

# AiVR<sup>®</sup> Thermal

The award-winning **remote condition monitoring** system that **automatically detects thermal faults** on the track infrastructure.



## The Challenge



Overheating issues are often **invisible to the human eye**, therefore difficult to detect and often only found once a component becomes is at risk of failure.



The consequence of a thermal issue on the track can have a huge impact on operations, resulting in partial sections of the track needing possession or closures for emergency works, resulting in **high costs** and **delays to operations**.

## The Solution: AiVR Thermal

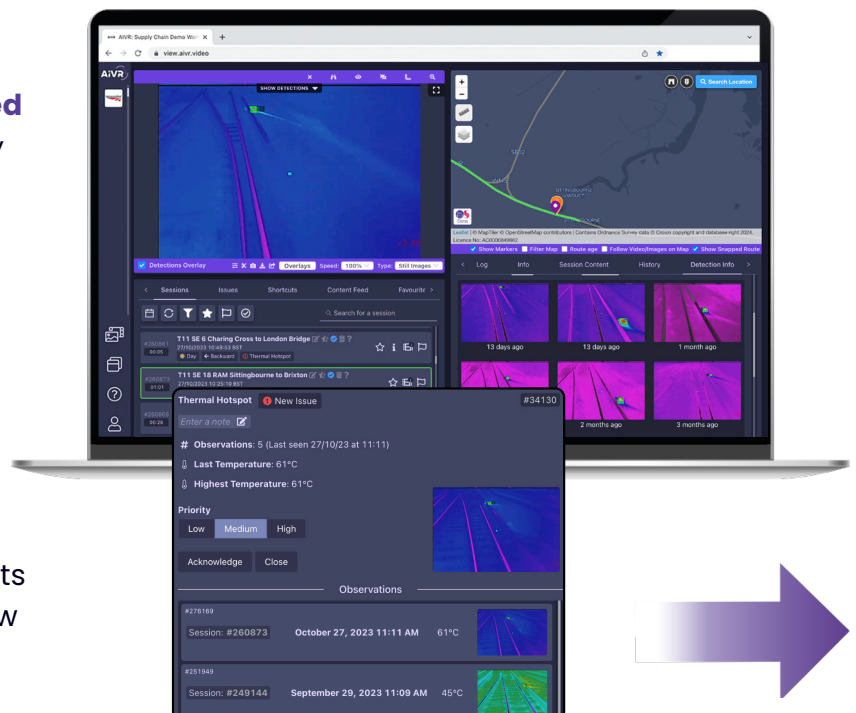
AiVR Thermal is an innovative system that automatically detects thermal faults, and monitors the 'hotspot' conditions overtime for rapid defect response and assisting **predictive maintenance**.

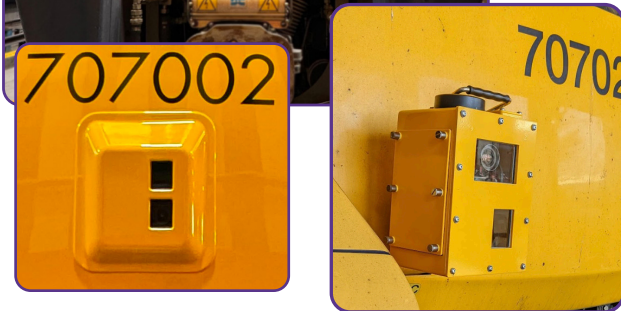
## Analyse hotspots on the AiVR Platform

On the AiVR Platform, users can analyse detected hotspot alongside it's **categorised risk level** and **hotspot history**, so that they can be safely attended to and **repaired before failure**.

Users are able to **compare the FFV and Thermal Video**, so that decisions can be made remotely regarding maintenance requirements and whether intervention is required, or continue to monitor the footage.

Data can also be exported via spreadsheets and other open formats for teams to review and share.

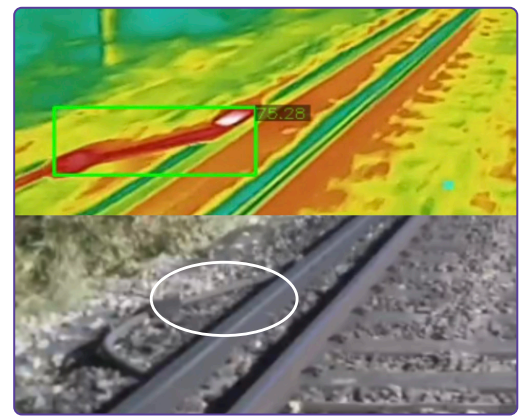




The **End-to-End** AIVR Thermal system consists of:

- Thermal and Forward Facing cameras installed (temporarily or permanently) on in-service vehicles.
- Both cameras simultaneously recording video from onboard vehicles.
- Video and locational data automatically transmitted via 4G/5G in rapid time, securely accessible within minutes on the **AIVR Platform**.

- AIVR's Machine Learning models **automatically detect faults** such as electrical faults on the conductor rail.
- Users are **alerted to locations exceeding a safe temperature** on the AIVR Platform or receive email alerts, enabling proactive maintenance.



This innovation is key to **proactive maintenance** in the rail industry



A fantastic example of use of trainborne technology to **improve performance & intervene before failure**, and in such a critical area.

*IM Delivery Manager NR*



Very good equipment to have to give us a heads up before the patrols are due, because some of these faults might not have been seen for a few months until the patrols are completed. **I can now plan ahead and get the faults checked and the work completed before it effects the running of any passenger trains.**

*Section Supervisor CRE*



## Interested in learning more?

Get in touch to learn more about AIVR Thermal,  
email us on: [enquiries@onebigcircle.co.uk](mailto:enquiries@onebigcircle.co.uk)

