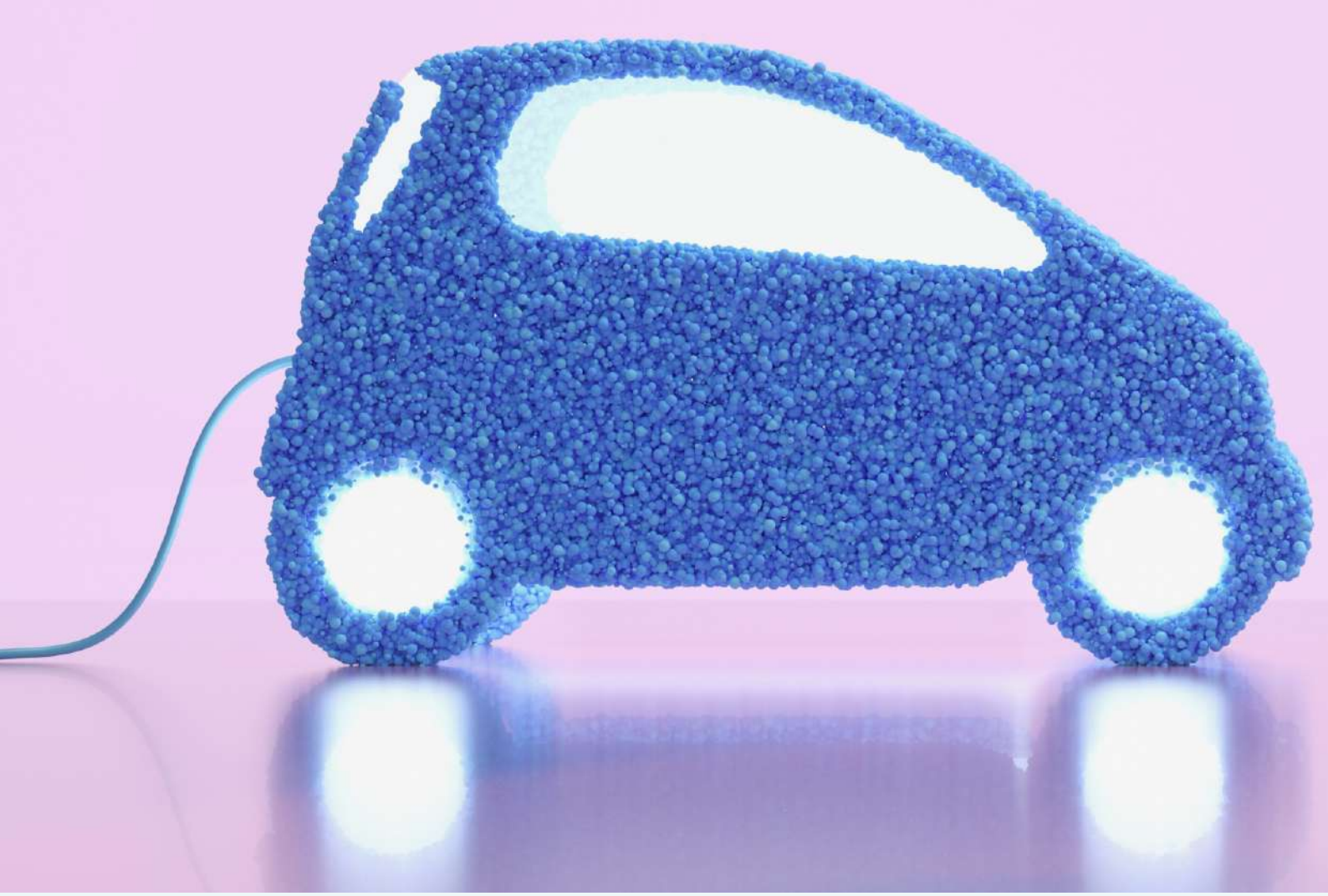
TECH SCAN

Electric Vehicles

BAZZAAR

Where Mind Meets Market



In recent years, the Indian government has shown a strong commitment to promoting the adoption and development of electric vehicles (EVs) as part of its efforts to reduce air pollution and combat climate change. As a result, there has been a significant increase in the filing of patents related to EV technology in India.

Indian companies, research institutions, and individuals have recognized the importance of protecting their intellectual property rights in this rapidly evolving field. Patents are being filed to secure innovations and advancements in various aspects of electric vehicles, including battery technology, charging infrastructure, motor design, power electronics, and overall vehicle systems.

These patents serve multiple purposes. Firstly, they provide legal protection for the inventors and innovators, ensuring that their ideas and technologies cannot be used or replicated without permission. Second, this protection encourages continued research and development in the field of EVs, as it offers a potential return on investment for companies and individuals.

Patentable Components In Electric Vehicle

In the field of EVs, several aspects may be eligible for patent protection. The following areas are often considered for patentability:

Battery Technology

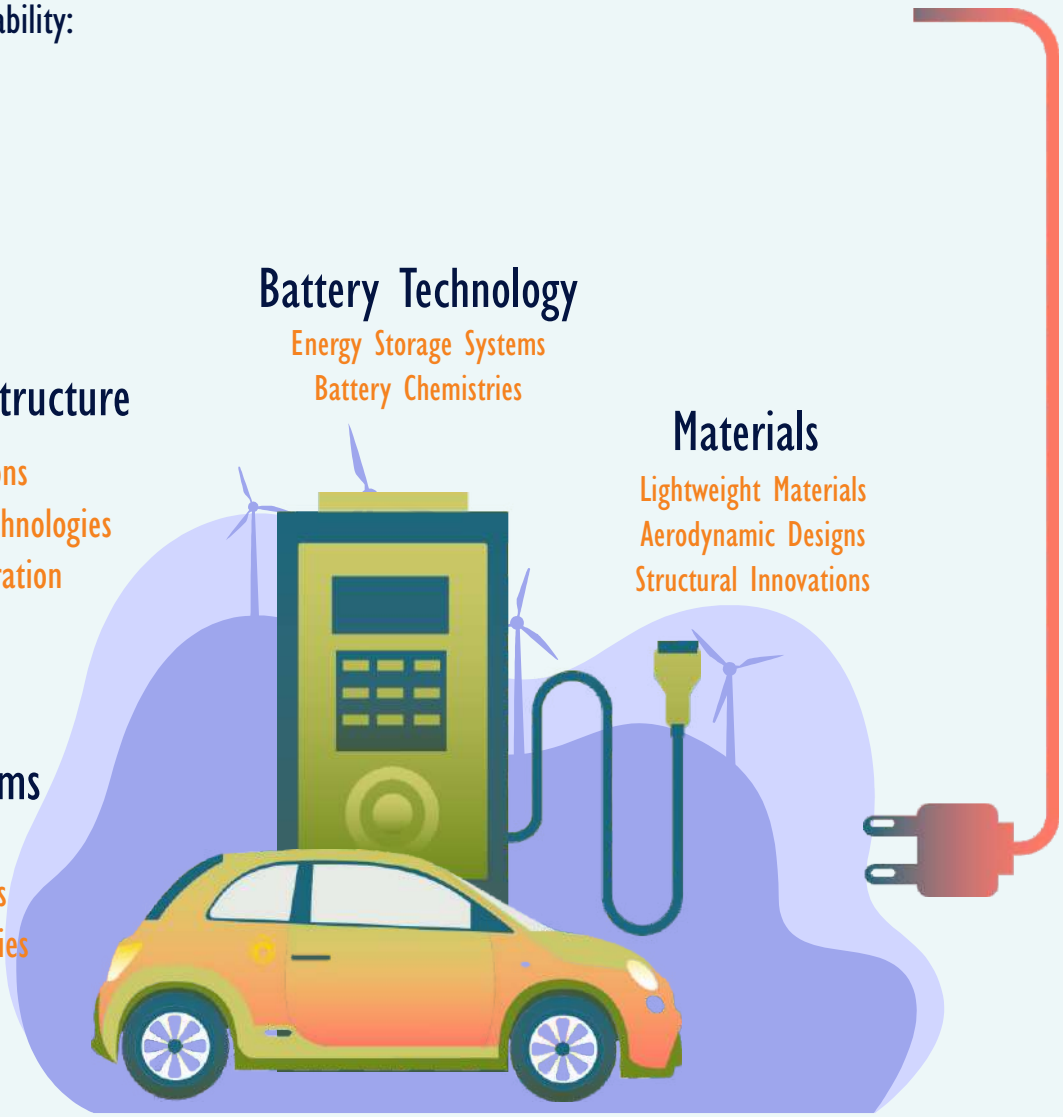
Energy Storage Systems
Battery Chemistries

Charging Infrastructure

Charging Stations
Wireless Charging Technologies
Smart Grid Integration

Materials

Lightweight Materials
Aerodynamic Designs
Structural Innovations



Vehicle Control Systems

Vehicle Control Algorithms
Regenerative Braking Systems
Autonomous Driving Technologies

Electric Motors and Drivetrain

Electric Motor Designs
Drivetrain Configurations
Power Distribution Systems

User Interface and Connectivity

User-friendly Interfaces
Mobile Applications
Connectivity Solutions

Energy Management and Efficiency

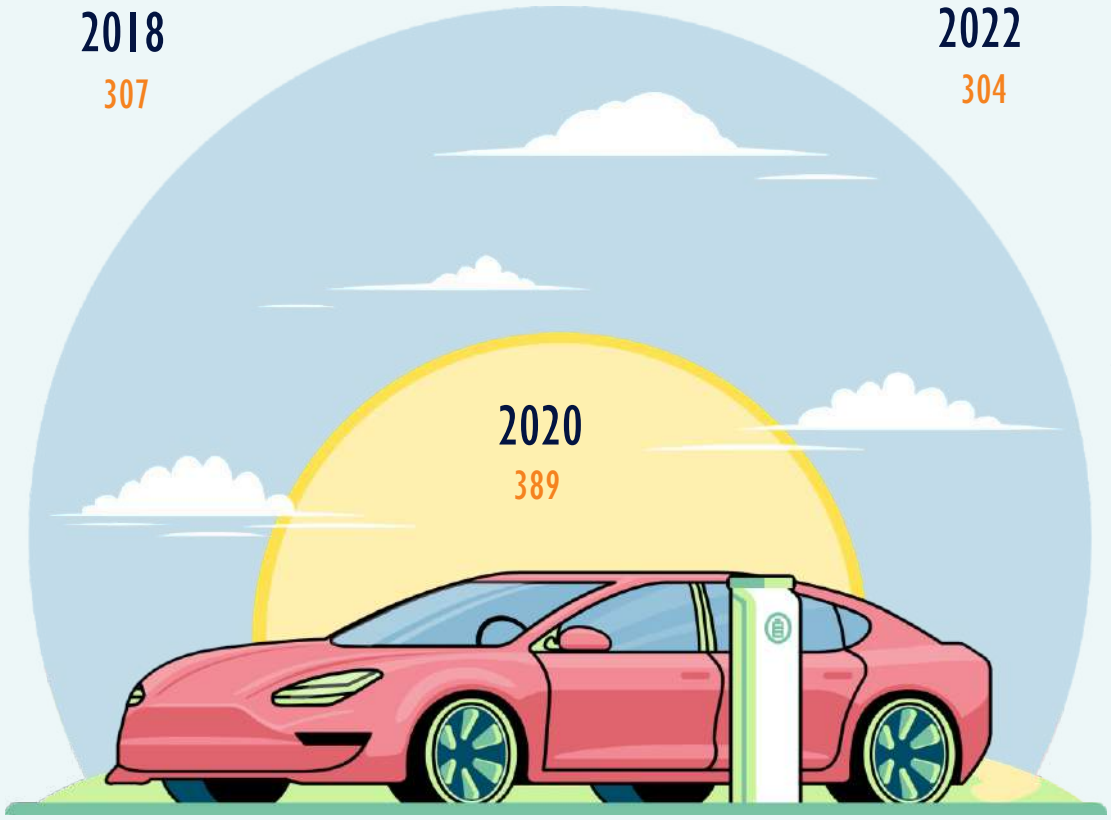
Energy management systems
Optimization algorithms
Energy-efficient components

Thermal Management

Thermal management Systems,
Advanced cooling or heating Technologies

Patent Statistics

The number of patent filings related to electric vehicles in India has shown a steady increase over the years.



2023
96+

2018
307

2022
304

2019
396

2020
389

2021
333

Honda
281

TVS
59

Toyota
77

Suzuki
136

GM
69

Mitsubishi
71

Nissan
91

LG Energy
81

Witricity
61

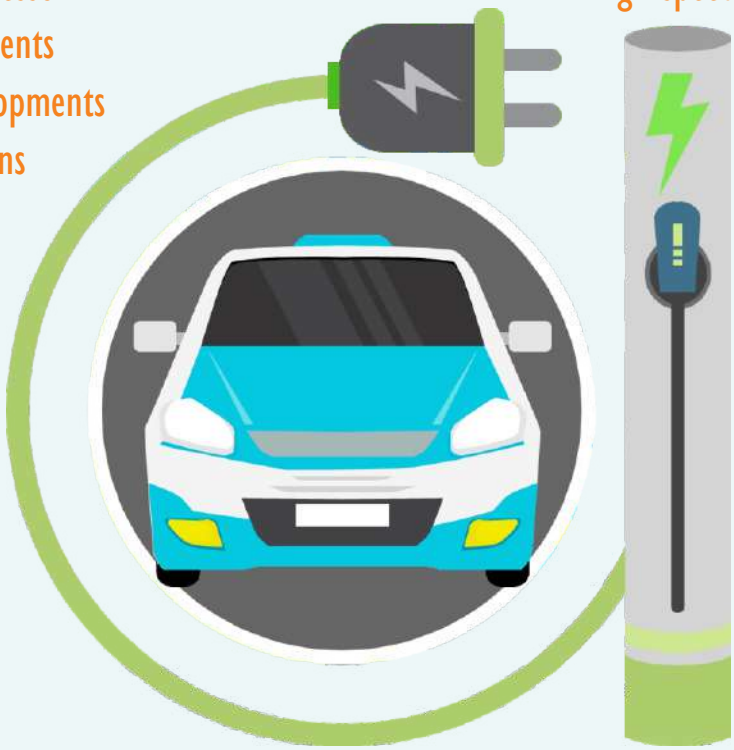
General Electricals
49

White Space to Innovate

In the rapidly evolving field of EVs, there are several whitespace areas where innovation and development opportunities exist. These include:

- Down frame design
- Vehicle width optimization
- Straddle electric vehicle
- Head pipe innovations
- Power storage solutions
- Casing design
- Electrical compressor
- Rotor improvements
- Contactor developments
- Stator innovations

- V2G (Vehicle-to-Grid) integration and smart grid solutions
- Thermal management systems for improved efficiency and range
- Noise reduction and improved acoustics in electric vehicles
- High-speed charging Infrastructure



- Battery management systems
- Charging infrastructure and technology
- Regenerative braking systems
- Energy harvesting technologies
- Integrated sensor systems for autonomous driving

- Wireless charging Infrastructure
- Range-extending technologies
- Second-life battery applications
- Recycling solutions.

Noticeable Innovations

Patent Application	Priority Date	Title	Assignee
WO2019/159475	2018-11-22	Control device, control method, and program	Honda Motor
IN201914005739	2018-03-23	Integrated illumination control system for electric vehicles	Suzuki Motor
WO2020/208655	2019-04-11	Charging of electric vehicles using renewable energy	Panasonic
IN201741044053	2017-12-07	Engine cranking with multiple prime mover sources simultaneously in hybrid electric vehicles	Mahindra & Mahindra
WO2022/190059	2021-03-11	Predictive energy management and drive advisory system for parallel hybrid electric vehicles	Indian Institute Of Technology Kharagpur
WO2022/168114	2021-02-05	Range determination of electric vehicles	TVS Motor
IN202341006643	2023-02-01	Efficiency of a charger and wall-to-wheel efficiency of an electric vehicle	OLA Electric Mobility Private
IN202111039533	2021-09-01	Mounting device for vertical mounting of onboard charger in electric vehicles	Mercedes Benz Group
WO2021/188438	2021-03-15	High power shielded busbar for electric vehicle charging and power distribution	Tesla
IN202111038302	2021-08-24	A system and a method to prevent severe hazards due to battery system failure	Maruti Suzuki India
WO2022/264156	2021-06-14	A battery charging system for a vehicle and a method thereof	TVS Motor
IN202111058772	2021-12-16	Cooling system for a charging connector	Mercedes Benz Group
WO2022/075823	2021-10-08	Separator for secondary battery comprising adhesive layer, and method for manufacturing separator	LG Energy Solution
IN202221065366	2022-11-15	Method and system for facilitating communication between an external charger unit and an electric vehicle	TATA Motors
IN202241019773	2022-03-31	Sulphide rich composite and a cathode for solid state battery	Nissan Motor Renault

Database: Questel Orbit

If you would like to learn more about any of these areas or have specific questions, we're here to provide further information and insights. Our team is dedicated to driving progress and staying at the forefront of electric vehicle technology.

About IPBazzaar

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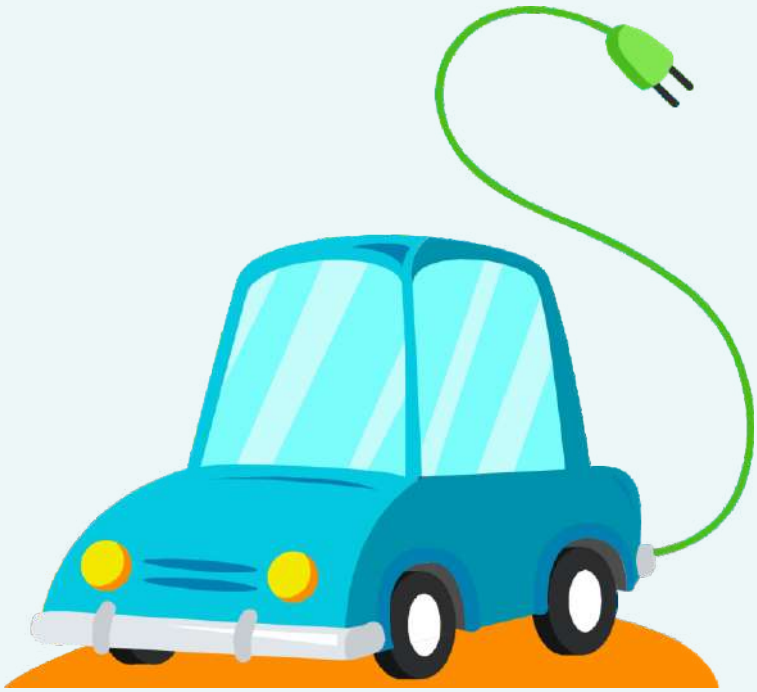

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