

The wireless charging revolution

WiTricity, the industry pioneer in wireless power transfer over distance, recently announced an intellectual property licensing agreement with BRUSA Elektronik AG, a globally leading Swiss supplier of advanced power electronics for electrified vehicles. The company has similar agreements with tier 1 suppliers in the US and Asia says David Schatz, VP sales and business development at WiTricity. WiTricity additionally focuses on applications in mobile electronics. Mr. Schatz expects that with the support of companies such as Intel, Qualcomm and Samsung to the new A4WP Rezence standard for wireless power over distance, it shouldn't take too long before fiddling with mobile chargers is a thing of the past.



Mr. Schatz joined WiTricity as their first commercial staff member in 2008, when they were just coming out of the research stage. Clearly the company has made great strides towards commercialisation since then, having demonstrated that their technology actually works, and having signed licensing agreements with some of the world's largest OEMs in both the automotive and mobile electronics industry, including Toyota, Intel, Schlumberger and Foxconn.

All manufacturers of electric cars currently have a wireless charging project underway, Mr. Schatz points out, as they aim to make charging easier and help these cars enter the mainstream. Toyota has begun testing vehicles in Japan with wireless charging, and Mr. Schatz expects we'll be able to buy cars with wireless charging by 2017. In 2014 Toyota, BMW, Audi, Daimler, and Honda all made public announcements about their plans for introduction of wireless charging. WiTricity is looking at three stages of wireless charging markets, starting with residential, then moving into commercial fleets and then public infrastructure like parking lots. The power can easily go through concrete and asphalt. Mr. Schatz explains it works through magnetic resonance;

the same principle that applies when the sound waves from a soprano shatters a glass. Only in this case it creates energy from an oscillating magnetic field, which WiTricity says has been proven to be safe for people and animals. "We took our inspiration from the physics of resonant systems, which is how we are able to efficiently transfer power over distance and with a great deal of alignment freedom. Traditional magnetic induction systems only work when things are held perfectly aligned, like an electric toothbrush in its charging cradle," Mr. Schatz adds.

The technology can also be used to wirelessly charge mobile phones, tablets, and small games consoles. It can be built into, or even installed underneath tables and desks, for example, says Mr. Schatz. He expects that standardisation will be key to the

acceptance of the technology and WiTricity is working with a number of international standards organizations to develop such standards, with the goal of ensuring interoperability of wireless charging systems on a global basis. Another priority for WiTricity and its technology partners is to scale up the technology, while ensuring that it is inexpensive and works perfectly.



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