Assurance Assured

Why is Product Assurance so Important?
Without product assurance and integrity in the railway sector, safety would be severely compromised, leading to increased accidents, unreliable train services, decreased confidence, and potential economic disruption.

Product assurance is the bedrock of safety and performance in the UK rail sector, encompassing both passenger and freight operations. In an industry where millions rely on trains daily, any compromise in quality can have catastrophic consequences. From ensuring the integrity of the track to the functionality of signalling systems, every component must meet rigorous standards to guarantee the seamless movement of both people and goods.

Product assurance isn't just about ticking boxes; it's about instilling confidence in passengers and stakeholders alike, safeguarding lives, and maintaining the smooth flow of the nation's transportation network. In an environment where safety is paramount, product assurance stands as the sentinel, guarding against potential failures for both passengers and freight alike.

Steve Ingleton, Unipart Rail Engineering Director said "You don't have to try very hard to visualise the devastating impacts of rail asset failure. In the UK we have to meet extremely high standards for all materials used on the railways. Introducing new products for both Infrastructure and Rolling Stock also requires the need to follow stringent approval processes to meet demanding regulatory requirements."

Real-Life Impacts
Real-life incidents of product failure in both the UK and international rail sectors serve as sobering reminders of the vital importance of stringent product assurance. In the UK, the 2000 Hatfield rail crash, caused by a fractured rail, resulted in fatalities and injuries, prompting significant safety reforms across the industry.

Similarly, the 2007 Grayrigg derailment, caused by a broken stretcher bar, led to one fatality and several injuries, highlighting the necessity for robust maintenance and quality control measures.

Internationally, the 2013 Lac-Mégantic rail disaster in Canada, caused by a faulty braking system on an unmanned train carrying crude oil, resulted in a devastating explosion and numerous fatalities, and the 2016 Hoboken train crash in the United States, attributed to a malfunctioning Positive Train Control system, led to passenger fatalities and injuries.

These types of tragedies underscore the critical role of product assurance in ensuring the safety and reliability of rail systems worldwide, preventing catastrophic accidents and safeguarding passengers and communities along rail routes.

Steve continued "In order to minimise these types of accidents the quality and assurance of the materials we provide is essential throughout the entire supply chain Ensuring quality in our suppliers and effective assurance processes are therefore at the centre of everything we do to ensure the highest standards, recognised in our own external accreditations for RISAS and RISQS.'

Is rail inherently safer than other modes of transport?
Comparing the safety of different modes of transportation involves various factors, including accident rates, fatalities per distance travelled, and the nature of the incidents. Generally, rail transportation is considered one of the safer modes of travel, particularly in terms of fatalities per passenger mile or kilometre.

However, safety can vary depending on factors such as the quality of infrastructure, adherence to safety protocols, and technological advancements across various modes of transport. While rail travellers benefit from modern rolling stock and sophisticated signalling systems, incidents such as derailments or collisions can still occur.

Overall, while rail transport is generally regarded as safe, continuous efforts to improve safety standards and practices remain essential to mitigate risks and ensure passenger and operational staff well being.

A broad assessment of rail safety shows that it compares favourably[1]

Fatalities per billion passenger miles (UK, 2019):

- Rail: 0.07
- Car: 3.8
- Bicycle: 29
- Walking: 35

[1]
- UK Department for Transport (DfT)
- European Union Agency for Railways (ERA)
- European Commission Directorate-General for Mobility and Transport (DG MOVE)
- National Transportation Safety Board (NTSB)
- International Transport Forum (ITF)

Fatalities per billion passenger mile (EU, 2019)[2]:

- Rail: 0.11
- Car: 0.99
- Bus: 2.55
- Air: 0.56

The ORR reports that Great Britain's railways consistently perform as one of the safest in Europe[3].

Steve concluded "These are the reasons why Unipart Rail's Product Assurance processes are so critical to our customers and why they turn to us for products of the highest quality and integrity. We supply over 40,000 types of products into the rail sector for rolling stock, infrastructure and signalling with an extremely low number of product quality issues."

Visit our website to find out more about our performance-improving technology and solutions or complete this form for us to keep you updated.

About Steve Ingleton

PROFESSOR STEPHEN INGLETON
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An experienced Director and Chartered Engineer, Steve has held a number of senior director positions with some of the world's leading rail companies including Bombardier Transportation, Hitachi Rail and Balfour Beatty. Currently with responsible for activities across Rolling Stock, Infrastructure and Signalling and is professional head of safety and responsible for leading rail innovation. Steve is a Member of the UKRRIN steering board and a visiting Professor and chair of the Strategic Advisory Board at the Rail Research Centre at the University of Huddersfield.

Qualifications include:
1st Class Honours Degree in Mechanical Engineering and an Engineering Doctorate from the University of Nottingham and Sheffield respectively.
A Fellow of the Institute of Mechanical Engineers and representative in a number of rail industry working groups.
Expert Advisor to the Dft on Engineering and Science (College of Experts)

[2] Values converted from Km for comparison purposes
[3] https://www.orr.gov.uk/sites/default/files/2023-07/annual-health-and-safety-report-2022-23.pdf