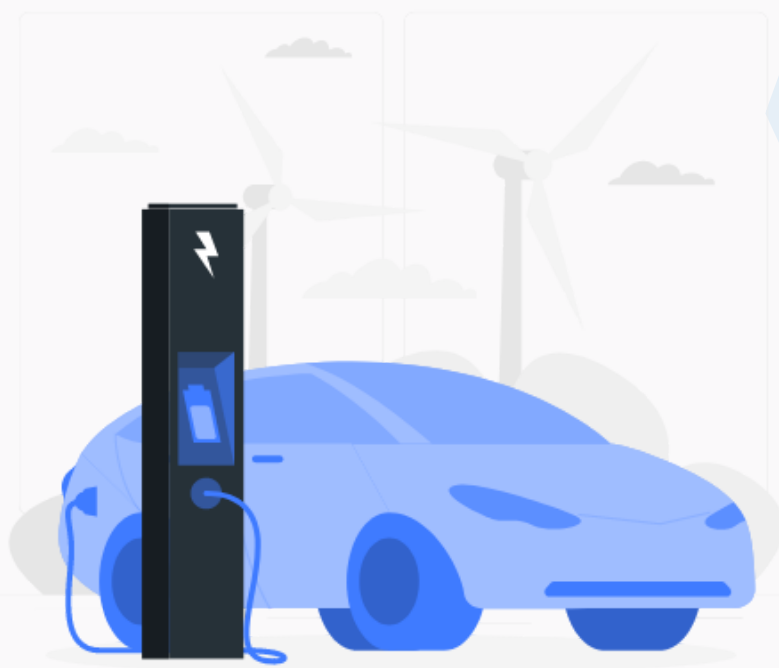


April 13, 2022

Latest Employment Trends in **EV Sector** 2022



Report by
CIEL HR



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EXECUTIVE SUMMARY

Though in its nascent stage, the Electric Vehicle (EV) market in India is expected to reach USD 206 B by 2030 as per CEEW-CEF.

At the COP26 Summit, India committed to an aspirational goal of having at least 30% of private vehicles as EVs by 2030.

This is an uphill task for the Indian Automotive industry, which is the fifth largest in the world, considering that the EV sales accounted for a mere 1.3% of the total sales in 2021.

The EV business is currently at an inflection point and poised to grow exponentially. Government of India has been rolling out several initiatives to promote growth of electric mobility. The sector is witnessing a huge surge in investments – Along with the established players, the startups have also attracted significant investments and are experimenting with innovative business models.

As India gears up for massive growth in the sector, CIEL HR ventured out to understand some of the key aspects in the talent ecosystem.

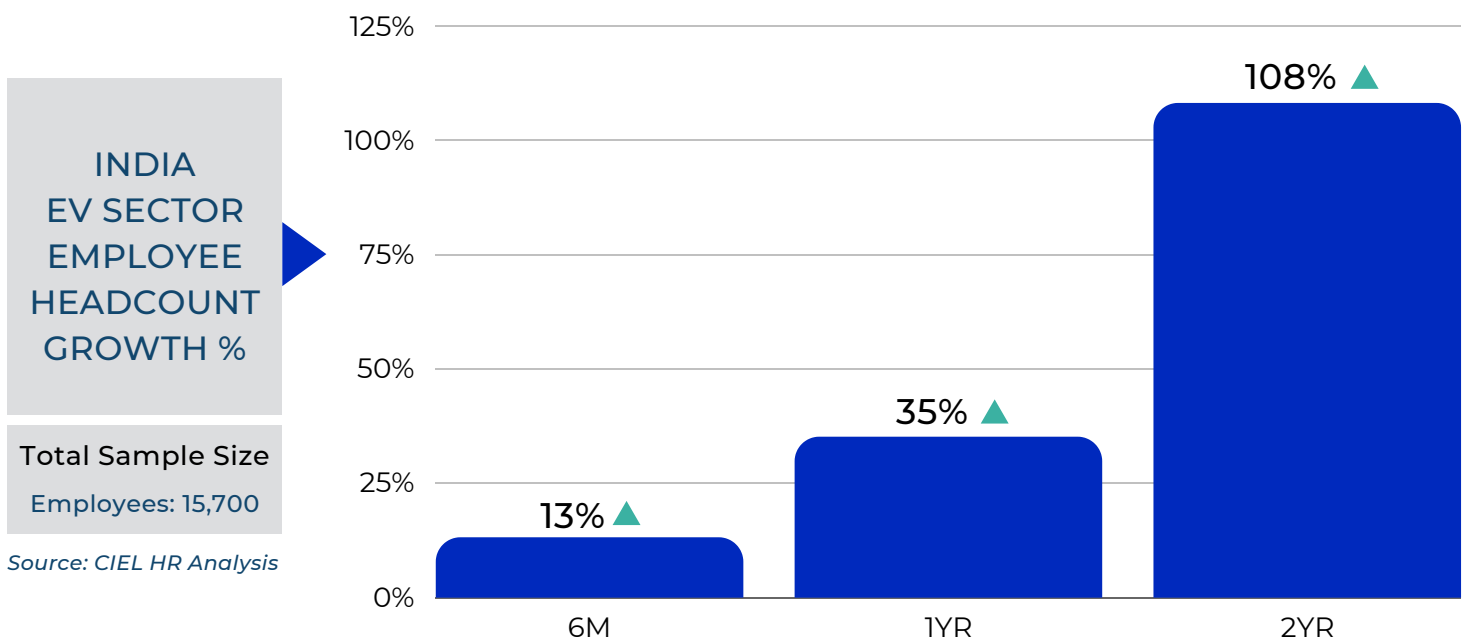
Which functions are gaining prominence? What is the average tenure of these executives? What are the skills and qualifications that are in demand? Which are the dominant locations? CIEL HR also went on to analyze the job postings data to get a perspective on the hiring environment.

As the EV sector continues to evolve, it would be interesting to observe the changing talent dynamics.



There has been significant growth in employment in the EV sector

The average growth in employee numbers stands at a massive 108% over the last two years. In the short term, i.e., 1 year and six months, the growth is 35% and 13% respectively.



Electric Vehicles (EVs) gained strong momentum in the Indian market in the recent past.

Government of India has taken crucial steps towards faster adoption of EVs, which has been the biggest growth driver.

Government of India has been rolling out several initiatives to promote growth of electric mobility

- Owing to the 100% FDI possibility, the EV industry in India is picking pace with the development of new manufacturing hubs and improved infrastructure for charging stations
- **Under the phase two of the FAME scheme:**
 - About 1,65,000 EVs have been supported, as on November 25, 2021, by way of demand incentive amounting to about INR 5.64 billion.
 - Approvals have been granted for 6,315 electrical buses, 2,877 EV charging stations amounting to INR 5bn in 68 cities across 25 states/UTs and 1,576 charging stations amounting to INR 1.08bn across nine expressways and 16 highways.
- **Multiple production-linked incentive schemes** intend to create a local manufacturing ecosystem to support goals around greater adoption of electric mobility transport. This is sought to be achieved by incentivizing fresh investments into developing indigenous supply chains for key technologies, products, and auto components.
- In May 2021, the government rolled out a **Production-Linked Incentive Scheme (PLI) for ACC Battery Storage Manufacturing**, which will incentivize the domestic production of such batteries and reduce the dependence on imports.
- On September 15, 2021, the government approved a **PLI Scheme** for the automobile and drone industry, which intends to **incentivize high value advanced automotive technology vehicles** and products, including 'green automotive manufacturing'

2022 – 23 Union budget has reiterated the Government's focus in this space:

- The finance minister in the Budget announced plans to implement a battery swapping policy and formalize interoperability standards.
- The Govt. also announced plans to further the push for EV penetration in public transport and create special mobility zones for EVs.

EV SECTOR IS SEEING A HUGE SURGE IN INVESTMENTS

OEMs	Investment in e-mobility (INR Cr)
Tata Motors	15,000
Maruti Suzuki	10,440
Hyundai	4000
Mahindra	3000
MG Motors	2600-3800
Simple Energy	2500
Ola Electric	2350

Source: NitiAayog

PE investments in the sector is also experiencing a swell

Established automobile firms are betting big on the EV Ecosystem

Key investment announcements from Jan-Dec 2021, totaled INR 48,000 Cr. (USD 6.5bn)

Cumulative investment in India's EV transition could be as large as INR 19.7 lakh crore (\$US266 billion) between 2020 and 2030, as per a report by NITI Aayog -to reach a 30% sales share for EVs by 2030

There has been an almost 300% jump in the value of investment by PE firms in the EV space, over the last three years. Start-upshave attracted significant funds.

The investments are targeted not only at the EV manufacturing space but also in areas such as battery tech, installation and maintenance of public charging stations as well as grid works. PE Investment FY 2021-2022

Company	Amount INR	Investors
Altigreen Propulsion	300.0	Xponentia Capital, Sixth Sense Ventures, Others
Chargeup	18.9	Capital A, Anicut Capital, Others
Evage Ventures	210.2	RedBlue Capital
Exponent Energy	37.43	3ONE4 Capital, AdvantEdge Partners, YourNest, Others
Euler Motors	74.7	Inventus India, ADB, Blume Ventures, Others
Ola Electric	1485.2	Alpha Wave Global, SoftBank Corp, Others
RevOS	29.3	Union Square Ventures, Prime Venture Partners, Others
Ati Motors	26.1	MFV Partners, Exfinity Fund, Blume Ventures, Others
Exponent Energy	-	3ONE4 Capital, AdvantEdge Partners, YourNest, Others
RevFin	-	Shell Technology Ventures
Cell Propulsion	5.0	Micelio Fund, Endiya Partners, Growx Ventures, Others
Battery Smart	2.6	Orios VP, Others

Start-ups are experimenting with various innovative business models to boost the adoption of EVs

• VEHICLE SUBSCRIPTION/ LEASING MODEL

Under this model, the vehicle is sold on a monthly rental basis without any upfront cost. The model aims to reduce up-front costs for customers. Most OEMs also offer extensive maintenance and insurance plans along with the vehicle to subscribers.

Quicklyz, the electric vehicle leasing and subscription arm of Mhaindra Finance offers the widest range of EVs for leasing and subscription to potential customers. The digital platform provides a subscription program for both retail and corporate customers

• CHARGING AS - A - SERVICE (CAAS)

Some OEMs have created a charging network to address customer concerns regarding range anxiety. The charging infrastructure provides customers with an option to charge the vehicle on a subscription or pay-per use basis.

Founded in 2019, Hopcharge is a Gurgaon-based startup that provides a charging system consisting of connected and portable power banks with high power charging capabilities specifically designed for EVs.

• RIDE RIDE- HAILING COMPANIES WITH AN ALL-EV FLEET

With around 1,000 electric four-wheelers, BluSmart is currently the largest ride-hailing company with an all-EV fleet not only in Delhi-NCR, but the entire country. Companies like eee - Taxi and Evera are also offering completely electric rides and are charged up to expand their operations soon.

Prakriti emobility provides the on-demand electric cab service Evera, while eee-Taxi largely caters to corporate clients.

• BATTERY SWAPPING MODEL

In this model, the customer has an option to swap the drained battery with a charged battery for a fixed fee. This model primarily addresses concerns on battery charging time and reliability.

Sun Mobility is a tech start-up based in Bengaluru in Karnataka, India began rolling out a swappable battery service for electric vehicles in 2020. Sun Mobility battery swapping stations will also be appearing at petrol stations from the Indian Oil Corporation Limited (IOCL) after the two companies made the appropriate framework agreements. Sun Mobility's swappable battery also powers Piaggio's Ape E-City Hero Electric has announced its partnership with Sun Mobility, to deploy electric two-wheelers integrated with the latter's smart-swappable battery technology.

M&A and Strategic Partnerships have become a key strategy to accelerate growth in the EV industry

Target Company	Acquirer	Amount (USD mn)
AiKaanLabs	AtherEnergy	-
Ashok Leyland	Switch Mobility Automotive	31.7
Axiom Energy Conversion	Magenta Power	-
BrightBlu	KoolenIndustries	1.6
ESG Mobility	Cognizant	-
InoBatAuto	Amara Raja Batteries	-
Kohima Mariani Transmission	Apraava Energy	-
Magenta Power}	Individual	15.0
Panine	Emotorad	-
Revolt Intellicorp}	RattanIndia Enterprises	20.1
SUN Mobility	Vitol	50.0
Switch Mobility	Dana Corp	18.0
ZipZap Logistics	Mahindra Logistics	9.5

Our analysis reveals that there has been almost a 500% jump in the total deal value in the EV space in 2021 over 2020

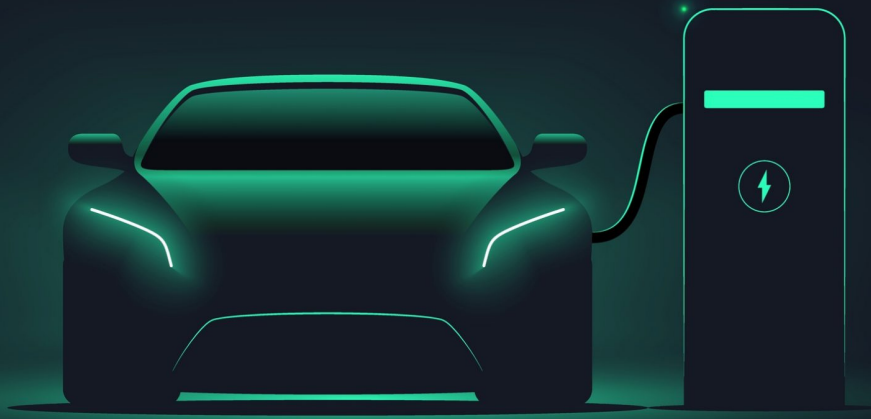
Auto players are entering into strategic partnerships to prepare for the future

Such partnerships help optimise cost, timelines, shared knowledge; enhance manufacturing capabilities, drive new product developments, get tech support

Kinetic and Aimahave entered into a long-term collaboration to co-develop electric two-wheeled vehicles for Indian consumers. Aimashall assist Kinetic with design, and support for modifications and rapid localisationof the models to suit Indian customer requirements.

MindaIndustries forms Joint Venture with Germany's FRIWO for manufacturing EV components

Mahindra and Mahindra and Hero Electric have signed a strategic partnership where Mahindra will manufacture Hero Electric's Optima and NYX at its Pitampurplant to meet the growing demands.



India is on a path to becoming a hub for production of EVs, in the process of boosting employment generation.

EV manufacturers have announced plans to hire aggressively

The Ministry of Skill Development and Entrepreneurship has estimated that

the EV industry will create one crore direct jobs by 2030

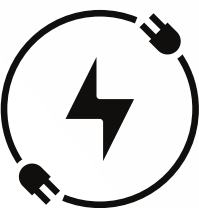
and this will give rise to approximately five crore indirect jobs in the sector

EV companies are focussed on building up a solid top-level leadership talent base

Electric Vehicle manufacturers are strengthening their leadership team

Companies are hiring new leaders who are experienced and have extensive knowledge which will help in EV development and adoption.

The last few months have seen companies make some strategic top-level recruitments in keeping with their business plans and vision



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TVS Motor Company appointed Venkat Vishwanathan as technical advisor for electric mobility

ElectricPe appointed Krishnan Sekar as COO to help expand ElectricPe's footprint

Ola Electric roped in TVS Motor's SVP – Engineering, Samraj Jabez Dhinagar, to lead its vehicle engineering programmes.

Ola also hired the former LG Chem Power CEO-- Dr Prabhakar Patil-- to the Ola Electric board

BYD India appointed Sanjay Gopalakrishnan as SVP responsible for its EV business in the country

SUN Mobility appointed Anant Badjatya as the CEO for its India business.

Altigreen appointed Prashant Sankeshwar as National Head- Network Development, Indranil Bhattacharyya as GM, Vehicle Dynamics, and Girish Lobo as Head HR.

Ather Energy hired Gurinder Singh Sukhija as head of ownership management and Murali Sashidharan as head of communications and government relations



Skill development remains a key area of focus for the industry stakeholders

EV Companies would focus more on the technical and specialized skills to cater to the rapid rise in demand for EVs.

Automotive Skills Development Council (ASDC) has launched its Electric Mobility Nanodegree Programme in association with DIYguru– an online learning platform for engineers across India and South East Asia.

IITs in Delhi, Roorkee and Kharagpur, as well as institutions such as UPES (University of Petroleum and Energy Studies), are offering courses and research facilities for EVs.

NPTEL (National Programme on Technology Enhanced Learning), an initiative of the IITs and IISC is also providing EV Programs.



Hero Electric on partnering with American India Foundation to upskill workers

“Upskilling and hiring of talent is key to the growth of the EV ecosystem

We at Hero have been gunning for this via our existing PGO initiative and, have trained more than 6000 garage owners to date. This partnership allows us to expand the training resources offered by these programs. We have incorporated a special program for the PWD candidates to mobilize, train, and upskill them. The MoU will strengthen the electric mobility sector by offering direct and indirect employment opportunities. We have collaborated with AIF on training, employment, and funding support and aim to empower these candidates"

Sohinder Gill, the CEO, of Hero Electric

Automotive Skill Development Council (ASDC) has partnered with ISIE India (Imperial Society of Innovative Engineers) and MG Motor India to address the issues about electric vehicles, creating skilled manpower for the automobile industry, and the sustainable employment of the youth in the industry



WOMEN'S PARTICIPATION IN THE EV SECTOR IS GROWING

India's EV industry is seeing many women in the leadership positions



WOMEN LEADERSHIP IN EV

Sulajja Firodia
Motwani
CEO, Kinetic Green

Rashmi Urdhwareshe
Former Director,
Automotive Research
Association, Currently,
EV-related policies
advisor

Prabhjot Kaur
Founder, CBEEV &
Esmito

Hemalatha Annamalai
Angel Investor &
Founder, Ampere
Vehicles

Suman Mishra.
MD and CEO,
Mahindra Electric
Mobility

Mahua Acharya
MD and CEO,
Convergence Energy
Services Limited
(CESL)

Madhumita Agrawal
Co-founder, OBEN
Electric Vehicle

Kamkripa Ananthan
Ex-Mhindra Design
Head & Director, Krux
Studio



Ola announced that it's
new e-scooter factory in
Tamil Nadu will be run
entirely by women, more
than 10,000 of them at
full scale

Bengaluru remains the hottest location for EV talent, with 62% of the job posting in this region

Other regions are Delhi NCR with 12%, Pune (9%), Coimbatore (6%) and Chennai (3%)

TOP HIRING COMPANIES

OLA ELECTRIC

Mahindra
ELECTRIC



EXICOM
POWER SOLUTIONS



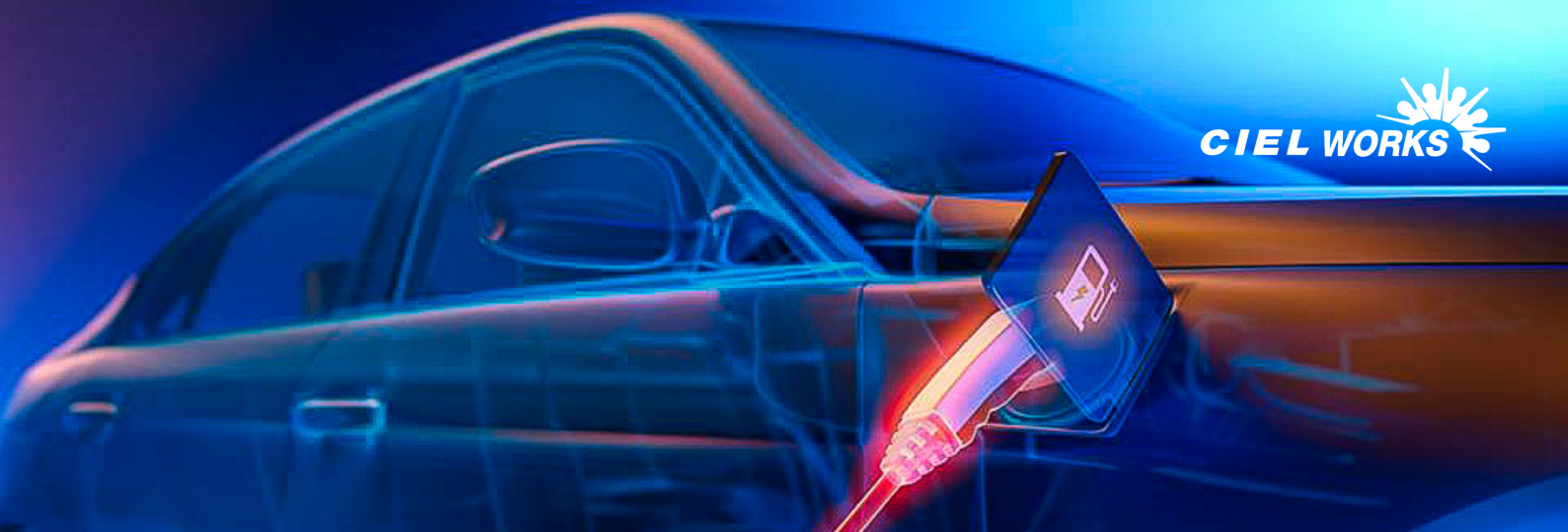
OKAYA
NEVER STOP INDIA



NAPINO

GREENFUEL





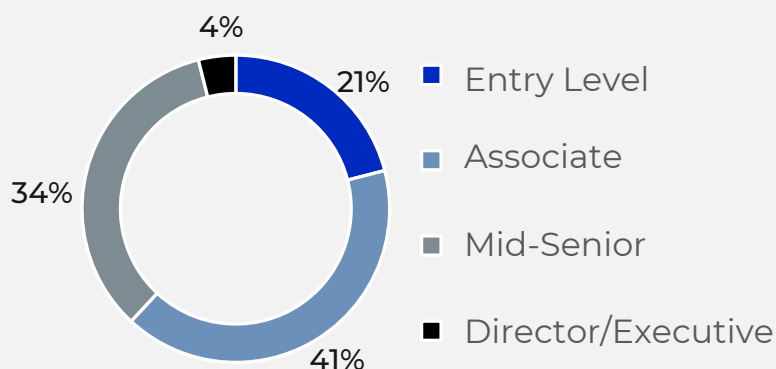
CIEL's EV Sector Report

Analyzing Job Postings

- TOTAL JOB POSTINGS
- LEVEL OF EXPERIENCE
- LOCATION

Total Job Postings:
360

LEVEL OF EXPERIENCE



EV manufacturers are making some strategic mid level recruitments in keeping with their business vision.

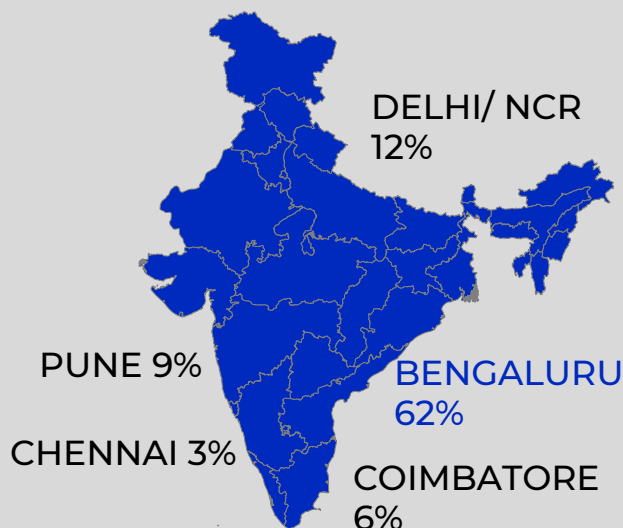
41% of the job postings are for Associate level, followed closely by Mid-Senior level at 34%. Only ~21% of the job posting are in the entry level.

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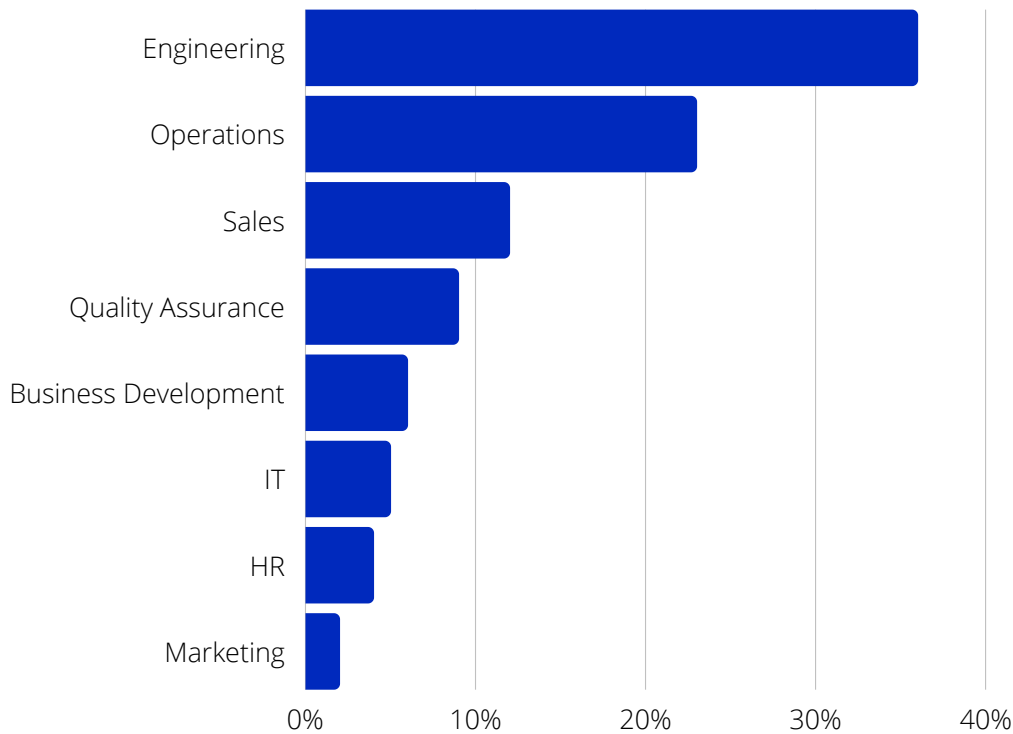
Southern Indian state has established a clear lead in India's electric vehicle (EV) journey.

- Karnataka has in recent years become a hotspot of EV businesses. The state houses some of the most prominent firms involved in EV and EV ancillary manufacturing, including Mahindra Electric, Ather Energy, Ola Electric, and Bosch. Tesla also marked its entry into India by incorporating their subsidiary in Bengaluru



Analyzing Job Postings

- Function Breakdown
- Job Model



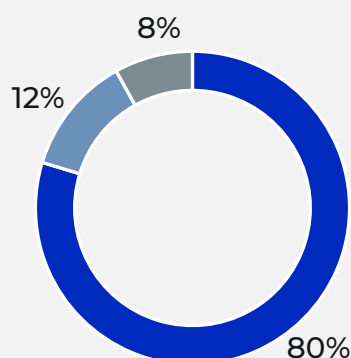
TOTAL HIRING

2236

Over the last 6 months by leading EV players

MEDIAN TENURE

2.9 Years



■ Onsite ■ Remote ■ Hybrid

Auto industry is likely to largely require in-person physical presence on premises, with only 12 per cent of the jobs in this sector expected to continue remotely, and 8% in the hybrid mode.

Analyzing Job Postings

- Skills & Qualification

Engineers with cross functional knowledge

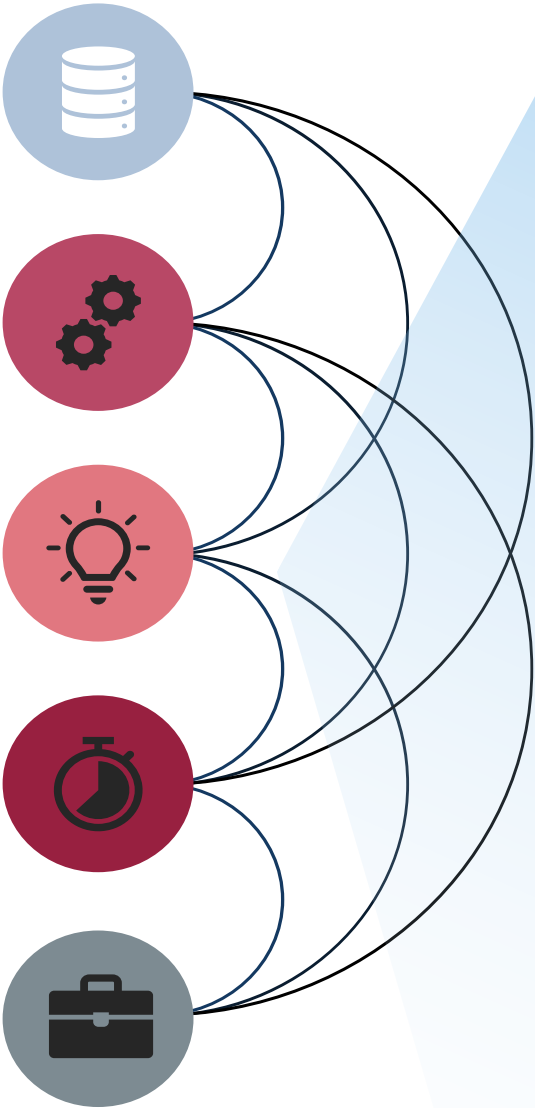
electrical, electronics, mechanical, software, electrical, chemical, material, thermal, energy science etc.

Fields such as software, aerospace and consumer electronics, where people are conversant with the role of **connectivity and AI-enabled technology in the workings of machines**

Analytical, problem-solving and Creative skills

Communication skills
(ability to explain technical information and requirements)

Education **from premier institutes** is preferred



KNOWLEDGE IN TECHNOLOGIES SUCH AS:

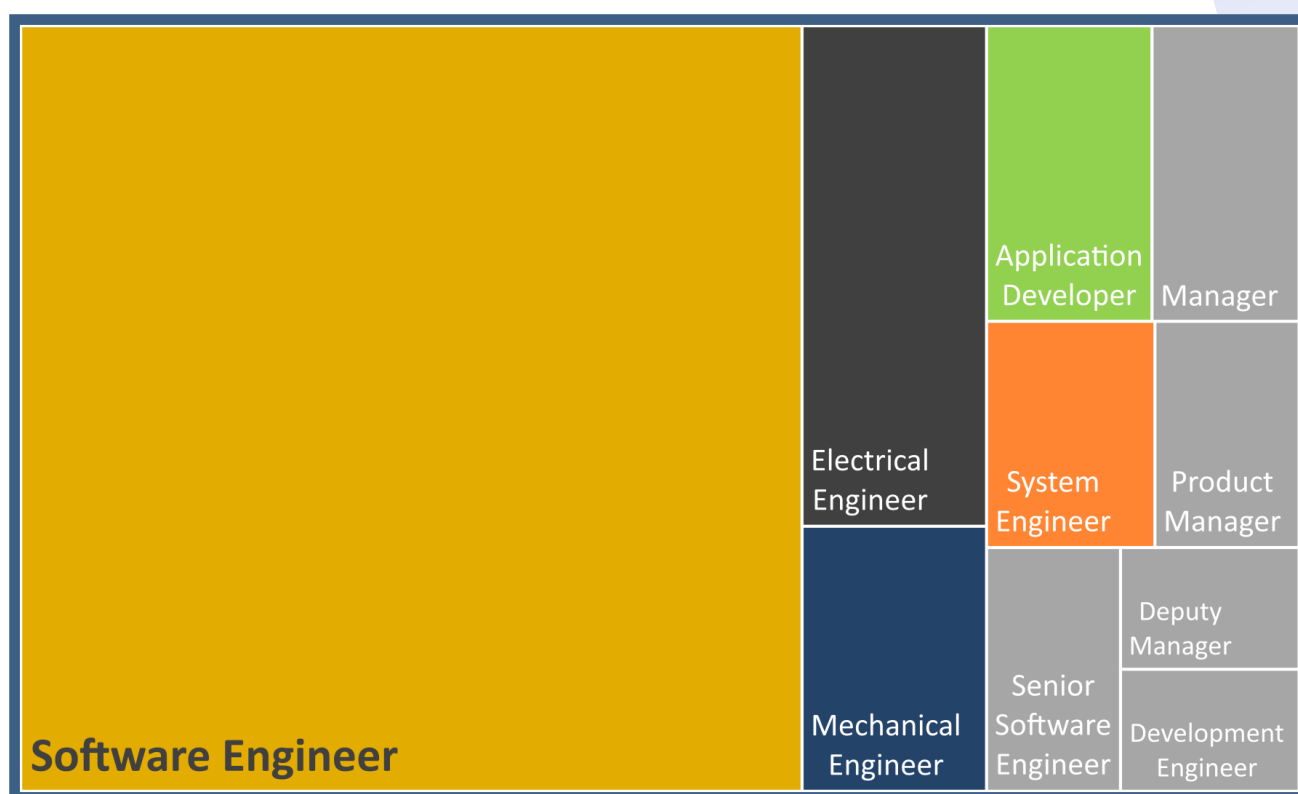
CAN and related protocol	Electric Powertrain Controls	Vehicle and system integrations
Matlab, Simulink	Vehicle mechanics and architecture	Signal/Image processing & Data fusion
Testing, Validation, and Certification process used in the Electric Vehicle Design	Battery engineering and management systems	Embedded product development including various data networking protocols deployed in and outside the vehicle
Embedded C programming and ECU knowledge	Control system development	

Analyzing Job Postings

- Top Titles
- Top Talent Seekers

Companies in the sector are looking at hiring technical and specialized talent. The title 'Software Engineer' is most prominent.

EV players have accelerated hiring in areas such as AI, big data & analytics, app development, cyber defence and IoT.



TOP TALENT SEEKERS

-chargepoint+

Infoblox

LOG

TENNECO

Mahindra

Garrett
ADVANCING MOTION

OLA

BOSCH

SIEMENS

EATON

ABOUT CIEL WORKS

#GetTheBestOutOfUs

CIEL Works aims to conduct detailed research and analysis across sectors for a deeper understanding of the changes happening in the field of Recruitment, Staffing, Business world and present insights for the leaders to be informed on today's evolving business and human resources while making critical decisions

