



Learn from **150 years**
of **S&C experience**

The most critical asset of railway infrastructure

Railway networks have to cope with increasing load and aging infrastructure. As maintenance needs get more frequent, manual inspections don't suffice to detect them in advance. Switches are the most critical part of the rail infrastructure, causing approximately **20–30% of infrastructure-related delay minutes** and **costing €12bn a year** globally to maintain and replace.

The S&C Alliance: The key to S&C longevity

With over 150 years of experience in all elements of the engineering, manufacture and maintenance of switches and crossings, we are uniquely placed to offer on site advice, support, engineering and technology solutions.

Our members work together to offer best in class capabilities to safely and efficiently resolve the S&C reliability challenges faced by Infrastructure Managers. Currently, the Alliance consists of six core members.

Our strengths



Increased reliability with decreased delays



Trustworthy fastening to extend longevity



Holistic, healthy S&Cs that deliver for years+



Smooth operations with durable lubricants



Easy application of maintenance materials



Actionable insights with AI-powered data

Our Partners





Proven Value: Asset Repair Instead of Replacement

Network Rail has used CTR-100 to repair rail seat abrasion on both concrete sleepers and S&C bearers. The images show locations in Lewisham and Plymouth where gauge and cross level faults had been highlighted. After the rails were moved revealing the damage. The area was cleaned and CTR-100 applied to rebuild the rail seat area to the correct level.

The pads and rails were replaced after one hour, clipped up and the route was returned to service as planned. All geometry faults are now eliminated, and the process saved many thousands of pounds and man hours instead of replacing critical assets.

The products

- Spikefast ET-75 and ES-50: For timber, screw holes, indentation, splits and voids (20 minute set time)
- Fastpatch LV: For concrete, crack repairs, grouting, rail shoulder repairs and bolt fixings (15 minute set time)
- CTR-100: For repairing rail seats on concrete sleepers, bearers and slab track (60 minute set time)

Proven value: Asset lifetime enhancement of 7 years



Network Rail used Spikefast to extend the life of longitudinal timbers on a bridge over the River Thames. In 2014 the timbers were due for renewal, but then removed from the plan for 2 years. A speed restriction was in place and gauge was managed with tie bars. The decision was made to fill all the screw holes and voids with Spikefast ES-50 over four weekend possessions. Upon completion of the work, tie bars were removed, and the speed restriction was lifted. The timbers were eventually renewed in December 2021 following 7 years of trouble-free service.



Fastener solutions for track, rolling stock & infrastructure

At Staytite, we're dedicated to improving railway safety and efficiency through innovative engineering and technology solutions. Our products, including the Hardlock nut and Intelligent Bolt System, reduce the need for scheduled maintenance while providing unmatched safety benefits. Trust us to provide reliable solutions and exceptional support.

What's on offer

- Expertise in reliable fastening
- Engineering solutions tailored to exact requirement
- Technologies to aid in the improvement of maintenance
- Direct line feed for rail manufacture and maintenance depots

Proven value: 100% safety record

Experience the future of bolted joint monitoring with our revolutionary Intelligent Bolt System! With real-time monitoring and transmission of clamp loads, you'll never have to worry about the safety and reliability of your track infrastructure again.



Say goodbye to the guesswork of bolted joint monitoring and hello to a smarter, more efficient solution. Trust the Intelligent Bolt System to provide the information you need to keep your track infrastructure running smoothly and safely.



The best lubricants & dry coatings for railway S&C

A “Hybrid” product with 4 functions: Creeps-penetrates, cleanses, lubricates and protects for all possible moving parts of a set of points.

What's different

- Penetrates even in the most inaccessible areas to virtually eliminate wear
- Breaks down corrosion and deposits to increase lifespan
- Forms a highly durable dry lubrication film, impervious to sunlight, rain and temperature changes
- Repels moisture, dirt, brake dust, sand and other abrasives

Proven value: Improved switch movement

Lube EP (coating) can last 4 to 8 weeks and even up to 13 weeks on slide chairs between maintenance intervals, also offers much better visual inspection due to its transparency.



The Lube EP backpack application method is quicker than the conventional brush method, safer, and more precise. It will not impact the environment due to the low application quantities, 4ml per chair and 95% biodegradable credentials.



flexilube[®]
smart lubrication

Custom fillable automatic lubrication units for railway S&C

The only refillable, recyclable and custom fillable single point automatic lubricator. Automatic lubricators for points, barrier pedestals and mechanical signals.

www.simalube.co.uk

What's on offer

- Reliable automatic lubricators for Clamplock, drive crank, barrier pedestals and mechanical signal applications.
- Units filled with proven dry film lubricants
- Refillable and recyclable
- Dispense rates up to 12 months.

Proven value: Reliable & accurate lubrication

Flexilube's automatic lubricators improve reliability on Clamplock and drive crank applications, ensuring smoother operation. This allows for more value added tasks to be carried out during routine inspection visits.



Network Rail trials proved a reduction in component failures due to reliable and accurate lubrication.



KONUX

AI-powered insights for railway maintenance & operations

As the leading AI scale-up in railway, we bring next-generation predictive maintenance, network usage and traffic monitoring and planning solutions for railway infrastructure management.

www.konux.com

What's on offer

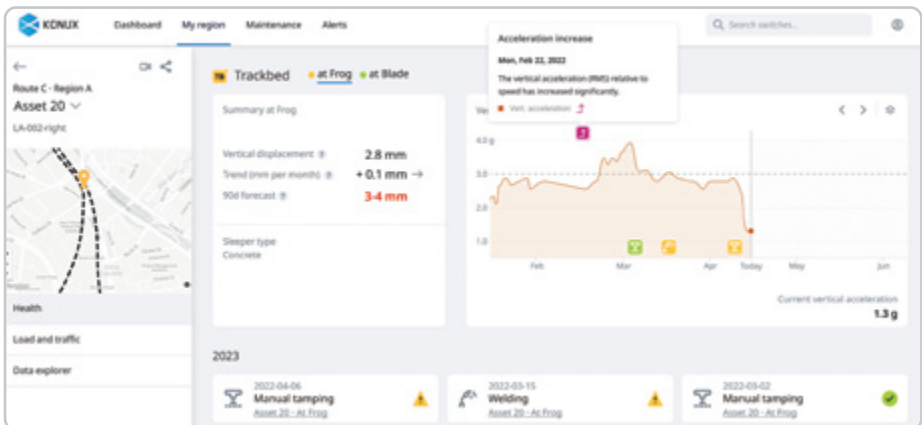
Our solutions bridge the information gap between infrastructure maintenance and operations to improve capacity, reliability and cost-efficiency.

By **combining track and signalling insights**, we deliver next-level operational quality in managing S&C **KONUX Switch** continuously monitors the health of key switch components, prioritising assets based on criticality, making it easier for infrastructure managers to anticipate failures and take informed actions at the optimal time.

KONUX Switch leverages the power of understanding all the switch interactions and is able to provide users with decision support insights along with relevant context. Additionally our solution supports maintenance teams by automatically identifying the effectiveness of their interventions, in turn optimising asset lifecycles.

Proven value: Trials reveal 20% delay reduction potential

In August 2021, Network Rail granted full product acceptance to KONUX after two successful trials. **KONUX Switch** exhibited cost-saving benefits through reduced maintenance and 20% delay reduction by avoiding track closure and speed restrictions.



The trials took place on the East Midlands and East Coast routes, with KONUX IIoT devices installed on both wooden and concrete sleepers with different installation methods. Today the system is deployed in all regions, monitoring over 120 S&C with new features and use cases added continuously.



ALPHATEK
Hyperformance Coatings Ltd

Thermal Spray Coating Specialists

Alphatek Hyperformance Coatings are UK-based specialists in thermal spray and wear-resistant coatings. Founded in 1993, the company brings over 30 years of experience protecting critical components across rail, oil & gas, power generation and heavy engineering.

What's on offer

- Complex carbide coating for switch blades and stock rails
- Proven to extend component life and reduce maintenance interventions
- Fully compatible with existing inspection, welding and grinding procedures
- Available now through Network Rail Route Services via NROL

Reducing downtime without changing your switch supplier or process



HYPERTAXS® GR8 uses an engineered diamond-matrix pattern applied to the high-wear contact faces of S&C components. The coating resists side wear while the spaces between the diamond-shaped islands act as reservoirs for friction modifiers, improving lubrication retention right where it's needed.

Developed to address 502 and 504 side-wear defects, HYPERTAXS® GR8 was trialled across eight Network Rail sites. Independent analysis confirmed extended time to first maintenance, increased mean time between failures, and no change to existing maintenance routines.

The coating achieved full Network Rail Product Acceptance (PA05/06726) in November 2024 and is ready to order through the existing supply chain.



Formed in 2022, the S&C Alliance brings together complementary suppliers with a common goal—to help our customers optimise the performance of their Switches and Crossings. Scan the QR code to follow us on LinkedIn and learn more.