



Worksite Protection

Zonegreen

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Put Trust in Technology to Reverse Safety Trends

Right across Europe, we're failing to reduce the number of railway worker fatalities and serious injuries. In fact, the UK's RSSB figures showed a 16% increase in overall harm to employees last year.

The board's latest Annual Health and Safety Report notes 438 severe injuries were sustained by railway staff in just twelve months. Surprisingly, it's not the trains doing the most damage. The majority of injuries occur from slips, trips and falls, the use of tools, and assault or abuse.

Europe-wide, there are huge discrepancies in casualty rates. The EU Agency for Railways' Safety Overview 2025 reports a 10-fold difference between the countries with the highest and lowest accident rates.

Like the UK, the latest European data shows an increasing year-on-year pattern. In 2023, there were 1,565 significant accidents in member states – an average of more than four a day. Aside from the unquestionable human toll, it is estimated these incidents cost the industry €3.5 billion per annum.

When we have access to more technology, more data and more oversight than ever before, why is no clear progress being made in the reduction of serious injuries? Why is working on the railways more dangerous than it has been for years?

The EU Agency for Railways has called for the fast implementation of common methods for assessing safety levels and performance, along with an EU-wide incident reporting scheme. It believes these interventions are essential to assess and improve how safety is managed across the continent.

Hopefully this will lead to a more consistent approach to safeguarding measures, but until this is in place, it continues to fall to the rail operators and industry suppliers to prioritise the welfare of staff and introduce processes that make going to work something we can all do without fear of serious injury.

Modernising Maintenance

Visitors to this year's InnoTrans are likely to see a host of developments aimed at improving the rail working environment.

One company at the forefront of depot safety is Sheffield-based Zonegreen, part of the Sentric Safety Group. Members of its team will be attending the flagship event to discuss the solutions it has developed to reduce the margin for human error in maintenance facilities.

Zonegreen rail safety solutions are the result of more than a century's railway experience and expertise and use the latest technology to automate personal protection procedures and improve vehicle movement efficiency. Its suite of products is renowned for its quality, safety and reliability and they already

protect thousands of depot workers and miles of infrastructure worldwide.

The Zonegreen Depot Personnel Protection System (DPPS) is not only used widely in the UK, but also helps to ensure the safety of staff in depots across Australia and the United Arab Emirates.

DPPS safeguards workers in areas of risk by controlling vehicle movements and automating

Only after the derailler has been lowered will the shunt signal instruct the driver to proceed. Audible and visual warnings are then activated on the affected road, alerting staff to a moving vehicle.

Information from DPPS is fed back to the Zonegreen Depot Manager SCADA system. It records all aspects

Innovative Interlocking

Interlocking is a crucial component in any rail depot, protecting personnel and equipment against a momentary lapse in concentration or a small error of judgement that can have dire consequences.



safety procedures to remove the potential for errors associated with common manual processes.

The system is underpinned by Network Rail-approved powered derailleurs, which physically protect staff from unexpected vehicle movements. They are activated when individuals log-on to road end panels using RFID tags that record where they are working. These panels are situated in convenient locations within the maintenance building, normally next to depot doors, to give supervisors a clear line of sight when authorising access permission for trains.



of the depot protection, displays the location of personnel, along with the status of plant and equipment, providing full traceability.

DPPS is one of the safest depot protection systems on the market, having been independently assessed as compliant with IEC61508 and the rigour and content required by SIL2. The latest Zonegreen RFID panel is also Eurofins certified to meet the railway and radio emissions standards. It can be interlocked with third-party equipment in a rail depot and uses modern electronics, to future-proof each installation.

Zonegreen provides interlocking solutions in partnership with French sister firm, Serv Trayvoux Interverrouillage (STI), based in Montreuil, just outside Paris. It has supplied trapped key interlocking to the rail industry for more than 130 years and is ensuring safety standards are upheld in depots across France.

Trapped key interlocking (sometimes referred to as a key transfer system) uses a series of coded keys to prevent certain functions from being performed or access to high-risk areas, unless

a specified set of safety conditions are met. It provides the failsafe, sequenced control of catenary or power systems, helping to prevent accidental re-energisation and restricting access, unless dangerous equipment is isolated and earthed.

A range of third-party products can be interlocked, including:

- Overhead lines
- High-level gantries
- Bogie drops
- Boxing rings
- Lifting jacks
- Turntables
- Cranes

The Future of Interlocking

For depots looking to upgrade their interlocking processes, The Zonegreen Electronic Interlocking Solution (EIS) is an advanced safety system, not only designed to protect

personnel and equipment, but also to enhance operational efficiency.

It uses intelligent control panels and electronic sensors to authorise the operation of depot equipment and control access to hazardous areas. By enforcing a pre-set sequence of events for every procedure, operations can only proceed once all safety conditions are met. For example, it is only possible to access high level gantries when the catenary is isolated.

Modern maintenance facilities, including Joncherolles and Vaugirard in Paris, are just some of the depots benefiting from the installation of Zonegreen EIS. Its software can be reprogrammed to accommodate any safety sequences and it is easier to scale than its manual counterpart, as physical locks and keys are not required.

Like all Zonegreen products, the EIS uses failsafe principles to produce

the highest reliability rates and remote diagnostics to monitor the system and troubleshoot, reducing potential downtime. Remote visualisation also allows senior staff a full overview of the status of the equipment, whilst encrypted communication and authentication software ensures fast operational speeds and tamper-proof security.

Find Out More

Interlocking and DPPS are just two of the rail safety solutions Zonegreen is using to transform the lives of maintenance staff, both across the UK and Europe.

All Zonegreen solutions can be tailored to the specific needs of each facility and are configurable with other third-party equipment. Similarly bespoke maintenance packages are also offered to maximise longevity and operability.

Contact Us

To find out more about the whole suite of Zonegreen solutions, telephone (0114) 230 0822, visit <https://www.zonegreen.com>, or follow on LinkedIn: [Zonegreen Ltd](#).

Its team will be happy to arrange a meeting during InnoTrans or a site visit.

