



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35

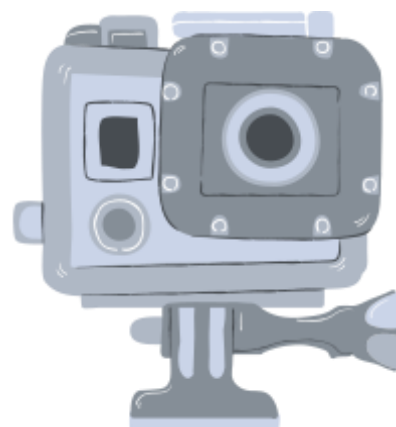
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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

UNIT 1

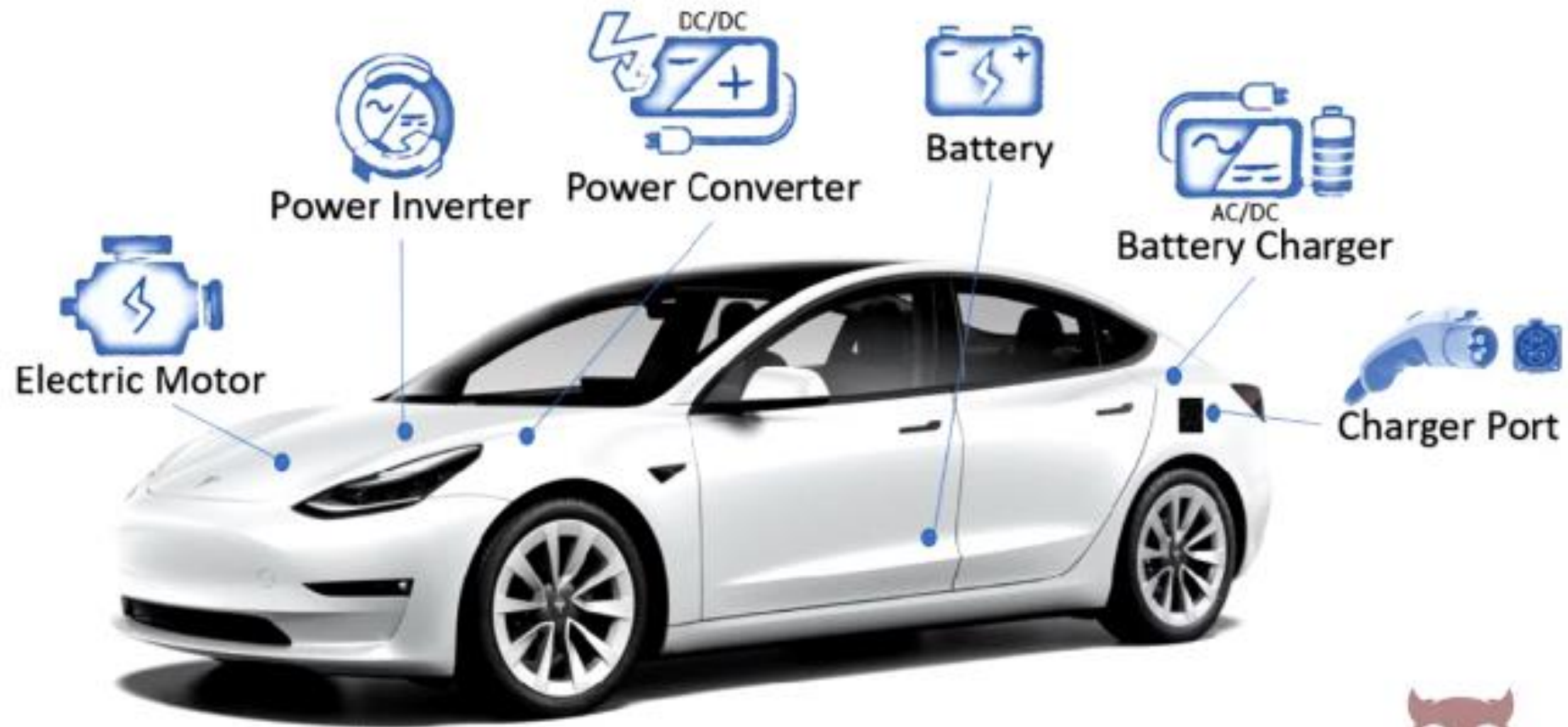
Components of Electric Vehicles

19EEE309 – Electric Vehicle Systems
IV year / VII Semester



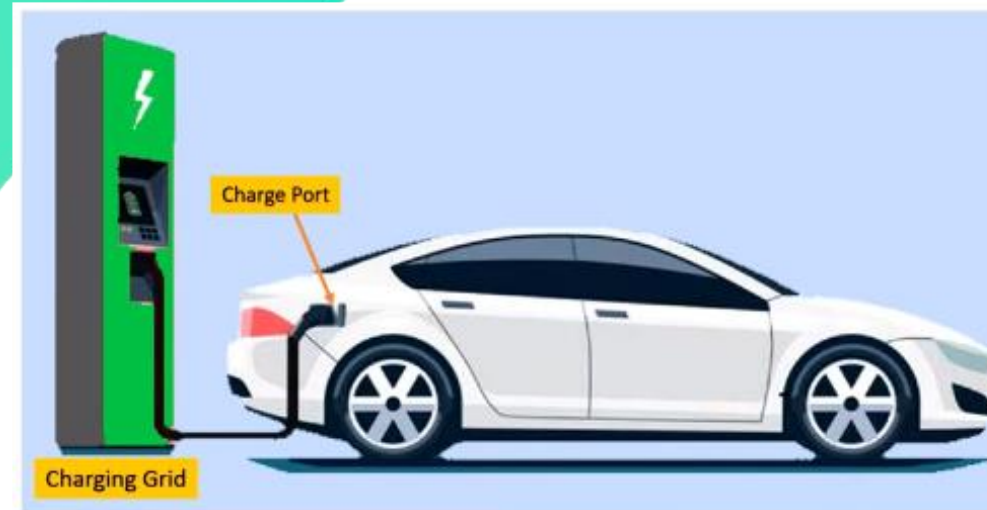


Components of Electric Vehicle



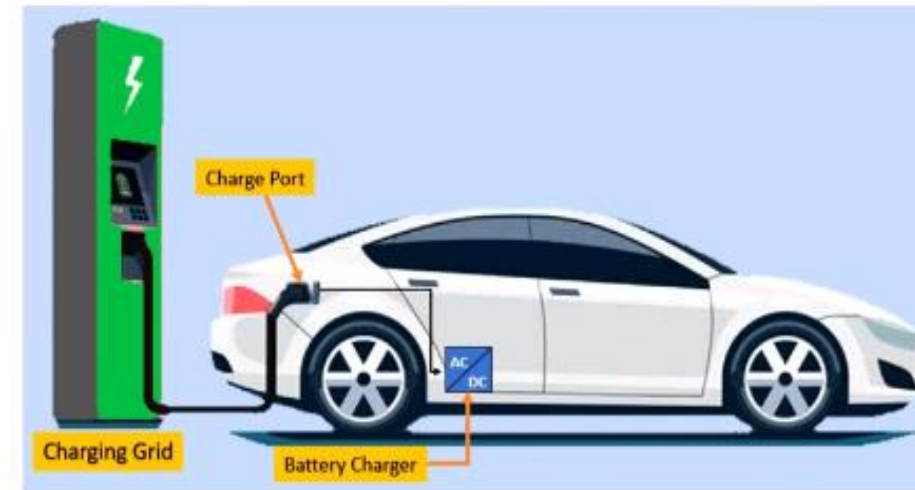


Basic Functions



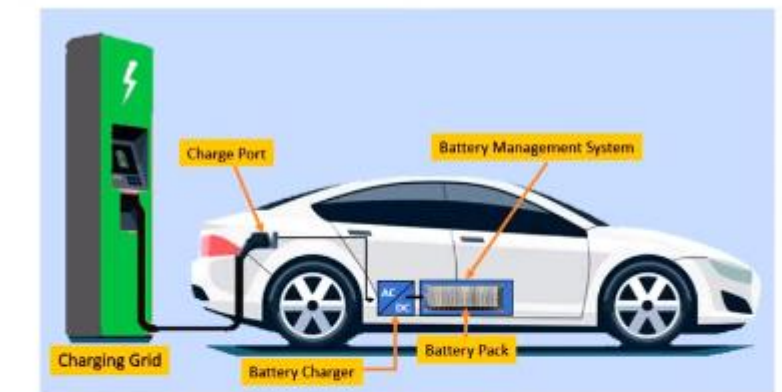
CHARGE PORT

- * CONNECTS TO EXTERNAL POWER GRID & CHARGES THE BATTERY PACK
- * PRESENT IN BATTERY EV & PLUG-IN HYBRID EV



BATTERY CHARGER

- * CONVERTS ALTERNATING CURRENT (AC) RECEIVED THROUGH CHARGE PORT TO DIRECT CURRENT (DC)
- * TO STORE IN BATTERY PACK

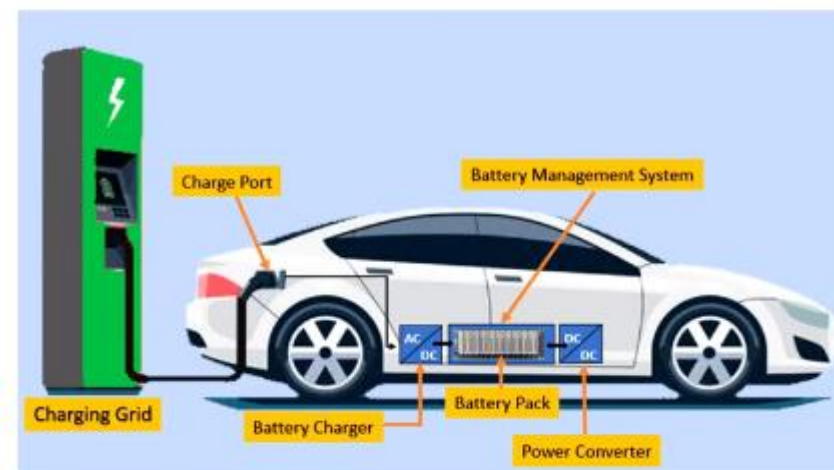


BATTERY PACK

- * ELECTRICAL ENERGY STORAGE SYSTEM IN THE FORM OF DIRECT CURRENT (DC)
- * IT IS SET OF ANY NUMBER OF INDIVIDUAL BATTERY CELLS
- * CONFIGURED IN SERIES, PARALLEL OR COMBINATION
- * LITHIUM-ION BATTERY IS COMMONLY USED

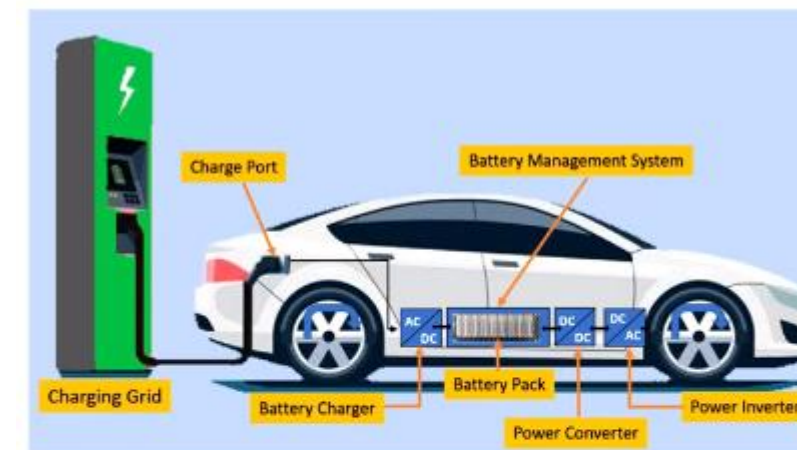
BATTERY MANAGEMENT SYSTEM (BMS)

- * BMS IS AN ELECTRONIC SYSTEM THAT MANAGES THE BATTERY PACK
- * BY PROTECTING THE BATTERY FROM OPERATING OUTSIDE ITS SAFE OPERATING AREA
- * FUNCTIONS LIKE: MONITORING ITS STATE, REPORTING THAT DATA, CONTROLLING ITS ENVIRONMENT, CELL BALANCING.



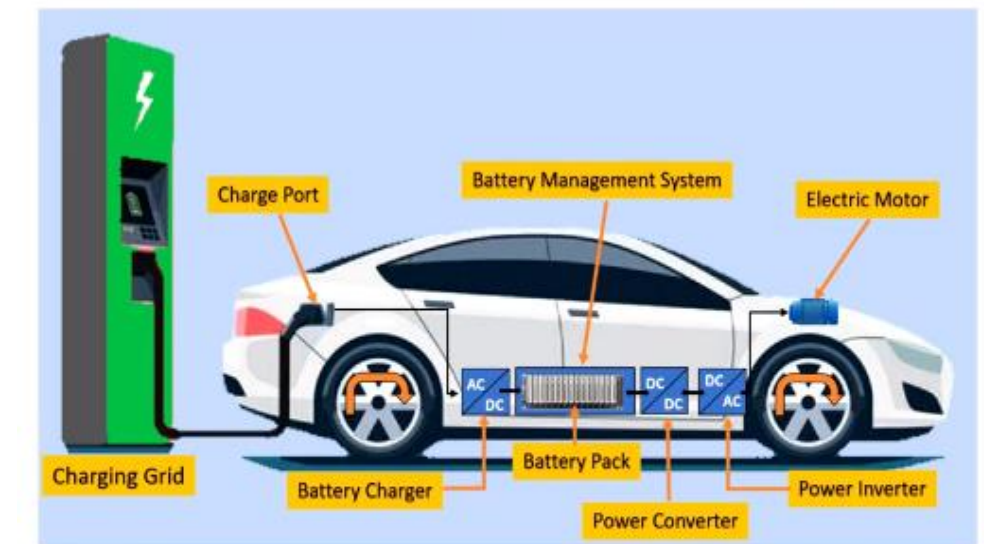
POWER CONVERTER

- * DC/DC CONVERTER
- * IT TAKES THE VOLTAGE FROM DC SOURCE & CONVERTS THE DC VOLTAGE LEVEL INTO ANOTHER DC VOLTAGE LEVEL
- * USED TO INCREASE OR DECREASE VOLTAGE LEVEL



POWER INVERTER

- * IT CONVERTS DIRECT CURRENT (DC) ON THE BATTERY INTO AN ALTERNATING CURRENT (AC)
- * USED BY ELECTRIC MOTOR TO DRIVE THE WHEELS
- * DURING REGENERATIVE BRAKING, AC IS CONVERTED TO DC & THEN USED TO RECHARGE THE BATTERY

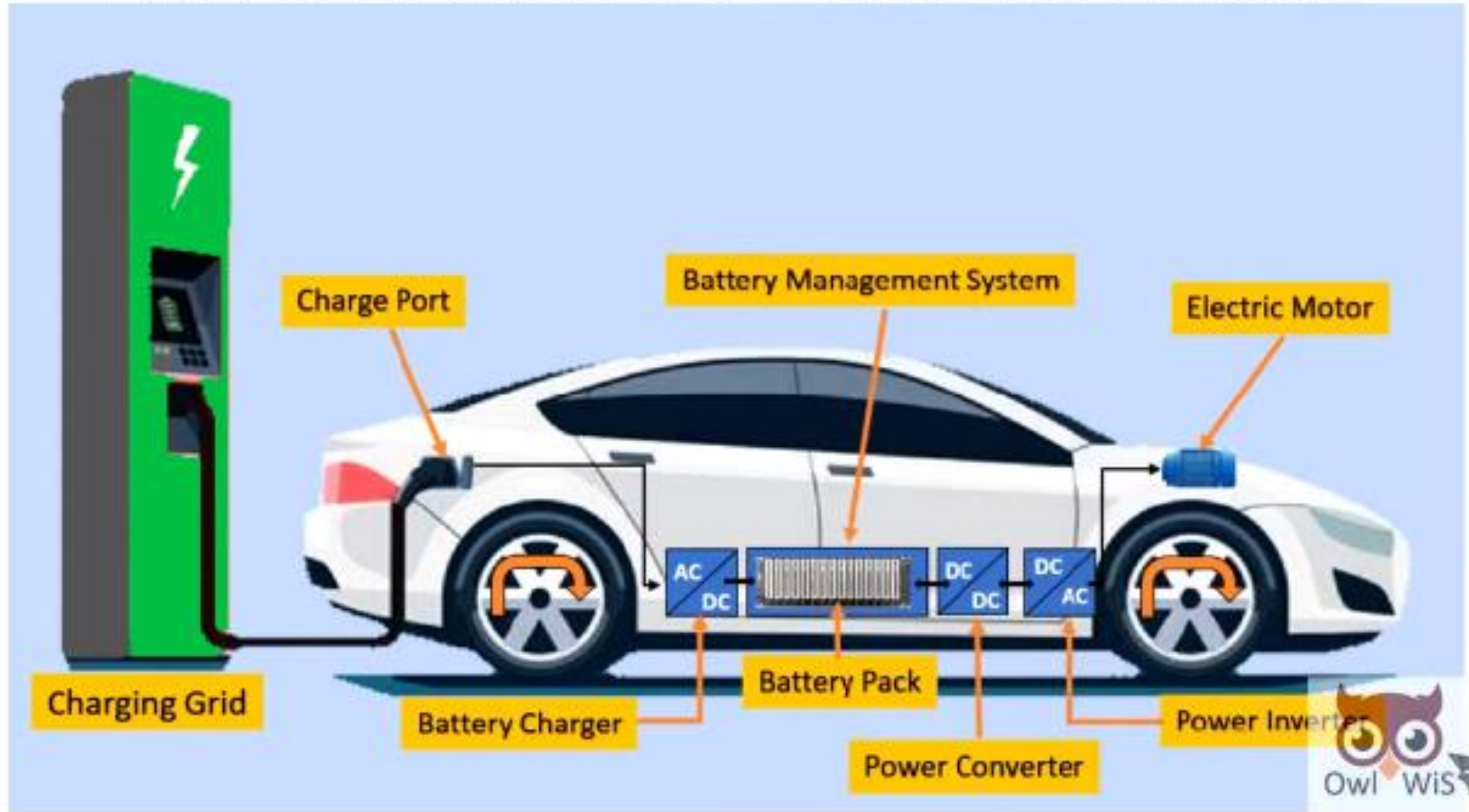


ELECTRIC MOTOR

- * CONVERTS ELECTRICAL ENERGY TO MECHANICAL ENERGY TO DRIVE THE VEHICLE



MAIN COMPONENTS OF ELECTRIC VEHICLE





**KEEP
LEARNING..
Thank u**

SEE YOU IN NEXT CLASS