Automatic Supply Restoration

for railway signals

Schneider Electric

Powering the Railway

Stay on track with the solutions you need

The UK rail market is faced with increasing demand from both passenger travel and the rail freight industry coupled with the ongoing need for asset replacement of the network. These drivers together with the focus on meeting the industry's regulatory requirements generate additional pressures on an already very busy network.

To ensure safety, security and reliability, rail operators need intelligent solutions to monitor, control and optimise the electrical assets on the rail network.

Schneider Electric offers valued technologies that play a major part in the future of rail infrastructure.

Keeping you on the right track

Automatic supply restoration for railway signals

As the demand on the UK rail network continues to grow there is increasing pressure to ensure the network is reliable and efficient.

A significant number of delays can be attributed to loss of signalling power. These losses are usually caused by cable or equipment faults, cable theft, or vandalism and can incur significant disruption and delays to the rail network.

An Automatic Supply Restoration system will automatically restore power to signalling equipment, reducing delays, outages and minimising impact on customers.

What is Schneider Electric's solution?

It is a scaleable rail solution that minimises delays caused by signalling power faults.

There are three levels to meet individual project requirements and budgets:

1. Local fault detection
2. Remote fault detection
3. Automatic supply restoration.

Schneider Electric's experience in infrastructure expands outside of the rail industry, so we can use all our knowledge to provide the best possible service.

Having provided automation systems for many industries and infrastructure projects around the globe where continuity of supply is critical, this expertise means we can offer proven solutions for the UK rail infrastructure.

Our experience in different sectors allows us to introduce new technologies to the railway industry, which have already demonstrated their benefits in other applications, providing a low cost and low risk path for new innovations.

Total peace of mind

Automatic Supply Restoration

The full system automatically restores power to signalling equipment following FSP or cable faults. The full system will isolate the circuit fault and then restore power automatically, reducing a power interruption to less than thirty seconds.

The full system provides the user with a 15" colour touch screen display providing a graphical representation of the signalling power network. The display presents status and alarm information ensuring the maintenance engineers will have full visibility of any faults. The touch screen's display can also be accessed using a standard web browser providing all of the functionality to remote users.

To install, the ASR cabinets only need to be cabled into each FSP. Extensive measurements of the electrical characteristics of the feeder at each FSP are not required. Commissioning can be carried out remotely from the colour touch screen display or a web browser. Only cabling skills are required to repair a faulty ASR unit, as the entire unit is exchanged. This reduces the demand for staff with special skills.
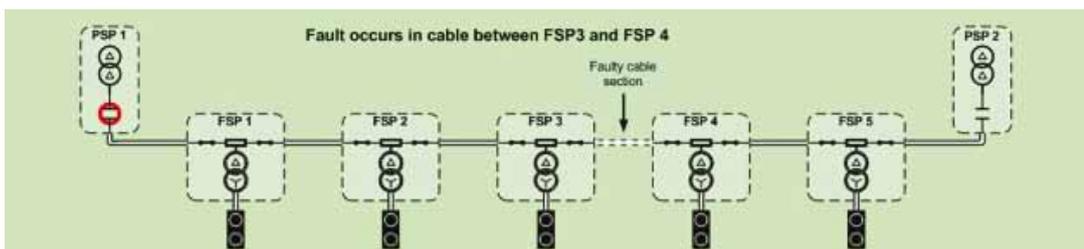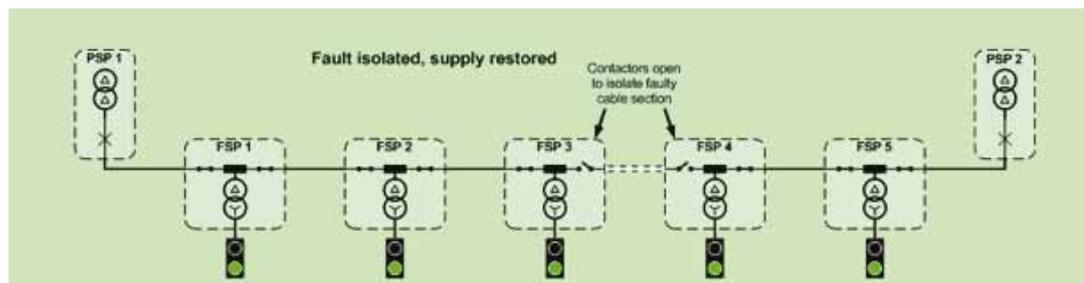
Complete detection

Our fault detection solutions ensure peace of mind locally or remotely.
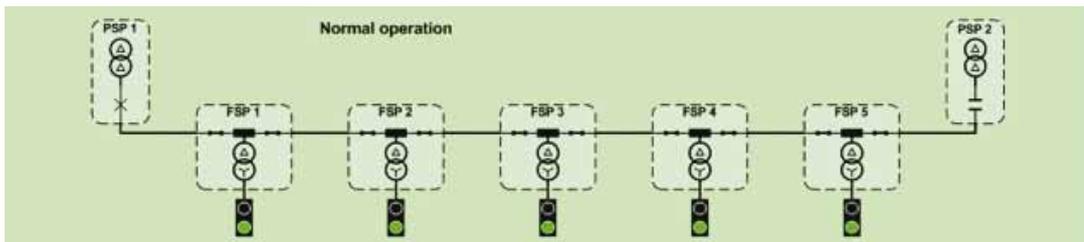
When a fault occurs on the network the ASR will retrieve the recorded fault current values from each functional supply point and with this information identify the fault location.

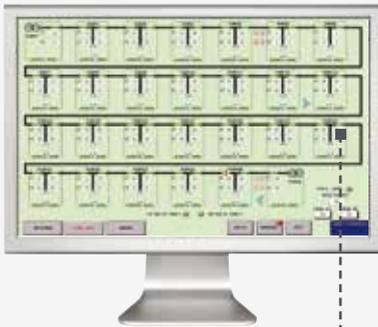The ASR will isolate the fault and restore power to the network in under thirty seconds.

Our operation

Continually monitor the status of the signalling power network.

Technical Overview

Simple diagrams provide an overview of how the system reacts to a cable fault.

Example Network overview screen

Features and benefits:

Local and Remote Fault Detection

> Reduces the time to locate and isolate a cable fault – thus reducing delays and down time

> Easy to install and retrofit by non-specialist personnel

> Factory configured and tested

> Remote only - supports DNP3 and Modbus for diagnostics at the network management system

> Class 2 compliant

Automatic Supply Restoration

> Automatically locates and isolates a cable fault – minimising delays and down time

> Automatically locates and isolates FSP faults - minimising delays and down time

> Provides real time and historical reporting

> Easy to use touch screen interface with graphical network representation with alarm and event handling

> View and remotely control the system through Internet Explorer

> No modifications required to the FSP cable size or circuit protection

> Easy to install and retrofit by non-specialist personnel

> Supports DNP3 and Modbus

> Class 2 compliant

Non auto-reconfiguring fault detection

Local Fault Detection

The local fault detection solution identifies the location and type of fault following loss of power on the signalling network, reducing engineering time and resource to locate and isolate signalling power faults for each conductor.

Local Fault Detection monitors the circuit current between Functional Supply Points. On detection of a fault the easy to use interface will provide the rail engineer with alarm indications and the fault current for each conductor.

Remote Fault Detection

The remote fault detection solution provides remote identification of the location and type of fault following loss of power on the signalling network, further reducing engineering time and resource to locate and isolate signalling powers faults.

Remote Fault Detection enhances the technology used within local fault detection by providing communications. These communications enable the rail engineering team to monitor the status of the network remotely enabling fault identification to be achieved prior to a local inspection. On detection of a fault the remote fault detection solution can provide a remote alarm to alert the engineering team.

Our full Rail offer
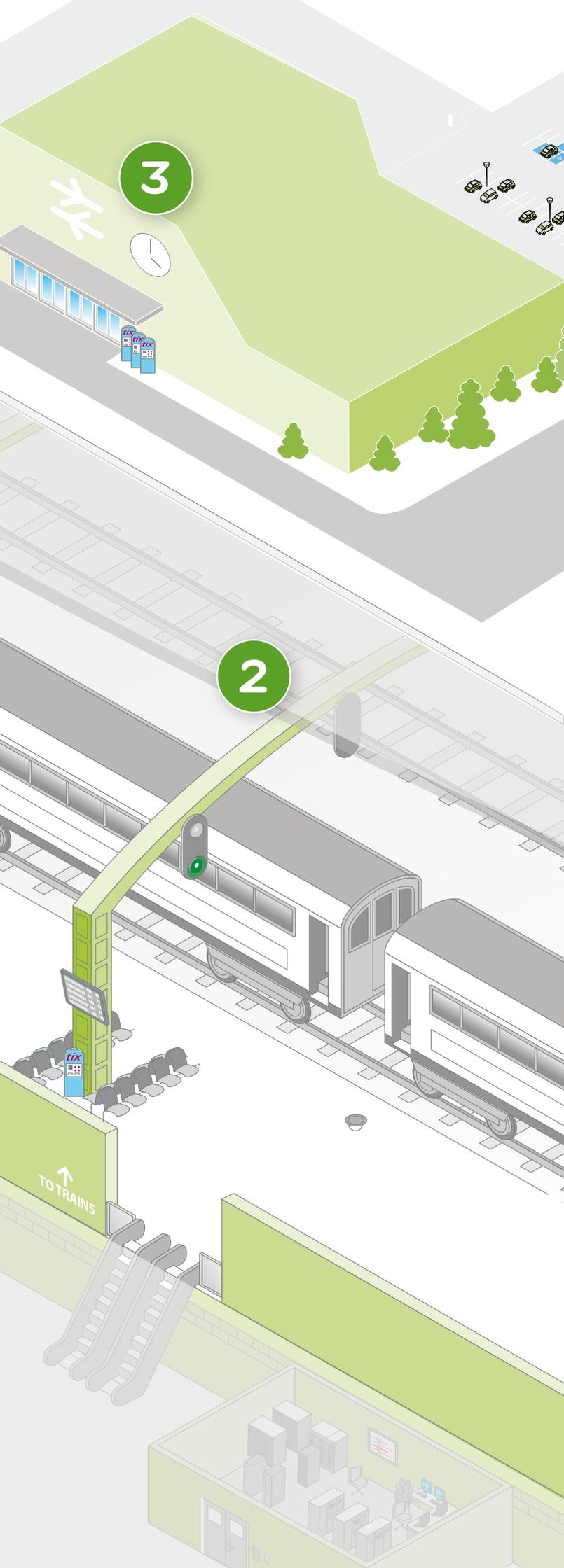
See the complete offer from Schneider Electric
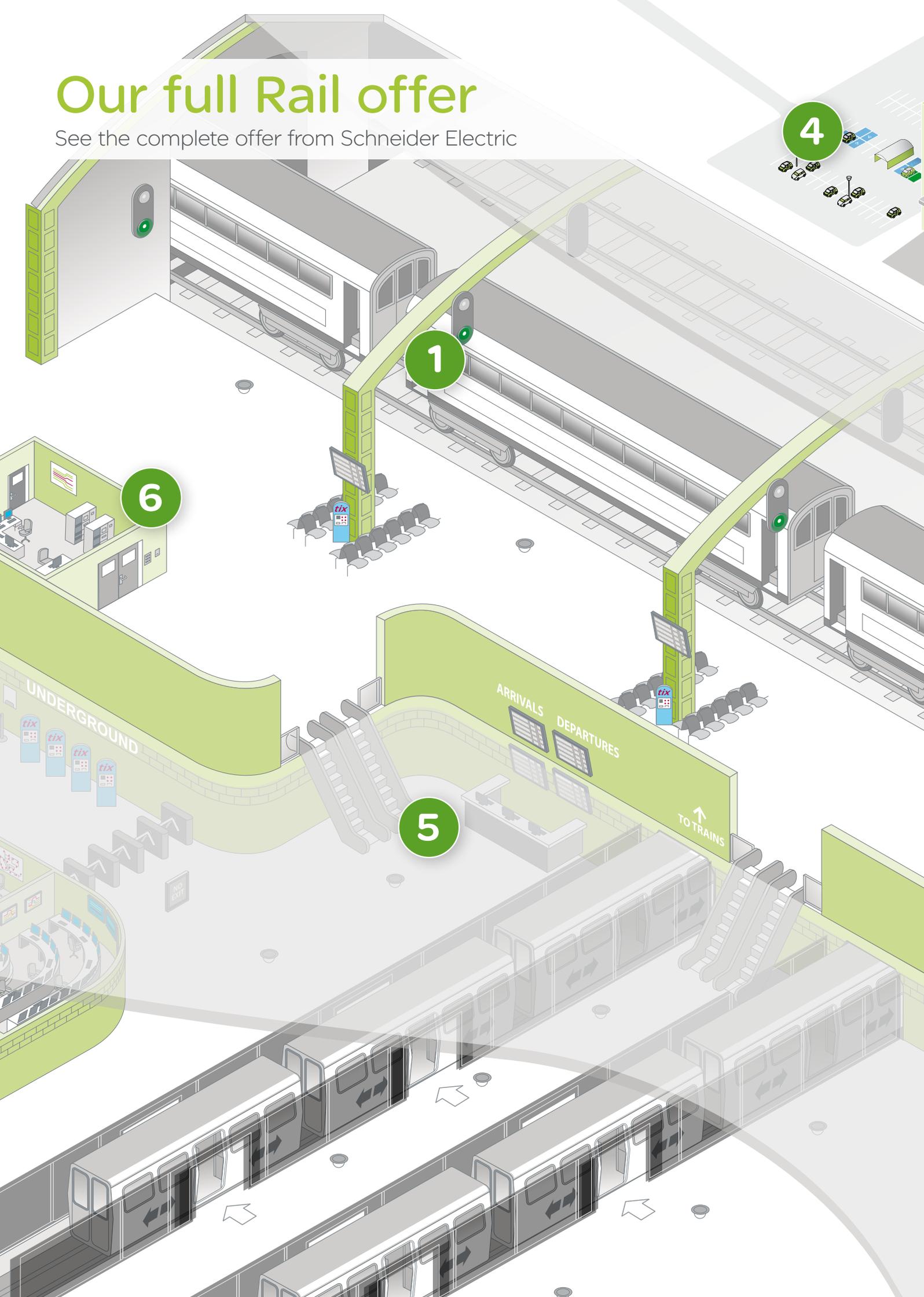
4

1

6

5

UNDERGROUND

ARRIVALS

DEPARTURES

TO TRAINS

tix

1) Signalling power

Schneider Electric's experience of infrastructure expands outside the rail industry, so we can use our knowledge to provide innovative technologies for every Signalling power project, providing a low cost and low risk path for new innovations for both overground and underground applications.

2) Traction power

As safety is paramount in rail installations, our Traction power supply range provides a quality solution which has been specially designed to meet the specific needs of the UK rail market and is why major industry players rely on us as their supply partner.

3) Stations

Our focused approach to buildings management and security systems strips away layers of complexity to integrate multiple systems in a building. Our integrated solutions for railway stations are less expensive to design, install and operate. We offer a single point of control for a broad range of building systems including access control, video security, fire protection, HVAC and lighting.

4) Car parking

Transportation is evolving, the electric vehicle will play an important part in everyday travel and users will require a means to charge their vehicles. Parking facilities are ideal locations to offer users the facility to charge their vehicles before continuing their journeys.

Our solutions for car parking extend well beyond EV charging infrastructures however, from lighting control to access control, Schneider Electric provides an integrated solution to meet your needs.

5) Services

Electrical equipment is a major investment for customers and ensuring you consider not only the capital cost but the entire lifetime costs of equipment is vital. Schneider Electric's installed base services, solutions and professional services help you to increase performance throughout the life cycle of your installation.

6) Energy management

World energy consumption has risen by 45% since 1980 and it is projected to be 70% higher by 2030. To help meet this demand, we have developed a strategy that can help achieve 30% savings in energy.
We recommend following our 4 simple steps to achieve energy efficiency:

1. Measure | 2. Fix the basics | 3. Automate | 4. Monitor and improve

For more information
www.schneider-electric.com/rail/uk

Notes

Aiding Energy Management

Schneider Electric can help minimise delays and save money by offering a range of remote monitoring systems, which let you identify faults and automatically restore your network.

Schneider Electric's solutions are also designed with upgrading existing infrastructures in mind, so where systems need replacing or modernising we can offer products with minimal installation requirements.

Product approval

Schneider Electric has Network Rail acceptance for several product ranges including:

Functional Supply Points, cable, troughing, distribution switchgear and associated protection devices.

Additionally Schneider Electric is a qualified supplier via audit on the link up qualification scheme, with a comprehensive portfolio of offers to meet the requirements of the UK rail industry.

Link-up
empowered by **Achilles**

Qualified via Audit
17962

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As a global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in Utilities & Infrastructures, Industries & Machine Manufacturers, Non-residential Buildings, Data Centres & Networks and in Residential.

Focused on making energy safe, reliable, efficient, productive and green, the Group's 130,000 plus employees achieved sales of 22.4 billion euros in 2011, through an active commitment to help individuals and organisations make the most of their energy.

We are changing our brand names and becoming one Schneider Electric.
You'll get the same great quality products, but from one name you can remember and trust. This provides you and your customers with the reassurance associated with Schneider Electric.

Some of our market leading brands have already become Schneider Electric including **Merlin Gerin, Telemecanique, Square D, GET, Mita, Sarel, Himel, Thorsman, Tower** and **TAC**.

Working as one Schneider Electric makes it clearer that our ranges are highly compatible for integrated solutions.

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