

Global Electric Vehicles Charging Station Market Assessment, By Type [Plug in Charging, Wireless Charging (Static, Dynamic)], By Application [Public, Private], By End-user [Residential, Commercial], By Charging Mode [Alternating Current (Level 1, Level 2), Direct-Current], By Region, Opportunities, and Forecast, 2018-2032F

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Abstracts

Electric Vehicles (EV) Charging Station Market is heavily dependent on the adoption of electric vehicles and since the adoption is rampant as well as increasing therefore there seems to be a bright future for the electric vehicle station market. The global electric vehicle charging station market reached USD 19.6 billion in 2024 and is expected to grow with a registered CAGR of 35.16% to reach USD 218.31 billion USD by 2032.

The increasing conscience amongst the population regarding environmental friendliness integrated with the growth in population as well as increasing urbanization are likely to act as market drivers for the electric vehicles charging station market. Several government initiatives which are leading to the promotion of electric mobility to reduce carbon emission are also going to be a major factor driving the growth of the market during the period under study. Apart from the rising understanding towards environment protection and stringent reduced emission control policies, favorable government initiatives include tax rebates, subsidies and financial incentives that will propel the growth of Electric vehicle charging market, globally.

The overall electric vehicle market has witnessed tremendous growth in the past few years and is expected to continue for years to come. The count of electric vehicles worldwide is roaring and pushing the demand for a larger number of electric vehicles



charging stations in commercial and residential spaces. Frequent technological advancements and transformations to charge vehicles faster along with the incorporation of advertising display screens is also contributing to the growth of the EV charging market.

Fast chargers have gained massive popularity in the past few years and there were more than 49 thousand public fast chargers alone in Europe in 2021. China leads the market and is a global leader for publicly available chargers. It accounts for 85% of the global fast chargers. Another interesting trend is the growing use of smart charging (cloud-connected charging devices is another trend which offers more convenience and reduced electricity consumption.

Wireless Charging to Exhibit Significant Growth Opportunities

Technological advancements have become a key to sustain in any market now a days. Similarly, the advanced parking systems in commercial spaces as well as high end residential complexes are leading to the growth of wireless EV charging stations. It frees the drivers from manually plugging the vehicles using a charging cable. One can easily park the vehicle in the parking space which is integrated with a charging system and the vehicle gets charges automatically. Dynamic wireless charging is an even more advanced concept where the vehicle can be charged while it is in motion. Such innovations in technologies are leading to a strong growth in the EV charging stations market.

Asia-Pacific turns to be most Prominent Market

Asia Pacific is one of the regions that has been very open to adopting the new electric vehicles technology. Growing environment concerns coupled with robust increase in the fuel prices have augmented the demand for EV in the Asia-Pacific market. The environmentally conscious population of APAC countries including India and China are going green with the adoption of electric or hybrid vehicles.

In the year 2022, over 5.92 million new passenger electric cars were registered in China, which is 83% more than 2021. China was also able to add 936,000 charging outlets in 2021, including 340,000 public and 597,000 home charging units surpassing the entire public charging network in the United States. According to the National Development and Reform Commission, China aims to meet charging demand for more than 20 million electric vehicles by the end of 2025.



India's government on the other hand has taken several measures for adoption of electric vehicles. In line with this, these incentives and subsidy offerings have increased the consumer acceptability of battery-powered scooters and motorbikes. Tax deductions, purchase reimbursements, and financial incentives are some supportive initiatives for EV buyers. The government is offering subsidies through the FAME II (Faster Adoption and Manufacture of EV's) scheme and separate state EV policies to encourage the adoption of electric vehicles more quickly.

Technological Advancements Electrical Vehicle Charging Stations

Technological advancements have significantly shaped the global electric vehicle charging station market. Ultra-fast charging technology, like 350 kW chargers, has reduced the charging time dramatically, making long-distance travel with EVs feasible. Wireless charging technology provides a seamless and convenient experience by avoiding the use of physical cables. Smart charging systems optimize charging times in accordance with the demand on the grid and renewable energy availability to enhance efficiency and reduce costs. Such breakthroughs in the technology of the battery, from solid-state to more energy-density batteries that could be charged rapidly and last long, make the electric vehicle so much more efficient. Bi-directional charging turns an electric vehicle into a kind of mobile storage unit, enhancing grid stability through energy sharing in periods of high demand. Other improvements include putting solar, wind, and hydroelectric power into a charging station; all these ensure a reduction of reliance on the grid. These technological innovations are changing the face of the EV charging infrastructure, making it more efficient, accessible, and sustainable.

For instance, in October 2024, The Linux Foundation Energy (LF Energy) EVerest Project is partnering with Task 53 of the International Energy Agency (IEA) to enhance interoperability in bidirectional EV charging (V2G). This collaboration aims to overcome standardization challenges and improve cross-system compatibility by testing upcoming ISO15118-2X amendments and implementing universal open-source charger firmware.

Impact of COVID-19

The COVID-19 outbreak caused supply chain disruptions, production halts and manufacturing activity interruptions, all of which had a detrimental effect on the Electric Vehicle Charging Stations market in 2020. In addition, the automotive industry was completely shut down which in turn led to a complete eradication of the demand for electric vehicle charging stations during the pandemic. Now, when the regions are overcoming the effects of COVID-19, the automotive industry is back with more newer



technologies and EV vehicles, this market is set to open wider opportunities as the government of several countries, worldwide, are taking adequate measures to improve the city infrastructure by promoting larger number of electric vehicles charging points.

Impact of Russia-Ukraine War

The Russia-Ukraine war led to a high volatility in the price of crude oil leading to a rising need and making it clear that the world needs to be shifting to greener alternatives of energy and therefore this promoted the use of electric vehicles. Therefore, the demand for electric vehicles charging stations became more prominent due to the war.

Key Players Landscape and Outlook:

The key players are heavily investing in research and development and several technologies such as Vehicle2grid are being researched upon. Advancements are being made in the EV sector and this will automatically lead to advancements within the charging subsegment of electrically operated vehicles. The industry is growing through both organic and inorganic business strategies including alliances, mergers & acquisitions, joint ventures, etc. The global electric vehicles charging station market is led by companies such as Tata Power, Schneider Electric etc. Companies are focusing on increasing the number of EV charging points in their respective countries and globally to provide an improved EV charging infrastructure.

For example, in an APAC country, India, Tata Power signed an MoU with NAREDCO to install 5000 EV charging stations in Maharashtra alone.

In April 2023, Siemens opened its new EV charger factory in Texas, for making the EV chargers for the United States market. The company also entered into an agreement with Electromin in 2022 to provide EV chargers for their planned expansion of EV services and infrastructure in Saudi Arabia.



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Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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