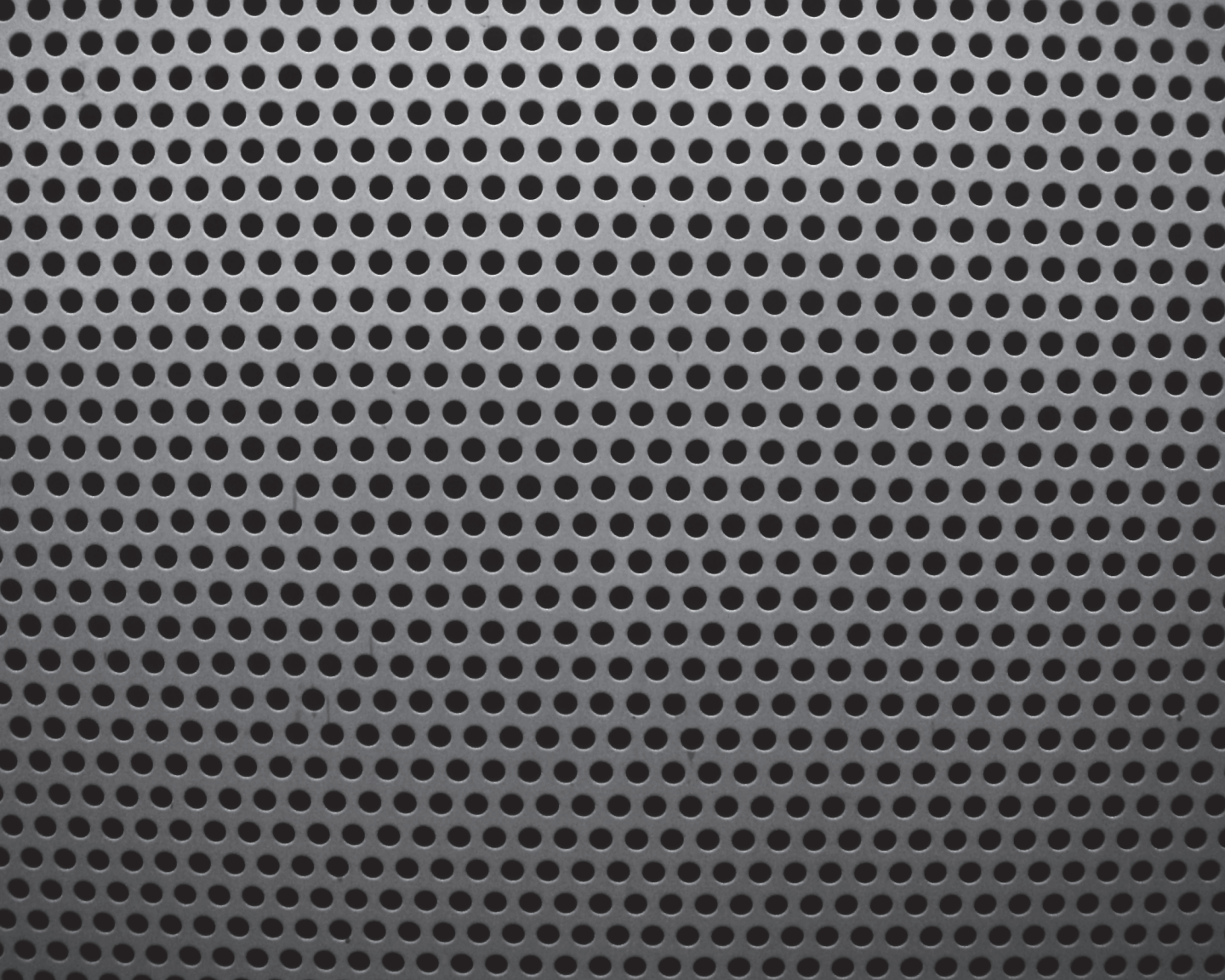


uneducated on wireless power?

The power of UN...it's about removing the barriers and allowing technology to simplify your life. The scope of wireless power can be a difficult concept to understand. So we've put together a simple yet thorough overview of its origins, where the technology stands today and where we believe it is headed in the future.



## A Brief History of Wireless Power

Wireless power has been around since the 1800s. Since the inception of the technology, various companies and educational institutions have been working to further develop wireless power using several different methods. The basic thought behind the science of wireless power is, and always has been, transferring power from a primary (power supply) to a secondary (device) without the use of wires.



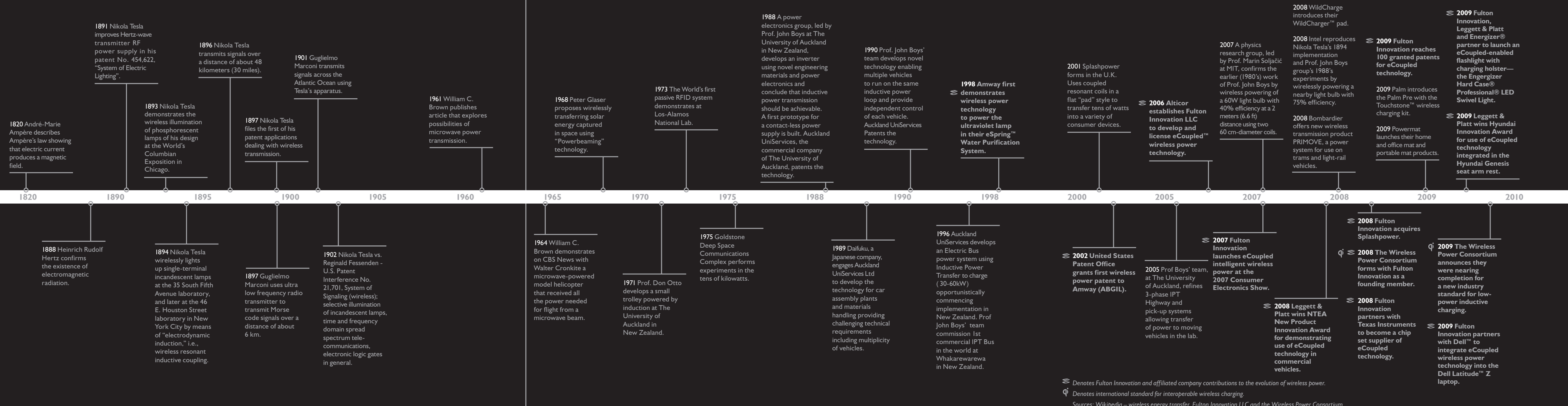


## The eCoupled™ Solution

Over ten years ago, Amway Corporation invented eCoupled technology to improve the product life reliability and performance of their eSpring™ water purification system. Realizing that this new form of adaptive intelligent wireless power could be used to benefit a wide range of manufacturers in solving their product design and reliability challenges, Fulton Innovation was created to enable other companies to benefit from this invention through joint development and licensing agreements.

Fulton Innovation has continued to advance eCoupled technology, exploring and developing new solutions around every significant variation on wireless power, including adding several advanced communication attributes resulting in a highly efficient, safe, scalable and elegant wireless power solution. With the number of enhancements made to the technology, Fulton has built an industry-leading technology portfolio of more than 400 granted, pending and published patents worldwide.







100+ years of wireless power

## Variations on Wireless Power

There are a few different forms of wireless power that result in different power transfer efficiencies, wattage capability and other attributes. Below are the primary variations of wireless power that are available today for various applications.

**Inductive Coupling:** Power is transferred from a power supply coil to a receiving coil through a shared electromagnetic field to power the receiving coil without wires.

**Near-field Inductive Coupling:** Power is still transferred via a shared electromagnetic field, but at a shorter distance to increase efficiency and safety.

**Adaptive Inductive Coupling:** This is the same technology as inductive coupling and near-field inductive coupling with the difference being that the technology has the ability to adjust to power needs and orientation.

**Conductive Coupling:** Power is transferred from the power supply to the receiving device by direct contact between exposed metal contact points.

**Radio Frequency (RF):** Power is transferred via a radio frequency signal from the power supply to the receiving device over a greater distance.

**Microwave:** Similar to RF, power is transferred over a greater distance using microwaves.

**Energy Harvesting:** Energy is captured from various sources, including solar, thermal and wind and is typically stored in order to supply a small amount to low-power devices.



## Creating a Standard

In the last several years, wireless power has evolved from being an experimental technology with limited use to an industry attracting major electronics and infrastructure companies around the world. In the last year, many new products have come to market leveraging charging pads and adapters, generating awareness and popularity. However, these solutions are proprietary and are not tied into a global standard allowing for interoperability among multiple brands to meet consumer expectations.

The Wireless Power Consortium is moving towards a global wireless power standard by developing and driving mass adoption of the Qi standard for interoperability. Products with the Qi sign will work with one another and provide a seamless and convenient wireless power experience.

The investment of resources by Fulton Innovation, its partner companies and the Wireless Power Consortium have created an environment and framework where safe, smart and efficient wireless power technology can soon be fully integrated into consumer electronics and surfaces allowing consumers to easily and efficiently charge their electronic devices.





## Why Use Wireless Power?

What are the true advantages over existing corded or contact-based power delivery systems? The answers are simple: reliability, safety, freedom of design and implementation and, of course, greater convenience and mobility for consumers. Just think of all the power adapters in the world and the waste and inconvenience associated with them—but don't stop at cell phones and adapters. Think of everything in the world that relies on power to make it run, and think of what you could do if you could remove that last constraint. Wireless power allows you to move on and live a truly wireless life, while creating opportunities to improve the role of power in the global environment and make the world a greener place.



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