

Wireless Car Charging: Market Shares, Strategies, and Forecasts, Worldwide, 2013-2018.

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Abstracts

Wireless charging in the automotive industry brings inductive power for EV cars. Short distance power transmission is based on magnetic induction. With this technology, power is transferred when the receiver is close to the transmitter. Magnetic induction has been used for decades in electronic equipment. It is good because it is simple, efficient, and safe. It is now being applied to charging for electric vehicles. As power is induced through the primary charging coil, a magnetic field is produced. The magnetic field is received by the secondary coil. It is converted back into a voltage. Shielding can be added to either coil of the transformer system. The aim is to direct the field effects. This can be useful in multiple pad charging applications. The aim is to eliminate power cross-talk. Wireless inductive charging is gaining popularity for use in consumer rechargeable applications such as cordless power tools, net books, note books and other power-hungry rechargeable devices.

WIRELESS CAR CHARGERS EXECUTIVE SUMMARY

Wireless Charging in the Automotive Industry: Inductive Power for EV Cars

Market Driving Forces

Electric Vehicle Wireless Charging

Electric Vehicle Wireless Charging Market Shares

Electric Vehicle Wireless Charging Market Forecasts

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As power is induced through the primary charging coil, a magnetic field is produced. The magnetic field is received by the secondary coil. It is converted back into a voltage. Shielding can be added to either coil of the transformer system. The aim is to direct the field effects. This can be useful in multiple pad charging applications. The aim is to eliminate power cross-talk. Wireless inductive charging is gaining popularity for use in consumer rechargeable applications such as cordless power tools, net books, note books and other power-hungry rechargeable devices.

Market driving forces relate primarily to the need for efficient power generation for autos. Wireless car charger manufacturers are positioning car models with wireless charging to drive demand at the high end. Many electric vehicle car vendors are making wireless power a reality. Only two vehicles are supported now, the Chevy Volt and the Nissan Leaf.

Wireless power is an emerging technology that creates a better charging experience for consumers. Just as Wi-Fi replaced the need to use an Ethernet cable for Internet connectivity, so also wireless power is making recharging wirelessly a feature that is demanded by consumers with an electric vehicle.

According to Susan Eustis, lead author of the WinterGreen Research team that prepared the study, “wireless car charging represents the major force impacting electrical charging. Car vendors are coming together to create standards and to leverage standards to gain competitive advantage with highly differentiated product sets.”

Inductive wireless charging does not use as much grid electricity to achieve device charging. Electricity is generated in a coil. Inductive charging means the primary coil in the charger induces a current in the secondary coil in the device being charged.

Wireless charging is already available for-low power applications. The charging systems are suitable for electronic devices. Wireless chargers use magnetic induction. They offer the promise of being able to place a car over the charging device and have the electrical vehicle EV charge automatically — no fiddling with cables required. Remote power transfer is a complex business with some very fine tuning required to make it work well. Wireless charging is more accurately described as “inductive charging” because it uses magnetic induction.

Inductive charging uses magnetism to transmit energy. The current coming from the wall power outlet moves through the wire in the wireless charger, creating a magnetic field. The magnetic field creates a current in the coil inside the device. This coil is connected to the battery and the current charges the battery. Cars must have the appropriate hardware in them to support wireless charging — a device without the appropriate coil cannot charge wirelessly.

Consideration of wireless car charging market forecasts indicates that markets at \$1.7 million will reach \$4.6 billion by 2019. Growth comes as a result of the rapid adoption of electric vehicles that pushes the user base up by 2019. While wireless car charging is considered a perquisite for an EV, it is soon expected to become a necessary feature.

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