

12M+Barcode Scans
in 2023**1M+**

Scans Per Month

**Real-Time
Validation
Across
UK Rail**

Transport for Wales (TfW) – Pioneering Barcode Validation and Seamless Rail Ticketing Across the Network

Revolutionising Ticket Validation through Barcode Scanning and System Interoperability

Introduction

Transport for Wales (TfW), a key player in the UK rail network, has been at the forefront of digital ticketing transformation. In partnership with Masabi and its ecosystem of solutions, TfW launched a barcode validation programme that addresses the modern challenges of secure, interoperable ticketing. With a strategic focus on seamless journeys, operator interoperability, and the adoption of cutting-edge validation technologies, TfW has emerged as a leader in smart rail ticketing.



Their commitment to technological innovation is evident in their deployment of handheld validators integrated with Masabi's Inspect SDK and the establishment of an eTVD (electronic Ticket Validation Database). These efforts now support more than 1 million barcode scans per month, with over 12 million scans recorded in 2023, providing passengers with a reliable, user-friendly validation experience across the Welsh rail network.

Challenge

The growth of barcode ticketing across UK Train Operating Companies (TOCs), especially after the COVID-19 pandemic, created an urgent demand for robust, scalable, and interoperable validation systems. TfW needed to transition away from legacy inspection processes, ensure compatibility across rail providers, and deliver a frictionless experience to passengers—all while ensuring security, speed, and adherence to national standards.

TfW also faced the logistical challenge of managing millions of ticket validations annually, ensuring real-time accuracy across networks, and accommodating on-train staff with appropriate tools for retail and inspection duties.

Solution

Since 2018, TfW has partnered with Masabi to deliver a resilient, scalable barcode validation system designed for modern rail travel. Central to this solution is the electronic Ticket Validation Database (eTVD), a real-time synchronised platform that tracks

and stores every barcode scan, ensuring compliance with Rail Delivery Group (RDG) standards. In 2021, Masabi's Inspect SDK was integrated into rugged handheld devices used by onboard teams, enabling combined inspection and retail functionality in a single, user-friendly tool. By 2023, the system was supporting over 12 million annual barcode validations, with interoperability between operators ensuring a seamless experience for passengers travelling across networks. The solution has been tailored to support future multimodal expansion and advanced fraud detection, positioning TfW as a leader in digital ticketing innovation in the UK.

Results

The barcode validation system has brought clear benefits to TfW's operations and its passengers. In 2023 alone, more than 12 million barcodes were successfully validated, with the system handling over 1 million scans each month. Staff are now equipped with intuitive handheld devices that combine retail and validation, significantly improving operational efficiency. Interoperability with other UK rail operators has been streamlined through the eTVD, enabling seamless barcode acceptance across networks and ensuring a consistent experience for passengers. The system is not only scalable and robust but also adaptable for future transport modes and validation channels. With RDG-compliant processes in place and real-time data synchronisation across the national rail network, TfW continues to set a strong example for digital innovation in the UK rail sector.

Gareth Marsh, Retail Fraud Investigator at TfW, reflects on the success:

"Masabi's experience in UK rail barcode ticketing is second to none. Working in partnership with them and their ecosystem, we have delivered a solution which reliably and efficiently enables mobile ticketing at scale across Welsh transport"

Key Takeaways

- 12+ million barcode ticket scans processed by Tfw in 2023
- 1+ million barcodes scanned monthly
- Powered by Masabi's Inspect SDK and eTVD for real-time ticket validation
- Fully compliant with UK Rail Delivery Group (RDG) standards
- Interoperable validation with other UK train operators
- A scalable platform built to support mobile ticketing at national level

Future Plans

Tfw plans to continue expanding its barcode validation capabilities in partnership with Masabi. Future focus areas include:

- Supporting the broader move toward multi-modal ticketing validation, enabling seamless integration with buses, light rail, and other modes of transport.

- Enhancing passenger convenience through continued innovation in mobile validation tools.
- Maintaining compliance with evolving national standards to ensure interoperability across UK train operators.

As Wales continues to modernise its transport network, Tfw's ongoing collaboration with Masabi positions it to adapt and scale its validation solutions to meet emerging mobility needs.



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