NI Railway, Belfast to Border Electrification

Accelerating Accessibility: How EFA Engineering Helped Translink Deliver Belfast to Border Efficiently

Introduction

Translink engaged EFA Engineering to provide independent assurance of GRIP Stage 3 outputs for the Belfast to Border Electrification project. Our review ensured engineering outputs were robust, cost-efficient, and aligned with future network expansion while mitigating key technical risks.

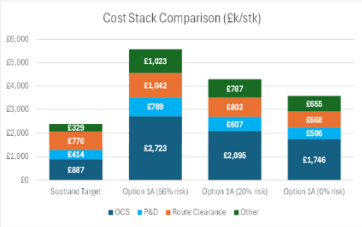
Background

The National L&E Renewals Programme aimed to modernise nearly 300 lift and escalator assets across the UK network in Control Period 7. Fragmented delivery, inconsistent data, and unclear scopes created major risks to cost, compliance, and performance.

The Challenge

Delivering the Belfast to Border Electrification project posed major hurdles:

- Uncertainty over continuous vs. discontinuous electrification value
- High projected costs compared with UK benchmarks
- Technical risks across pantograph gauging, bridges, signalling, telecoms, and immunisation
- Need to align with future network expansion and 1500V DC interface



Why EFA Engineering

EFA Engineering was engaged for our expertise in independent engineering assurance, electrification systems, and value-driven infrastructure delivery. Our team provided objective, benchmarked insights to support cost-efficient and technically robust decision-making.

How EFA Engineering Responded

We delivered targeted, independent engineering assurance through four key pillars, ensuring robust outputs, cost efficiency, and risk reduction:

- **Document & Design Review:** Assessed OCS, power distribution, route clearance, signalling, telecoms, and asset requirements to validate GRIP 3 outputs*
- **Benchmarking:** Compared costs and design choices against UK electrification schemes, including Scotland and the Midland Main Line, to test value for money
- **Engineering Recommendations:** Provided prioritised actions to reduce cost, scope, and technical risks across all key disciplines
- Forward-Looking Guidance: Offered strategies for system selection, border interface, and compliance with standards

We worked closely with Network Rail teams, acting as true delivery partners focused on outcomes.

The Results

The impact of EFA Engineering's work was immediate and far-reaching, providing Translink with robust, value-driven engineering assurance:

Our work delivered measurable impact:

- **Prioritised recommendations** - enabled focus on critical cost and risk areas
- **Reassessed high-cost -** structural interventions, identifying innovative solutions to reduce scope and expenditure
- **Independent benchmarking -** highlighted where costs exceeded UK comparators, improving future cost estimates
- **Provided confidence -** to progress into GRIP 4 with robust, de-risked engineering guidance.

If you're facing delivery challenges or want to improve efficiency in complex infrastructure programmes, EFA Engineering can help. Our team brings clarity, speed, and value to every engagement — with solutions that are grounded in data, experience and built for impact.

Contact us today to explore how we can support your next project.

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