

# RIS-2774-RST issue one Application of Probabilistic Gauging Methods

## Background

The conventional process for determining clearances between the rolling stock to structures, and to other rolling stock is based on swept envelopes and assessment methods using reference, comparative and absolute gauging techniques which are set out in a suite of RSSB gauging standards and guidance notes.

These methods are applied to achieve clearances that avoid potential fouling between the infrastructure and rolling stock.

However, where worst-case tolerances for the rolling stock and infrastructure are combined, the results can be over-conservative and lead to modifications to rolling stock and/or infrastructure that impose additional costs, potentially delaying the introduction of rolling stock on routes.

## What is it about?

This document sets out requirements and guidance for the application of a Monte Carlo method to undertake probabilistic gauging calculations.

The use of probabilistic gauging assessment methodology provides opportunities to support the avoidance of fouls by associating a probability with the likelihood of fouling.

Probabilistic gauging techniques are currently available to use in the GB rail industry and have the potential to enable cost-efficient introduction of new rolling stock by calculating more representative clearances than current absolute gauging methodologies.

## What has changed?

The new RIS will provide a standard industry approach for applying Monte Carlo methods in probabilistic gauging assessments. It sets out the scope, process, input and outputs of the method and provides guidance to support consistent application.

## What are the benefits?

The methodology set out in the RIS will support the wider adoption and more efficient use of probabilistic gauging processes. This enables a reduction of unnecessary infrastructure alteration works and provide efficiencies in the gauging assessment and verification process.

RSSB has estimated that RIS-2774-RST issue one has the potential to deliver benefits to industry of £345,000 over five years.

## Who is it for?

This document is intended to be used by any stakeholders who are undertaking clearance assessments.