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Future Office Tech – The Power of Wireless.



By: [Jared Hale](#)

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In 1899, a tall, lanky inventor flipped the switch on a massive electromagnetic coil he'd set up in a laboratory in Colorado Springs. The machine whirred to life as small sparks of static electricity began splintering off in random directions. Then something amazing happened. Rows of lightbulbs that had been placed out on the road began to glow with a brilliant fluorescence. Now, lightbulbs doing their job isn't exactly ground-breaking, but these lightbulbs weren't connected to anything. Normally you'd need a socket, or some wires connected to a power source, but these bulbs were clearly air gapped. He may not have fully appreciated it at the time, but Nikola Tesla had just discovered wireless power.

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The Shocking Reality of Wireless Power

The first thing that anyone does after learning about Nikola Tesla's ground-breaking experiment is to ask a question. Why aren't we funding this?



Source: Family Guy

Well, there's a good reason why. Despite being coined as the father of electricity, Tesla's experiments weren't always successful. While he may have discovered a method for wireless power distribution, the experiment caused a significant amount of damage. A miscalculation of voltage overloaded all the capacitors and completely burnt out the dynamo at the Colorado Springs power plant, plunging a 30-mile radius of homes into a week-long blackout.



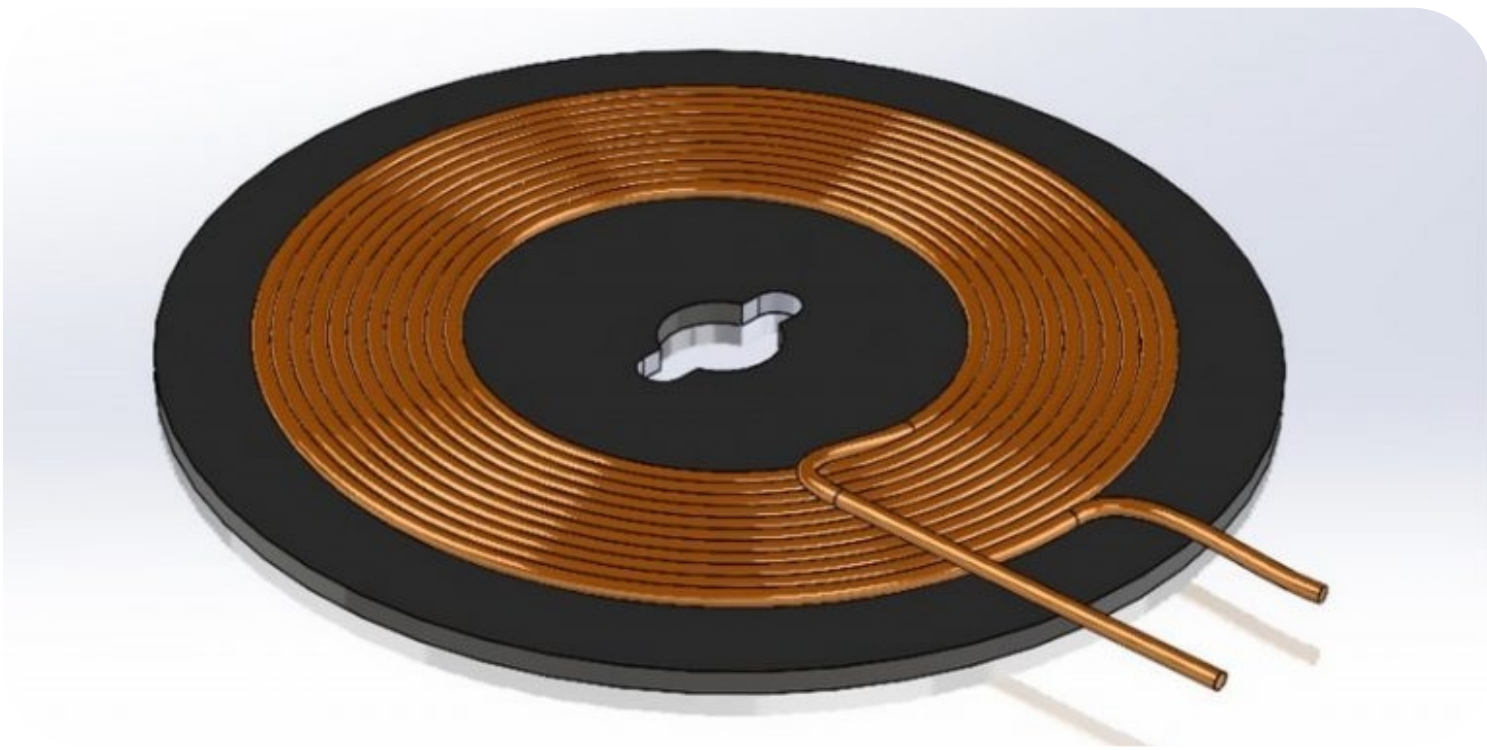
But this wasn't the only reason why Tesla's inventions travelled largely under the radar. The world was in a communications arms race and the eccentric Serbian-American engineer wasn't the only inventor working on a solution. Italian engineer Guglielmo Marconi had developed a long-distance wireless telegraph, and by 1901, he'd successfully transmitted three beeps across the North Atlantic Ocean. Those three beeps were morse code for the letter "S", and the success of the demonstration ushered in a new wave of advancement.

It didn't matter that Tesla's version could apparently broadcast clear across the globe; Marconi had beaten him to the punch. Nikola lost funding on his experiments and would eventually die alone, and in debt in a cheap, New York hotel room.

New Interest in Old Technology

A long time would pass between Tesla’s lightbulb experiment and the next time we took the challenge seriously. Although batteries had been developed in the early 1800’s, true wireless power didn’t arrive until the early 2000’s.

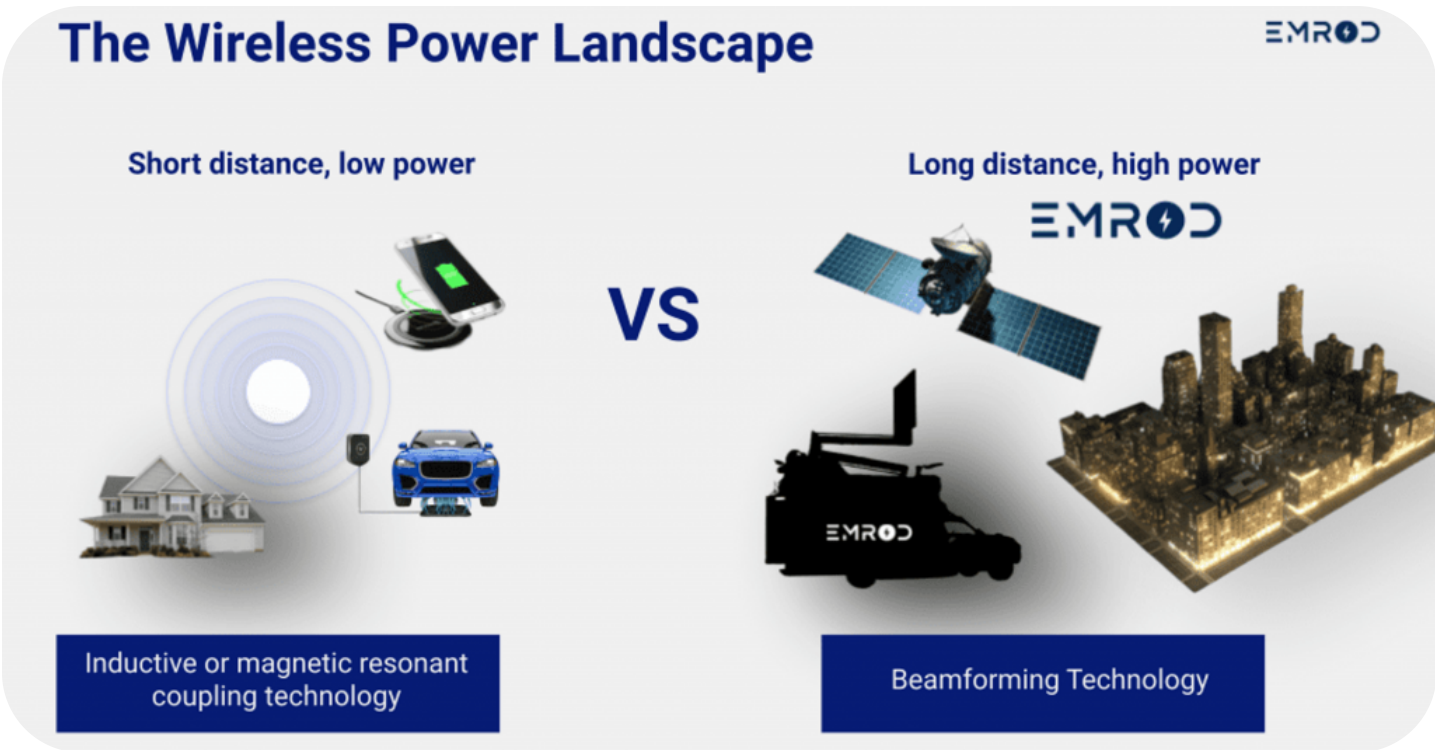
A low-power wireless charging system named “Qi” was first released in 2009, allowing people to recharge the lithium batteries of small electronics. While most operate at between 5-15 volts, larger Qi chargers can operate at levels approaching 200 volts.



OK, so Qi chargers might be a long way off the million-plus-volt readings that Nikola’s Tesla coils were outputting, but it is a step in the right direction. For a true comparison, we need to take a look at a little start-up company from New Zealand.

Emrod Switches On

Based in Auckland, New Zealand, Emrod is a little-known company doing big things. They’ve developed a system for transmitting electricity over long distances without the need for copper wires. They’ve even partnered with Powerco, the country’s second-largest power distributor, to implement the technology in a commercial capacity. The system uses transmitting antennas, relays, and receiving rectennas to transport electricity between two points with line-of-sight relays.



Emrod’s system uses safe radio frequencies, with a laser curtain to prevent objects touching the beam. It works in different conditions and can transmit power over long distances, reducing costs compared to wired solutions.

Emrod goes beyond with a vision of a global network of solar satellites collecting and transmitting energy to rectennas. They envision a wireless world where people can use abundant, cheap energy extracted from thin air.



Emrod appears to be making significant progress toward achieving their goal as they recently signed a partnership with the European Space Agency to test their technology from low-Earth orbit! The demonstration of this ability will take place in [Germany later this year!](#)

Wireless Power in the Office

While we wait for Emrod's wireless power grid concept to develop and improve, our partners have been busy integrating elements of this future tech into various pieces of office furniture.

One of these partners is Elsafe, a global provider of soft wiring and workspace technologies. In the past, we've collaborated to create some truly unique products that combine our trusted designs with Elsafe's emerging innovations.

This includes wireless charging pads recessed into tabletops, under-table mounted charging solutions and the multipurpose [PixelARC unit](#) that combines a Qi charging pad, USB A/C ports, as well a 240V power point.



Through their innovative products, Elsafe are empowering out customers, literally. And while wireless charging is the latest jump in innovation, we've traditionally used Elsafe to supply and perform a lot of the soft wiring necessary for standing desk installs.



Elsafe and the Future of Office Power

Elsafe's official motto is "Always Innovating" and its pretty obvious they've been sticking to the mission plan. In fact, in 2022, Elsafe won the award for new product innovation at the Australian Business Awards.



Their revolutionary product, "[Animate](#)", places a rechargeable and removable battery pack directly into office furniture products.

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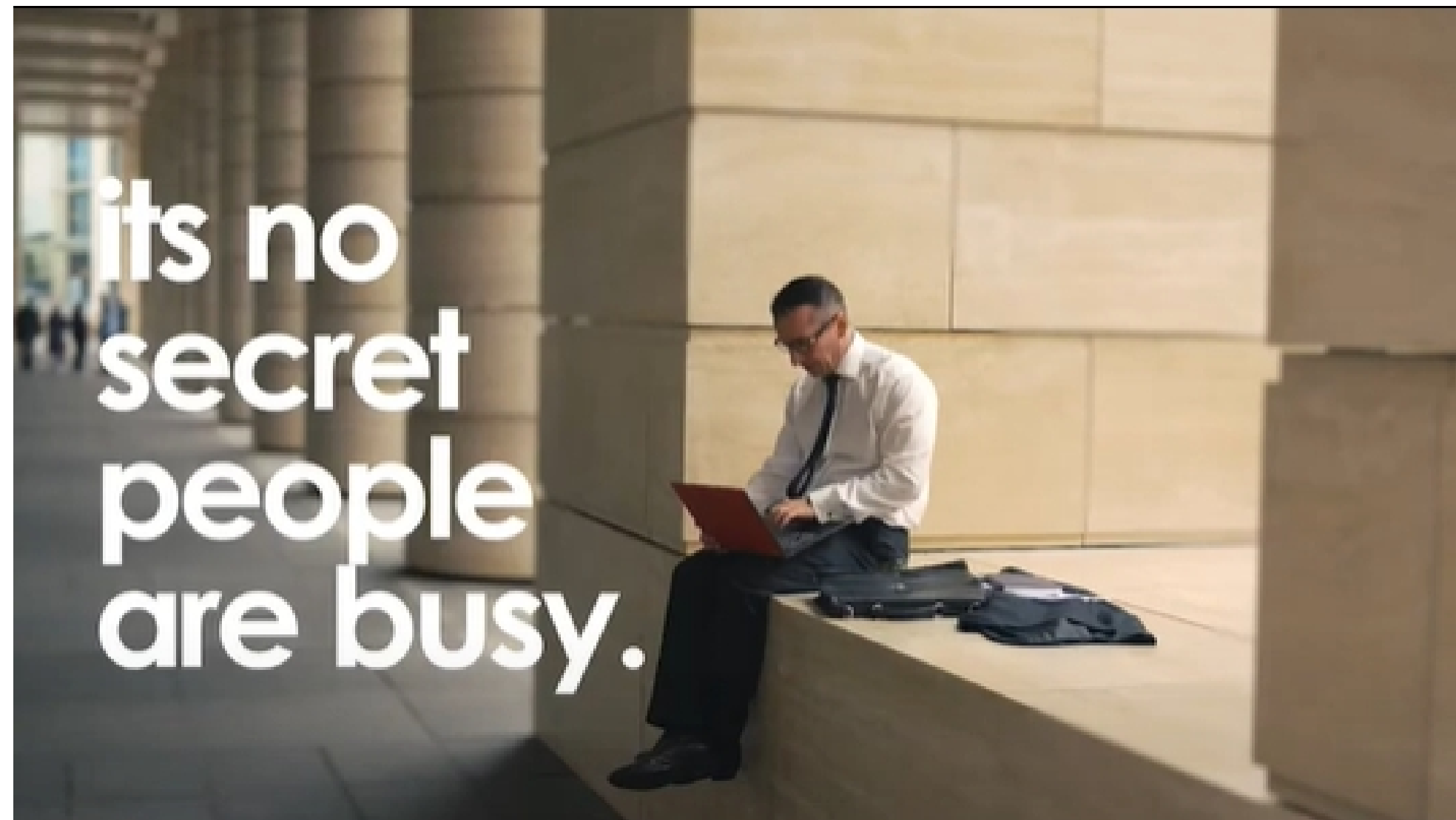


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What is ANIMATE?

The result is easily accessible power and charging modules integrated within furniture, powering devices without the need for a fixed power supply. Independence from a fixed power supply provides complete agility in commercial spaces where furniture can be placed to suit the end users' needs rather than the available fixed power sockets.



ANIMATE comprises a range of power modules including wireless and USB charging modules which can easily be fitted seamlessly into commercial furniture to power mobiles and laptops. Standing out from anything of its kind, the power at the core of ANIMATE is the commercial grade long lasting QIKPAC Lithium-Ion battery custom designed by OE for the commercial furniture market. Being modular, ANIMATE is completely configurable to suit the space and application providing power for as few as one or as many users as is required, and all cable free.

ANIMATE has its own tools for removal, mounting, and charging, ensuring uninterrupted power. The removal tool allows quick battery replacement. The ANIMATE QIKCHARGE dock can charge 3 QIKPAC batteries simultaneously, ensuring constant availability of fully charged batteries.

The ANIMATE solution provides integrated power for furniture in foyers, malls, airports, education and workspaces where seating is free standing and there is no or limited fixed power supply options. There is special merit for heritage listed buildings where traditionally there are few and difficult to access power sources. Powering a space with QIKPAC often works out more cost effective than installing power cabling and wall sockets and aids in the preservation of a buildings original structure.

After a recent R&D meeting with our partners at Elsafe, we've planned a whole new range of powered solutions that are a real game changer! Stay tuned over the next few months for more updates!



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