

Power Play

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What if there were no more electrical sockets or power cords? Imagine switching on, or charging, your cellphone, laptop or reading light by simply setting them down on any table or counter.

Ran Poliakine does. The Israeli entrepreneur is founder and chairman of Powermat Ltd., a New York-based startup with technology that he believes can make such wire-free electricity a reality.

The concept, which Mr. Poliakine explained in a visit to the company's hotel suite during CES, is based on what engineers call magnetic induction. Electrical power is transmitted through a thin mat of conductive material — essentially the same stuff used to make radio-frequency identification tags — that is embedded in, or overlaid on, any surface or wall.

There are also computer chips for the devices and the mat to perform a kind of handshake that is crucial to the concept. When a cellphone is set down, the mat recognizes what voltage it requires, how much power is already stored on the phone, and what part of the mat to supply with electrical current.

Demonstrating the idea, Mr. Poliakine set down various kinds of lights on a mat that instantly lit up. He also put a set of blue light-emitting diodes in a glass of water, which also lit up. The fact that water poses no risks around the mats — as it does around devices plugged into a socket — is an important safety feature.

Anyone can touch a mat, even with wet hands, and get no shock because the mat doesn't recognize a device to be charged. "We create a safe surface," Mr. Poliakine says.

It's important to note the technology does not do what many of us want most — to charge a device from across the room. Certain rules of physics get in the way, Mr. Poliakine says.

Then there is a gargantuan chicken-and-egg problem, which Mr. Poliakine is quick to acknowledge. Few people are going to start building mats into tables and counters and walls until there are devices that work with them, and vice versa. So Powermat has a multi-year evangelical effort ahead, to convince partners in fields such as consumer electronics, home construction and furniture design to change what they do.

In the meantime, the company plans to start illustrating the concept with small portable mats and standard recharging modules that can be used to recharge several devices, avoiding the need for people to travel with several power supplies, he says. There is also plan for a model “house without wires” in Japan — where some of the company’s investors are based — to show what the technology can do. One idea is to make magnetic lights that light up as soon as they are stuck on a specially adapted wall

Mr. Poliakine won’t disclose exactly how much money Powermat has raised, but sounds pretty confident the company can hang in there if it takes a while for the world to take up the idea. “We have a lot of money,” he says.

– [Don Clark](#)