Wireless charging to promote electric mobility

Charging without using cables may be a major driving force accelerating market adoption of electric cars. An EU-funded project performed a feasibility study of inductive charging, while also offering insight into user perception and socioeconomic impact of this charging scheme.

Unlike conventional conductive charging, inductive charging is increasing electric vehicle range, thus relieving the drivers’ range anxiety. Drivers will not have to plan their route ahead and will save money on the battery as there will not be a need for a large battery. Moreover, inductive charging simplifies the vehicle-to-grid interface by reducing mechanical interfaces, making the charging process much more user friendly.

In 2012, 17 partners from different European countries started collaborating on several aspects of wireless charging within UNPLUGGED (Wireless charging for electric vehicles). Project partners successfully developed an inductive charging system for electric vehicles and investigated how its use in urban environments improves convenience and sustainability of electric mobility.

UNPLUGGED charging solution addressed two different power needs in charging: a passenger car (3.7 kW) and a commercial vehicle (50 kW). In addition, it offered
flexible charging services based on customer needs: slow charging and fast charging (up to 50 kW). The solution was designed to facilitate full integration of electric vehicles in the urban road system.

Project partners now have all the answers regarding interoperability between the charging station and vehicles, efficiency of energy transfer, and compliance with the latest inductive-charging standards.

From stakeholders' and other participants' feedback in Belgium and the UK, surveys demonstrated that they are not so sceptical about embracing this technology. Vans, buses and taxis are more likely to reap the benefits of inductive charging than cars.

Inductive charging will open up many more possibilities in the future, with the most exciting being the charging of vehicles on the move on motorways and street.

Watch the [project video here](#), [concept of inductive charging](#).

**Keywords**

Wireless charging, cables, inductive charging, electric vehicles, interoperability

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**UNPLUGGED**

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[Closed project](#)

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