Ready to charge: scaling the UK's EV infrastructure with digital precision

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As electric vehicle adoption accelerates, the UK's charging infrastructure must scale to meet demand. Real-time data, remote monitoring and integrated systems will be key to a reliable, sustainable future.

The domestic transport sector remains a major source of greenhouse gas emissions in the UK. And, whilst EV sales continue to skyrocket, with one in four buyers choosing to purchase an electric vehicle in June 2025, there are still significant challenges that need to be addressed.

One of the main barriers to widespread EV adoption is the UK's charging infrastructure, which is currently struggling to keep up with rapidly increasing demand. Many local councils are moving in the right direction, with some increasing EV infrastructure budgets by an average of 42% annually, yet significant gaps persist.

Recent findings indicate that some councils cannot confirm whether their charging stations are operational, leaving the UK's 1.3 million EV drivers unable to plan where to charge their vehicles. In some locations, the proportion of operational chargers has fallen to just 2.8%.

Whilst funding boosts and investments into electric vehicle infrastructure are welcome, it's critical that we consider the wider technologies that underpin the EV transition, such as remote monitoring systems. Failing to do so could slam the brakes on growth as drivers lose confidence in the system, placing the UK's goal of phasing out petrol and diesel cars by 2035 in jeopardy.

To deliver on a full-scale transition to EVs, we'll need greater collaboration between governments, businesses, and local authorities to build an efficient infrastructure. Collaboration as well as a shared commitment to the UK's net zero goals will be vital if we are to unlock a cleaner, more sustainable transport system in the UK.

Data-driven planning decisions

Building a strong EV infrastructure isn't just about installing more chargers; it's about strategically planning where the right chargers should go while ensuring that the grid can effectively support them. For instance, while ultra-rapid chargers make sense at motorway service areas, that doesn't mean the grid can always cope with the increased demand in these locations.

Infrastructure must be planned around what the grid can support and what the public genuinely needs, not just built for scale. It's important that decisions are made with an understanding of the technical limitations and the expected usage. Without careful planning, there's a risk of installing underused assets or overloading the grid. For EV adoption to grow,

it will be especially imperative for councils to ensure that there is a reliable infrastructure in areas of high demand, such as motorway service stations and city centres.

Fortunately, engineers and asset managers no longer need to rely on manual processes to understand whether charging units are performing as expected. Real-time monitoring tools can be used to track charger performance, spot faults or outages and even allow for remote repairs.

The ability to immediately detect faults as they occur and proactively resolve issues with charging points not only facilitates safer, more reliable charging experiences for end users but it also provides real-time visibility that allows local councils to better understand fluctuations in EV demand and roll out plans to scale charging infrastructure accordingly.

When charging points are connected to one central management platform, engineers, operators, and local councils can identify usage patterns and periods of peak demand with ease, enabling more informed decision making.

This real-time data not only simplifies maintenance but also enhances future infrastructure planning, making it a far less daunting task. Most importantly, councils don't need to solve the challenge alone. They can lean on expert partners, who offer comprehensive support throughout the entire lifecycle of EV infrastructure projects, from planning to execution to maintenance and repair.

A unified overview of operations

Fragmented databases are also creating limitations in EV infrastructure, as around 40% of councils report no direct investment, as they're ultimately relying on third-party systems and hardware. It's these systems that are contributing to data fragmentation, due to their poor compatibility with charging points.

End-to-end services emerge as a solution because they bring operations under one umbrella, providing a holistic overview of charging components via one unified dashboard. Real-time insights are easily accessible for every stakeholder, from councils to asset managers to service providers. Hardware, software and support are designed to work together, improving reliability and delivering a smoother experience for users.

The technologies are available today to ensure clear data insights can be provided to facilitate meaningful change in The UK's transport sector and bolster the growth of the EV market. All that remains is to build a strong, evidence-based case for investment in these technologies, one that connects economic growth with environmental responsibility. With real-time monitoring,

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councils can easily communicate the worth of EV investments via automated reports, highlighting energy savings and money saved on maintenance costs.

These results, when measured and communicated clearly, help to make the case for greater data monitoring systems to be implemented, allowing leaders and investors to better determine where and when an increased investment in charging infrastructure needs to happen.

Shifting gears

If we are to drive uptake of EVs in the UK, we can't have drivers battling queues, unreliable chargers, and uncertainty when out on the road. That's why tech that tracks EV charger performance, detects faults or outages and even enables remote repairs, will prove just as crucial as the number of chargers in the ground. Reliable, well-placed and accessible chargers will form the backbone for a successful EV transition.

Now, it's up to businesses, governments and local authorities to work closely together to ensure data is being collected and analysed effectively, where decisions to scale infrastructure are supported by real-time insights rather than guesswork. Cutting-edge solutions, such as predictive and preventative maintenance and remote monitoring, will play a crucial role in bridging the gaps between government bodies, service providers and asset managers.

The right digital tools, along with a collaborative approach, will pave the way for resilient charging networks that can scale with demand. With the right partnerships and digital tools, the UK can turn its EV ambitions into a profitable, sustainable reality.

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