

Top 7 EV Charging Trends to Watch in 2024

As EV sales surge globally and major companies and consumers alike go electric, 2024 promises to be a groundbreaking year marked by transformative trends in EV charging. As the world accelerates towards sustainable mobility, charging infrastructure is at the forefront of innovation.

Here's a closer look at the top 7 key EV charging trends that will shape the industry in 2024.

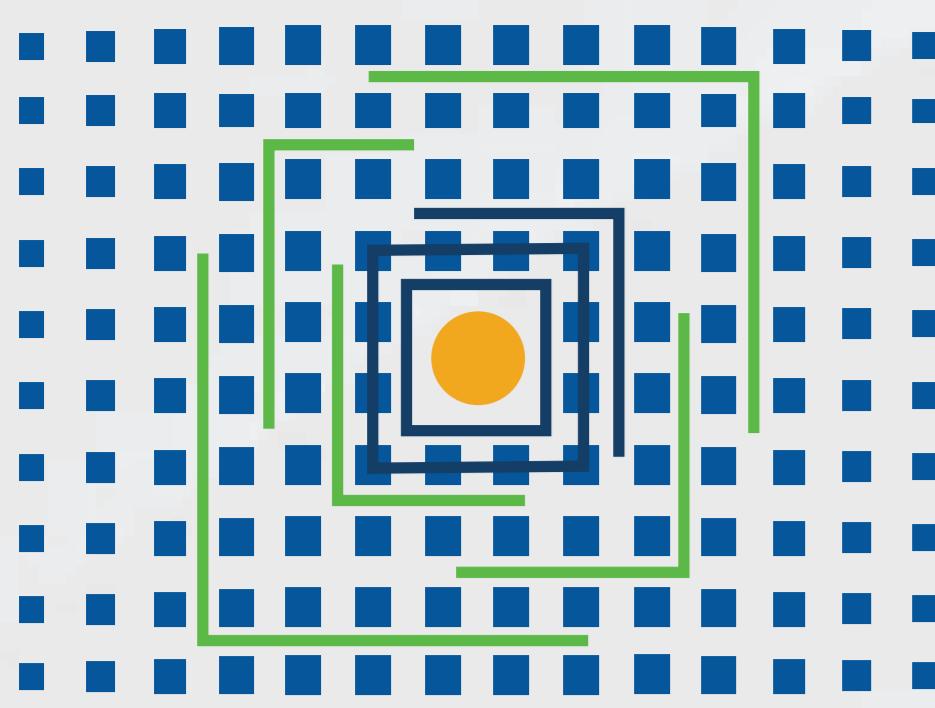
Compact Size

In 2024, the emphasis on compact and versatile charging solutions will gain momentum. As urban spaces become more crowded, compact charging stations are the need of the hour. These space-efficient solutions cater to constrained environments, making EV charging more accessible in cities and high-density areas. Expect to see innovations in design and technology that maximize efficiency without compromising on performance.



Higher-power and Higher-voltage Charging

As electric vehicle batteries evolve and drivers demand faster charging, so does the need for higher-power and higher-voltage charging. In 2024, the industry is poised to witness the deployment of faster-charging solutions with increased power levels and voltage capabilities.



This trend addresses the demand for quicker charging times, reducing the charging anxiety often associated with electric vehicles. High-powered charging stations will become integral to supporting long-distance travel and catering to diverse user needs. The proliferation of medium- and heavy-duty electric vehicles is also set to drive the demand to higher-power, higher-voltage charging.

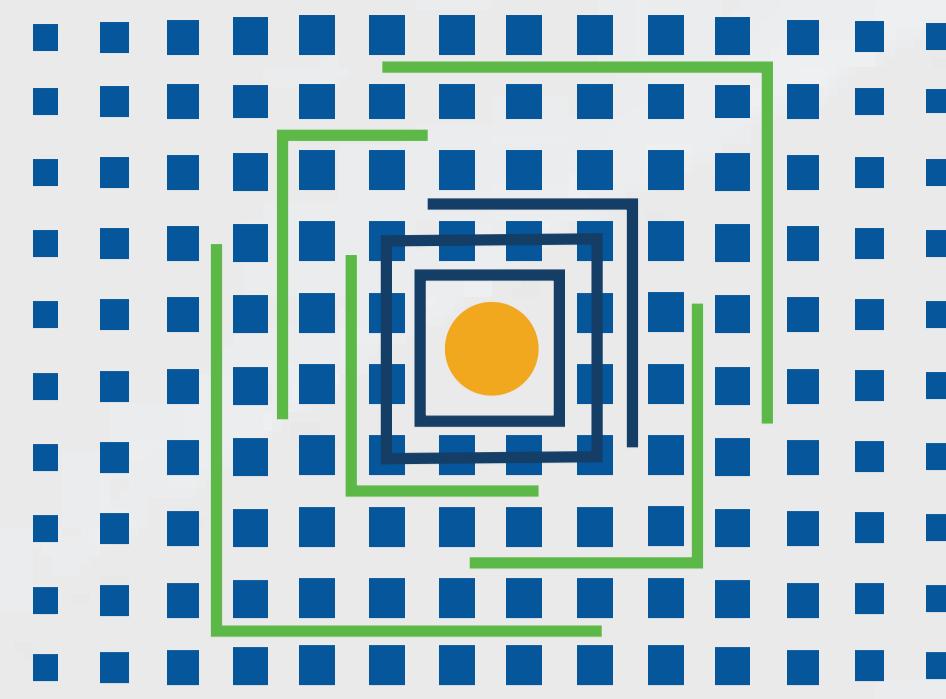
■ **Integration of On-Site Energy Generation and Storage**

As many of the best-suited locations for EV chargers are built out, charging station operators are increasingly running into a major problem: the grid. On-site energy generation and storage is the answer. In 2024, expect to see more charging stations equipped with solar panels and energy storage systems. This integration not only reduces the reliance on the grid and complex permitting cycles but also fosters a more sustainable and resilient charging ecosystem. It's a step towards creating self-sufficient charging hubs that contribute to both environmental and energy security goals.



■ **Focus on Reliability**

In 2024, a paramount focus within the EV charging industry is on ensuring reliability. The reliability issues of existing EV charging networks reaching national attention, customers are demanding solutions that are easier and more dependable. Charging infrastructure providers are investing significantly in technologies and strategies that enhance the reliability of their systems. This includes real-time monitoring, predictive maintenance, and robust quality assurance measures to minimize downtime and ensure that EV users can depend on a seamless charging experience whenever and wherever needed. In 2024, expect a heightened emphasis on the reliability of charging infrastructure as a fundamental pillar supporting the growth of sustainable mobility.



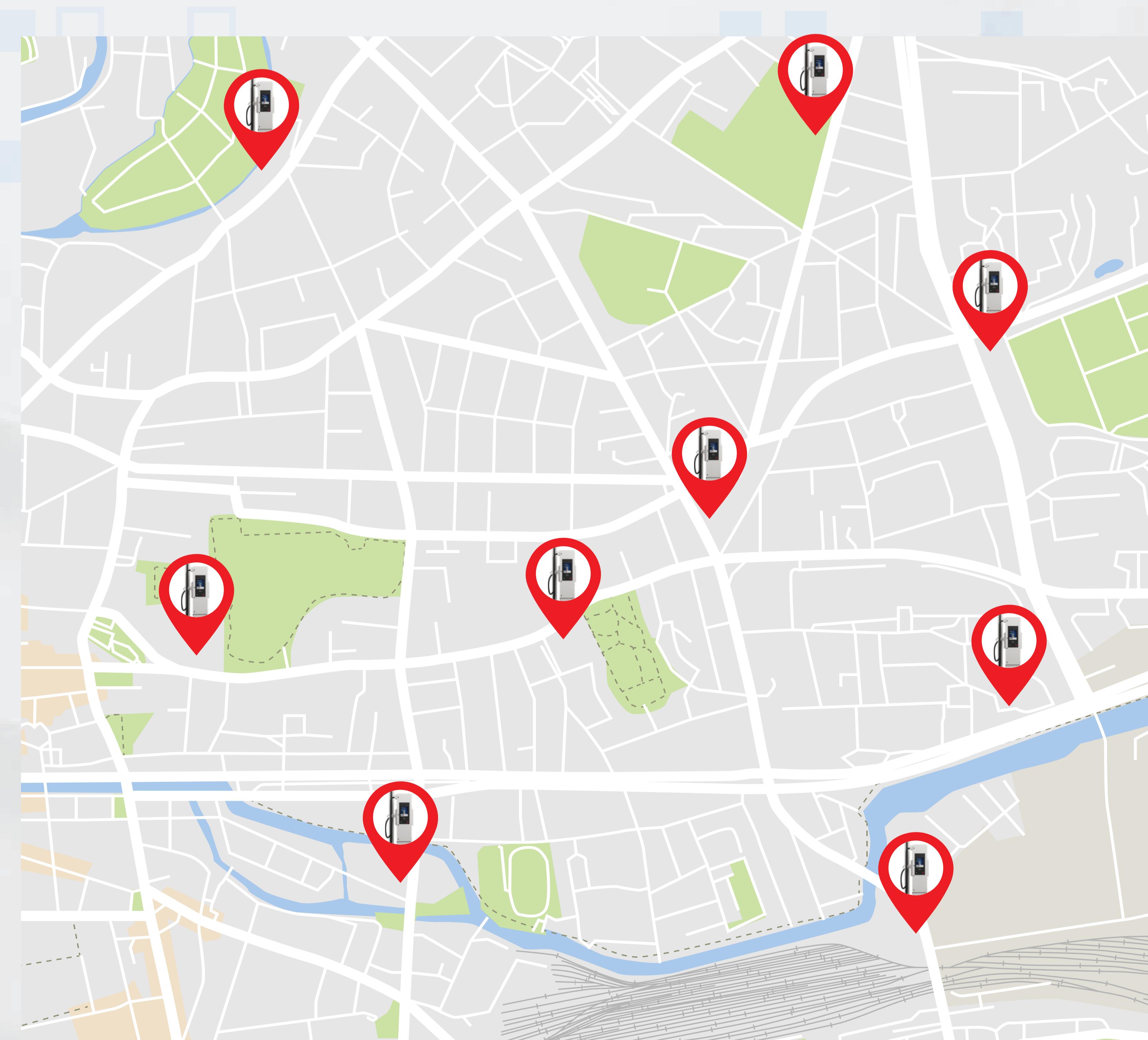
■ **Vehicle-to-Grid (V2G) Technology Takes Center Stage**

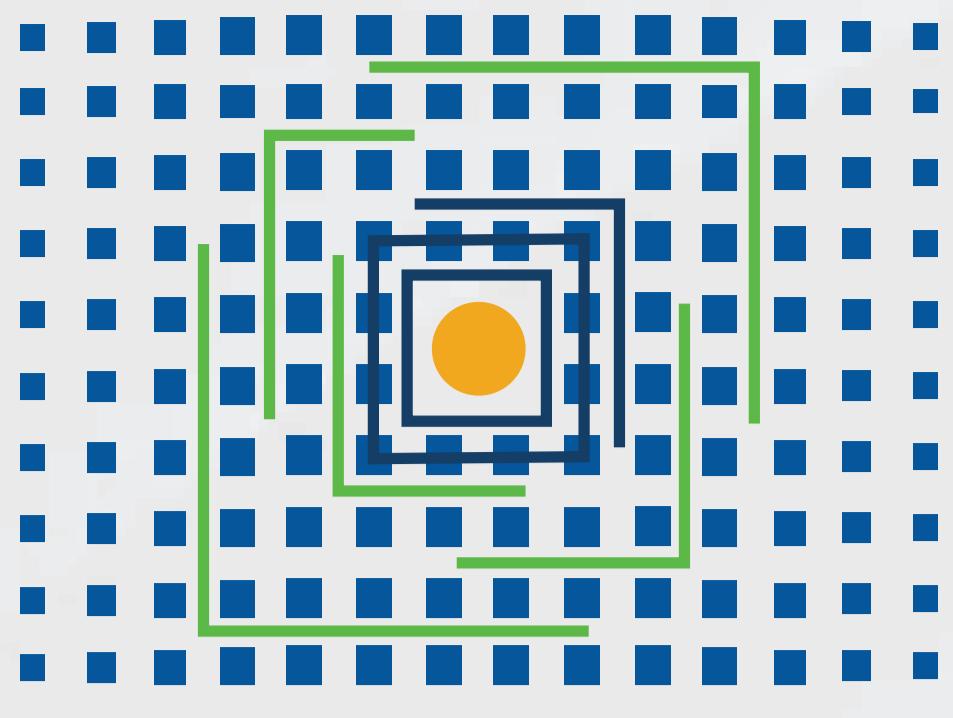
Vehicle-to-Grid (V2G) technology is set to revolutionize the relationship between electric vehicles and the power grid. In 2024, we anticipate a significant uptick in the adoption of V2G systems. This innovative technology enables bidirectional energy flow between EVs and the grid, turning electric vehicles into mobile energy assets. Expect to see more pilot programs and commercial deployments showcasing the potential of V2G for grid balancing, peak shaving, and energy resilience.



■ **Surge in Charging Station Numbers**

This year, more than 10,000 public DC Fast Charger ports were installed. In 2024, that number could even double. Governments, businesses, and communities are recognizing the need for expansive charging networks to support the growing electric vehicle ecosystem, driving huge growth in numbers of EV charging stations. Expect to see the call to "Deploy, Deploy, Deploy!" in action.





■ Standardization of Charging Protocols and Plugs

Standardization in charging protocols and plugs is a pivotal trend shaping the EV charging landscape. As seen in 2023 with the adoption of the North American Charging Standard (NACS) by major OEMs like Ford, GM, and Volkswagen, many automakers are narrowing in on a single plug as the catch-all solution. The adoption of universal standards, such as the NACS plug, promotes interoperability and simplifies the charging experience for EV users. This trend not only streamlines the deployment of EVs and charging infrastructure but also contributes to a more user-friendly and cohesive charging ecosystem.



■ Conclusion: A Dynamic Year Ahead

The year 2024 is set to be a dynamic chapter in the evolution of EV charging. With a surge in charging station numbers, integration of on-site energy solutions, the rise of V2G technology, higher-powered charging, the advent of compact solutions, and the push for standardization, the industry is on the cusp of transformative change. DG Matrix is positioned at the forefront of these trends as we seek to enable electrification everywhere with the world's most versatile, reliable, compact, and efficient EV charging solutions.