

Tenix

Driving the UK's Decarbonisation Through Electrification of Public Transport



Tenix delivers services to over 4,000 buses and trucks in Norway

In the UK, public transport plays a key role in reducing carbon emissions. According to research by the Department for Transport, taking the bus instead of driving can reduce an individual's carbon emissions by up to 55% per journey.

Additionally, a full double-decker bus can take as many as 75 cars off the road, significantly lowering congestion and emissions. If more people used public transport regularly, it's estimated that the UK could save up to 2 million tonnes of CO₂ annually, making it a vital solution for achieving net-zero goals.

The UK is advancing toward a zero-emission future in public transport, driven by the 'Bus Back Better' initiative, which promotes electrification to meet

decarbonisation goals. As of August 2024, London has over 1,800 of its near 9,000 buses operating as battery electric vehicles, marking significant progress in the transition.

However, the electrification journey is still in its formative stages, with plenty of challenges and opportunities ahead. As the demand for reliable fleet management and charging solutions rises, companies from around the world, particularly the Nordics, are stepping in to offer their expertise.

The Nordic Experience: Data-Driven Electrification Success

The UK can learn valuable lessons from the Nordic region, which has pioneered electric bus operations



in diverse weather conditions over many years. A key takeaway from their experience is that running an electric fleet successfully requires comprehensive data management and smart systems. Without these, the transition from diesel to electricity can lead to operational inefficiencies and increased costs.

In many cases, bus operators across Europe, including the UK, rely on proprietary systems provided by vehicle or charger manufacturers. However, this approach often leads to a lack of flexibility. Companies typically operate multi-brand vehicle fleets and use chargers from various manufacturers, which can result in incompatibility issues and inefficiencies. To avoid being locked into a single supplier's ecosystem, independent and brand-agnostic solutions are essential for effective fleet management and electrification.

The Role of Tenix in Facilitating Sustainable Public Transport

One company making significant contributions to this shift toward sustainable public transport is Tenix. Founded in Bergen, Norway, in 2012, Tenix offers a range of solutions designed to improve the efficiency and cost-effectiveness of electric bus operations. Their systems are designed not only to replace fragmented management tools but also to enhance the overall environmental impact of transport operations.

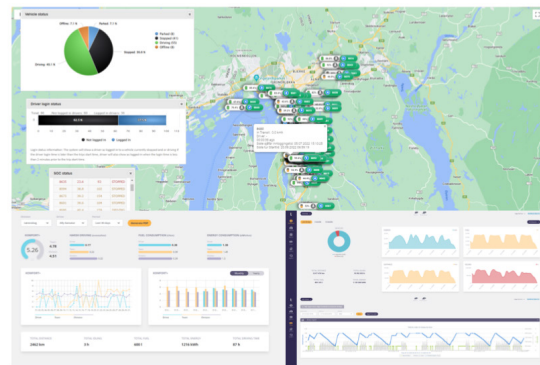
Tenix's key offerings include:

Tenix Charge: As a cloud-based charging management platform, Tenix Charge supports 15+ brands of vehicles and 30+ chargers, making it ideal for operators with diverse fleets. It integrates seamlessly with other fleet management systems, optimising charging sessions based on electricity prices from sources like Nordpool. This leads to predictable and cost-effective charging,

helping operators adhere to their schedules while minimising costs.

Charge uses machine learning MLP (Multilayer Perceptron) with 30+ data parameters such as temperature, capacity, tyre pressure, route topology, speed and weight to predict optimal state of charge (SoC) percentage for a specific route by day.

Tenix Fleet: This system provides detailed vehicle data that helps operators monitor and optimise fleet performance. It offers insights such as battery health predictions, temperature and tyre measurements, and real-time tracking of driving patterns, all of which help reduce operational risks and improve efficiency. The 'Eco Drive' module ensures optimal driver performance with a 10–15% reduction in cost observed.



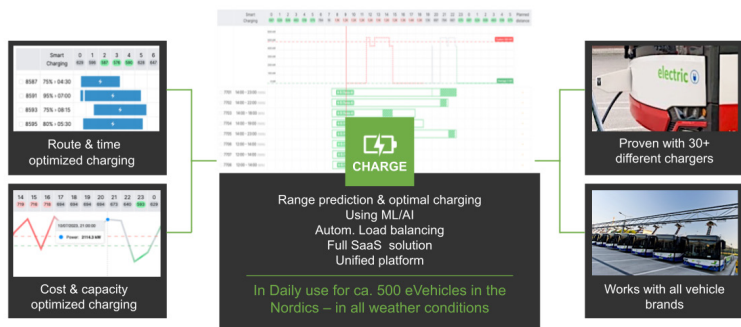
- Real-time and historical data
 - Positioning / drive path
 - Driver behaviour / Eco-driving
 - Vehicle data, e.g.
 - Fuel consumption
 - State of charge
 - Odometer
 - Temperature
 - Driver ID
 - Events and alarms, e.g.
 - Triggered alco-lock
 - Vehicle indicators
 - Tachograph download

Optimal operations with Tenix Fleet

Tenix Maintenance: To ensure electric buses remain operationally efficient, Tenix offers a proactive maintenance system. This tool allows operators to prioritise and report maintenance issues based on real-time data from the fleet, reducing downtime and preventing larger, more costly repairs down the line.

Over the past year, Tenix has driven significant operational and financial gains for its customers, reducing depot investment by 20–25% and energy costs by 10–15%. These advancements are underpinned by its commitment to delivering safe and efficient operations, where streamlined performance means a reduced requirement for vehicle fleet numbers.

Furthermore, in January 2024 amid Oslo's heavy snowfall, Tenix demonstrated exceptional performance, showcasing the transformative capabilities of the platform and its Charge functionality. According to a leading operator, its advanced charging management



Tenix Charge – Intelligent Fleet Charging Management

BRAND-INDEPENDENT, BUILT ON EXPERIENCE

Drive *greener* and smarter with the right software.

Tenix has delivered smart IT solutions to the bus market since 2012. Our solutions give you full control over fleet management, charging, and maintenance – all in one unified system.

Tried, tested and proven
Get in touch at www.tenix.eu

