DEPARTMENT OF ELECTRONICS AND COMMUNICATION

WEBINAR ON E-Mobility

Date: 3/06/2021

Resource Persons: Mr.Arpit Chauhan , CEO ,Erkey Motors

Mr.Ashhar Ahmed,Skill Director,Skill Shark

Participants : IV ECE , III ECE and II ECE Students

The Seminar talk on "E-Mobility" was conducted by Mr.Arpit Chauhan and Mr.Ashar Ahmed .Mr.Arpit Chauhan is the Co founder & CEO, Erkey Motor & a scholar of MBA IEV at Graduate School of Management Studies Gujarat Technological University and a Alumni of ACS College of Engineering, Mechanical Department.Erkey Motors was founded with a vision making affordable and kinetically performing electric vehicle and be pioneer in India's 2 wheeler auto industry. E.R.K.E.Y with conception of (EMERGING TECHNOLOGIES, RESOURCEFUL TALENT, KINETIC PERFORMANCE, ENCASH RETURNS, YIELDING BEST MILEAGE) was founded with a vision to include EV as an essential Mode of Transport when compared to current Gasoline Vehicles, our pledge is to make EV's Available and affordable as well, maintain the performance characteristics compared to gasoline vehicles. Creating a revolution in two wheeler transport market, by bringing a new touch of innovation. Leisure and luxuries in wheels is what the company has planned to embed.

Mr. Ashhar Ahmed is the Co Founder – Skill Shark, EV 4 India, EV 4 Africa, Eifer India, Social Feather Experienced Team Lead with a demonstrated history of working in the EV Development & EduTech Industry. Skilled in Techno-Management & Product Development. Strong Technology professional focused

on Mechatronics, Robotics, and Automation approach. Co-Founded an EV start-up offering EV conversion kits and services. Now, Contributing as Skill Development Director at SkillShark. Formula Student Team Alumni as part of the design & development of Utility Electric Vehicles .Holds Research Experience in Renewable Energy and E-mobility Sector. He is an EV Expert and Guest Speaker for a wide number of Engineering cum Research Institutions including NITs and IITs .Represented India in EV Sector for various International Conferences and Conclaves across the globe.

Electromobility or e-mobility is the use of electric cars, as well as e-bikes or pedelecs, electric motorbikes, e-buses and e-trucks. The common feature of all of them is that they are fully or partly driven electrically, have a means of storing energy on board, and obtain their energy mainly from the power grid. Electric cars are quiet, efficient and low-emission and have mainly been used to date in cities, where they're ideal for delivery services, taxis and car sharing.

Hybrid vehicles combine two powertrain technologies. They can usually cover shorter distances with their electric drive, but their combustion engine means they can also manage long journeys without any problem. Hybrid cars that not only use the electricity recovered when they taxi or brake, but can also be recharged from the socket, are termed plug-in hybrids. Hybrids are regarded as a bridging technology until a time when cars can be fully powered by electricity.

Electrical energy is stored in a rechargeable battery. Devices termed inverters convert the battery's direct current into alternating current for driving the electric motor. The more efficient conversion is, the longer a car can travel when a battery is fully charged. Finally, an electric motor converts electrical energy into mechanical energy: The e-motor obtains this energy to generate magnetic fields. Their attractive and repellent forces produce a rotational motion.

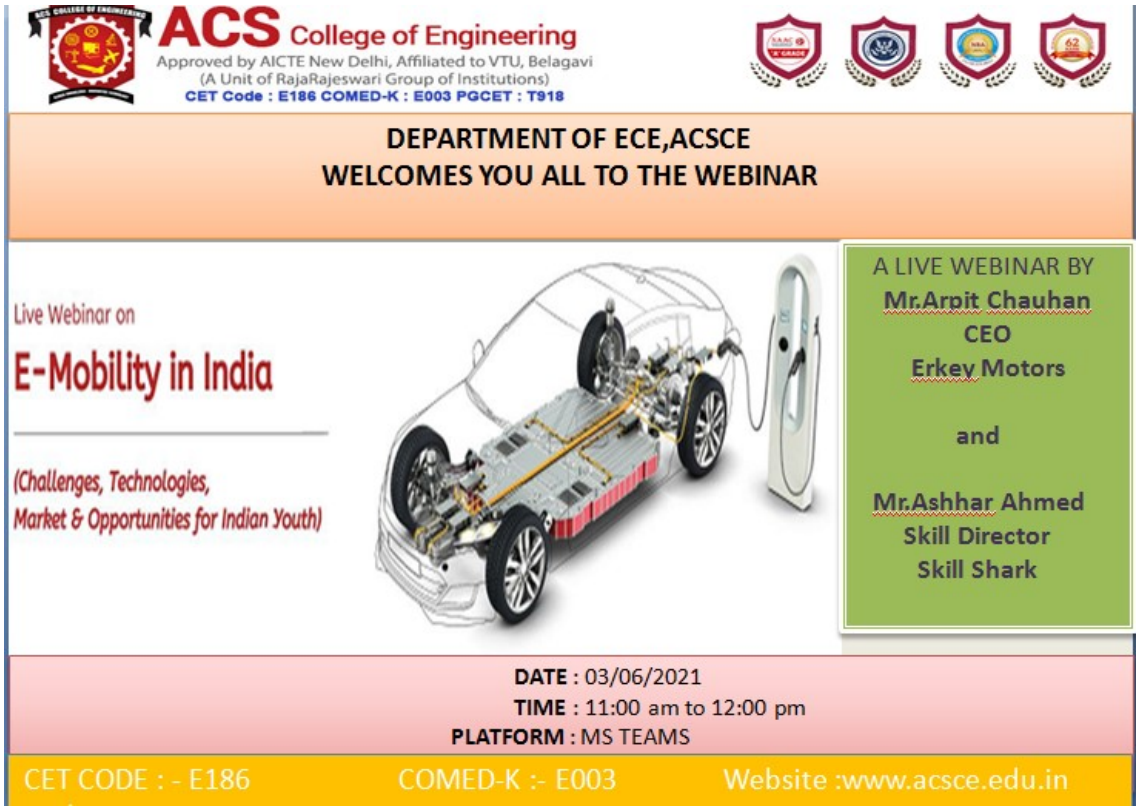
Other core components of an e-car are the DC-DC converter. It converts the battery's high voltage (100-400 volts or more) efficiently into a far lower voltage (12 or, if applicable, 48 volts) for electronic components.

E-cars have to be charged from the socket to stay mobile. 80 percent of owners recharge them from the socket at home, according to a study by the German Federal Association for eMobility. That takes at least eight hours, depending on the vehicle and battery. However, not every socket is designed to handle large

amounts of electricity flowing over a lengthy time. That problem is solved by wall boxes at home, which make recharging almost four times faster. Charging a battery at public alternating current (AC) stations takes just as long, whereas only one hour is needed at direct current (DC) fast charging stations. The reason: The battery in an e-car has to be charged with direct current, but the electricity from the public grid is alternating current. The car's inverter first has to convert it. That's why charging at AC stations takes longer than at DC ones. The latter convert the electricity into direct current before charging and pass it on directly to the car's battery. These fast DC charging stations enable high charging performance, but are rarer at present because they are more expensive. A special cable is required to use both types of charging station. The time needed to charge a car will soon be reduced to 20 minutes or less thanks to efficient technology such as ultra-high-power chargers and improved batteries.

From the above discussion we can easily identify the immense possibilities available for e mobility scenario in our country. The speakers also welcomed the students to visit their factory location to obtain an in-depth working knowledge of the industry. The webinar session was followed by a Q and A session where the students interacted with the speakers.

SEMINAR INVITATION :



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