

# Topical Feature: ELECTRIC VEHICLES (EVs) Discovery

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February 2017

## 2017 HAPPENINGS

### 2017 Will Be Remembered as the Year Electric Cars Came of Age



This year, we will be expecting a grand arrival of a wide variety of economical, eye-catching EVs in the market. In addition you can expect prices to be around the \$30,000 USD mark.

Source: [Observer](#) (4 April 2017)

## ELECTRIC ROADS

### Wired-Up Roads Will Soon Charge Your Electric Car – While You’re Driving



Convenient and time-saving charging-on-the-move is no longer a dream thanks to wireless charging technologies. However, safety and information security could be an issue.

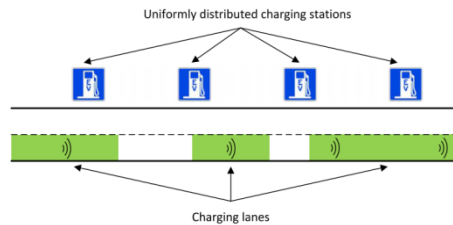
Source: [The Conversation](#) (9 February 2017)

## ENVIRONMENTAL CONCERNS

### Why Electric Cars Are Only as Clean as Their Power Supply

## CHARGING INFRASTRUCTURE

### Deployment of Stationary and Dynamic Charging Infrastructure for Electric Vehicles Along Traffic Corridors



A study on the deployment of charging stations, charging lanes, and finding the optimal deployment of charging infrastructure. Findings indicate that charging lanes are more advantageous considering usage and profit-making.

Source: [Transportation Research Part C: Emerging Technologies](#) (April 2017)

## ENERGY POLICY

### Here’s How to Speed Up the Electric-Car Revolution



With the rise of EVs, policies made by governments towards a regulatory-driven adoption of EVs are needed to speed up the arrival of an EV future. Gain additional insights from the [Bloomberg-McKinsey Report](#) on the future of mobility.

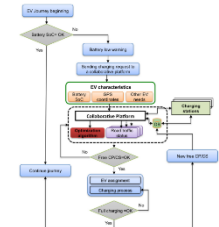
Source: [MIT Technology Review](#) (12 October 2016)

## EV BATTERIES

### Batteries for Tesla and Other Electric Car Makers Are Getting Cheaper

## CHARGING MANAGEMENT

### An Optimal Solution for Charging Management of Electric Vehicles Fleets

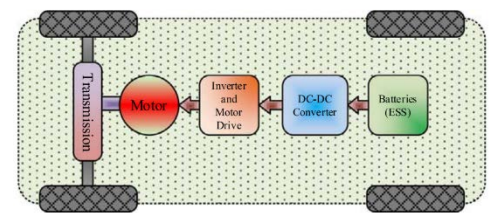


Aiming at achieving less charging time and energy consumption of EVs. Researchers studied the optimized scheduling and assignment of EVs to charging stations.

Source: [Electric Power Systems Research](#) (May 2017)

## ENERGY STORAGE SYSTEMS

### Review of Energy Storage Systems for Electric Vehicle Applications: Issues and Challenges



A review of technologies and classification of Energy Storage Systems (ESS) in EV applications further unravels what are needed as well as the challenges for sustainable ESS and EV development.

Source: [Renewable and Sustainable Energy Reviews](#) (March 2017)

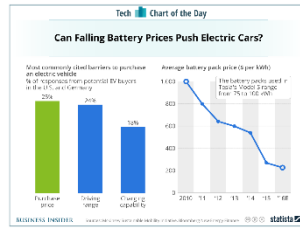
## Battery Sensor

### New Sensor Technology for e-Vehicle Batteries



It is argued that the manufacturing process and batteries of EVs are two crucial factors to evaluate how environmentally-friendly the vehicles are.

Source: [The Guardian](#) (9 December 2016)



Continuous innovations in battery technologies have made EV batteries more and more affordable. A recent [McKinsey Report](#) further predicts that EVs will reach the same price range of other vehicles within 10 years.

Source: [Business Insider](#) (21 January 2017)



A new system for EV batteries was proposed that only a single voltage sensor is needed in the system, making the batteries lighter and cheaper.

Source: [ScienceDaily](#) (8 December 2016)

## EV DESIGN

### Volkswagen's New Design Language May Show the Future of Electric Vehicle Forms

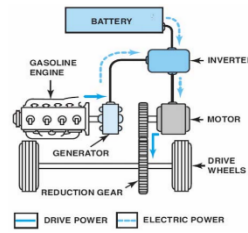


What will the future EVs look like? The VW's new design gives some hints: taller vehicles with shorter overhangs and an expanded passenger compartment.

Source: [The Drive](#) (30 January 2017)

## HYBRID EVs

### A Comprehensive Overview on the Architecture of Hybrid Electric Vehicles (HEV)

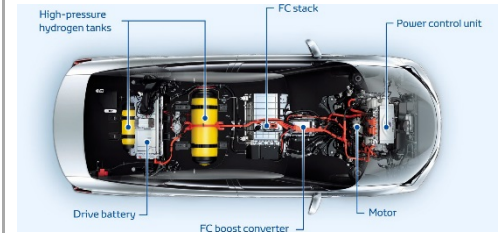


From this paper, you are able to view a full picture on the architecture of different types of HEVs, with a focus on the energy flow between engine and motor during various driving conditions.

Source: [2016 19th International Multi-Topic Conference](#) (6 February 2017)

## INSIGHTS

### Majority of Automotive Execs Still Believe Battery-Powered Cars Will Fail and Fuel Cells Are the Future

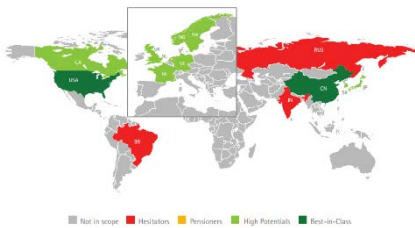


According to the latest automotive executives survey by KPMG, most of the respondents deem battery-powered EVs will slip up against fuel cell hydrogen cars due to infrastructure. Read the full [KPMG report](#).

Source: [Electrek](#) (4 January 2017)

## MARKET GROWTH

### Electric Vehicles: Ready to Go Mainstream

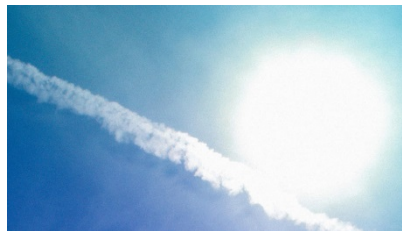


This report explores the attractiveness of various domestic EV markets, taking political, economic, and technological factors into account, as well as investment opportunities around the global market. Find out more from the [Accenture Report](#).

Source: [Accenture](#) (1 December 2016)

## MARKET IMPACTS

### The World Could Reach Peak Coal and Oil in Three Years, Thanks to Cheap Renewables



The impacts of affordable solar power and EVs on the demand for fossil fuels were studied. It is predicted that year 2020 will meet the peak demands for coal and oil. Learn more from the [Imperial College London Report](#).

Source: [Fast Co. Exist](#) (7 February 2017)

## SINGAPOREAN EV

### Singapore's First Home-Grown Electric Supercar to Debut at Geneva Motor Show



Introducing the very first fully electric car Dendrobium, developed by the electric transportation solution provider Vanda Electrics. It has a total output of 1,500 horsepower and a top speed of 400 kmh.

Source: [Today Online](#) (19 January 2017)

## SOLAR-CHARGING

### The Use of Parking Lots to Solar-Charge Electric Vehicles

## TESLA

### Tesla Has Big Plans for 2017

## TRIP COST

### Analysis of Electric Vehicle's Trip Cost Without Late Arrival



An up-to-date review of existing EV charging technologies and solutions integrating solar panels and parking lots, with focus on the framework architecture of smart charging systems.

Source: [Renewable and Sustainable Energy Reviews](#) (December 2016)



This year, Tesla is going to hasten its innovation and production for a more sustainable future. From Model 3 to Tesla Semi, from Supercharger expansion to a new Gigafactory, and more.

Source: [Futurism](#) (11 February 2017)



Source: [Britannica Image Quest](#)

A car-following model was employed to study each EV's trip cost and the traffic system's total cost without late arrival, with an emphasis on the electricity cost.

Source: [Physica A: Statistical Mechanics and its Applications](#) (1 March 2017)

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