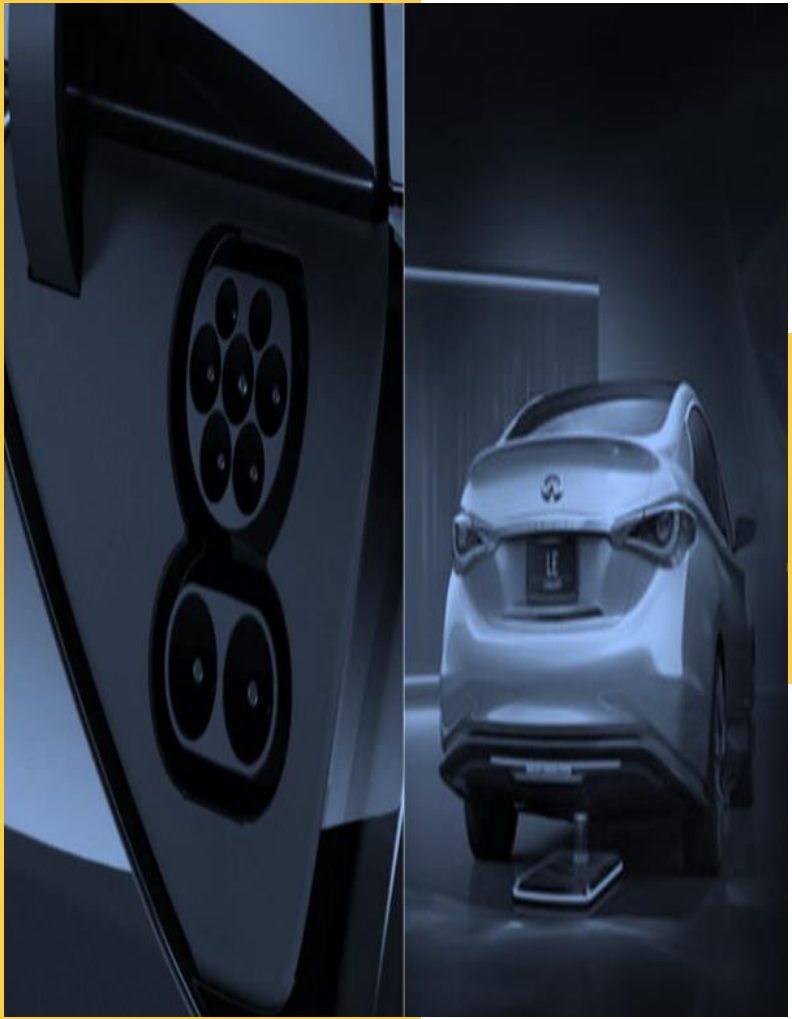


MOBILITY INDUSTRY INSIDER

Bulletin – Oct 2020

Quick & Wireless Charging

Major Developments, and Spotlight

What's inside ?

FutureBridge

THEMES AND KEY TAKEAWAYS IN Bulletin

Do you like our coverage? Share your thoughts

Contents covered in this Bulletin

Major developments in the wireless EV charging domain

- Automotive wireless charging market has witnessed a couple of industrial activities in the domain of wireless charging
  - Announcement by SAE and China to set EV charging standard
  - Collaboration to set up green power-based EV charging infrastructure
  - Collaboration for wireless Electric charging roads

Major developments in fast-charging network

- Market has witness expansion by electric energy providers to deploy fast-charging infrastructure.

Spotlights:
Adoption of renewable energy-based charging stations across the globe

Key Takeaways

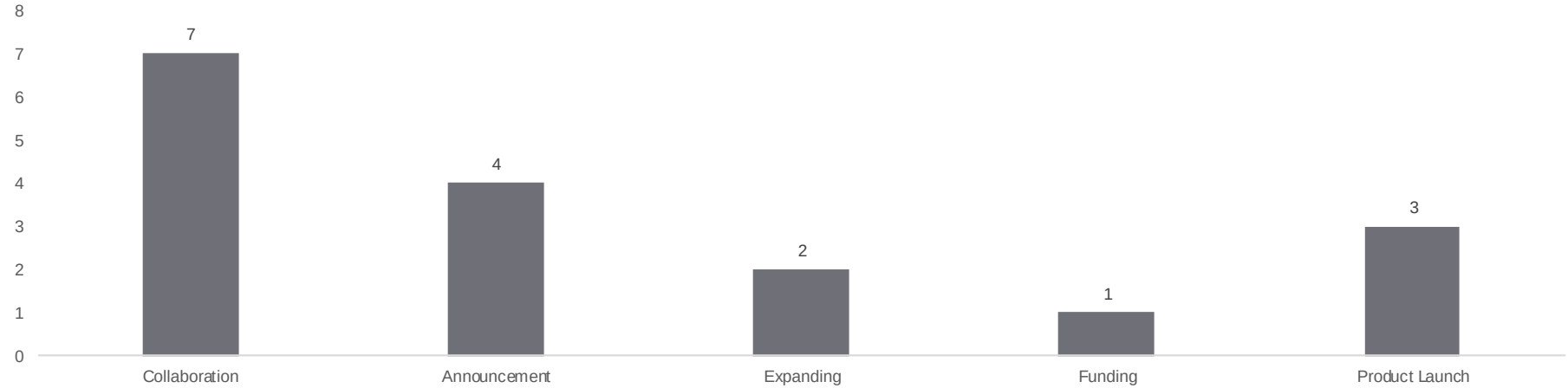
- The new wireless EV charging standard set globally by SAE and in China is standardized for new systems, allowing for increased interoperability between hardware and vehicles from different manufacturers.
- Fastned in collaboration with Tesla and Beam Global with San Diego to set up renewable energy-based EV charging infrastructure to support the growing need of the electric vehicle market and the environment with clean transport
- The MOU between Electreon an inductive charging provider for Electric vehicle and road construction company Eurovia to set up inductive electric roads in Germany, France, and Belgium.
- Duke Energy will expand the fast-charging network to meet the growing need for the EV charging market

- The services led by EV charging providers will expand access to clean and financially sustainable EV charging to low-income, disadvantaged, and rural communities.

Industrial activity analysis in Quick and Wireless Charging for October 2020

The industrial collaboration was high in October related to fast and wireless charging followed by Announcement. The activities were majorly concentrated equally in the US and Europe

Refer Appendix



Key takeaways

- October got associated with a couple of crucial collaboration activities covering almost all the aspects of Quick and Wireless charging that includes the deployment of wireless charging roads, fast charging stations, on demand charging, green charging station, and vehicle to grid. The deployments are mostly related to the US
- The other witnessed activities in October month were announcements related to wireless charging standards set by SAE J2954 globally, and national standard set by China GuoBiao. The idea behind this standard is to widespread the standardized charging station, which can be used by any vehicle irrespective of their brand anytime
- To meet the increasing demand for the electric vehicle charging station market Electrify America and Duke Energy have done expansion activities for the month. Electrify America has deployed solar-powered charging stations in rural California, and Duke Energy has designed two new programs i.e. Fast Charging Program and Residential EV Charging Program to support the market in South Carolina

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

01

Major Developments in October

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

Wireless charging standards by SAE and China deploys a common charging station for all brands

"Charging your EV should be as simple as parking and walking away – the wireless charging SAE J2954 Standard gives freedom and convenience to do exactly that, safely and automatically." -***Jesse Schneider, Chairperson, SAE J2954 Task Force***

15-Oct-2020

China introduces a national standard for wireless charging of Electric vehicles

- Chinese automakers have revealed a national standard for EV charging solution which is based on patented WiTricity technology, that uses electromagnets for charging and has the same efficiency and duration as a conventional charging station with cable and plug.
- It will also help with the automatic recharging of upcoming autonomous vehicles like cabs and delivery vehicles.
- Future international standards such as SAE J2954, ISO 19363, and IEC 61980 were also taken into account during the development.

Analyst Comment

- Introduction of national standard i.e. "GB Standard" for wireless EV charging by China Electricity Council has enabled the standardization of EV to any charging station irrespective of their make. The Witricity (enabler of Chinese standard) has raised a funding of $34M for wireless charging technology. The investment will allow it to continue to develop wireless charging technology as well as "expand its intellectual property portfolio, and capitalize on the commercial momentum for wireless charging for electric vehicles and in the broader mobility market.

Read this story

22-Oct-2020

SAE has set a global standard J2954 for wireless EV charging

- The standard applies to wireless inductive charging up to 11KW.
- This standard will allow interoperation function between the charging hardware and vehicles from other manufacturers.
- The standard offers 94% grid-to-battery efficiency by having a 10-inch ground clearance.
- It offers a self-driven car to charge themselves without any human interaction.
- Due to the standard there will be an increase in the adoption of EVs and self-driven cars

Analyst Comment

- The interoperability, electromagnetic compatibility, EMF, minimum performance, and safety of new standard J2954, published by SAE is considered to increase the adoption of electric and autonomous vehicles. Along with BMW, many other carmakers have shown interest in this technology based standard. This standard is subjected to stationary charging application, dynamic charging is a future based subject which will be useful for passenger and commercial segment.
- Recently dynamic wireless charging test for a commercial truck was performed in Sweden, where the truck moved to a length of 164 foot at speed of 18mph and got charged up to 45KW

Read this story

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

Adoption of renewable energy-based solar charging station by EV charging providers

"In America's Finest City, we're known for pushing the envelope on innovation, often taking the first step in implementing cleaner, greener technologies, We're excited about this collaboration with local manufacturer Beam Global to strengthen the City's renewable energy options and encourage more people in other cities to do the same." – ***Kevin L. Faulconer, Mayor, San Diego***

08-Oct-2020

Fastned and Tesla opened the largest solar fast-charging park in Germany

FASTNED TESLA

- Fastned and Tesla have opened the renewable energy-based largest fast-charging park in Germany. The park comprises of 8 Fastned stations, 20 Tesla supercharger, and additional stations provided by bistro operator Seed & Greet for staff and customers. All 44 charging points are powered by renewables, with some of the power supplied direct from a 336 kW photovoltaic system deployed on carports and from two small wind turbines. Tesvolt has supplied two energy storage containers of 2 MWh capacity to temporarily store excess solar and wind power and to cut expensive peak loads that arise during EVs charging.

Analyst Comment

- The development of the largest green energy based fast charging park will help to satiate the future growing need of the electric vehicle charging market which may reach USD 27.7 billion by 2027 from an estimated USD 2.5 billion in 2019.
- The idea behind this charging park was driven by a bakery owner Roland Schüren who managed both Tesla and Fastned to deploy fast charging park to support the environment with clean transport. Fastned has 125 fast-charging stations in the Netherlands, Germany, the United Kingdom, and Belgium

Read this story

21-Oct-2020

Beam Global collaborates with San Diego to develop free solar-powered EV charging infrastructure

BEAM

- The City of San Diego is collaborating with Beam Global to deploy solar-powered charging infrastructure for electric vehicles across the city.
- Beam Global will deploy its patented EV ARC™ 2020 charging stations in both city-owned and business locations through a public-private partnership with a corporate sponsor.
- The sponsorship will pay for the renewably-powered EV charging to make free for public use.

Analyst Comment

- Apart from this collaboration, Beam Global has also added Georgia Power to the list for the deployment of a solar-powered EV ARC™ 2020 charging unit. This collaboration will help the city of San Diego to advance its climate action plan for GHG reduction by 2035. The non-dependence of EV ARC™ 2020 charging unit on construction or electrical upgrades makes it to excel over other grid-tied charging systems. Due to no electrical work involved, customers don't get a utility bill. This gives the Beam solution a low total cost of ownership (TCO) and makes it an appealing value proposition for fleet managers.

Read this story

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

Electric vehicle charging providers move toward collaboration to adopt a new charging strategy

"Electric vehicles are coming to South Carolina, but more investment is needed to grow the adoption of this evolving technology and the benefits it brings to the state, We're listening to our customers to ensure we understand their electrification plans and needs. These pilot programs will help prepare us to meet the challenge to ensure we can keep up with increasing demand for electrification." – ***Mike Callahan, President, Duke Energy, South Carolina***

06-Oct-2020

Electreon partners with Eurovia to deploy wireless electric charging roads

- Israeli company Electreon, which develops wireless charging solutions for roads signs a strategic exclusive collaboration agreement with Eurovia, a road-building subsidiary of French construction behemoth VINCI. The strategic collab will focus on developing and constructing electric roads in Germany, Belgium, and France. The system comprises coils embedded eight centimeters below the road surface that activate once a vehicle drives over them. ElectReon claims the solution is compatible with all types of electric vehicles, including buses and trucks. Cars must carry an up to 12-kilo receptor while heavy vehicles can carry larger units to optimize the charging process.

Analyst Comment

- This idea is to reduce the dependency on fuel, charging station, and the need for large batteries to avoid range anxiety. Apart from this Electreon also signed a similar deal with German-based energy company EnBW in 2019, to deploy this real-time wireless charging tech for EnBW's private roads by 2021 and later to public roads. The company had also tested a couple of projects related to dynamic charging in Israel like testing of Renault Zoe for a 20m track with energy transmission was 8.5kW, and second in Sweden for commercial truck charging on a track of 164 foot, with energy transmission of 45KW by Smartroad Gotland. The plan for the company is to drag 125KW of energy transmission while charging

Read this story

07-Oct-2020

Duke Energy introduces two fast-charging programs to expand EV charging in South Carolina

- The company has got approval from the Public Service Commission of South Carolina (PSCSC) for its electric transportation (ET) pilot programs that will allow South Carolina to join other states in deploying EV infrastructure to meet the needs of this growing market. The two pilot programs viz.
- Fast Charging Program and Residential EV Charging Program were designed to support the growing EV market in South Carolina considering the significant economic benefits created by switching transportation fuel from gasoline to electricity.

Analyst Comment

- The deployment of these two pilot programs by Duke Energy is to help customers across South Carolina to reduce emissions from vehicle and fuel cost savings.
- To support the initiative of reducing overall greenhouse gases and lower emissions from the transportation sector the company has planned to convert all of its light-duty vehicles to electric and 50 percent of its medium-duty, heavy-duty, and off-road vehicles to EV, plug-in hybrids, or other zero-carbon alternatives by next ten years.

Read this story

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

02

Spotlight of the Month

Spotlight: Adoption of renewable energy-based charging stations across the globe

- electrify america — Solar station – Fresno County, California
- BEAM — Solar station – San Diego, California
- swiftmile — Solar station – Washington D.C
- ANERT Government of Kerala — Solar station – India

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

SPOTLIGHT

BEAM

"The City of San Diego is the ideal choice to launch this unique city-wide EV charging infrastructure initiative and become the first city in the world where it is possible to drive on sunshine, guilt free, emissions free and the best free of all – free, free, Because our products are deployed without construction or a utility bill, we are uniquely able to provide this type of sponsored EV charging network at scale and with unrivalled speed. The sponsors we seek will be enabling the first city-wide driving on sunshine experience in the world and will get the name recognition and carbon and greenhouse gas emissions offsets associated with the networks. It's win, win, win for the corporate sponsor, the city, EV drivers, and for Beam Global. I believe we will repeat this model in many other major cities because it makes so much sense for everyone involved."

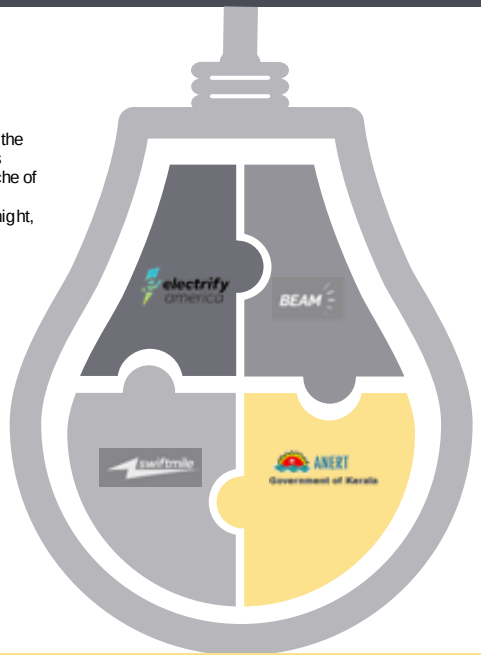
--Desmond Wheatley, CEO, Beam Global

Source >>

Quick and Wireless Charging
Adoption of renewable energy-based charging stations across the globe

Electrify America the largest open DC fast-charging network in the US deploys eight new solar-powered, off-grid charging stations across Fresno County. The charging stations are the first tranche of 30 Beam Global EV ARC stations. The unit comprises onboard ARC Technology energy storage makes the station to work at night, in inclement weather, and during grid outages.

Swiftmile has set up hundreds of new free solar-powered charging stations in the US and Europe, for riders to charge their electric bicycles and scooters. The charging stations are also built locally in the US.



In collaboration with the city of San Diego, Beam Global will deploy solar-powered charging infrastructure for electric vehicles across the city. Beam Global will deploy its patented EV ARC™ 2020 charging stations in both city-owned and business locations through a public-private partnership with a corporate sponsor

The Agency for New and Renewable Energy Research and Technology is planning to equip Kerala with an electric vehicle charging station every 50 km or 25 stations in each district and to switch the entire network of stations within a year to solar power as the State's e-mobility projects move forward

Insights:
The shift of the automotive market from conventional to electric has triggered the deployment of solar electric charging stations across the globe. The renewable energy-based charging station has given a great push to the market at the consumer end by offering free charging service. The charging station makes money via advertising billboard on it. The charging infrastructure mostly comprises of patented EV ARC™ 2020 charging stations across US cities. The non-dependence of EV ARC™ 2020 charging unit on construction or electrical upgrades makes it to excel over other grid-tied charging systems. The free service helps to expand access to clean and financially sustainable EV charging to low-income, disadvantaged, and rural communities. This implementation will help to reduce GHG in the coming future.

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

FutureBridge


04
Appendix

Appendix – Key Industry developments

S.No	Date	Development	Type	URL
1	23-Oct-20	SAE has set a global standard J2954 for wireless EV charging.	Announcement	Link
2	07-Oct-20	Electreon partners with Eurovia to deploy wireless electric charging roads	Collaboration / Partnership	Link
3	15-Oct-20	China introduces a national standard for wireless charging of Electric vehicles	Announcement	Link
4	13-Oct-20	EV maker Ather Energy announced adoption of additional fast charging station across country.	Announcement	Link
5	08-Oct-20	Fastned and Tesla opened largest fast charging park in Germany.	Collaboration / Partnership	Link
6	07-Oct-20	Duke Energy introduces two fast charging programs to expand EV charging.	Expansion	Link
7	01-Oct-20	Electrify America launches 8 new solar-powered charging stations in rural California	Expansion	Link
8	09-Oct-20	Acadia University forms its first EV charger	Product Launch	Link
9	08-Oct-20	Meijer to install EV charging stations in Illinois and Michigan.	Collaboration / Partnership	Link
10	20-Oct-20	Spiffy expands services into EV charging	Collaboration / Partnership	Link
11	13-Oct-20	ANERT to deploy EV charging station at every 50km distance	Product Launch	Link
12	15-Oct-20	Free charging service to BMW PHEV model drivers	Announcement	Link
13	21-Oct-20	Beam Global collaborates with San Diego to develop free solar powered EV charging infrastructure.	Collaboration / Partnership	Link
14	15-Oct-20	ABB & DREEV present 11 kW bidirectional charger	Collaboration / Partnership	Link
15	07-Oct-20	Mobi announces first block chain standard for EV charging grids	Collaboration / Partnership	Link
16	29-Oct-20	Witricity receive $34M funding for wireless EV charging	funding	Link
17	16-Oct-20	Swiftmile installs free solar powered e-bike charging stations in US and Europe	Product Launch	Link

A FutureBridge Initiative. Copyright © 2020 by FutureBridge

COMING UP
On Insider Platform

Quick and Wireless Charging November Bulletin

7th December 2020

H1 2020 Deep Dive – Quick and Wireless Charging

H1' 20 Deep dive covers various aspects of charging hindrance removal via product launches, collaborations, expansion of the charging networks, key academic publications, and key emerging trends. Our analysis gives holistic view regarding player focus on battery swapping, DC ultrafast charging, and smart charging standards.

Q3 Pulse 2020 – Quick and Wireless Charging

Q3 2020 Pulse, covers an overview of the business models of major Oil & Gas players in electric charging infrastructure. The analysis of the research paper studied in the Q3'2020 pulse showed that the optimal charging plan can be further enhanced with the assistance of a smart grid and Vehicle-to-Grid communication.

Read Now

FOOD & NUTRITION INDUSTRY INSIDER

My Business Objective

Do you need customized, actionable insights aligned with your priorities?

Request Now

FutureBridge