



PLUGLESS POWER™

## Company Presentation

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2021 - Revision F

# Plug-In Tech Creates Adoption Challenges

Despite the volume of innovations that have been introduced to the EV market, the market continues to rely on dated plug-in technology.

## Trip Hazard

Plug-in charging presents an inherent trip hazard.



## Inclement Weather

Plug-in charging presents a variety of inconveniences in inclement weather.

## Equipment Damage

Plug-in charging stations are prone to damage, vandalism & wear.



## Lacking Support for Autonomy

There is no driverless autonomy without wireless technology.



## ADA Indifference

Plug-in charging creates challenges for the physically challenged.



# Technology the Market Needs

The challenges presented by today's plug-in technologies are resolved by Plugless Power's™ 3<sup>rd</sup> Generation Wireless Charging Systems.

## Smart Phone Integration

Plugless Power's™ charging units provide seamless smartphone integration.



## Improved Cost of Manufacture

By eliminating a separate wall-mounted module, installation costs and maintenance are minimized.

## Comparable Charging Rates

Plugless Power's™ charging pads can charge just as fast as a cord.

## Improved Safety

With no charging cable, there are no trip hazards or challenges for those with physical impairments.

## Enhanced Convenience

Wireless charging eliminates inclement weather concerns.



# A History of Firsts

Plugless Power™ has been at the forefront of wireless charging in the United States, Europe and China.



1<sup>st</sup>

First Wireless EV Charging Station to Provide 1 Million Charge Hours, Including Installations at Google™ & Hertz™.

1<sup>st</sup>

First 3.3kW & 7.2kW Production Wireless Charging Station for Purchase by EV Owners.



1<sup>st</sup>

First Wireless EV Charging Station Installed on a Production Fleet of European Driverless Shuttlebuses.



1<sup>st</sup>

First Production Wireless Charging Station for Tesla Model S™



1<sup>st</sup>

First Production Wireless Charging Station to Support a Chinese Production EV with 6" Air Gap.



# Patented Technology

Plugless Power's team of engineers have developed a suite of growing patented products and processes.

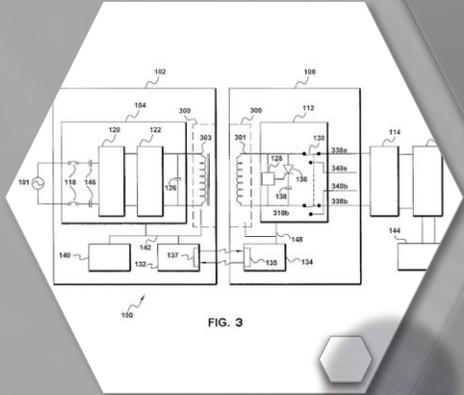


FIG. 3

## Patent 9739641

Method for  
Controlling Stray  
Electromagnetic  
Fields & Providing  
Operator Feedback.

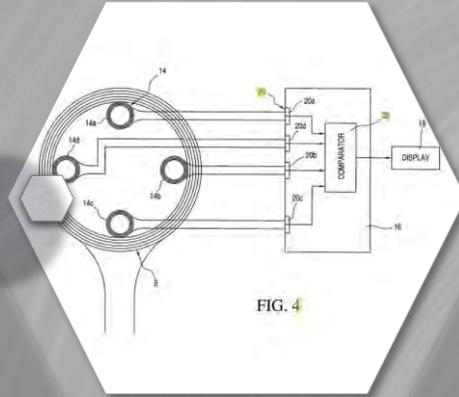


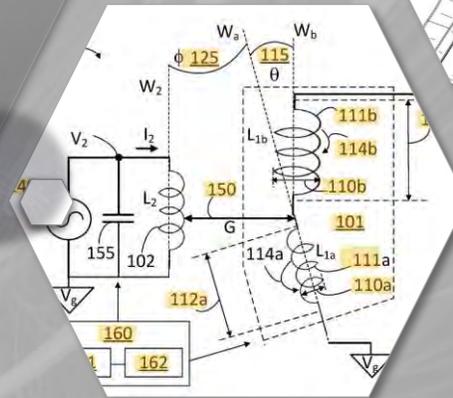
FIG. 4

## Patent D706212

Battery Vehicle  
Recharging Station.

## Patent US20180048184

Inductive Charging  
Coupling Gap  
Compensation.



## Patent D736716

Control Panel for an  
EV Charging Station.

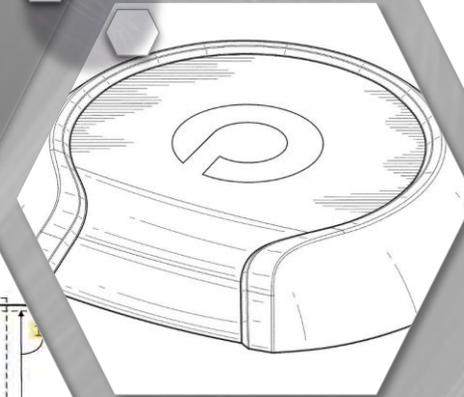


FIG. 1

## Patent 8796990

System & Method  
for Inductively  
Transferring AC  
Power & Self  
Alignment.

# Timing is Everything

Despite the trend-setting history of Plugless Power™, market timing has never been better.

## Industrial Standard

SAE J2954 Electric Vehicle Wireless Charging Standard adopted October 2020.

## Market Acceptance

Wireless charging has received widespread consumer acceptance.



## Government Support

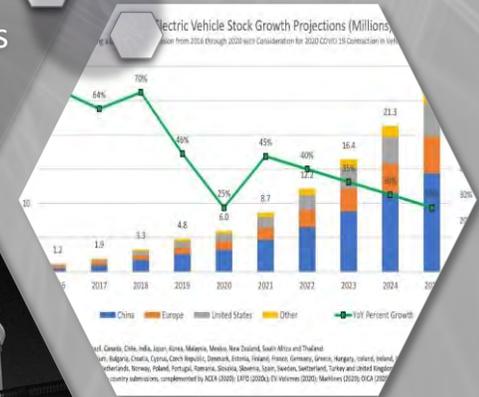
Both municipal & national government support is accelerating.

## Exponential Growth

EV market anticipated to double every 2 years for the foreseeable future.

## Autonomous Technology

Autonomous vehicles are now a reality and require a new charging infrastructure.



# Wire Free Solution

Plugless Power™ can achieve a >90% power transfer efficiency with an air gap of 12"; the largest gap distance achieved in the market.



Plugless Power's™ ability to achieve a 12" air gap allows it to be the best available solution for the market's growing truck & SUV EV's.



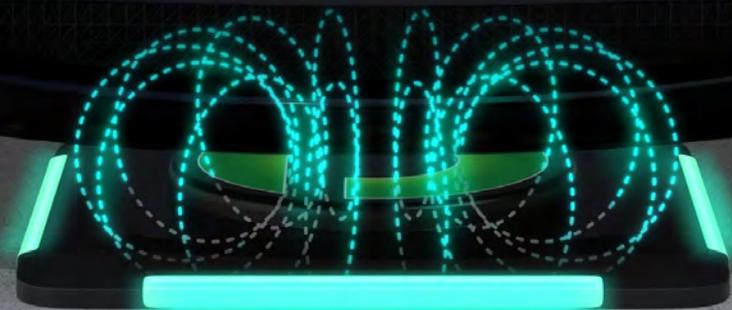
# Wireless Inductive Charging



Plugless Power's™ wireless inductive charging pads require no external wall-mounted, ancillary panel to communicate with users.



Plugless Power's™ 1" wireless inductive receivers are SAE™ J2954 compliant & allow for universal communication with wireless inductive transmission pads.



# Proprietary Visual Communication System

Plugless Power's™ wireless induction charging pad's integrate local communication technology.



## READY

When the charging pad is ready for connection the LED indicators flash yellow



## FAULT

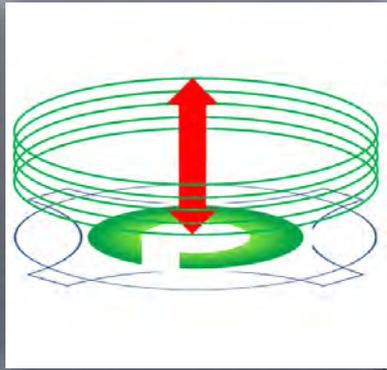
When the charging pad detects a foreign object, is out of alignment, or fails to make connection with the selected smart phone, the LED indicators flash red.



## ACTIVE

When the charging pad is properly engaged with the vehicle the LED indicators flash green.

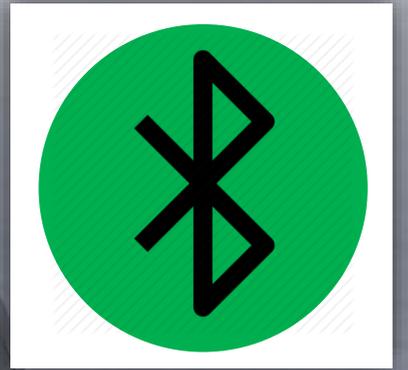
# Patented Sensory Array



Z-Axis Alignment



Foreign Object Detection



Bluetooth Connectivity



XY-Axis Alignment



# Proprietary Smart Phone Integration



Smart phone and wearable technology integration allow for direct user interface with the wireless charging system at all times.

 **PLUGLESS POWER™**  
WIRELESS CHARGING



# Autonomous Vehicle Solutions

The list of market participants in autonomous driving is expanding with dozens of new product introductions and test venues planned.



## Autonomy Requires Autonomy

The electric vehicle revolution will not be self-driven. Autonomous vehicle technology will require a wireless charging infrastructure.

## Road Imbedded Technology

Plugless Power™ has partnered with a European wireless road imbedded charging company in order to bring to market a complete solution.



## Mass Transit Autonomy

The growth in autonomous shuttles and fleet vehicles will pave the way for future advances in autonomous vehicle adoption.



# Non-EV Markets Present Real Opportunities



Electrification and autonomous capabilities are evolving quickly. As these technologies and consumer trends continue to penetrate markets, there will be a growing number of opportunities for Plugless Power™.

# Golf Cars & Neighborhood Electric Vehicles

The golf car and NEV markets have seen continuous growth as they find themselves in a variety of new settings & applications.

## Communities & Golf Car Villages

Both planned communities & senior living environments continue to expand.

## Campuses & Large Venues

Universities, large businesses, parks, and large outdoor venues have expanded their use.

## Tourism

Golf car rentals have become increasingly popular in tourist destinations.

## Agricultural & Industrial

OEM's are producing a variety of utility-driven packages.

## Personal Recreation

Personal recreational and vacation use is continuing to expand.



# Personal Mobility

With an aging population, the use of personal mobility, in the form of electric scooters & wheelchairs, continues to expand.

## Airport Mobility

Airports are actively evaluating the deployment of autonomous wheelchairs.



## Home Mobility

The ability to move freely within one's home must be preserved.



## Shopping Mobility

The ability to support your own personal needs.



## Hospital Mobility

Demand within medical environments is growing.



## Outdoor Mobility

Access to outdoor venues is a priority regardless of the physical impairment.



# Autonomous Drones

The number of autonomous drone wireless charging applications provides Plugless Power™ a variety of potential future revenue verticals.

## Commercial

The commercial sector will see opportunities for autonomous cleaner systems.



## Delivery Drones

From grocery delivery to medical supply delivery, delivery drone applications are growing.

## Agriculture

Autonomous landscaping and lawn care technologies are becoming their own market.

## Aerial Delivery

Several blue-chip logistics companies are currently piloting several aerial drone delivery systems.



## Industrial

From inventory robots to industrial equipment, wireless charging will be needed for market growth.



# Other Plugless Power™ Opportunities

The number of potential wireless charging applications provides Plugless Power™ a variety of potential future revenue verticals.

## Micro-Mobility

Urban deployment of electric scooters and bicycles has become a major market.



## E-Bikes

The electrification of motorcycles is fully underway with a variety of new products.



## Military

The military has been working with aerial drones for years. Ground vehicles are a natural evolution.



## Industrial

The industrial market has already started electrifying several heavy equipment products.



## Medical

The ability to provide wireless charging to medical equipment would eliminate unnecessary power cables.





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