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Power Up Your Devices Without the Need for Cords

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With wireless Internet pretty much the norm, how far off is getting all your power sans the cord?

A handful of start-ups are developing nascent technology that would allow you to power your wireless gizmo simply by placing it near a wall or on top of a desk.

While the most obvious use of wireless power is to charge those so-called wireless devices that unfortunately need a cord to actually get power, these companies believe wireless technology can also be used for Christmas trees, lighting and pretty much anything that requires power.

Take Powermat, the Israeli and New York-based start-up. Earlier this week it signed a deal with Japanese based Denpeki, a developer of advanced construction products, to enable wireless power to be embedded in surfaces like walls.

Powermat is tackling the issue of sending power wirelessly by embedding RFID chips into the surfaces. When a device with an embedded RFID chip in it is placed next to the surface, it will get power without the need for a cord. The technology works so that only the device within proximity of the wireless surface will get the power, thus eliminating virtually all energy waste.

"We are not looking at technology for charging devices, our technology is an alternative distribution system for power," said Ran Poliakine, founder of Powermat. "Our system replaces the need for wires in the walls."

For example, a desktop could serve dual roles--an area to place your laptop computer and a place to power it. In the case of wirelessly powered walls, your flat screen TV hanging on the wall would be powered directly through the wall.

In addition to its partnership with Denpeki, Powermat is working with furniture makers and appliance makers to get their chips embedded in the devices. Powermat is gearing up to showcase a functioning house without any wires. The company expects customers to start using its technology later this year.

While getting wireless power would clearly be a convenience, it's sure to raise concerns about the health effects from power being transmitted across the airwaves. All of the companies in the market said their technology is safe and transmits less power than some of the devices in use today.

"What we are talking about is near field power, which means you are putting the device over the top of a hot spot that only turns on to recognize the device that's placed over it," said Dave Baarman, director of advanced technologies at Fulton Innovation, an Ada, Mich. technology company that created eCoupled Intelligent Wireless Power. "It's not radiating power through people and not radiating it in the environment. It's really very safe technology."

The eCoupled technology can power both small devices like cell phones and bigger things like appliances. The company is showcasing its technology at a truck show this week in Atlanta by demonstrating how power tools can be charged without needing to plug them in.

At the show, Fulton Innovation embedded its technology in the shelf of a truck, as well as in the case holding the tools and the batteries that are used in the power tools. The concept is that you store all your tools in the case and simply set the case on the shelf and the batteries would start charging. That same technology could be used to charge a laptop or cell phone.

"If you look at it, 80% of us will run out of the battery in our phone this week," said Baarman. "That means cords and cables are inconvenient for us and we all know it."

Powercast of Ligonier, Penn. already has a product in the market--a wirelessly powered Christmas Tree, which was sold at retailer Frontgate this past holiday season.

Powercast is going after the market with three applications: ambient power, which is harvesting the radio frequency signals from your surroundings and converting them into power; remote power, which is a combination of a transmitter and a receiver that can create milliwatts of power at a distance of meters; and contactless power, which is the

combination of a transmitter and receiver that can create watts of power at centimeters.

In the case of the Christmas tree, which was branded by Philips Electronics, two transmitter antennas that send enough energy to power LED based lights and ornaments are attached to the trunk of the tree.

This technology can be applied to a multitude of markets," said John Shearer, chief executive of Powercast. It can also be used for wireless keyboard and remote sensors, he said.

It's a mass market. I look at it from a selfish standpoint. I would love it if I don't have to worry about plugging in all my devices and kids devices," said Shearer.