Fenix RAIL GROUP

RAIL INFRASTRUCTURE | UK & IRELAND

Engineering the railway from concept to service.

Signalling design / FenLock train facility control / systems integration / maintenance / consulting

A single engineering partner for depots, yards, intermodals and rail networks.

COMPANY CAPABILITY BROCHURE • SEPTEMBER 2026

Three divisions. One connected offer.

Fenix Rail Group joins design, systems delivery and asset support across the life of a railway facility.

DESIGN + DELIVERY

Fenix Rail Systems

Signalling design, train facility control, technology integration, telecoms and power interfaces, installation, testing and commissioning.

RELIABILITY + SUPPORT

Fenix Maintenance

Inspection, planned maintenance, fault response, technical support and First Fix monitoring for control systems and associated assets.

DECISIONS + ASSURANCE

Fenix Consulting

Feasibility, option studies, technical and commercial advice, engineering management, project development and operational readiness.

WHERE FENIX ADDS VALUE

- One defined route from requirements to design, integration, commissioning and handback.
- Early signalling input to site layout, interfaces, construction staging and operating rules.
- Practical designs for live depots, mainline interfaces and maintainable assets.

Tell us the operating problem. We will define the engineering scope, interfaces and a proportionate route to delivery.

From requirements to a workable scheme.

Commission Fenix for a focused design task or a coordinated signalling programme.

UNDERSTAND

Surveys and asset understanding

Before design begins, we establish what is on site and how the railway operates. We survey the equipment, check drawings against installed assets and assess their condition. We also review level crossings, ground layouts, operational constraints and connections to other systems. This gives the project a reliable starting point and identifies where alterations may be needed.

These activates include-
Site surveys and correlation; asset condition and alterations reports; existing system assessments; level crossing surveys and ground plans; operational constraints and interface review.

SELECT

Feasibility and option selection

We define what the signalling system must achieve and compare practical ways to deliver it. Outline specifications and scheme plans show how each option could work. We examine interlocking and control arrangements, signal spacing and aspect sequences, then assess risks and any departures from standards. The result is a reasoned recommendation for the scheme to take forward.

Typically being - System definition requirements; Outline Project Specifications; option selection reports; scheme plans and risk assessments; interlocking and control assumptions; non-compliance review and mitigations

DEVELOP

Single option development

Once an option is selected, we develop it into a scheme ready for detailed design. We complete the Final Project Specification, refine the scheme plans and carry out signal sighting, with the required forms and reports. We also prepare draft design specifications and level crossing inputs, and plan how the work will be staged, tested and commissioned.

Deliverables - Final Project Specifications; Final scheme plans; signal sighting chair, forms and reports; draft design specifications; level crossing inputs; construction and staging assumptions; testing and commissioning strategy.

ENGINEERING LEADERSHIP AND ASSURANCE

Project engineering and design management • interdisciplinary reviews • independent checking, subject to independence requirements • CRE roles with agreed competence • mentoring and training

Detailed design and technical outputs.

A practical schedule of activities for packaging a design commission and agreeing deliverables.

CORE DESIGN

Principles and scheme design

Our Principles and Scheme Design service turns operational requirements into a clear signalling design. We prepare scheme plans, route lists, control tables and mechanical locking charts, supported by signal sighting, signal spacing and aspect sequence charts. We also produce stage plans, risk assessments and Section C notices to support review and delivery.

DETAILED DESIGN

Interlocking and circuits

Our Interlocking and Circuit Design service covers train facility interfaces, PLC design and FenLock interlocking integration. We undertake RRI free-wired and geographical circuit design, and develop CBI application data, architecture and associated circuits. Our SSI and VHLC experience supports the integration of relay and computer-based systems.

LAYOUT DESIGN

Layouts and infrastructure

Our Layouts and Infrastructure service develops the drawings and calculations needed to install and connect signalling equipment. We produce location area plans, location case and relay room designs, cable and bonding plans, and power calculations. We also design signal box and control panel alterations and coordinate trackside and point system interfaces

SUPPORTING DESIGN

Specifications and integration

Our Specifications and Integration service defines how the signalling system will work with existing assets and other project disciplines. We prepare Signalling Design Specifications and fringe work specifications, design control and indication interfaces, and contribute to interdisciplinary design reviews. We also provide technical support during procurement and installation.

Also available:
ETCS / CBTC consultancy • temporary speed restriction design • level crossing inputs • technical reviews • testing & commissioning planning

Control systems designed around operations.

Movement plans, safety requirements and layout inform each coordinated control solution.

FENLOCK TRAIN FACILITY CONTROL

Depots, Ports Terminals, Yards, intermodals and Stabling.

FenLock is Fenix's next generation of train facility control. The 100, 200, 300, 400 and 500 range can be configured for small sidings, complex depots and intermodal terminals. Each solution brings route setting, point control, indications and operator interfaces together around the facility's layout and train movements. We define the safety requirements and integrity target for each scheme, with solutions capable of development up to SIL 4 where required.

Rail interfaces

Mainline fringes; relay or computer-based interlockings; point machines, Train Detection; signals and trackside equipment; depot personnel protection, Carriage Wash etc.

Facility interfaces

Power, communications, control rooms, alarms, wash plants, workshop areas, operating procedures and maintenance access.

Technology and supply chain

Fenix brings technology from partners including HANNING & KAHL into a control system designed for your railway. We assess the available options, select point operation equipment to suit the site and design its interfaces with the wider system. By matching the specification to your operational needs and budget, we work towards the most cost-effective solution that meets the required safety standards. We then coordinate delivery from concept through to commissioning.

Built for operation and long-term support.

Our work considers construction, commissioning, the control room and the maintenance shift.

01

Define

Operational needs, survey, hazards and interfaces.

02

Design

Scheme, detail and independent checks.

03

Deliver

Procurement, installation and integration.

04

Commission

Testing, records, entry into service and handback.

05

Support

Training, inspection, maintenance and response.

FENIX FIRST FIX + MAINTENANCE

A direct line from system knowledge to asset care.

First Fix supports remote monitoring, performance reporting and planned intervention for train facility control assets. New FenLock systems include the First Fix package and **two years** of maintenance labour by qualified Fenix Maintenance staff as standard. Parts and additional work are defined in the project maintenance agreement.

More than a signalling work package.

Fenix coordinates connected elements of a train facility into a coherent scope and operating plan.

Train wash integration

Working with our Orange Train Wash partner, Fenix designs the wash around your depot's trains, layout and operating hours. We coordinate the equipment with train movements, site services, access, isolation and control systems, then support installation and commissioning. Modular options help us develop a solution for constrained sites and depots that need to remain operational.

Telecoms, power and points

Fenix coordinates the communications and electrical interfaces supporting the railway control system, including control links, power supplies, point machines and point heating. Detailed discipline scope and delivery responsibilities are set at project definition.

Project and commercial consulting

Fenix Consulting helps clients develop practical, cost-effective rail solutions from early concept through to entry into service. We assess feasibility, compare options and review whole-life costs to find the best value for money without losing sight of safety or operational needs. Our support covers project scope, budgets, programmes, procurement, supplier selection, system interfaces, engineering management and delivery risks, followed by operational readiness, training and mentoring.

HOW WE CAN ENGAGE

A defined design package • engineering leadership or assurance within your team • an integrated depot or facility control package with delivery and maintenance support.

Relevant work. Clear next steps.

Fenix project references span depots, intermodals, mainline interfaces and specialist signalling advice.

INTERMODAL

Northampton Gateway

Fenix designed, installed and commissioned the signalling and train facility control system for the first phase of Northampton Gateway. The scheme links the mainline and freight terminal through relay and computer-based interlockings. A single control workstation lets the operator manage train movements across the reception roads, intermodal lines and sidings.

FREIGHT

DIRFT / Daventry

At DIRFT 3, Fenix provided the depot control system for train movements into and out of the freight loading area. The work brought together the control design, trackside equipment and axle counter interfaces, with specialist partners supporting installation, testing and commissioning.

METRO DEPOTS

Gosforth and Howdon

Fenix delivered and commissioned the depot control system at the rebuilt Gosforth depot, replacing its older relay-based control with FenLock 400. At Howdon, Fenix worked with installation partners on the temporary Metro depot's control system, bringing together point machines, signals, track circuits and interfaces with existing infrastructure.

HEAVY RAIL DEPOTS

Feltham and Banbury

At Feltham, Fenix designed and delivered a bespoke Tie-FenLock 200 depot control system with central point control and nine trailable point machines. At Banbury, Fenix took the depot control scheme from GRIP 4 through commissioning, including an interface between the depot and mainline signalling systems.

START A CONVERSATION

Bring us your layout, operating need or signalling question.

We identify the signalling activities, interfaces, resource needs and next decision before the scope becomes fixed.

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