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EV Charging & Infrastructure Guide – 217

This guide maps out the current landscape of EV charging and tracks its developments. In it, thorough insights into the key players and business models of this eco-system are provided. The strengths and weaknesses of different players are also highlighted to help plan and develop strong partnerships with them.



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V2G - Bi-Directional EV Energy Management Technologies

As EVs continue to grow in popularity and gain familiarity among mainstream automotive consumers, OEMs are equipping their latest models with new systems and features that extend or build on core EV capabilities. While these enhancements can already be seen in infotainment systems, bi-directional charging offers a new hardware-focused use case that is rapidly gaining momentum and becoming a new trend.

Bi-directional charging allows power from the EV battery to be distributed externally and supplied to large electrical appliances, other EVs, homes, buildings, back to the grid through utility providers, and to a broad spectrum of energy providers overall. As it becomes more widely available, bi-directional charging will spawn a new ecosystem of technologies, integrations and cross-industry partnerships that will together enhance and elevate the overall EV experience

In this report, our experts break down the various opportunities and challenges of bi-directional charging, including vehicle enablement and its integration with Home Energy Management Systems (HEMS). It also understands how bi-directional charging will support the development of virtual power plants while inspiring new collaborations between automakers, energy management providers, and key infrastructure players overall. Further insight into the potential of bi-directional charging is provided through a deep dive into EV bi-directional pilots and the latest commercial announcements.

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Key questions answered

- > What are the in-market and upcoming OEM offers in the V2G and HEMS spaces?
- > What technical issues should OEMs consider when designing V2X capability?
- > How do IEEE 2030 .5, ISO 15118, and other protocols work with V2X and HEMS, and what does the future look like?
- > What bi-directional charging standards are emerging in each market which need to be considered?

This research supports



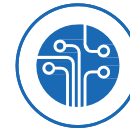
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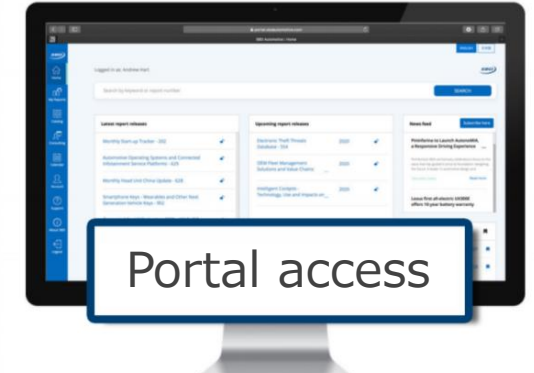
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