



Fault Navigator - Game-changing navigation of workers and vehicles on track

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Fault Navigator

Fault Navigator transforms track worker safety by enabling fast, efficient and precise navigation to faults anywhere on the rail network — including tunnels, cuttings, and dense urban areas — using a standard consumer-grade mobile device without the need for GPS or mobile signal.



RailLoc sensor mapping run

Precisely positions suspects detected by ultrasonic test system

MWV Cloud

Geolocates track images and ultrasonic defects

Fault Navigator

Mobile app carried by maintenance workers on track navigates directly to suspects



Ultrasonic Test Unit system runs

Ultrasonic data processing identifies suspects

Suspects validated by on-track walking stick

Fault Navigator works with existing IM workflows



Fault Navigator on track in Luton, April 2025



Anthony Cooney
Rail Management Engineer
Eastern region
Network Rail



“ This really was successful, looks like this will be an excellent addition to our rail testing. ”



Testimonials

Brian Whitney, Engineering Expert Track and S&C; Network Rail (Dec 2025):

“ The solution has delivered faster verification, improved navigation accuracy, reduced paperwork, and helped produce a more modern, reliable workflow. The improved process should reduce the need for repeat visits to the same suspect by enabling the verification to be completed at the first visit reducing the risk of suspects being missed. This should improve safety by reducing the risk of a broken rail where a suspect has not been successfully identified and actioned. It should also improve performance by reducing the risk of ESRs, emergency speed restrictions, by locating suspects earlier before a more serious defect can develop that requires an immediate speed restriction and urgent removal. ”

Amanda South, Senior Asset Engineer, East Midlands Route, Network Rail (Dec 2024):

“ Exciting, one of the best prospects for improved suspect navigation I have seen ”

Brian Whitney, Engineering Expert Track and S&C; and Mark Chestney, Programme Manager, Network Rail (Dec 2025):

“ Network Rail are always looking for ways to improve the safety and efficiency of our operations with our supply chain. Machines With Vision’s Fault Navigator provides a step change in our ultrasonic testing regime, getting testers to suspects far quicker and to the exact location so that they can be verified. We welcome this as a new chapter in ultrasonic testing and track worker safety. ”

David Mclaughlin, Section Supervisor (Rail Testing & Lubrication), Scotland’s Railway (Mar 2026):

“ Great piece of technology. With the advanced features having detailed pictures of the suspect site, the URFDO (Ultrasonic Rail Flaw Detection Office) teams can now see what defects looks like on track and prepare in advance. Also, with the electronic Tef built into the app means the URFDO teams can now perform to their best abilities and reduce the amount of paperwork that each team is required to complete. Suspect testing has also become more accurate with pinpoint accuracy. ”

Richard Bowen, Ultrasonic & Rail Friction Section Supervisor, Shrewsbury DU, Network Rail (Mar 2026):

“ Over the past twelve months, we have been trialling Fault Navigator, and the results have been extremely promising. By combining augmented reality with detailed track characteristics, the app provides Ultrasonic Testers with far more accurate and intuitive way to locate suspect defect locations.

During our ongoing trial, we found that Fault Navigator significantly improves efficiently in the field. Testers can pinpoint locations faster and with greater confidence. This not only enhances accuracy but also contributes to safer operations by minimising time spent on track.

Overall, Fault Navigator is proving to be a valuable tool that will streamline the inspection process and has the potential to deliver meaningful time savings across suspect defect verifications ”