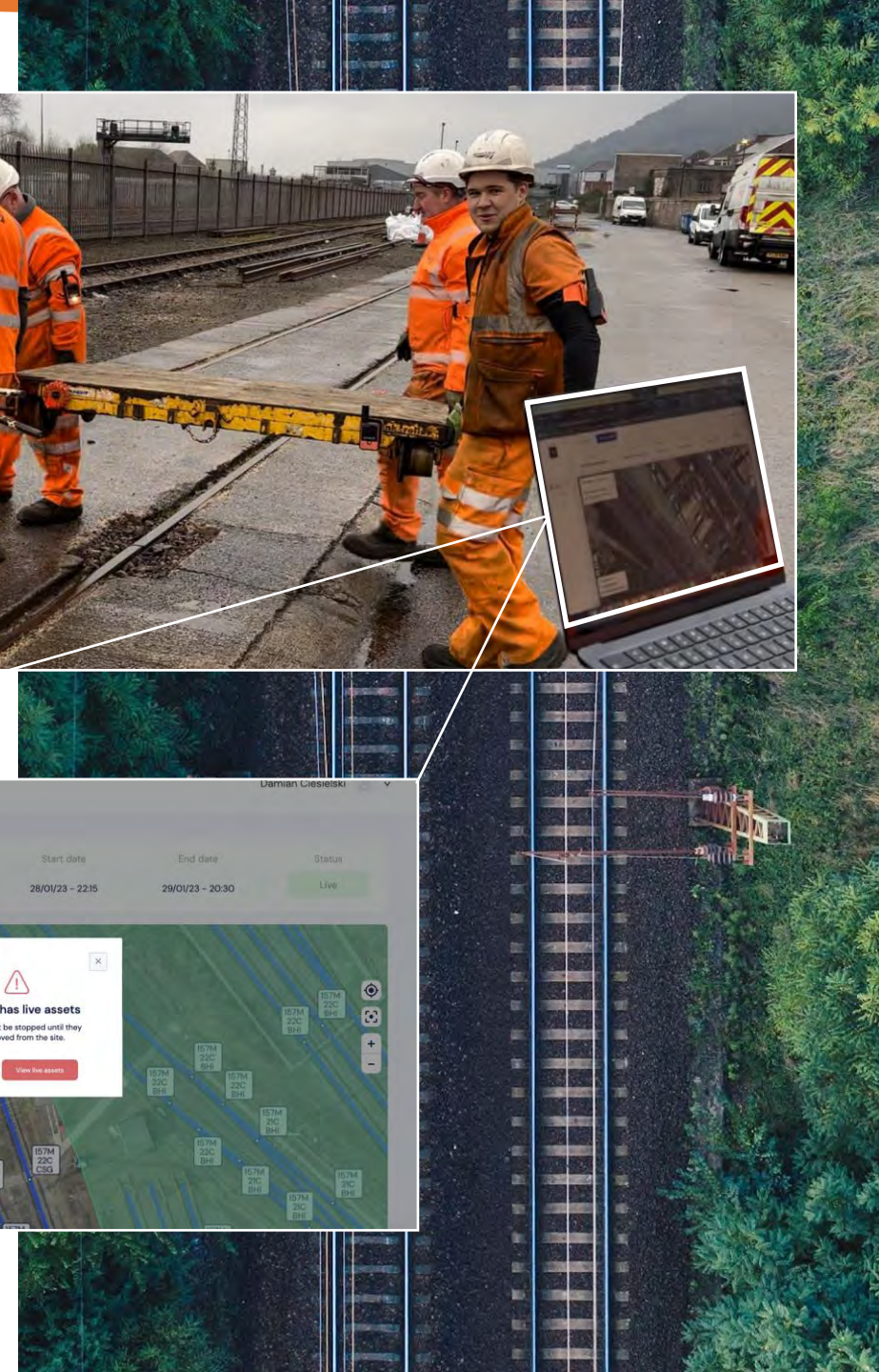
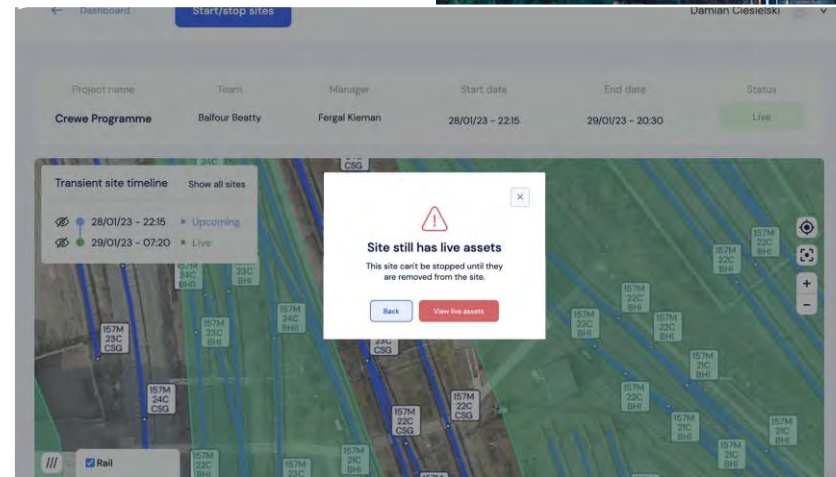
Leaving Objects on the Line

Line clear verification

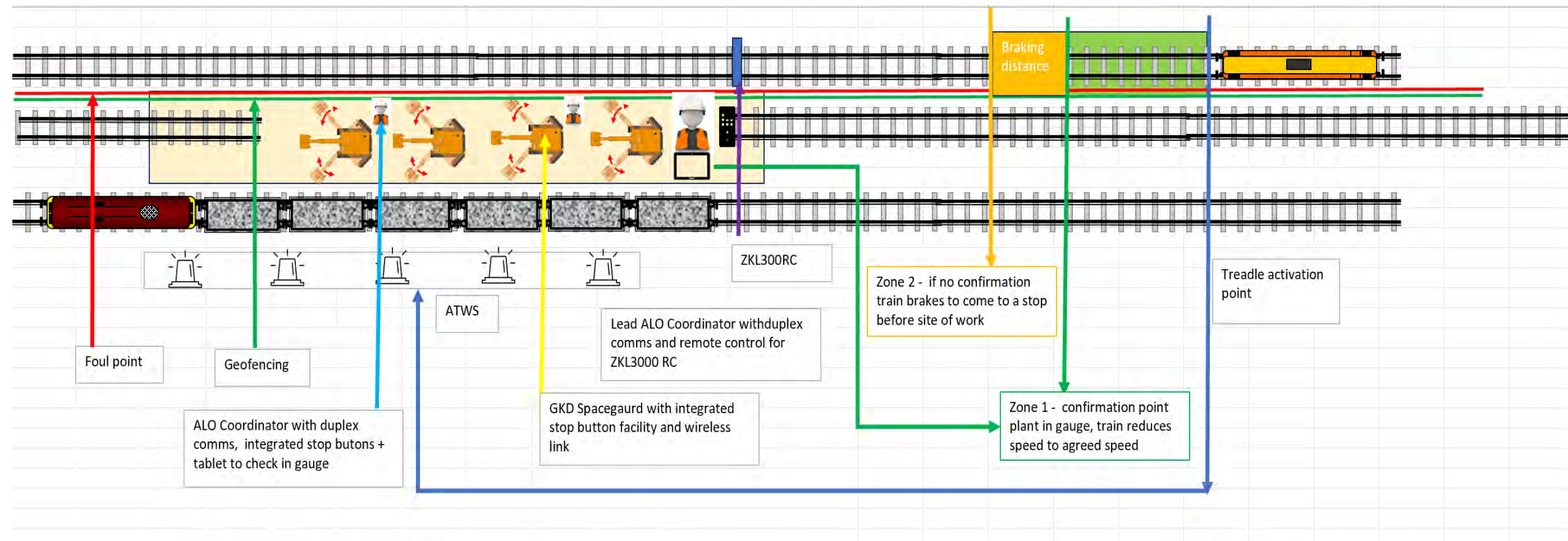
Asset placement

Live location

Dashboard notifications



Objects fouling the line



Definition:

In the UK ALO refers to Any Line Open working meaning that train traffic is able to pass whilst infrastructure work is happening

Task:

We are seeking solutions to optimise the performance of ALO whilst maintaining safety

UIC catch up

2023-11-02 08:42 UTC

Recorded by

Darryl Hopper

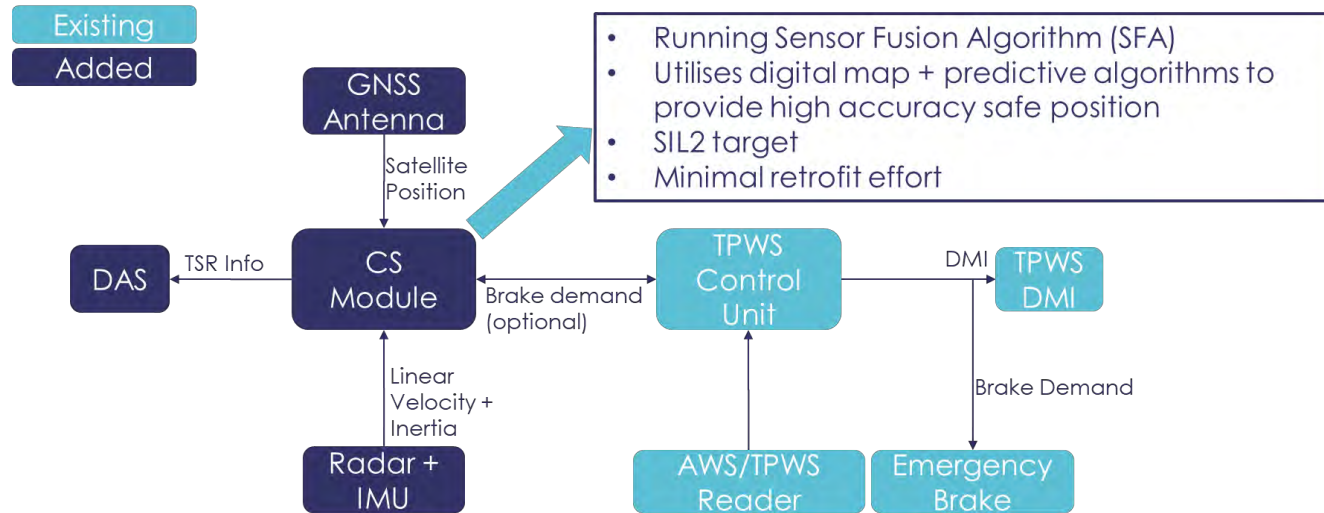
Organized by

Darryl Hopper

Train Protection and Warning System – Continuous Supervision (TPWS-CS)

By interfacing a geospatial positioning system to the existing Class B system (TPWS) – a continuous supervision of the train is enabled without requiring trackside assets

Enables geofencing of areas of interest, e.g. possessions or objects on track, and applying movement rules / restrictions to automatically stop trains entering

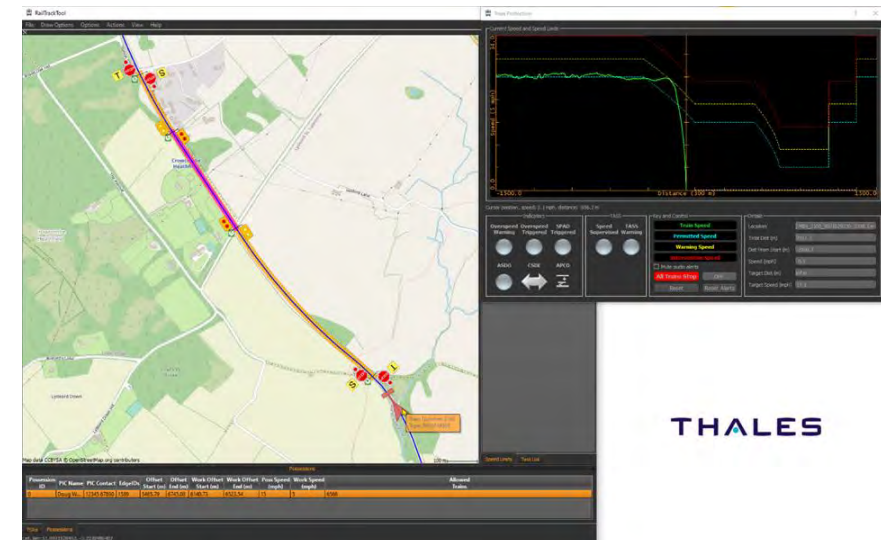


TSRs/ESRs

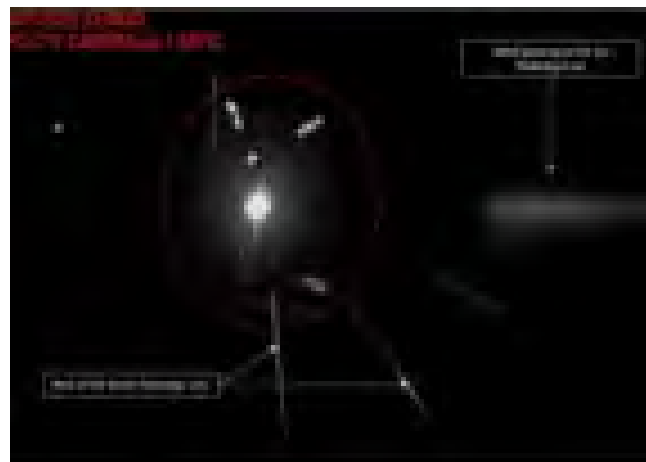
Accept and supervise against both temporary and emergency speed restrictions. Configurable to be with or without a driver interface to provide the opportunity to minimise business change or maximise benefits.

Possession Protection

Through provision of an interface to either local signallers or the Person In Charge of Possession (PICOP), TPWS-CS can provide the ability to geofence possessions to ensure all fitted trains cannot enter possessions without permission.



Hitachi Trackside Guardian



HITACHI | Trackside Guardian
Active Work List Create Job

Active Line Blocks

Work Order No.	Assignee	Start Date/Time	Time Left	Status
WO21091102	LUSS D	11 Oct 2021, 09:44	00:00:30	Active
WO21091105	COSS C	11 Oct 2021, 09:38	00:00:30	Active
WO21091501	COSS A	11 Oct 2021, 10:06	00:12:26	Active

Work Order No : WO21091501 GA Ref : GA21090109 Authorised by : SigA

Location	Access Point	Name	Department	Contact No
CLAPHAM	Candahar Road	COSS A	Maintenance	077892356

Task Details
Track Inspection

Protection

R149CE2

R149CF2

R161CB

R161CC

R300A

R300B

R302A

R302B

R304A

R304B2

R306A

R306B1

RVC680D

RVC682D

Actions

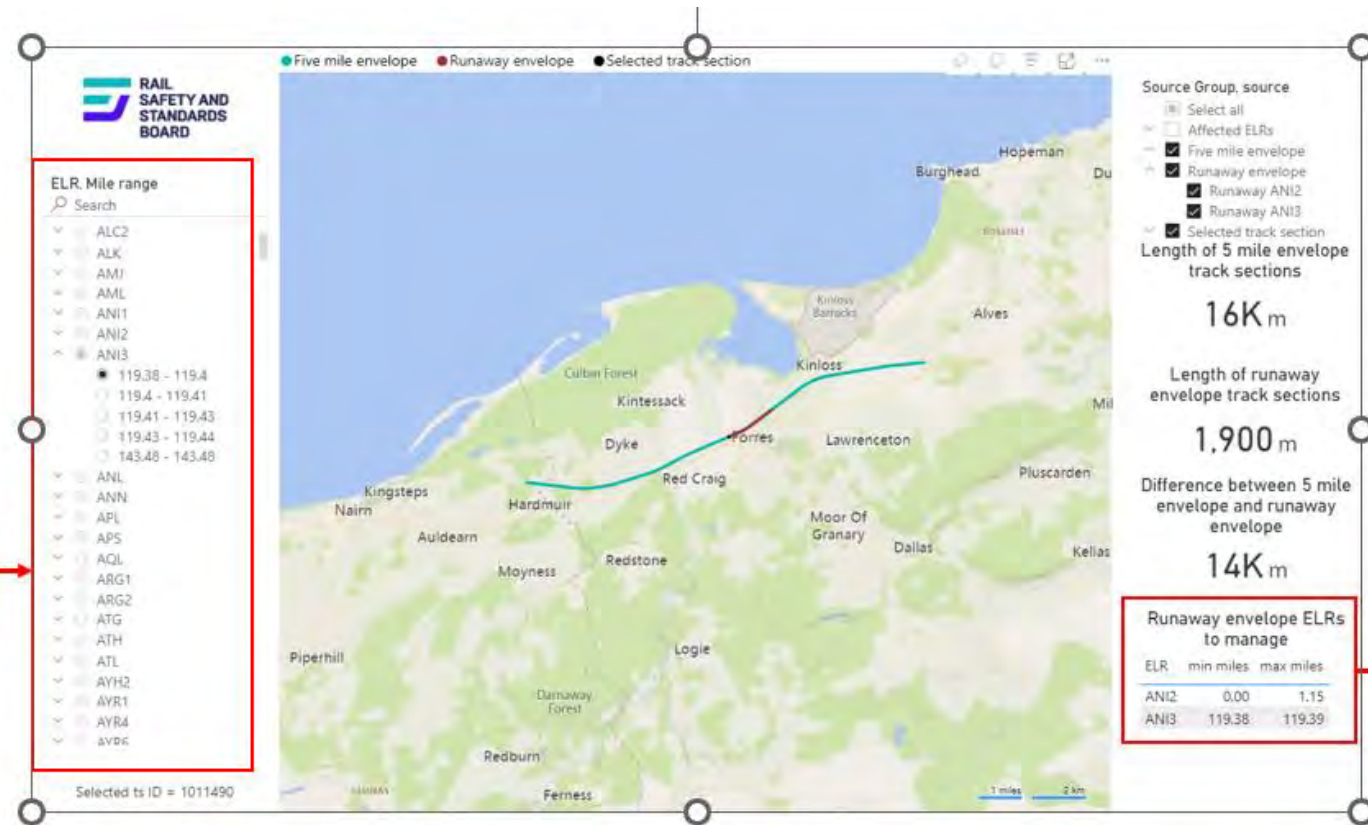
Extend Time

Cancel Job

Runaways becoming objects on the line



Works location



Human Factors and technology – WAD v WAI



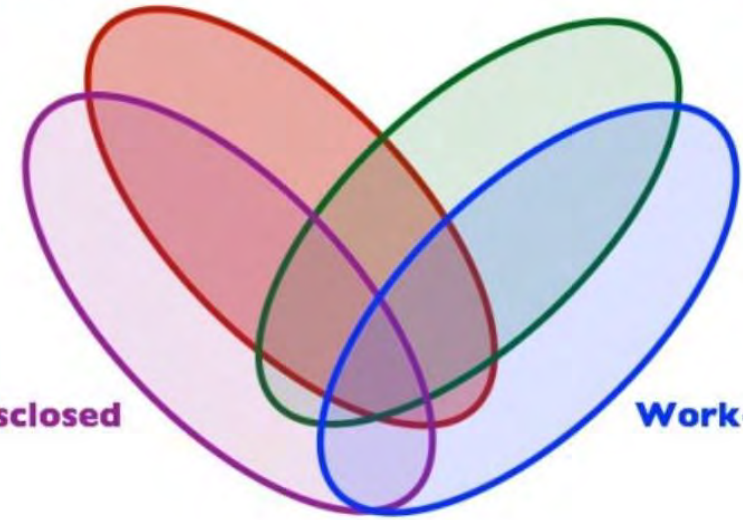
Figure 18. The train and hand trolley after the collision at Twickenham (courtesy of Network Rail)



Figure 2: The train once stopped and the handle from the hand trolley wedged under it (courtesy of Network Rail)

Work-as-Imagined

Work-as-Prescribed



Work-as-Disclosed

Work-as-Done

Level 2 Business process
Safety of people at work on or near the line

Engineering Supervisors Vehicle Management Form for on-track plant and machinery

Work No.	Permit No.	Plant No.	Plant Description	Plant Category	Plant Status	Plant Location	Plant Operator	Plant Supervisor	Plant Date	Plant Time	Plant Duration	Plant Status
1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10	10	10	10

VolkerRail

SITE INSPECTION PERSON HANDBACK PROCESS SAF19M001

1. PURPOSE
The RSSB Modular Rule Book requires an Engineering Supervisor (ES) / Safe Work Leader 2 (SWL2) to certify that the infrastructure within their worksite is safe for the passage of trains prior to handing back to traffic.

2. WORK-SITE CERTIFICATE
This certificate is to be used in conjunction with the inspection and management of the track.

3. PERMISSIONS AND WORK SITE DETAILS


4. DUTIES OF LEVEL OVERSEERS WITHIN THE WORK SITE

5. TO THE 6 COLUMN CODE



Engineering Possession (Jan 2023)

Contacts



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RSSB - [our story](#) Please read our [privacy notice](#).





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THANK YOU FOR YOUR PARTICIPATION!

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