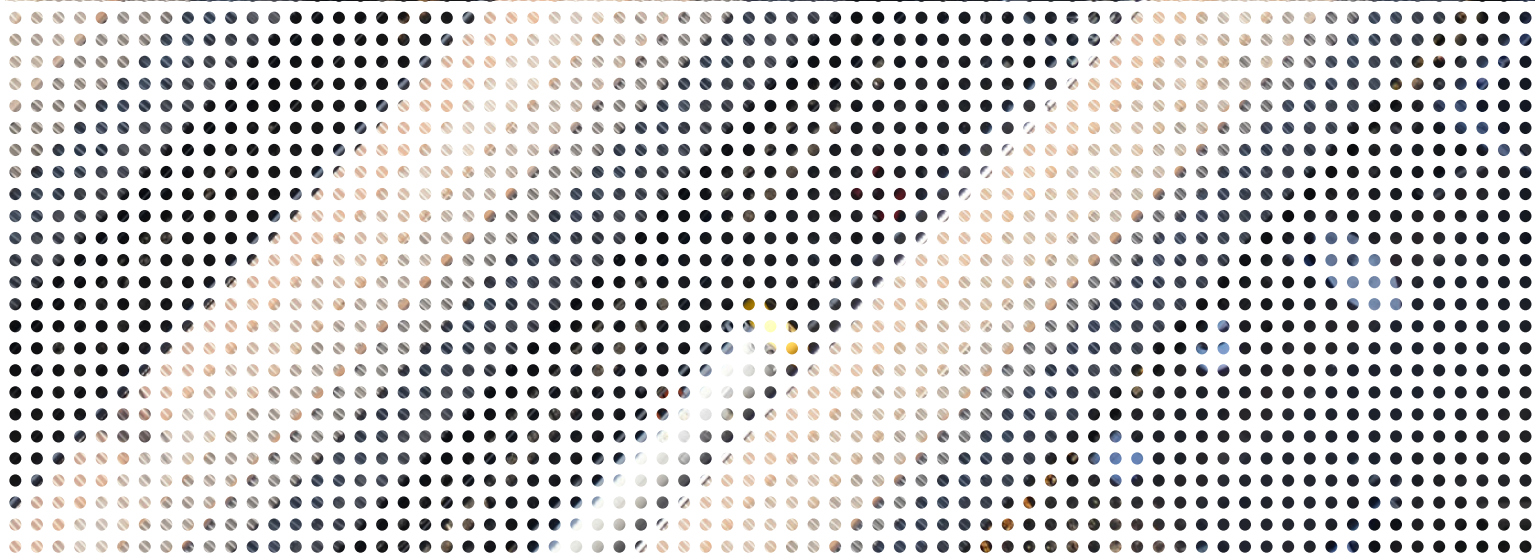
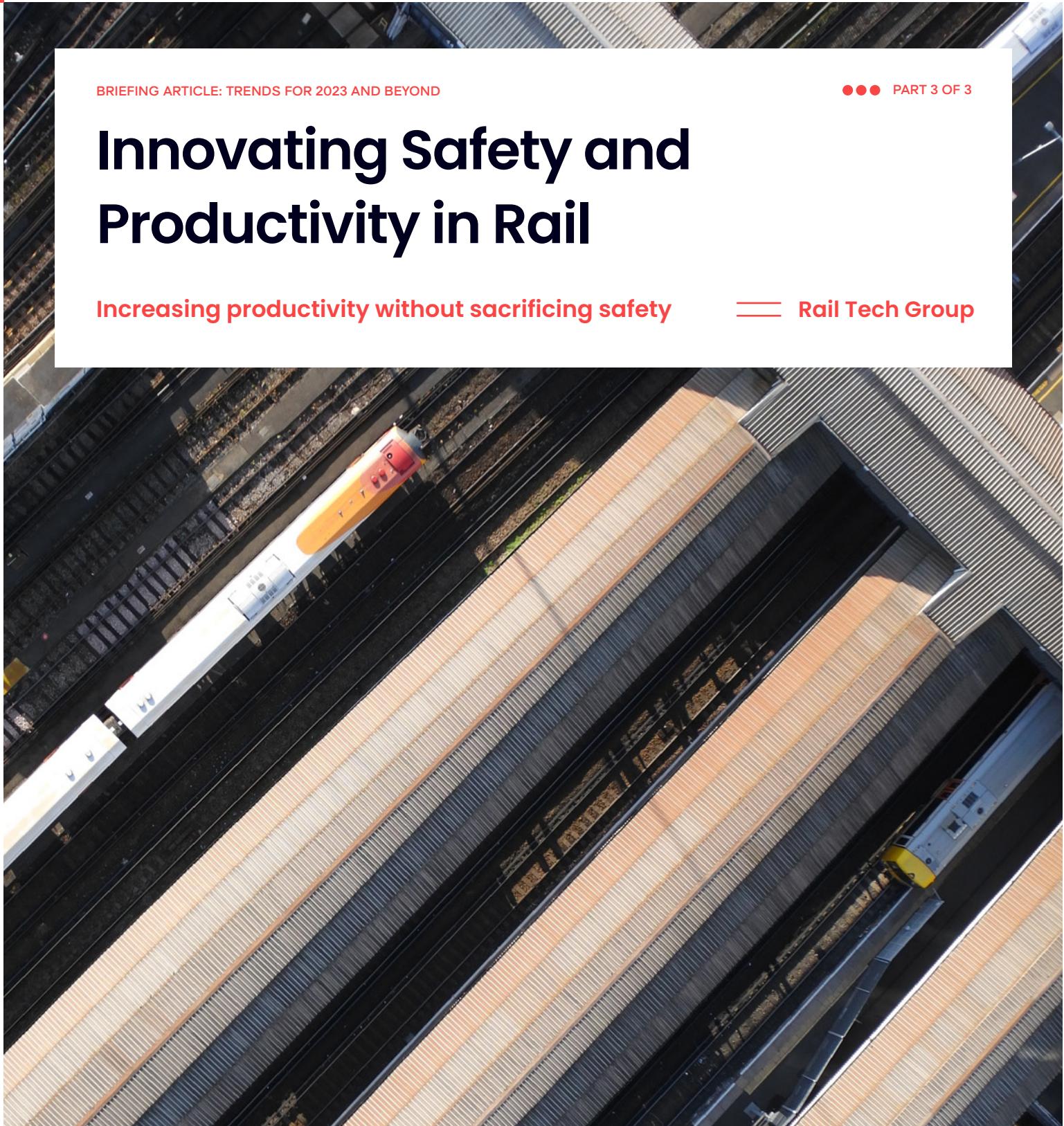


# Innovating Safety and Productivity in Rail

Increasing productivity without sacrificing safety

— Rail Tech Group



**In July 2023, Sensat was pleased to host the first in-person Rail Tech Group knowledge share session focused on safety and productivity.**

**The session was an in-depth and open discussion between senior members from across the rail sector, including HS2, Network Rail, and Siemens, chaired by 4D Consultant, James Bowles.**

**This briefing article is the third and final article in the three-part series that explores how teams are leaning into innovations to increase productivity without sacrificing safety.**

## Overview

From rail industry indications, rail is embracing technology and innovation to achieve safety and productivity goals. And in doing so, is transforming traditional practices and paving the way for a safer and more efficient future in rail operations. In previous years, there has been a prevailing belief in the rail industry that a trade-off existed between productivity and safety. However, in recent years, innovation has shattered this paradigm.

The Rail Tech group explored ways that teams are leveraging innovation to achieve both. Traditionally, there has been a perceived tradeoff between productivity and safety, where increasing safety measures have been seen to slow down work processes and decrease productivity. However, in today's rapidly evolving landscape, innovation emerges as the transformative solution that caters to both objectives. Project teams harness cutting-edge technologies to elevate productivity while ensuring safety remains paramount.

## In this 3 part series we'll be covering:

**Part 1**



**The cultural shift needed towards innovative safety**

[→ Download now](#)

**Part 2**



**Leveraging innovation for safer site practices**

[→ Download now](#)

**Part 3**



**Increasing productivity without sacrificing safety**

# Increasing productivity without sacrificing safety



## Meeting the milestones which count: 4D site visualisation in rail projects

A crucial aspect of successful project management is accuracy in meeting milestones. To address this, forward-thinking project managers embrace innovative technologies that offer precision and efficiency. A prime example is the integration of P6 with 4D site visualisations: a powerful combination that aids complex rail projects in adhering to project milestones with greater accuracy. By leveraging these integrated platforms, project teams are starting to plan meticulously and digitally rehearse various scenarios, providing them with a comprehensive understanding of the on-site situation.

Analysis of these environments and situations enables well-informed decisions and optimises productivity without compromising safety. Precise project tracking and simulations also support the early identification of potential bottlenecks and proactive risk management, making it safer for teams to execute with more forethought into plans. →

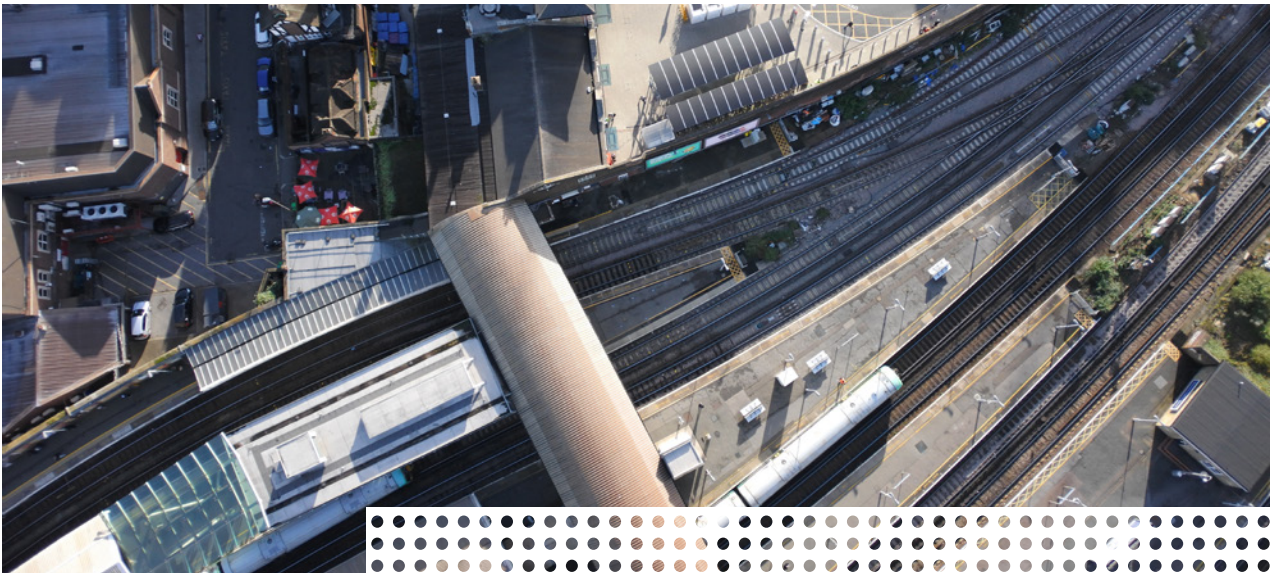
**To improve site safety, starting in the design phase is crucial. By using methods like 4D planning, teams can quickly and easily understand the options available and design and plan for safer outcomes. With 4D, there is less room for interpretation, and teams can collaborate easily with improved communication.**

James Bowles

Founder of Freeform

These digital rehearsals are layered over what is happening on-site to compare progress with plans. Ultimately this supports project managers to better plan and deliver within budget or be used as a golden assurance record of sites to support dispute resolution.

As the industry begins to lean harder into digital rehearsals, this will become a norm for project planning.



## Keeping track of site progress using drones

Site progress tracking has traditionally involved time-consuming tasks like taking pictures, writing reports, and lengthy presentations. However, whilst even five years ago, using UAVs (unmanned aerial vehicles) capabilities was novel, today they are starting to become a staple on infrastructure projects. Teams are now using UAVs to streamline reporting and reduce the need for physical presence on-site. Drones have become a staple in infrastructure projects for capturing data, and one prominent use case is regular site progress updates.

Drones have revolutionised progress monitoring in rail by drastically reducing the data capture time of extensive track sites from months to days. They provide real-time visual indicators of progress, making it easier for teams to assess, discuss, plan, and present projects with more engaging and accurate visualisations than static images. Drone assessments also minimise the need for expensive and dangerous night shifts or disruptive track possession when working on a live track.

Survey sites

**in days  
not months**

using UAVs

Using drone-captured site data, stakeholders can access information directly, eliminating the need for intermediaries and enabling more efficient decision-making processes. This self-serve access empowers the right people to be involved in discussions and assessments, leading to more streamlined and informed project management.

# Who is the Rail Tech Group?

Within the rail industry and infrastructure industry, teams and projects have significant learnings however, transferring these into shared learnings can be a challenge. Together, the RailTech group is attempting to break down these competitive barriers, learn from one another and find enhanced methods to deliver rail projects safely and more flexibly.



Above Senior rail leaders at Sensat HQ sharing insights at the first Rail Tech Group meeting.

To join the RailTech discussion group, get in touch here.

Register interest: <https://bit.ly/3PkjzTP> →