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Electrify Your Future: A thriving career in the innovative world of the E-Mobility sector

The transition from traditional internal combustion engines to electric vehicles (EVs) is no longer a futuristic concept; it is the present reality.



This dynamic transformation has unlocked a world of exciting career opportunities for those with a passion for clean energy, cutting-edge technology, and a commitment to driving change.(Mint file) In an era where sustainability and innovation reign supreme, the E-Mobility sector has emerged as the driving force behind a transformative shift in the automotive industry.

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This article will delve into the various career opportunities within the E-Mobility sector, highlighting the significant role played by the Electronics Sector Skill Council of India (ESSCI).

There are six essential roles divided into two segments: one in the Battery System segment and the other in the Motor and Controller segment.

The E-Mobility Revolution

The E-Mobility sector encompasses a wide spectrum of industries, including electric vehicle manufacturing, charging infrastructure development, and battery technology. Its growth is driven by the urgent need to reduce greenhouse gas emissions, combat climate change, and enhance energy efficiency.

Governments worldwide are introducing stringent regulations to promote clean transportation, and consumers are increasingly embracing electric vehicles, creating an unprecedented demand for E-Mobility professionals.

The Role of the Electronics Sector Skills Council of India The Electronics Sector Skills Council of India (ESSCI) plays a pivotal role in shaping and nurturing talent for the rapidly evolving E-Mobility sector.

Established under the Ministry of Skill Development and Entrepreneurship, ESSCI collaborates with industry stakeholders, training institutions, and government bodies to bridge the skills gap in the electronics and IT hardware sector, which includes E-Mobility. Electronics Sector Skills Council of India (ESSCI) offers various certification programs, training initiatives, and skill development projects designed to equip individuals with the expertise needed to thrive in E-Mobility careers. These programs cover a range of competencies, from electrical and electronics engineering to software development and sustainable transportation planning.

By aligning its efforts with the evolving needs of the E-Mobility sector, ESSCI ensures that India remains at the forefront of this transformative industry.

Career Paths in the E-Mobility Sector

Battery System Design Engineer: Battery System Design Engineers are at the forefront of innovation in the E-Mobility sector. They are responsible for conceptualizing, designing, and optimising battery systems that power electric vehicles. These engineers are instrumental in improving energy density, range, and overall battery performance. Battery System Assembly Operator: Battery System Assembly Operators are skilled artisans responsible for physically building battery packs for electric vehicles. Precision, attention to detail, and adherence to safety protocols are paramount in their role. Battery System Repair Technician: Battery System Repair Technicians are the unsung heroes of the E-Mobility sector. They play a crucial role in diagnosing, maintaining, and repairing the heart of any electric vehicle—the battery system. These professionals are responsible for ensuring the longevity and optimal performance of batteries, which are the lifeline of EVs.

Motor and Controller Design Engineer: The Motor and Controller Designer is responsible for designing motor, controller, and power transmission control systems for electric vehicles. The job covers activities like designing the control system, thorough testing, and validation of the design.

Electronic Hardware Assembly Operator: An Electronic Hardware Assembly Operator is responsible for installing electronic components inside various devices of an Electric Vehicle. Along with that, s/he reviews blueprints and specification sheets, inspects components, performs quality assurance tests, identifies defects in the assembly process and takes corrective actions against any malfunction detected. Motor & Controller Repairing Technician: The EV motor and controller service technician is responsible for servicing and repairing of the motor and controller in an Electric Vehicle, along with that, s/he tests the motor and the controller after servicing and takes corrective action against any malfunction detected. Skills for Success

Success in the E-Mobility sector demands a combination of technical

expertise, adaptability, and a deep commitment to sustainability:

- Technical Proficiency: Develop strong technical skills in electrical and electronics engineering, battery technology, or related fields.
- Adaptability: Stay updated with evolving technologies and be open to learning and innovation.
- Sustainability Awareness: Understand the environmental impact of transportation and the role of E-Mobility in mitigating climate change.
- Problem-Solving: Innovate and find solutions to challenges unique to electric vehicles and battery systems.
- Communication and Collaboration: Effective teamwork and communication are vital in this interdisciplinary field.

Future Prospects and Career Outlook

The electric vehicle (EV) market in India is poised for remarkable growth, with a projected compounded annual growth rate (CAGR) of

49% anticipated between 2022 and 2030, as per the Economic Survey 2023*.

This impressive trajectory is expected to catapult the segment's sales volumes, crossing an annual threshold of one crore units by the year 2030. The Indian EV industry is expected to create a significant number of job opportunities, both direct and indirect, in the coming years.

According to the Survey, the EV industry is expected to create about 5 crore direct and indirect job opportunities. The EV industry is estimated to offer several job opportunities for the skilled population. The average salary for entry-level positions in the EV industry ranges from 5 -7 lakhs, while experienced professionals can earn 7-12 lakhs per year, in accordance with market standards and job roles. Conclusion

As the EV industry continues its rapid expansion, it ushers in a wave of job creation, calling for a workforce capable of staying abreast of evolving technologies.

In this dynamic environment, individuals armed with the right training and education can harness these burgeoning job opportunities and forge a rewarding career within the EV industry. Furthermore, skill development assumes a pivotal role in enhancing the quality of EVs manufactured. With the appropriate skill set, engineers and designers can engineer EVs that not only prioritise environmental sustainability but also exhibit heightened efficiency, durability, and safety. These finely honed skills are the building blocks of engineering breakthroughs that redefine the boundaries of EV performance. (Author Abhilasha Gaur is COO, ESSCI. Views expressed here are personal.)