International Journal of Advance Innovations, Thoughts & Ideas

Opinion Open Access

Advances in Automobile Engineering

Akira kong*

University of Louvain, Belgium

Opinion

Advances in Automobile Engineering the Electric cars have existed since the early 1800s. However, coal and other fossil fuels were used to create the majority of the electricity. Now that the world is facing serious petroleum shortages and escalating environmental pollution consequences such as climate change, efforts are being made to reduce pollution and improve carbon footprints. Every government has developed policies and frameworks to meet this goal. This has boosted research and development in the fields of renewable energy and electric vehicles significantly. There is a strong link between the two of them.

Battery Electric Vehicles (BEV) is viewed as a viable mobility option for reducing fossil fuel dependency. After almost a decade since Tesla introduced the first serial production electric vehicle, the major automakers have already stated their plans and preparedness to deliver their electric vehicles to customers. The battery is the most difficult aspect of the BEV, as customers are accustomed to the flexibility of using oil derivatives. Electric batteries have either a high specific energy capacity or a high specific power capacity to meet the demands of ordinary driving discharge/charge cycles, but not both. He combination of an electric battery with an additional high-power source, mainly mechanical devices such as kinetic Energy Storage (KES) — flywheels or electrical devices such as super-capacitors, is a common method nowadays. KES systems are gaining popularity as a result of their use in Formula One, and automakers are showing interest in putting them into mass production.

This is challenged by an autonomous car, often known as a driverless car, a self-driving car, or a robot car. It is a vehicle capable of driving through streets and highways and performing all of the functions of a typical car without the need for human help. It is trained to sense its surroundings using embedded equipment and can go from one location to another without the assistance of humans. It is primarily characterised as a passenger car, with the primary driving force being road safety. An autonomous vehicle is sometimes known as an autopilot vehicle, an auto-drive vehicle, or an Automated Guided Vehicle (AVG).

Many automobile applications currently rely on fuel as a major energy source, with batteries and super-capacitors serving as auxiliary power sources. Because the latter is stored and ready to be consumed directly, the use of super-capacitors reduces power stress on the main power source and meets the requirements of wheel motors in the event of rapid energy demand; namely, the fuel cell takes a moment to also produce renewable energy, the delay is justified by the chemical reactions in the cell conversation.

Electric vehicle structure

All electric vehicles are made up of four primary components. The following are the details: A) A battery to create DC voltage, B) A DC to AC converter to convert DC voltage to high-frequency AC voltage, C) An AC motor attached to the drive train, and D) A battery charger circuit to charge the batteries To step up the low voltage from the batteries, an extra DC to DC converter may be necessary.

Increasing the vehicle's driving range there are four primary components to the electricity required by any electric car behind the wheel. The first is the base electric load, which includes things like a heater, air conditioning, and a music system. Second, how much power is required to overcome the vehicle's aerodynamic drag or air resistance? The third factor is the amount of energy necessary to overcome the wheels' rolling resistance. The fourth component is the power required to work against gravity on the road's steep and descending slopes, and the fifth is the power required to overcome the vehicle's inertia. The total power at the wheels, Pw, can be calculated using the equation.

Any electric vehicle's driving range can be increased by increasing any of its components. The sections that follow go through the many strategies that researchers have used to improve driving range. The Effects of Driving Style The vehicle's driving range is heavily influenced by the driver's style. According to an interesting study in thermal vehicle-concept study employing co-simulation for optimising driving range driving range may be increased by roughly 30% simply by adopting proper driving behaviours. The following are some examples of good driving habits:

1) Reducing the difference in acceleration and deceleration.

2) Avoiding high accelerations.

3) Reducing aggression in the driving

To reduce this impact of human behavior, seamless integration of technologies like Internet of Things (IoT) in the vehicle is necessary. With the sensors guiding the vehicle operation, the chances of errors are much less and effectively efficiency of the vehicle can be improved.

***Corresponding author:** Akira kong, University of Louvain, Belgium, E-mail:Akirakong11@gmial.com

Received October 09, 2021; **Accepted** October 23, 2021; **Published** October 30, 2021

Citation: Kong A (2021) Advances in Automobile Engineering. Int J Adv Innovat Thoughts Ideas. 10: 159.

Copyright: © 2021 Kong A. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.