

HEVS



HYBRID ELECTRIC VEHICLES

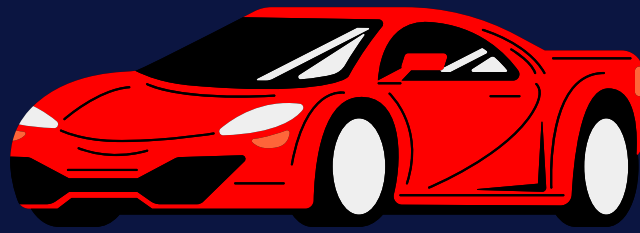


Hybrid Electric Vehicles (HEVs) are a type of vehicle that combines an internal combustion engine (usually fueled by gasoline) with an electric propulsion system. The primary goal of HEVs is to improve fuel efficiency and reduce emissions compared to traditional vehicles that rely solely on internal combustion engines.



HEVS

HYBRID ELECTRIC VEHICLES



SOME KEY FEATURES AND COMPONENTS

Examples of popular hybrid models include the Toyota Prius, Honda Accord Hybrid, and Ford Fusion Hybrid. The hybrid technology has evolved over the years

HYBRID ELECTRIC VEHICLES

- 1 Dual Power Sources
- 1 Energy Management System
- 1 Regenerative Braking
- 1 Different Operating Modes
- 1 Battery Pack
- 1 Internal Combustion Engine
- 1 Fuel Efficiency and Emissions
- 1 Parallel and Series Hybrids

ADVANTAGES

1

Improved Fuel Efficiency

1

Reduced Emissions

1

Enhanced Performance

1

Decreased Dependency on Fossil Fuels



TOP 3 SKILLS

1

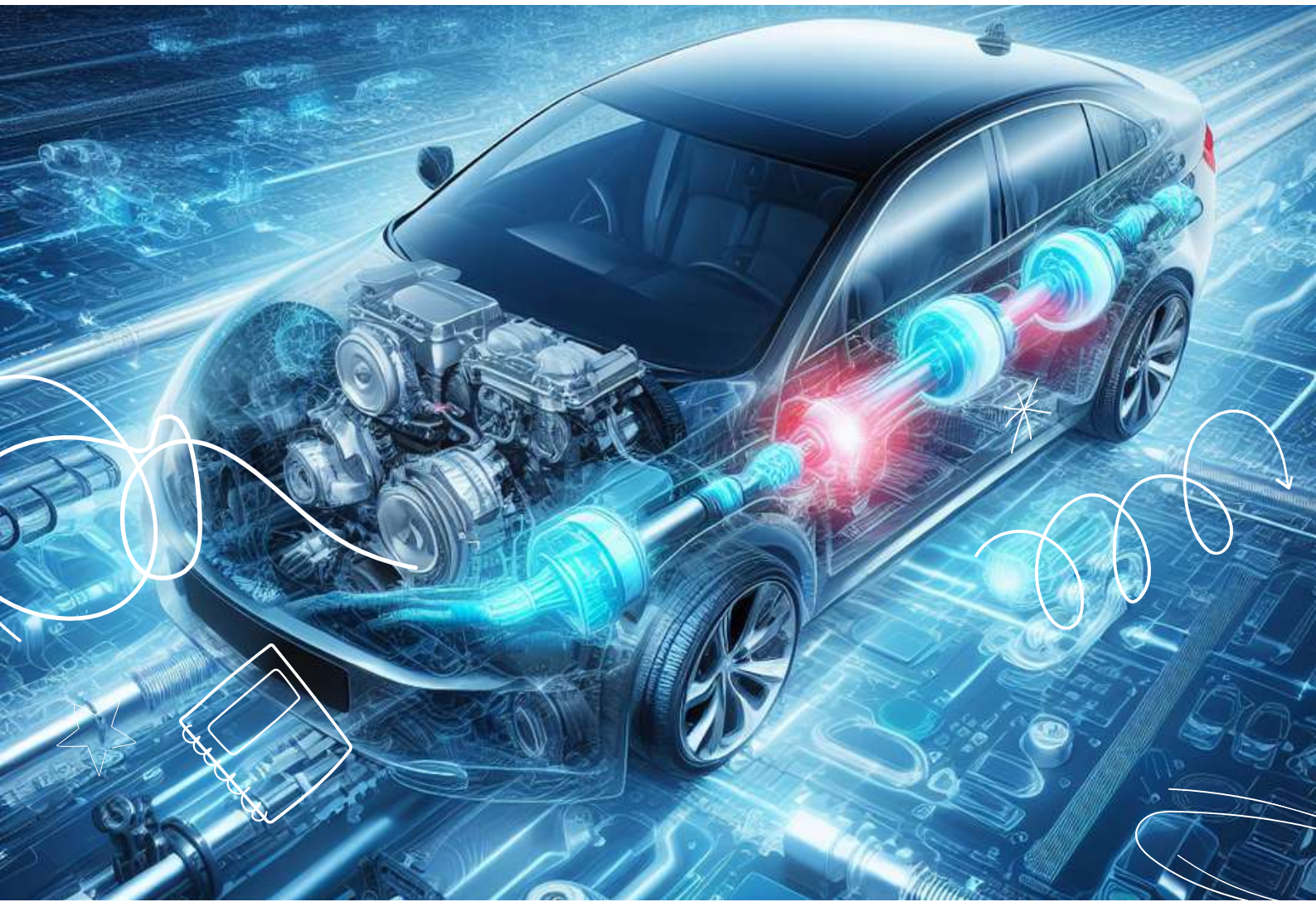
Parallel Hybrid

1

Series Hybrid

1

Power-split hybrids



HYBRID ELECTRIC VEHICLES (HEVs)

DUAL POWER SOURCES

- Hybrid Electric Vehicles (HEVs) have both an internal combustion engine (ICE) and an electric motor/battery system. These two power sources work together to provide propulsion.



REGENERATIVE BRAKING

- Hybrid Electric Vehicles (HEVs) often incorporate regenerative braking systems. When the vehicle decelerates or brakes, the electric motor acts as a generator, converting kinetic energy into electrical energy. This energy is then stored in the battery for later use.

ENERGY MANAGEMENT SYSTEM

- An energy management system controls the distribution of power between the internal combustion engine and the electric motor. It determines when to use each power source based on factors such as driving conditions, speed, and battery charge level.



INTERNAL COMBUSTION ENGINE

- The traditional internal combustion engine in HEVs is typically smaller than those in conventional vehicles, as it is designed to work in conjunction with the electric motor for improved efficiency.

DIFFERENT OPERATING MODES

- Hybrid Electric Vehicles (HEVs) can operate in different modes, including all-electric mode (using only the electric motor), gasoline-only mode (using only the internal combustion engine), and a combination of both.

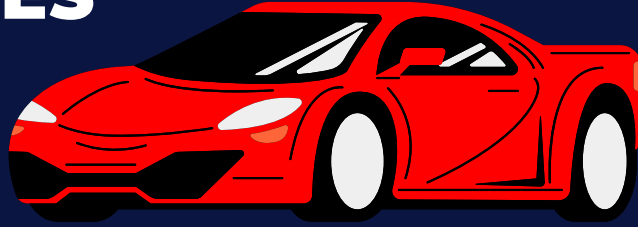


BATTERY PACK

- Hybrid Electric Vehicles (HEVs) are equipped with a battery pack to store electrical energy. The battery is typically a high-voltage unit and is charged through regenerative braking and when the internal combustion engine is running more efficiently than needed.



HYBRID ELECTRIC VEHICLES



HYBRID ELECTRIC VEHICLES OFFER SEVERAL ADVANTAGES

- **Improved Fuel Efficiency:** By combining the strengths of both the internal combustion engine and the electric motor, hybrids can achieve better fuel efficiency compared to traditional vehicles, especially in city driving conditions.
- **Reduced Emissions:** The electric motor in hybrid vehicles produces fewer emissions than traditional internal combustion engines. Additionally, regenerative braking helps capture energy that would otherwise be lost as heat during braking.
- **Enhanced Performance:** The electric motor in hybrids can provide additional power during acceleration, improving overall performance.
- **Decreased Dependency on Fossil Fuels:** While hybrids still use gasoline, they reduce overall fuel consumption and can pave the way for increased adoption of electric and alternative fuel technologies.