EV Report
MARCH 2025

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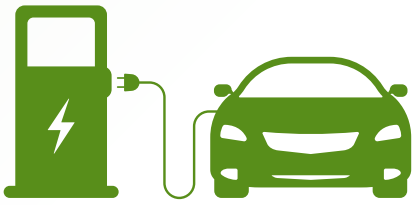
YOUR ACCESS TO FUTURE MOBILITY

AUTOMOTIVE CYBERSECURITY: CSMS

INDIA EV SALES FEB 2024

TOP MONEY MOVEMENT IN MOBILITY WORLD

NEWS, JOINT VENTURES & PARTNERSHIPS



UPCOMING EV SHOW

EV LAUNCH

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'gyaniki' undertakes specialized and customized research in the areas of Future Mobility.
'gyaniki' provides an online repository for understanding the mobility ecosystem.
'gyaniki' database covers manufacturers, suppliers, technologies and ecosystem players in mobility including Electric, Autonomous, ADAS, Connected and Shared vehicles.
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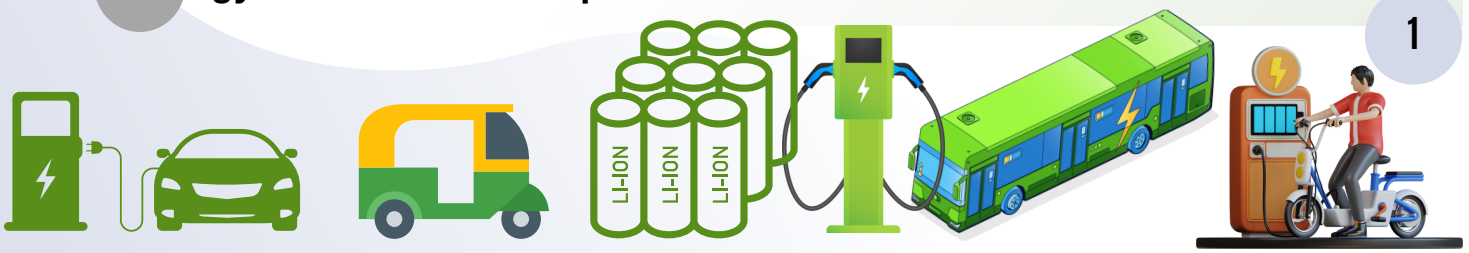


Automotive Cybersecurity: CSMS

As the automotive industry continues to evolve, organizational-level Cybersecurity Management Systems (CSMS) have become increasingly critical. This month, we focus on the key aspects of CSMS implementation at the organizational level.

Defining CSMS:

A **Cybersecurity Management System (CSMS)** is a systematic risk-based approach that defines organizational processes, responsibilities, and governance to treat risks associated with cyber threats to vehicles and protect them from cyberattacks. It provides a holistic framework for managing an organization's cybersecurity risks throughout the vehicle lifecycle.

Core Components of CSMS:

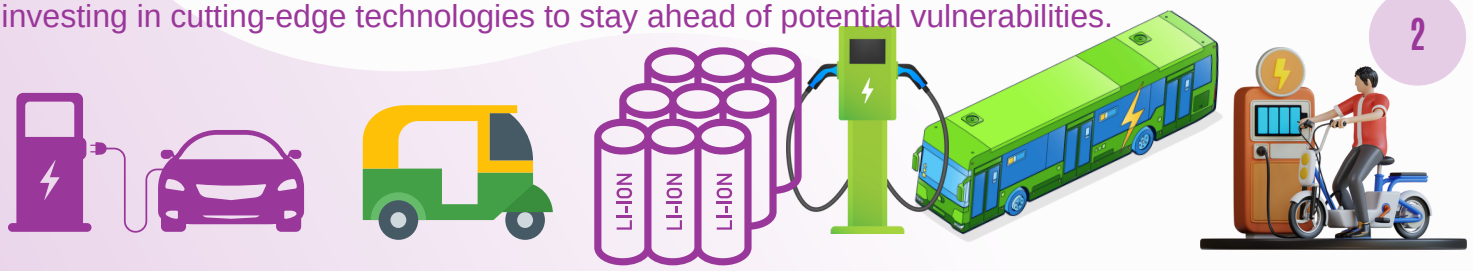
1. **Policies and Procedures**: Establishing best practices, policies, and controls to proactively combat threats and protect sensitive information.
2. **Risk Management**: Implementing processes to identify, assess, and mitigate cyber risks throughout the entire lifecycle of products or services.
3. **Incident Response**: Developing protocols for responding to and managing cybersecurity incidents, often referred to as a Cyber Incident Response Plan (CIRP).
4. **Organizational Structure**: Defining clear roles and responsibilities for cybersecurity management across the organization.
5. **Continuous Monitoring**: Establishing processes for ongoing evaluation of cybersecurity measures and new vulnerability information.

Challenges in CSMS Implementation:

1. **Integration with Existing Standards**: Ensuring seamless integration of CSMS with other quality and safety standards (e.g., ISO9001, ISO26262, ASPICE).
2. **Resource Allocation**: Dedicating sufficient time, personnel, and financial resources to meet all CSMS requirements.
3. **Skill Gap**: Addressing the need for specialized cybersecurity expertise within the organization.
4. **Supply Chain Management**: Ensuring cybersecurity practices are implemented throughout the entire supply chain.

The **UNECE Regulation 155 (UN R155)** about **vehicle cybersecurity and Cybersecurity Management Systems (CSMS)** came into full force in July 2024. This regulation required vehicle manufacturers across the 64 WP.29 member countries to adhere to regulatory compliance measures outlined in UNECE Regulation.

Experts suggest an average 30-month cycle is required to adopt an effective CSMS, indicating that many manufacturers are likely still in the preparation phase. The effectiveness of these systems in countering emerging threats will be crucial in shaping the future of vehicle safety and security. Organizations must remain vigilant, fostering a culture of cybersecurity awareness and investing in cutting-edge technologies to stay ahead of potential vulnerabilities.



Automotive Cybersecurity: CSMS

YOUR TRUSTED PARTNER IN AUTOMOTIVE CYBERSECURITY COMPLIANCE

- Expert guidance on UNECE Regulation No.155 and ISO/SAE 21434 standard
- Ready-to-use CSMS framework including templates, checklists and guidelines
- Comprehensive risk management and threat analysis (TARA)
- Cybersecurity support for design and manufacturing
- Supply chain cybersecurity management

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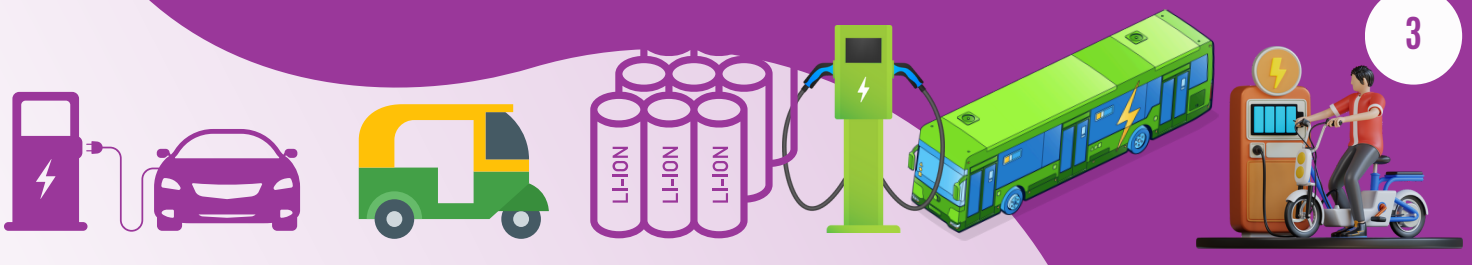


Smart EV Fleet Management Solutions

In the rapidly evolving landscape of fleet management, electric vehicles (EVs) are proving to be a game changer. They offer innovative solutions that address common challenges faced by commercial vehicle fleet managers, such as inefficient routing, unplanned stops, and breakdowns due to poor maintenance. By leveraging technology and connectivity, EVs provide unprecedented visibility into the fleet management process, significantly enhancing efficiency, safety, and sustainability. Here are four smart fleet management solutions that underscore the advantages of adopting EVs.

Dynamic Monitoring with Predictive Maintenance: One of the most significant benefits of EVs is their ability to utilize telematics and IoT sensors for real-time monitoring of vehicle health. Fleet owners can track crucial metrics such as battery charging levels and tire pressure, allowing for proactive maintenance planning. This predictive maintenance capability minimizes disruptions and breakdowns, ultimately boosting operational efficiency. Studies have shown that inadequate maintenance can escalate operational costs by up to 30%, directly impacting profitability for businesses reliant on logistics and transportation.

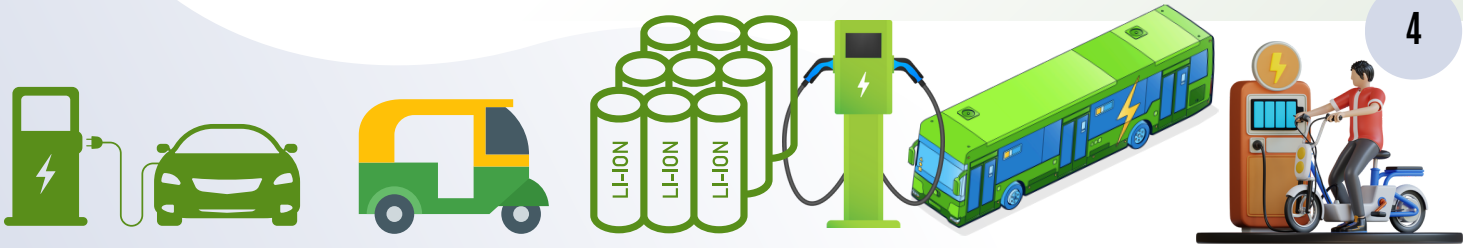
AI-Optimized Route Planning: Imagine a navigation system enhanced by artificial intelligence (AI) that not only analyzes traffic but also considers weather conditions, charging station availability, and typical driving patterns. AI-powered route planning optimizes daily routes for fleet vehicles, leading to significant time savings and improved battery efficiency. This innovative approach not only enhances profitability but also reduces operational costs, making it a vital tool for fleet managers aiming to maximize efficiency.

Advanced Driver Assistance Systems (ADAS):

ADAS technologies serve as an additional layer of safety for drivers, alerting them to potential hazards and assisting in emergencies. Features such as collision warnings, lane-keeping assistance, and blind-spot monitoring significantly reduce risks associated with challenging road conditions. Moreover, advanced systems like Night Vision Assistance (NVA) enhance safety during low visibility situations. For fleet operators, these technologies translate into improved safety for personnel and cargo, reduced vehicle downtime, and minimized financial losses associated with accidents.

Smart Charging Solutions for Cost Efficiency: Effective management of charging schedules is crucial in optimizing the operational costs of an EV fleet. Dynamic charging solutions allow fleets to charge vehicles during off-peak hours, potentially saving up to 30% on energy costs while utilizing cleaner energy sources. Some systems prioritize charging for vehicles requiring immediate readiness, ensuring that fleets operate efficiently without incurring unnecessary expenses. By balancing energy needs with cost management, these solutions not only enhance overall efficiency but also support environmental sustainability goals.

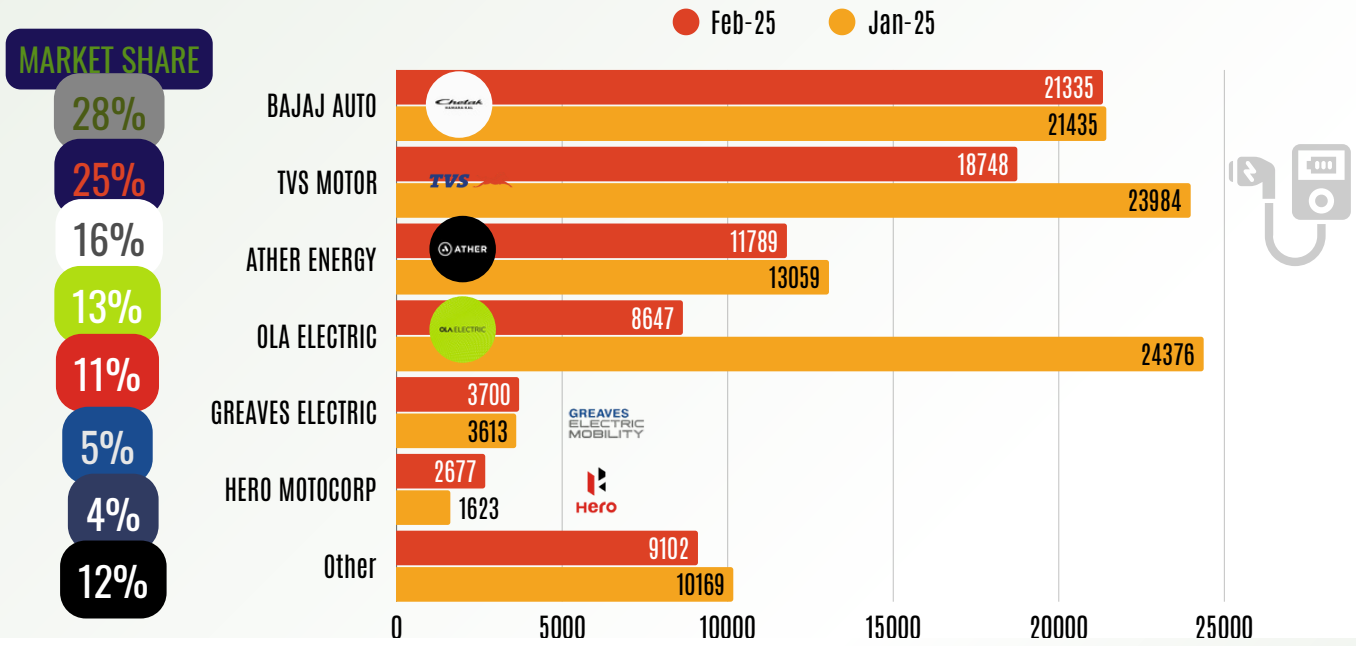
Future Mobility: Leading the Charge As companies increasingly recognize the transformative potential of EVs in fleet management, Future Mobility stands out as a leader in this space. Their innovative products integrate cutting-edge technology with user-friendly interfaces to provide comprehensive solutions tailored to the unique needs of electric fleets. With a focus on sustainability and efficiency, Future Mobility is committed to revolutionizing how businesses manage their fleets in an environmentally responsible manner. The global shift towards electric vehicles is not just a trend; it represents a fundamental change in how transportation operates. By adopting smart fleet management solutions powered by EV technology, companies can significantly enhance their operational efficiency while contributing to a greener future.



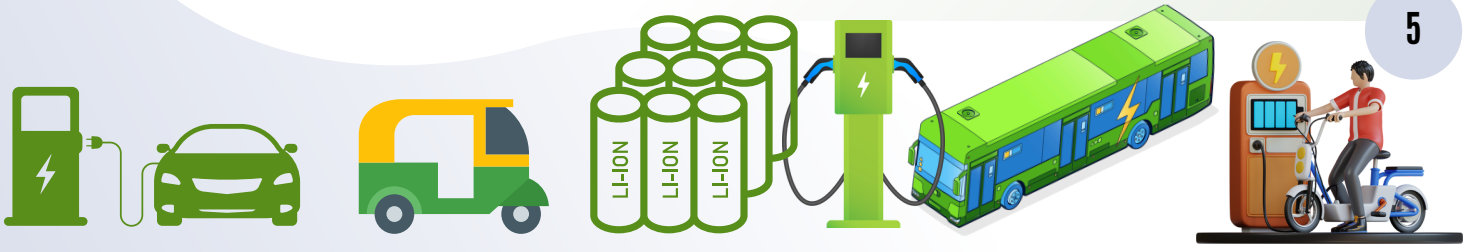
India EV 2W Sales FEB 2025

TOP EV-2W Sales by OEM

2W EV SALES JAN 2025 INDIA - 75,998 UNITS



The Indian electric two-wheeler (E2W) industry recorded sales of **75,998 units in February 2025**, marking a slight **8% YoY decline** from February 2024's **82,744 units** and a **22% drop** from **January 2025's 98,259 units**. Despite this temporary dip, the segment has surpassed the one-million-unit milestone for the first time in a fiscal year, with 1,018,300 units sold between April 2024 and February 2025, reflecting a 26% YoY increase.



India's Electric 2W Market: FEB 2025

Bajaj Auto Leads the Market in February 2025

Bajaj Auto emerged as the **No. 1 E2W OEM in February 2025**, maintaining its lead throughout all four weeks. The **Chetak EV** continues to drive demand, with sales growing **81% YoY** compared to **11,763 units** in February 2024. This is the second time in three months that Bajaj Auto has topped the charts, having previously led the segment in December 2024.

The company has also expanded its portfolio with the **Chetak 35 Series**, featuring models with **153 km range** and aggressive pricing, appealing to both personal and fleet buyers. With its rapid growth, Bajaj Auto is closing the gap with its closest competitor, TVS, and is expected to maintain momentum in March 2025.

- **BAJAJ AUTO**

Sales: 21,335 units,
UP 81% YoY | Market Share: 28%

- **ATHER ENERGY**

Sales: 11,789 units,
UP 30% YoY | Market Share: 15%

- **OLA ELECTRIC**

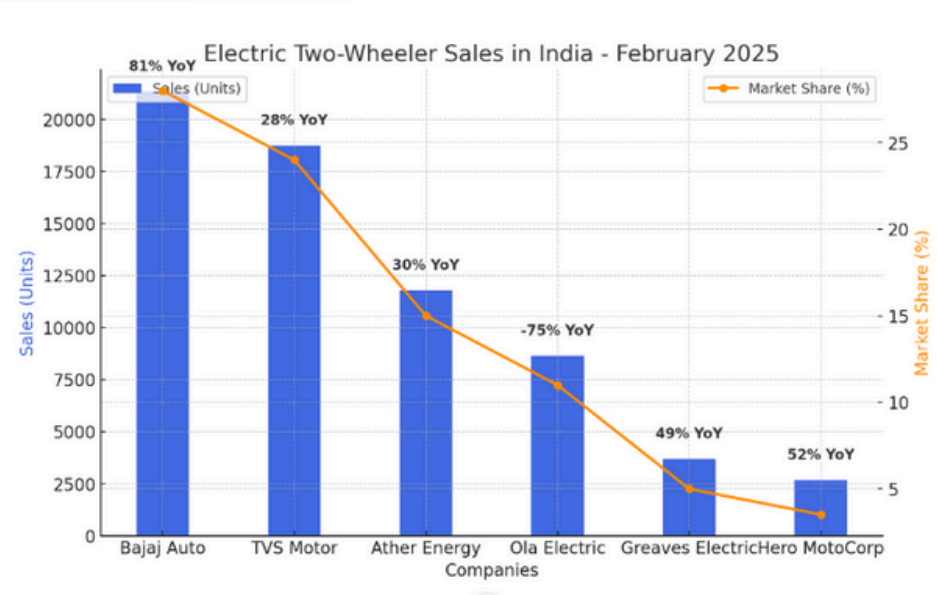
Sales: 8,647 units,
Down 75% YoY | Market Share: 11%

- **GREAVES ELECTRIC MOBILITY**

Sales: 3,700 units,
UP 49% YoY | Market Share: 5%

- **HERO MOTOCORP**

Sales: 2,677 units,
UP 52% YoY | Market Share: 3.52%

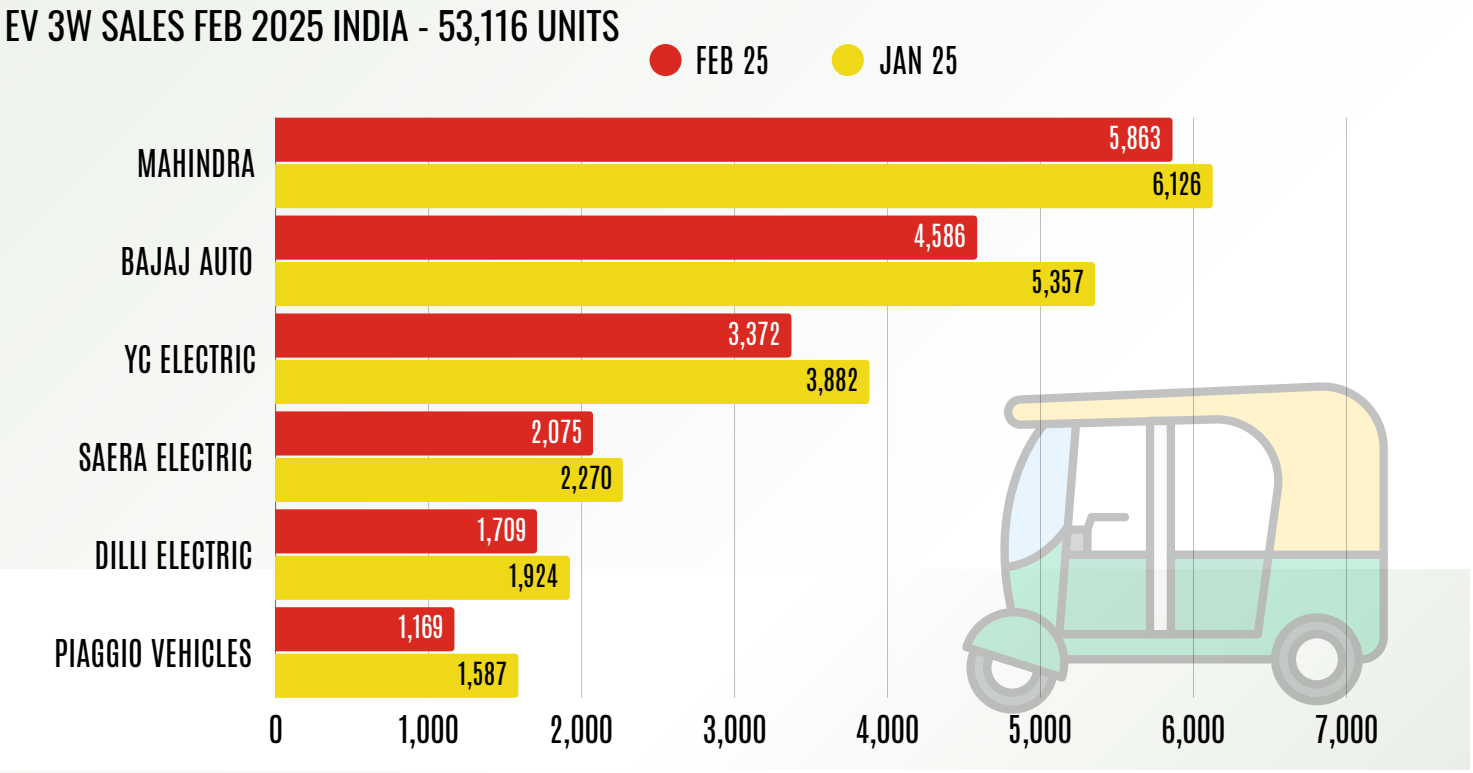


Looking Ahead: Competitive Landscape & Future Outlook

- **Bajaj Auto, TVS, Ather, and Ola** accounted for **80% of total sales** in February 2025.
- Despite February's dip, the E2W segment has already crossed 1 million units for the first time in a fiscal year.
- March 2025 is expected to see a surge in sales, pushing total FY2025 sales beyond 1.1 million units.
- Battery reliability, charging infrastructure, and cost optimization remain key challenges, but localization efforts and new product launches continue to drive growth.

India EV 3W Sales FEB 2025

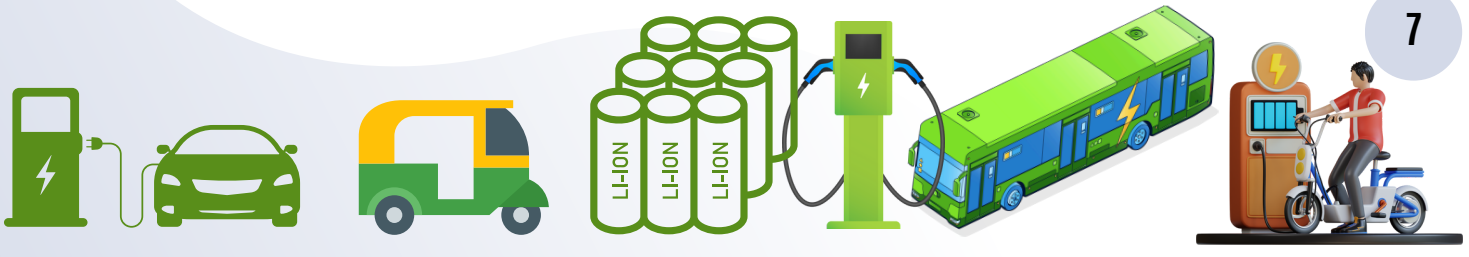
TOP 5 EV 3W Sales Trend by OEM



In **February 2025**, India's electric three-wheeler market faced a significant downturn, with overall sales plummeting to **53,116 units**, marking an **11.4% decline** from January's 59,957 units. This drop reflects a decrease in market demand, with the "Other OEMs" category experiencing the most substantial decline of **4,967 units, or 13%**

Company-Specific Performance

- **Mahindra Last Mile Mobility Ltd**: Despite a moderate decline of 4.3%, Mahindra maintained its leadership in the segment, selling **5,863 units** in February compared to 6,126 in January.
- **Bajaj Auto Ltd**: The company experienced a significant decline of 14.4%, selling 4,586 units in February, down from **5,357 in January**. This drop may indicate fluctuations in demand or market competition.
- **YC Electric Vehicle**: YC Electric saw a double-digit **decline of 13.1%**, with sales dropping to **3,372** units from 3,882 in January.
- **Saera Electric Auto Pvt Ltd**: Saera Electric also faced a decline, albeit less severe at 8.6%, selling **2,075 units** compared to 2,270 in January.
- **Piaggio Vehicles Pvt Ltd**: Piaggio recorded the highest percentage **drop at 26.3%**, selling only **1,169 units** in February, down from 1,587 in January. This substantial decline could be due to supply chain issues or reduced fleet demand.
- **Omega Seiki Pvt Ltd**: Omega Seiki was the sole brand to experience significant growth, with sales **increasing by 81.9% to 1,106 units** in February from 608 in January. This surge could be attributed to new model launches or increased fleet orders



India's Electric 3W Market: A Comprehensive Overview (FEB 2025)

The electric three-wheeler market in India witnessed a remarkable surge in sales during **February 2025**, with a total of **53,116 units** sold across both **goods and passenger segments**. This robust performance underscores the growing demand for sustainable mobility solutions in the country.

Electric Three-Wheeler (Goods) Segment

In the goods segment, **Mahindra Last Mile Mobility Ltd** emerged as the top performer, selling **628 units**. **Omega Seiki Pvt Ltd** followed closely with **535 units**, while **Bajaj Auto Ltd** and **YC Electric Vehicle** secured notable sales figures of **430 and 426 units**, respectively. **Saravana Engineering Works** also contributed significantly with **376 units** sold. Other manufacturers collectively accounted for **6,454 units** in this segment, highlighting the diverse and competitive nature of the market.

Electric Three-Wheeler (Passenger & Personal) Segment

The passenger and personal segment saw even more impressive sales, with a total of **44,267 units** sold. **Mahindra Last Mile Mobility Ltd** again led the pack, retailing **5,235 units**. **Bajaj Auto Ltd** was a close second with **4,156 units**, followed by **YC Electric Vehicle at 2,946 units**. **Saera Electric Auto Pvt Ltd** and **Dilli Electric Auto Pvt Ltd** contributed **1,827 and 1,338 units**, respectively. Other OEMs collectively accounted for a substantial **28,765 units**.

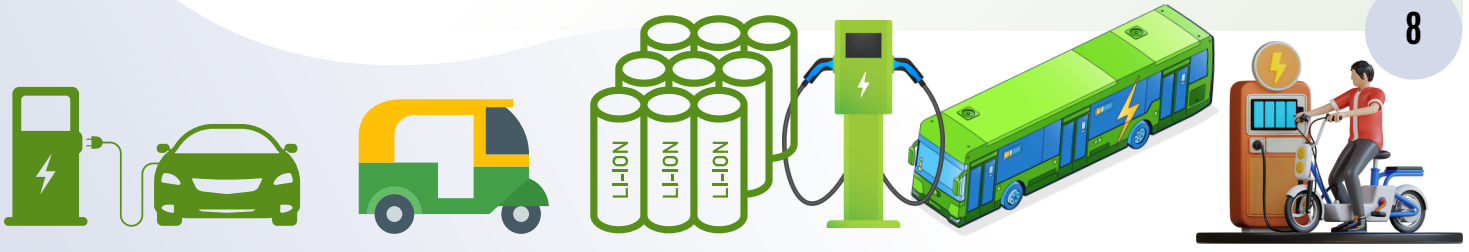
ELECTRIC 3W GOODS SEGMENT

Company	Market Share	Sales (FEB 2025)
MAHINDRA	**7.10%**	628
OMEGA SEIKI	**6.05%**	535
BAJAJ AUTO	**4.86%**	430
YC ELECTRIC	**4.81%**	426
SARAVANA ENGINEERING	**4.25%**	376
Others	**72.93%**	6454

ELECTRIC 3W PASSENGER SEGMENT

Company	Market Share	Sales (Feb 2025)
MAHINDRA	**11.83%**	5,235
BAJAJ AUTO	**9.39%**	4,156
YC ELECTRIC VEHICLE	**6.66%**	2,946
SAERA ELECTRIC	**4.13%**	1,827
DILLI ELECTRIC	**3.02%**	1,338
Others	**64.98%**	28765

The total electric three-wheeler sales in February 2025 stood at 53,116 units across both goods and passenger segments, reflecting a strong market demand for sustainable mobility solutions.



India's Electric 3W Market: A Comprehensive Overview (FEB 2025)

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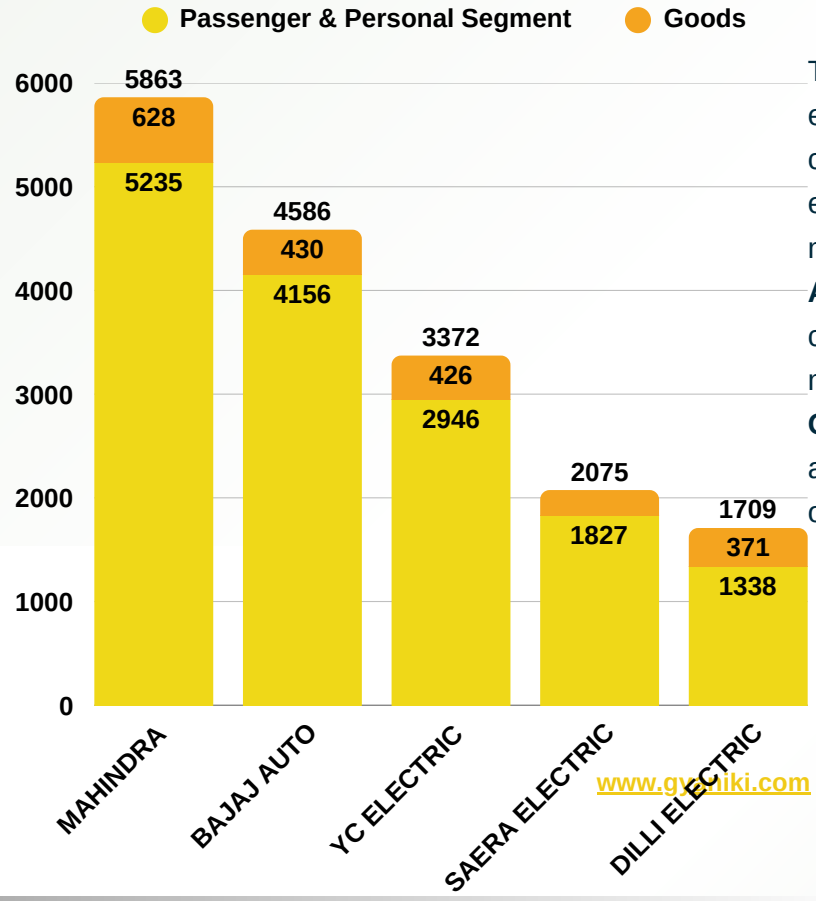
Market Analysis

The strong sales figures in both segments reflect the increasing adoption of electric three-wheelers as a preferred mode of sustainable transportation. This trend is driven by government incentives, environmental concerns, and the expanding network of charging infrastructure across India.

Mahindra Last Mile Mobility Ltd and Bajaj Auto Ltd have established themselves as key players in the electric three-wheeler market, leveraging their brand reputation and extensive distribution networks. **Omega Seiki Pvt Ltd and YC Electric Vehicle** are also making significant strides, indicating a competitive landscape that is likely to drive innovation and growth.

As the Indian automotive sector continues to evolve towards electric mobility, companies like **Mahindra and Bajaj Auto** are poised to benefit from their early mover advantage. Their focus on electric vehicles aligns with the government's vision for a cleaner transportation system, which is expected to further boost demand in the coming years.



The electric three-wheeler market in India is experiencing rapid growth, driven by consumer demand for eco-friendly and cost-effective transportation solutions. With major players like **Mahindra and Bajaj Auto** leading the charge, the sector is set to continue its upward trajectory. As the market expands, smaller players like **Omega Seiki and YC Electric Vehicle** will also play crucial roles in shaping the future of sustainable mobility in India.

India EV Sales MARCH 2025

EV 4W Passenger Sales Trend by OEM

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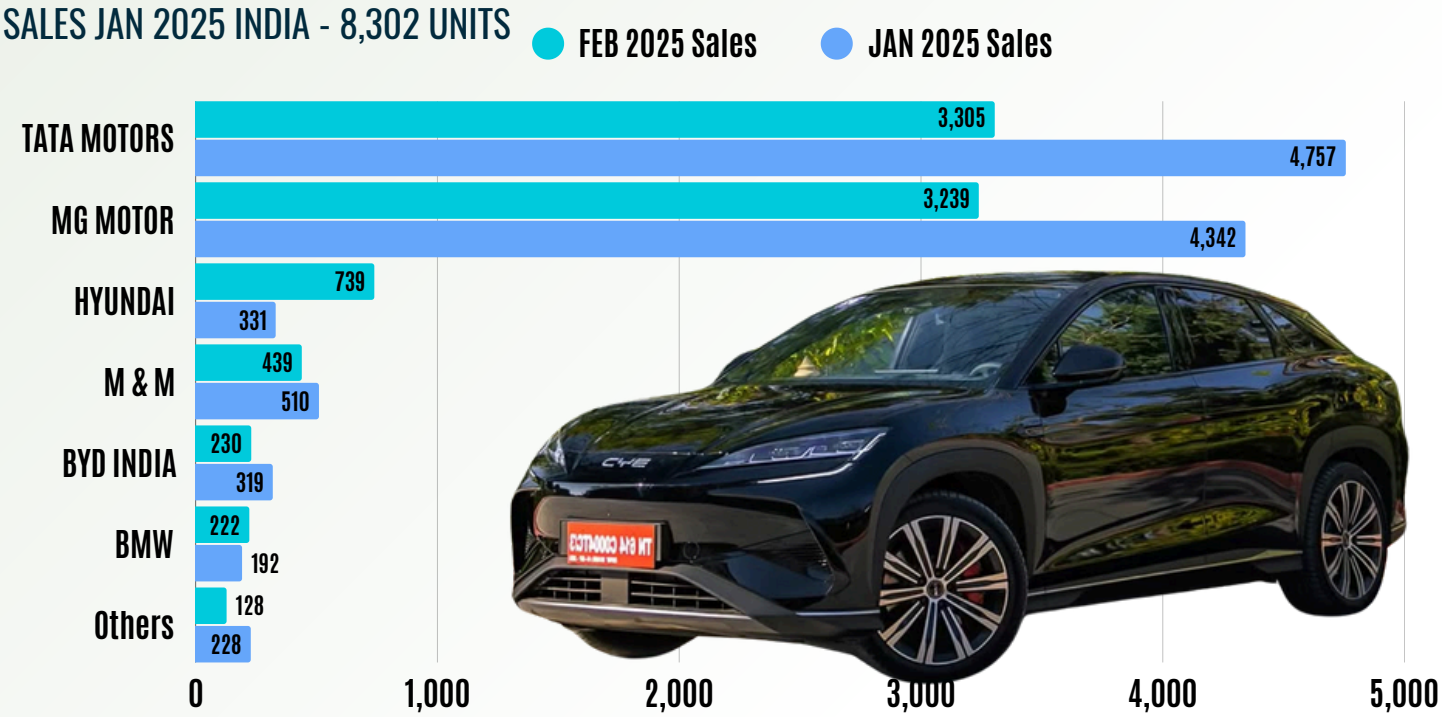
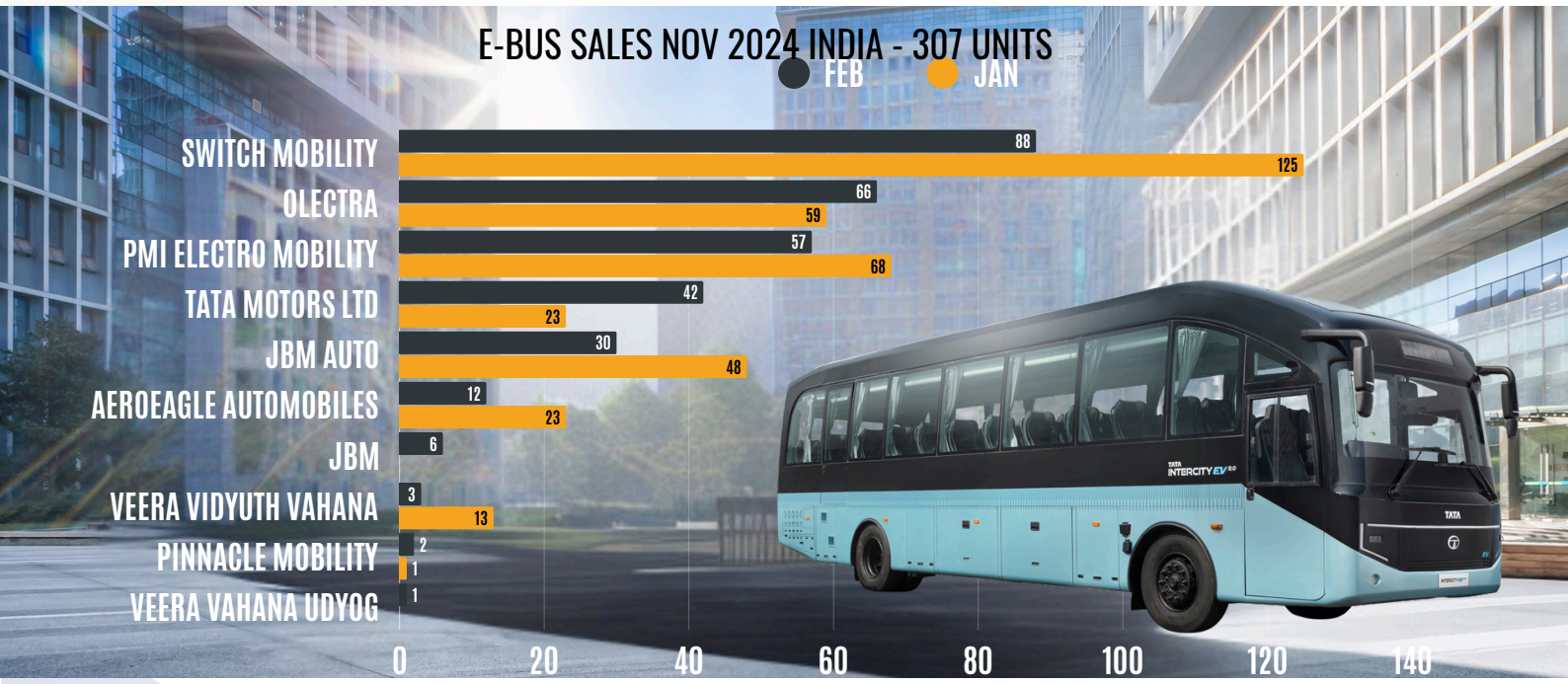


Electric car and SUV sales up 32% at 11,248 units in January, Tata EV share 45%, JSW MG Motor 37% January 2025. While market leader Tata Motors, which retailed 5,027 EVs, is feeling the heat of the rising competition, JSW MG Motor with 4,234 EVs has seen its market share jump three-fold in a year.

Data Source: Vahan Dashboard



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In Feb 2025 307 units were sold, primarily electric buses deployed in metro cities under government-backed initiatives.

India's Electric Light Motor Vehicle Market Report - Feb 2025

Electric Light Motor Vehicle (LMV) Sales Performance

The electric light motor vehicle (LMV) segment recorded a total sales figure of 8,302 units in February 2025, witnessing a 22.3% decline compared to 10,679 units sold in January 2025.

OEM	Feb 2025 Sales	Jan 2025 Sales	Change (Units)	Percentage Change (%)
TATA MOTORS	3,305	4,757	-1,452	-30.5%
MG MOTOR	3,239	4,342	-1,103	-25.4%
HYUNDAI	**739**	331	**+408**	**+123.3%**
MAHINDRA & MAHINDRA	439	510	-71	-13.9%
BYD INDIA	230	319	-89	-27.9%
BMW	**222**	192	**+30**	**+15.6%**
Others	128	228	-100	-43.9%
Total Sales	**8,302**	**10,679**	**-2,377**	**-22.3%**

Key Highlights & Insights:

✅ **Tata Motors & MG Motor India**: Both major EV players faced significant declines, dropping by 30.5% and 25.4%, respectively. This suggests a possible slowdown in consumer demand or supply chain issues.

✅ **Hyundai Motor India**: Showed a remarkable growth of 123.3%, indicating a strong market response to its electric vehicle offerings.

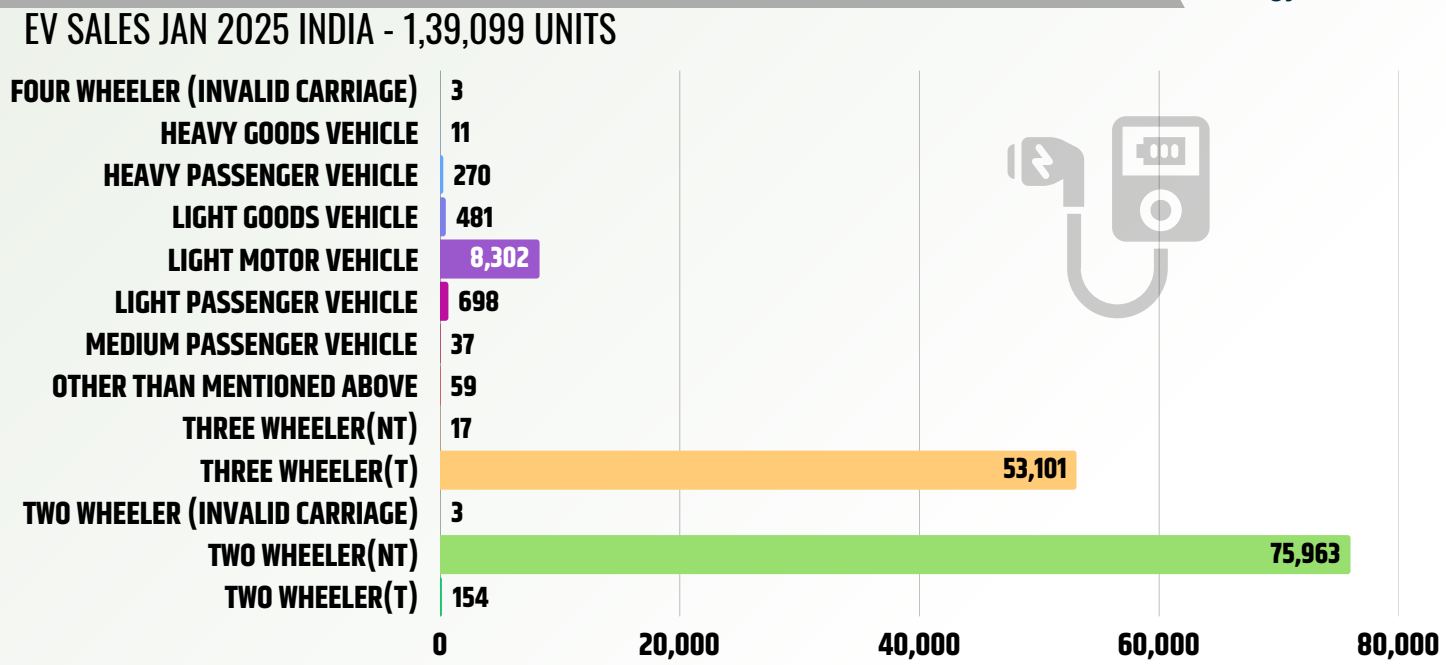
✅ **BMW India**: Recorded a 15.6% increase, suggesting growing interest in premium EVs.

✅ **BYD & Mahindra**: Registered declines of 27.9% and 13.9%, respectively, which could be attributed to market fluctuations.

✅ **Others Segment**: Saw the steepest drop of 43.9%, indicating a downturn in sales of smaller or new market entrants.

The overall 22.3% decline in February sales indicates a cooling off after a strong start to the year. However, Hyundai and BMW's positive growth highlights potential opportunities in their respective segments. A detailed analysis of consumer behavior, supply chain conditions, and incentives will be crucial for forecasting future sales trends.

India EV Sales Feb 2025 -Category-Wise



Overall Sales Performance

The total vehicle sales in February 2025 stood at 139,099 units, registering a 18.7% decline compared to 171,000 units sold in January 2025. This decline is evident across multiple categories, with some exceptions showing growth.

✅ **Two-Wheeler (NT) & Three-Wheeler (T) Impact:**

- Two-Wheeler (NT) faced a sharp drop of **21,862 units (-22.3%)**, contributing significantly to the overall decline in sales.
- **Three-Wheeler (T)**, which is a major contributor to commercial transportation, declined by **6,831 units (-11.4%)**.

✅ **Four-Wheeler & Light Motor Vehicle Trends**:

- **Light Motor Vehicle** sales fell by **2,377 units (-22.3%)**, showing a slowdown in the personal and commercial vehicle sector.
- **Light Passenger Vehicle** sales also dropped significantly by **36.1%,** indicating weaker demand.

✅ **Growth in Niche Segments:**

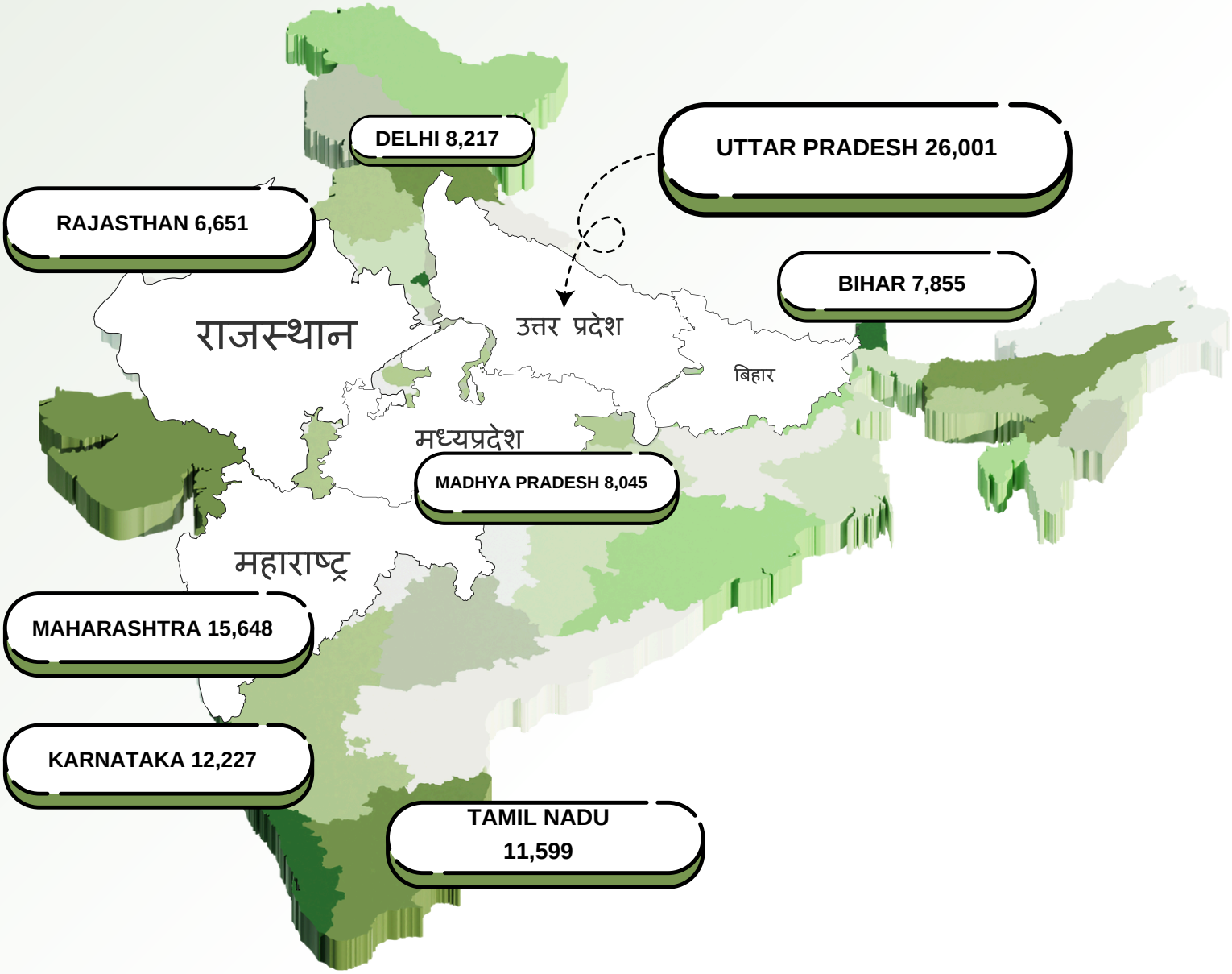
- **Medium Passenger Vehicles** saw new sales (37 units), reflecting a possible launch or increased demand in this segment.
- "**Other than Mentioned Above**" category saw a **63.9% increase**, suggesting a rise in alternative vehicle types.

✅ **Heavy Vehicle Category Decline:**

- **Heavy Goods Vehicles and Heavy Passenger Vehicles** saw **50.0%** and **28.6%** declines, respectively, which could indicate lower infrastructure or fleet expansion activities.

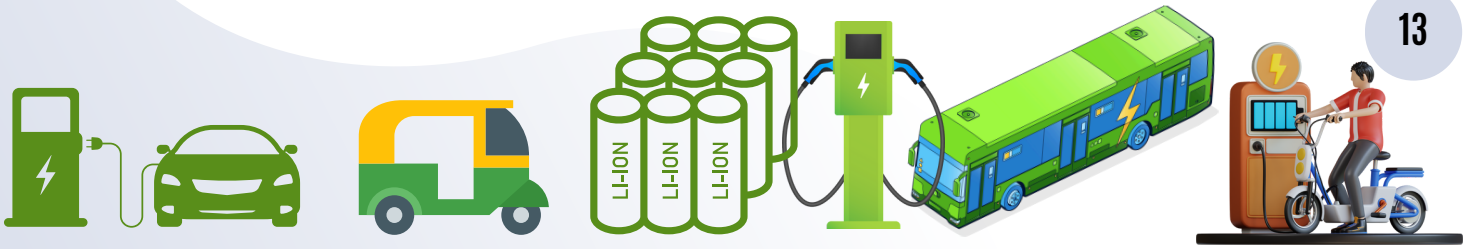
The overall **decline of 18.7% in February 2025** suggests a slowdown across multiple vehicle categories, especially in Two-Wheelers, Three-Wheelers, and Light Motor Vehicles. However, Medium Passenger Vehicles and "Other than Mentioned" categories showed positive growth, hinting at potential shifts in market demand.

State Wise EV Sales in JAN 2025



Overall EV Sales Performance

The total electric vehicle (EV) sales across India in **February 2025** stood at **139,099 units**, reflecting a 18.7% decline from **171,000 units sold in January 2025**. Despite the overall decrease, certain states performed relatively well, while others saw a steep decline in sales.



State Wise EV Sales in JAN 2025

✅ **States with the Highest Sales Decline:**

- **Maharashtra** fell from **22,235 to 15,648 (-6,587 units, -29.6%)**
- **Karnataka** dropped from **16,849 to 12,227 (-4,622 units, -27.4%)**
- **Chhattisgarh** sales decreased from **3,977 to 2,842 (-1,135 units, -28.5%)**
- **Haryana** saw a decline from **3,454 to 2,453 (-1,001 units, -29.0%)**

✅ States with Growth in EV Sales:

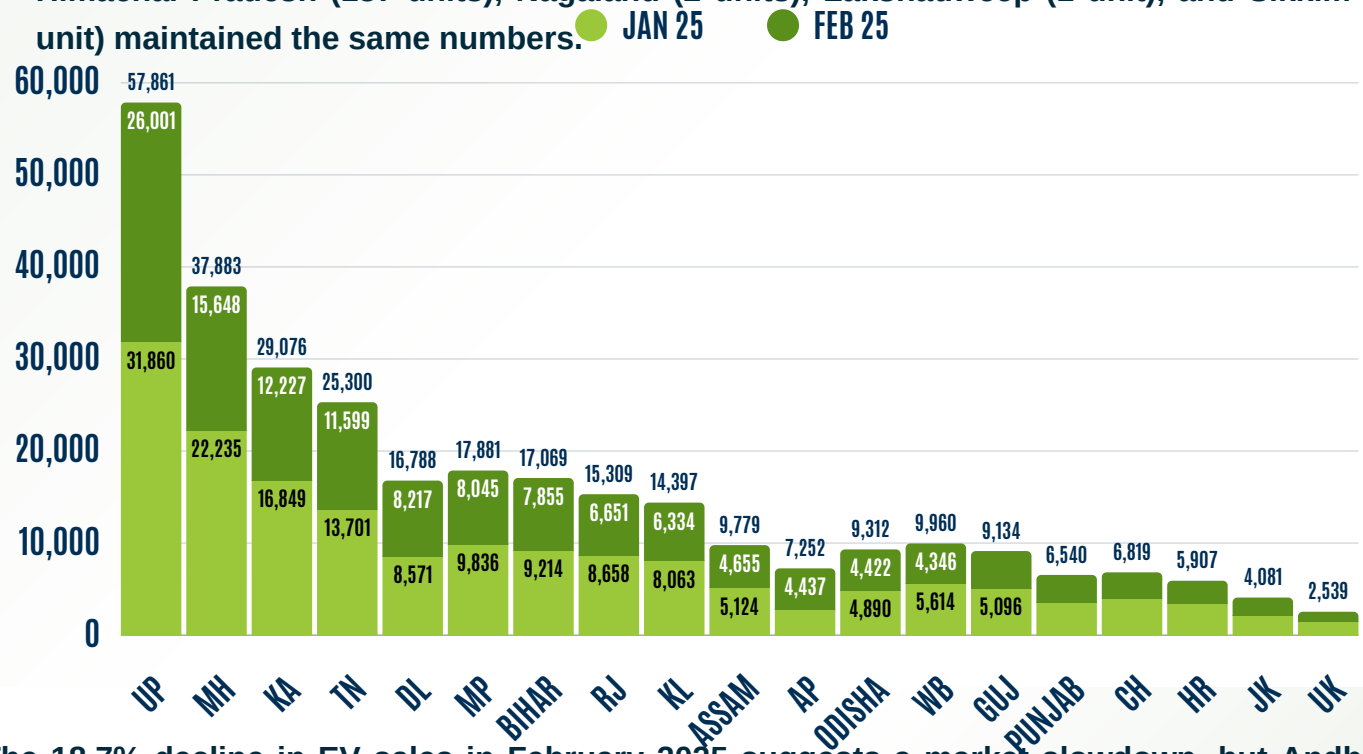
- **Andhra Pradesh increased from 2,815 to 4,437 (+1,622 units, +57.7%)**
- **Mizoram rose from 56 to 96 (+40 units, +71.4%)**
- **Arunachal Pradesh jumped from 3 to 9 (+6 units, +200.0%)**

✅ Stable Markets (Minimal Decline):

- **Delhi** dropped slightly from **8,571 to 8,217 (-354 units, -4.1%)**
- **Jharkhand** saw a minor dip from **2,087 to 1,994 (-93 units, -4.5%)**

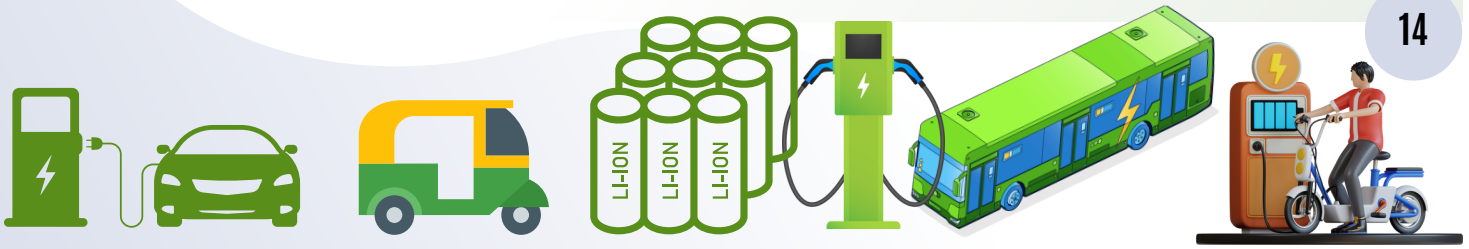
✅ States with No Change in Sales:

- **Himachal Pradesh (187 units), Nagaland (2 units), Lakshadweep (1 unit), and Sikkim (1 unit) maintained the same numbers.**



The 18.7% decline in EV sales in February 2025 suggests a market slowdown, but Andhra Pradesh, Mizoram, and Arunachal Pradesh saw strong growth. Meanwhile, Maharashtra, Karnataka, and Chhattisgarh faced significant slowdowns.

Monitoring policy changes, infrastructure expansion, and consumer incentives will be key to boosting EV adoption in the coming months.



National Critical Mineral Mission

Cabinet Approves 'National Critical Mineral Mission' to build a resilient Value Chain for critical mineral resources vital to Green Technologies, with an outlay of Rs.34,300 crore over seven years

The Union Cabinet, chaired by the **Prime Minister Shri Narendra Modi**, has approved the launch of the **National Critical Mineral Mission (NCMM)** with an expenditure of **Rs.16,300 crore** and expected investment of **Rs.18,000 crore by PSUs**, etc.

As part of the Atmanirbhar Bharat initiative, and recognizing the indispensable role of critical minerals in **high-tech industries, clean energy, and defense**, the Government of India has undertaken several initiatives over the past two years to address challenges in the critical minerals sector.

There is a need to establish an effective framework for India's self-reliance in the critical mineral sector. In line with this vision, the Finance Minister announced the setting up of the **Critical Mineral Mission in the Union Budget for 2024-25 on 23rd July 2024.**

The National Critical Mineral Mission, approved by the Union Cabinet, will encompass all stages of the value chain, including **mineral exploration, mining, beneficiation, processing, and recovery** from end-of-life products. The mission will intensify the exploration of critical minerals within the country and in its offshore areas. It aims to create a fast track regulatory approval process for critical mineral mining projects. Additionally, the mission will offer financial incentives for critical mineral exploration and promote the recovery of these minerals from overburden and tailings.

The mission aims to encourage **Indian PSUs and private sector companies** to acquire critical mineral assets abroad and enhance trade with resource-rich countries. It also proposes development of stockpile of critical minerals within the country.

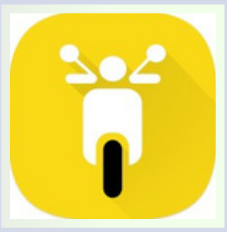
The mission includes provisions for setting up of **mineral processing parks and supporting the recycling of critical minerals**. It will also promote research in critical mineral technologies and proposes setting up **Centre of Excellence on Critical Minerals.**

Adopting a whole-of-government approach, the Mission will work closely with relevant ministries, PSUs, private companies, and research institutions to achieve its objectives.

Mines and Minerals (Development and Regulation) Act, 1957, has been amended in 2023 to increase exploration and mining of critical minerals. Consequently, the Ministry of Mines has auctioned 24 blocks of strategic minerals. Further, Geological Survey of India (GSI) has undertaken 368 exploration projects for critical minerals over the past three years, with 195 projects currently underway in FS 2024-25. Further, for FY 2025-26, GSI is going to take up 227 projects for various critical minerals. To foster innovation, the Ministry launched the Science and Technology - Promotion of Research and Innovation in Start-ups and MSMEs (S&T PRISM) program in 2023, funding start-ups and MSMEs to bridge the gap between R&D and commercialization. Moreover, **KABIL, a JV of Ministry of Mines**, has acquired an area of about 15703 Ha in the Catamarca province of **Argentina**, for exploration and mining of **Lithium**. Government of India has already eliminated customs duties on the majority of critical minerals in Union budget 2024-25. This will increase the availability of critical mineral in the country and will encourage the industry to set up processing facilities in India. These initiatives highlight India's commitment to securing critical mineral supplies.

Top Money Movement

Rapido



Rapido, a bike ride-sharing platform, has signed a memorandum of understanding (MoU) with the transport department of **Government of West Bengal** for investments worth **₹150 crore** towards initiatives in electric mobility, women's safety in transportation and road safety awareness.

About **₹130 crore** will be directed towards the **development of urban electric mobility**. Rapido aims to deploy electric vehicles across the city and other parts of the state while also working on building the necessary infrastructure to support a seamless transition to sustainable transportation.

A dedicated pink fleet of two-wheelers & four-wheelers, operated by women drivers, will be introduced to improve safe & inclusive transport. To empower women in mobility, Rapido is offering **₹12 crore financial aid** over three years, helping them own & operate their vehicles.

Epsilon Group

Epsilon Group has signed an MoU with the **Karnataka government** to invest Rs **15,350 crore** in **advanced battery materials manufacturing and R&D**. This investment will enhance India's EV supply chain, create over **2,000 jobs**, and support the Atmanirbhar Bharat vision by reducing dependency on imports.

Key investment areas

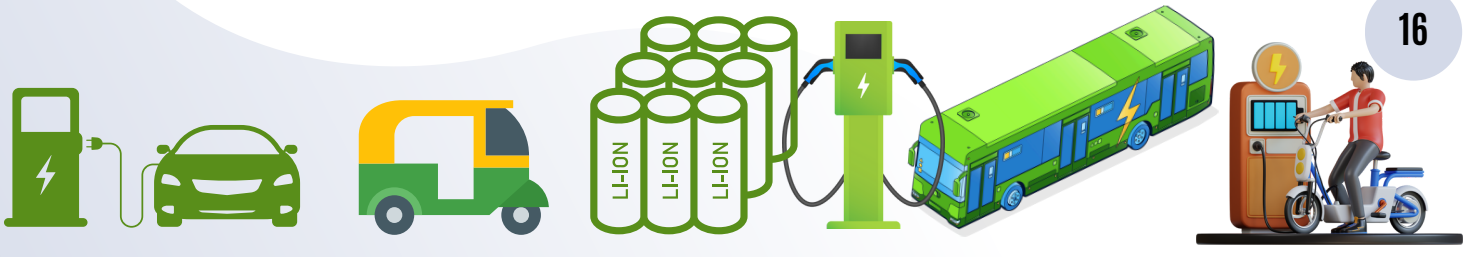
- The investment will be spread across three major projects:
- Graphite Anode Manufacturing – **Rs 9,000 crore**
- LFP Cathode Manufacturing – **Rs 6,000 crore**
- Battery R&D & Testing – **Rs 350 crore**

Impact on India's EV Ecosystem:

✓ **2,000+ direct jobs** in Karnataka
✓ 100% domestic value addition for anodes, 60% for cathodes
✓ Strengthening India's EV supply chain & reducing import dependency

Blue Energy Motors

Blue Energy Motors, a prominent player in the liquefied natural gas (LNG) truck sector, has announced its ambitious plan to invest **₹3,500 crore** in establishing a state-of-the-art electric vehicle (EV) truck manufacturing facility in **Chakan, Maharashtra**. This announcement was made on January 22, 2025, during the **World Economic Forum in Davos**, where the company signed a Memorandum of Understanding (MoU) with the Government of Maharashtra.



Top Money Movement

PMI Electro Mobility

Electric bus manufacturer PMI Electro Mobility Solutions has secured **₹250 crore** in funding through a preferential allotment of equity shares from a consortium led by **Authum Investment & Infrastructure Limited and Gruhas**. The investment comes as the company looks to expand its operations in India's growing electric vehicle sector.

Exide Industries

Exide Industries Ltd., a leading Indian storage battery manufacturer, has announced an investment of **INR 1.5 billion (approximately USD 18 million)** into its wholly-owned subsidiary, **Exide Energy Solutions Ltd. (EESL)**. This latest infusion is part of a broader strategy to enhance battery cell production capabilities at its upcoming lithium-ion manufacturing facility located in **Bengaluru**.

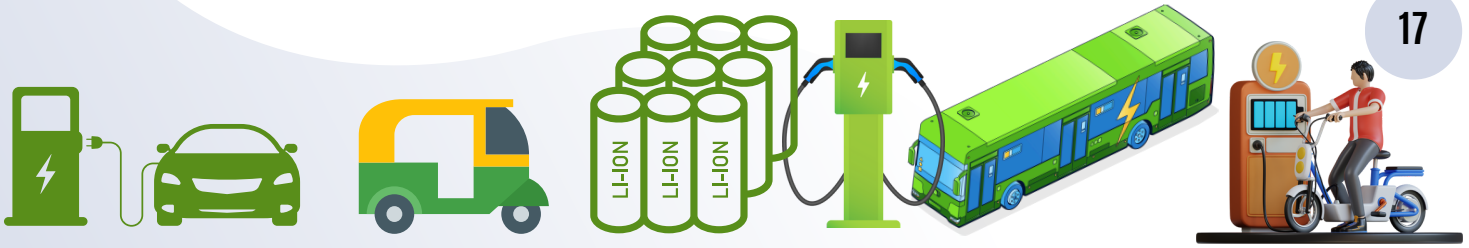
The Energy Company (TEC)

The Energy Company (TEC), a startup focused on battery intelligence solutions for commercial EV fleets, has raised **$2 million in a Pre-Series A** round led by **Siana Capital**. Other investors in this round include Callapina Capital, Z21 Ventures, 1Crowd, Lets Venture, and additional backers.

SHAKTI EV MOBILITY PRIVATE LIMITED

Shakti Pumps (I) Ltd. has announced an investment of **₹4 crore** in its wholly owned subsidiary, SHAKTI EV MOBILITY PRIVATE LIMITED (formerly Shakti Green Industries). This investment, made through the subscription of **40 lakh equity shares**, aims to boost manufacturing capabilities for EV motors and chargers across multiple segments—2Ws, 3Ws, 4Ws, and special-purpose EVs.

SHAKTI
ELECTRIFYING LIFE



Top Money Movement

Dynolt Technologies

Bengaluru-based deeptech startup Dynolt Technologies has raised **$1.7 million** in a **seed funding** round led by **Transition VC**, with participation from **angel investor Yashowardhan Shah.**

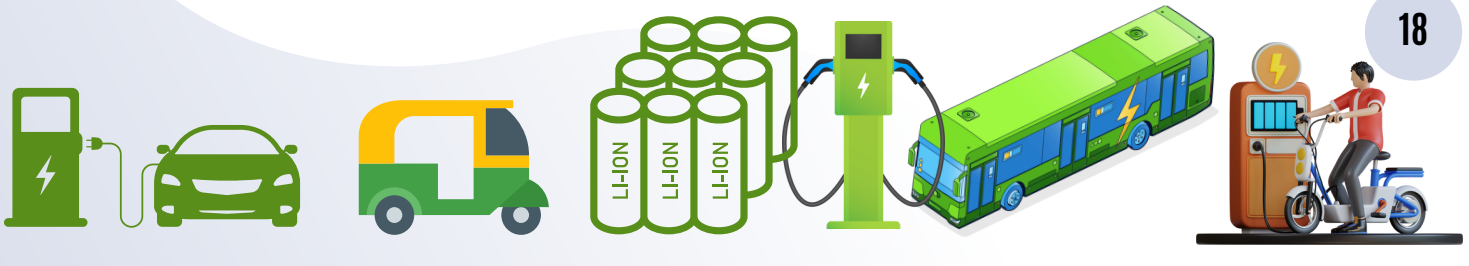
The fresh funds will fuel the brand's efforts to develop high-power fast chargers using wide bandgap semiconductors and expand into solar and hydrogen sectors, focusing on high-frequency inverters and DC-DC converters.

Vidyut

VidyutTech raises **$2.5Mn** from **Flourish Ventures** to scale its **Battery-as-a-Service (BaaS)** model across passenger and commercial EV segments. This funding will drive affordability and accessibility in India's EV ecosystem.

Pickkup.io

Pickkup.io has successfully raised **$500,000** in a seed funding round led by **We Founder Circle (WFC)**, with backing from angel investors across India, Australia, and the USA.



Karnataka Clean Mobility Policy 2025-2030

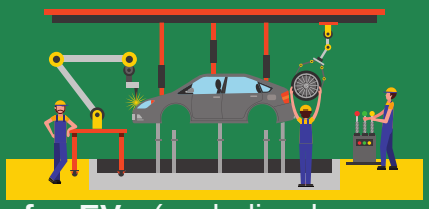
Karnataka's Clean Mobility Policy 2025-2030: Accelerating the EV Revolution in India

Karnataka's groundbreaking Clean Mobility Policy 2025-2030, which came into effect on February 11, 2025. This policy is set to revolutionize the electric vehicle (EV) and hydrogen vehicle landscape in India, positioning Karnataka as Asia's top clean mobility hub.

Investment and Job Creation

The policy aims to attract a staggering **₹50,000 crore in investments** across the clean mobility value chain. This ambitious target is coupled with the projection of creating **1,00,000 new jobs** in the sector, significantly boosting the state's economy and employment opportunities.

Key Policy Initiatives



Demand-Side Push

To stimulate EV adoption, the policy offers:

- **Road tax and registration fee exemptions for EVs** (excluding luxury vehicles priced above **₹25 lakhs)**
- **Incentives for e-rickshaws and public transport**

Industry Support

The policy provides substantial support for manufacturers:

- Capital subsidies for MSMEs
- Land conversion fee waivers
- Power tariff concessions

Charging Infrastructure Boost

A robust charging network is crucial for EV adoption. The policy addresses this by:

- Mandating fast-charging stations every 50 km
- Implementing a BESCOM-led single-window clearance system
- Offering subsidies up to ₹10 lakhs for charging station setup

Skill Development and R&D Focus

To ensure a skilled workforce and promote innovation:

- 20,000 professionals will be trained annually
- 30% R&D reimbursement (up to ₹1 crore) for companies investing in clean mobility research

Karnataka Clean Mobility Policy 2025-2030

Current EV Landscape in Karnataka

Karnataka is already a leader in EV adoption, ranking third in India with:

- 2.5 lakh registered EVs
- 5,403 EV charging stations

The new policy aims to add **2,600 more charging stations** through public-private partnerships.

Clean Mobility Clusters

Three world-class mobility hubs will be established in:

- Gauribidanur
- Dharwad
- Harohalli

These clusters will bring together OEMs, suppliers, and testing facilities to drive innovation and manufacturing in the clean mobility sector.

Subsidy Structure

The policy offers attractive subsidies to boost investment:

- Up to 25% subsidy on total invested capital expenditure across Karnataka
- 20% capex subsidy for Bengaluru Urban and Rural regions

Future of EV In Karnataka

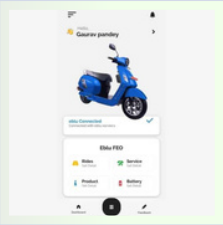
Karnataka's Clean Mobility Policy 2025-2030 is a comprehensive strategy to accelerate the state's transition to a sustainable, future-ready transportation ecosystem. By focusing on demand stimulation, industry support, infrastructure development, and skill enhancement, Karnataka is poised to become a global leader in clean mobility.

As the automotive industry shifts towards electrification and sustainable technologies, policies like this will play a crucial role in shaping the future of transportation. It's an exciting time for the automotive sector, and Karnataka is clearly positioning itself at the forefront of this green revolution.

EV NEWS

Godawari Electric Motors

Godawari Electric Motors, a commercial-grade electric mobility solutions provider, announces the launch of the **EbluCare mobile application**. The app is designed and developed in-house to cater to the customers' requirements and to simplify the ownership experience.



Su-Kam Power Systems

Su-Kam Power Systems Limited, a leading player in the power solutions sector, has officially launched a **500 MWh lithium-ion battery pack** manufacturing facility in **Baddi, Himachal Pradesh**. This facility, which spans 20,000 square feet, is poised to enhance the company's capabilities in energy storage and electric mobility. Established in 1988, Su-Kam has built a reputation for providing innovative power solutions, including inverters, batteries, and solar panels, with exports reaching over 90 countries.

Road tax on electric vehicles goes up in Kerala

Kerala increased the lifetime road tax on electric vehicles (EVs) costing more than ₹15 lakh from 5% to 8% in the 2025 budget. The state government expects to earn an additional ₹30 crore from this tax hike

Key Highlights: Kerala State Budget 2025 – EV Tax Hike

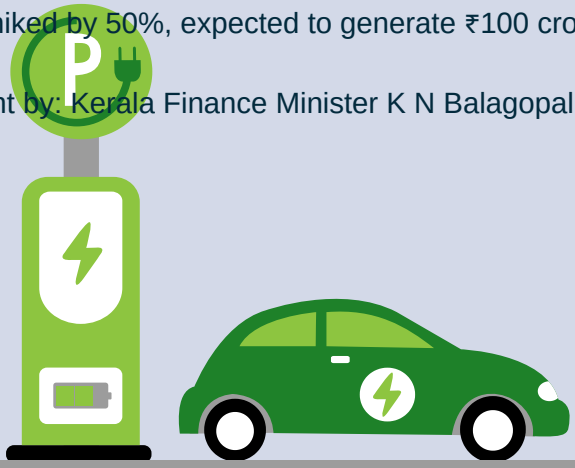
Increased Road Tax on EVs:

- **EVs above ₹15 lakh: Road tax raised from 5% to 8%.**
- **EVs ₹20 lakh & above: Road tax set at 10%.**
- **EVs with battery rental option: 10% road tax, regardless of cost.**

Other Budget Announcements:

- Land tax hiked by 50%, expected to generate ₹100 crore in additional revenue.

Announcement by: Kerala Finance Minister K N Balagopal in the Assembly.



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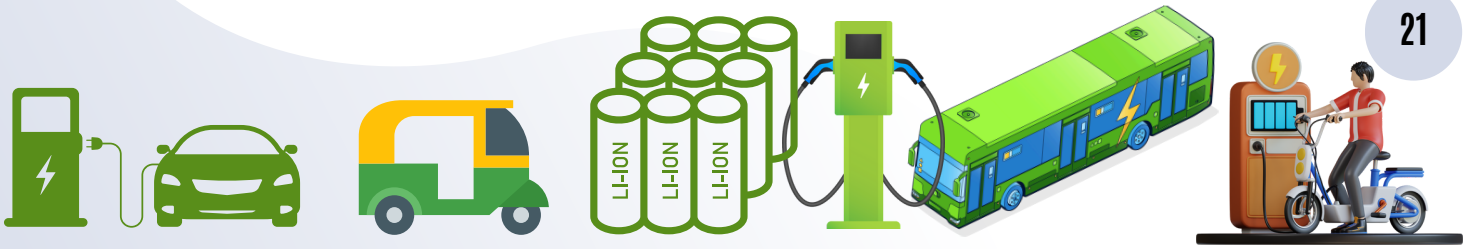


EV NEWS

Sundaram-Clayton Ltd

Sundaram-Clayton Ltd (SCL), a leading manufacturer of automotive components, has announced its decision to sell its aluminium die-casting operations at the Hosur plant.
Sundaram-Clayton Ltd is a prominent Indian automotive components manufacturer specializing in aluminium die-casting. Formerly known as Sundaram-Clayton DCD Limited, the company is headquartered in Chennai, India. SCL produces components for both domestic and international markets, with expertise in both high and low-pressure die-casting technologies.

Delta Electronics

Delta Electronics, a Taiwan-based provider of power and thermal management solutions, launched its D-Bot Series Collaborative Robots (Cobots) and new products for the smart manufacturing market in India at ELECRAMA 2025, Greater Noida, NCR.

D-Bot Series Collaboration Rebots (COBOTS):

✅ 6-axis capabilities with up to 30 kg payload
✅ Speeds reaching 200°/sec for high efficiency
✅ Advanced safety features to prevent workplace accidents
✅ Ideal for electronics assembly, packaging, material handling & welding

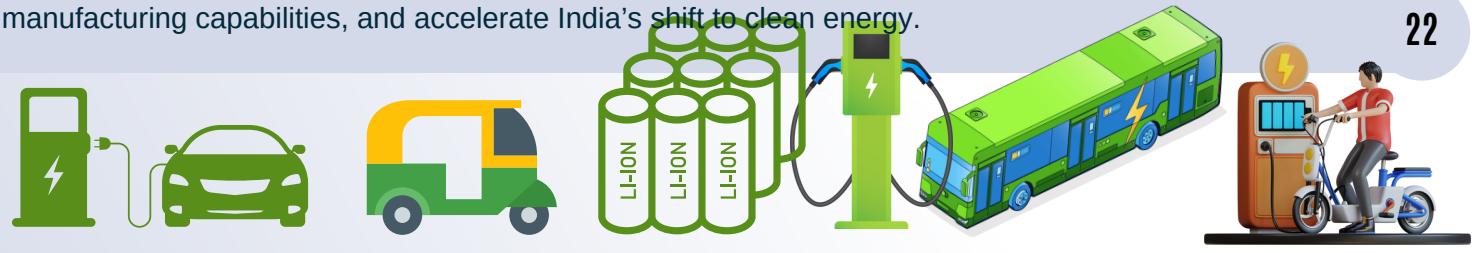
🔹 240kW DC Fast EV Charger:

⚡ Supports dual-vehicle charging with 95% efficiency
⚡ OCPP compatibility with wired & 4G GSM connectivity
⚡ Tailored for commercial applications & fleet operators

Delta's innovations align with India's sustainable cities initiative, driving the future of automation & e-mobility

Yuma Energy

Yuma Energy which is one of India's fastest-growing battery-as-a-service (BaaS) companies, has acquired Chennai-based Grinntech Motors & Services Pvt Ltd. Grinntech specialises in designing innovative and cost-effective energy storage solutions.
This move strengthens Yuma Energy's ability to develop high-quality battery technologies, expand its manufacturing capabilities, and accelerate India's shift to clean energy.



Mahindra Institute of Learning Excellence (MILE)

Mahindra has inaugurated a 12,000-square-foot training facility in Kolkata's New Town automotive hub, enhancing its service capabilities across East and North-East India.

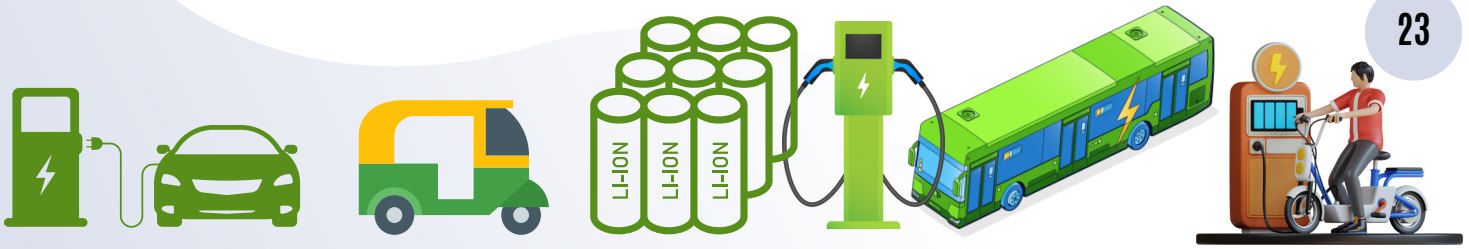
This training facility is designed to cater to the evolving automotive landscape, including the latest advancements in electric mobility and next-generation vehicle technologies. The modern, fully-equipped facility offers:

- Training capabilities for Mahindra's Electric Origin SUVs, ensuring service teams are well-versed in INGLO electric architecture, MAIA intelligence, battery technology, and advanced diagnostics.
- A total training capacity of 100+ participants simultaneously, enabling large-scale skill development.
- Prime location in Kolkata's automotive hub, ensuring ease of access for participants from across the region.
- Five+ demonstration bays, providing hands-on, experiential learning in real-world scenarios.
- Modern collision repair amenities, equipping technicians with specialized training in body repairs, structural integrity, and accident damage assessment.
- Dedicated aggregate overhaul sections, covering engines, transmissions, axles, differentials, automatic transmissions, and electronically assisted transmissions (EATs) for BS6 and 6.2 compliance.

By integrating electric vehicle training modules alongside conventional powertrain servicing, Mahindra is preparing its service network for the future of mobility. This expansion reflects the company's long-term commitment to technical excellence, after-sales innovation, and customer-centric solutions.

Volkswagen - CATL

Volkswagen Group's China division teamed up with CATL to design lithium battery systems which match the requirements of electric vehicles sold in the Chinese market. Under this partnership Volkswagen seeks to optimize battery performance while simultaneously improving cost structures for particular electric models sold in China.



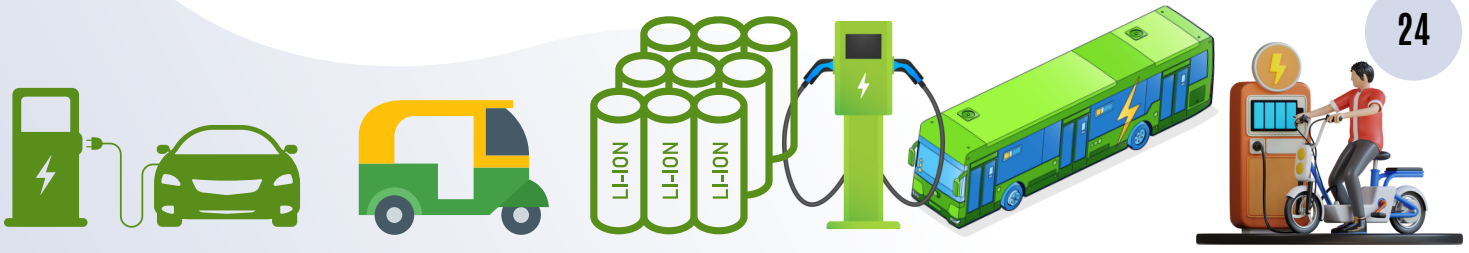
EV NEWS

FlixBus India

FlixBus India marked its first anniversary by introducing **electric bus service** between **Hyderabad and Vijayawada**, partnering with ETO Motors for the initiative.
Telangana Transport Minister Ponnam Prabhakar flagged off the service at ITC Kakatiya, Hyderabad, in the presence of German Embassy Counsellor Alexander Reck and FlixBus India Managing Director Surya Khurana.

Jupiter Electric Mobility Pvt Ltd (JEM) - JEM Saathi App

Jupiter Electric Mobility Pvt Ltd (JEM) has unveiled its new **mobile application**, "**JEM Saathi**", aimed at enhancing the electric vehicle (EV) ecosystem in India. The app provides a platform for vehicle service communication, local business discovery, and access to an extensive charging network, catering to the needs of commercial EV operators.
The JEM Saathi app integrates multiple features to simplify the experience of EV ownership and operation. A standout feature of the app is its partnership with **Bengaluru-based Pulse Energy**, which brings over 1,300 fast chargers into the JEM Saathi ecosystem. The app allows users to locate charging stations, check availability, and manage their charging requirements, thereby addressing the issue of range anxiety for commercial EV owners. The fast chargers significantly reduce charging time, making EV ownership more practical for businesses and supporting JEM's goal of promoting sustainable and reliable transportation.



EV NEWS

Uno Minda

Uno Minda Limited to acquire the remaining **49.9% stake in Uno Minda EV Systems Pvt Ltd (UMEV)** from German partner **FRIWO Geratebau GmbH for ₹195 crore**. It Includes intellectual property rights, know-how, and R&D capabilities from FRIWO's Germany and Vietnam facilities.

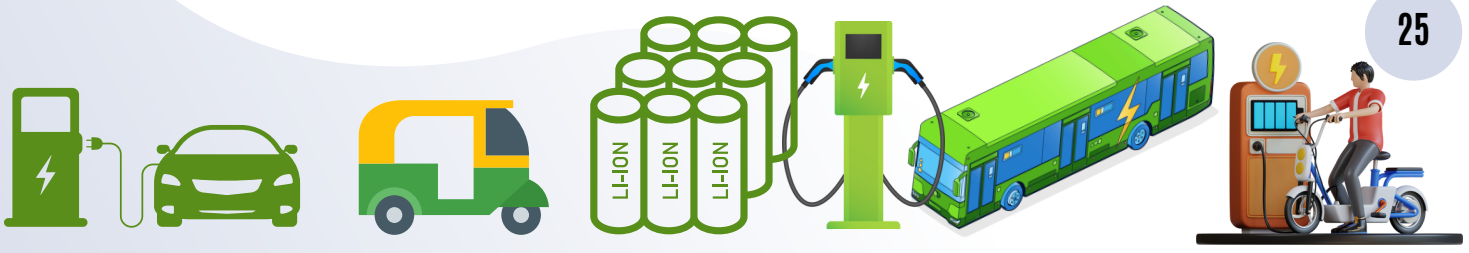
- Transaction to conclude by Q1 FY26.
- UMEV's Specializes in on-board and off-board chargers, battery management systems, and motor & vehicle control units, catering primarily to India's electric two-wheeler market.
- UMEV to become a wholly-owned subsidiary of Uno Minda, marking the end of the 2021 joint venture with FRIWO.

devise

Kinetic Group

Kinetic Group announced the completion of its **battery manufacturing facility in Ahmednagar, Maharashtra**, with an annual production capacity of **60,000 battery packs**. The **Rs. 50 crore** facility will produce Range-X branded batteries for two and three-wheeler electric vehicles, manufacturing both **Lithium Iron Phosphate (LFP) and Nickel Manganese Cobalt (NMC)** variants.

The facility features automated production lines with IoT-enabled systems and stage-wise inspections, adhering to industry standards including AIS 156 and AIS 004. The company plans to supply batteries to OEMs beyond the Kinetic Group, positioning itself to serve India's growing EV market, which is projected to reach US$ 18.319 billion by 2029 at a CAGR of 28.52%.



EV Health Management

The transition to electric vehicles (EVs) is accelerating, but ensuring their reliability and longevity presents new challenges. Traditional diagnostics detect problems only after they occur, leading to costly repairs and unexpected failures. The future lies in **Prognostics & Health Management (PHM)**—an AI-driven approach that predicts failures before they happen, optimizing maintenance and improving safety.

Challenges in EV Reliability

1. **Rising Complexity** – EVs rely on high-voltage battery packs, power electronics, and smart sensors, increasing system intricacy.
2. **Diagnostics Limitations** – Many EVs lack standardized OBD-II ports, making fault detection inconsistent. Conventional diagnostics focus on reactive fixes rather than prediction.
3. **Battery Safety Concerns** – Thermal runaway, overcharging, and capacity degradation remain major issues. AI-driven analytics can enhance **State-of-Charge (SOC), State-of-Health (SOH), and Remaining Useful Life (RUL) estimates**.
4. **Reliability & Durability** – Digital twins simulate wear and tear, helping engineers design robust EVs while balancing speed-to-market.
5. **High Maintenance Costs & Technician Shortages** – Specialized repair tools and a lack of trained technicians drive up costs and service wait times. **Cloud-based diagnostics and AR-assisted maintenance** can help address this gap.

The Shift to Prognostics & Health Management (PHM)

PHM transforms EV maintenance by continuously monitoring key components like batteries, motors, inverters, and charging systems.

- **Minimizes Downtime** – Predicts failures before they occur.
- **Optimized Maintenance** – Moves from scheduled to need-based servicing.
- **Improved Reliability** – Enhances component lifespan.
- **Lower Warranty Claims** – Reduces automaker recalls and post-sale issues.
- **Faster Product Development** – Historical failure data improves design.

How Prognostics Works in EVs

1. **Sensor-Based Data Collection** – IoT-enabled sensors monitor voltage, temperature, and efficiency in real time.
2. **AI-Driven Fault Prediction** – Machine learning analyzes patterns to detect early failures.
3. **Preventive Maintenance** – AI ensures servicing happens when needed, and vehicles can self-report issues.

The Future: Integrated Vehicle Health Management (IVHM)

IVHM goes beyond PHM by integrating a self-learning diagnostic system that enhances vehicle longevity.

- **Real-time self-diagnosis** of key EV components.
- **AI-powered performance tracking** for predictive intelligence.
- **Standardized communication protocols** for OEMs, suppliers, and service providers.
- **Compliance with SAE IVHM standards (JA6268)** for health-ready components.

As the EV industry evolves, Prognostics & IVHM will be critical in ensuring long-term reliability, safety, and cost-effective maintenance.

Read the full article on gyaniki | Your Access to Future Mobility LinkedIn page.

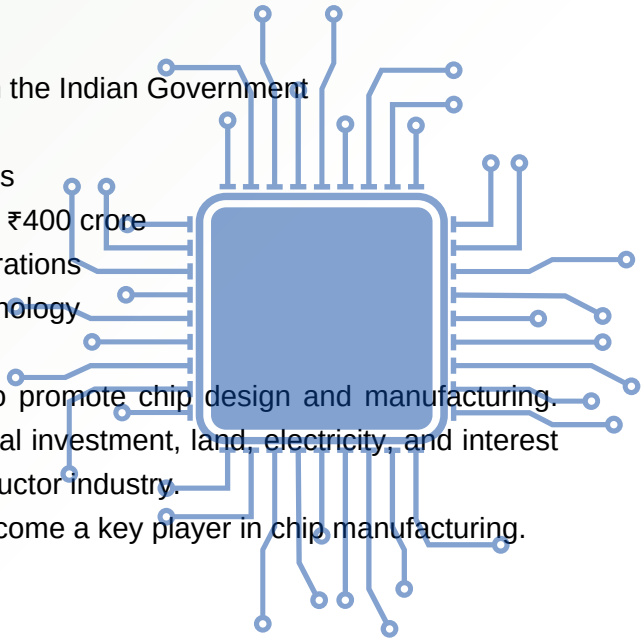
Madhya Pradesh - Semiconductor Policy

Madhya Pradesh greenlights semiconductor policy to fuel chip manufacturing growth

The state aims for long-term growth in the semiconductor industry by simplifying processes and supporting R&D.

Key Highlights of Policy:

- ✅ Capital Investment Support – Subsidy up to 25% or 50% from the Indian Government
- ✅ Interest Subsidy – 6% for a duration of five years
- ✅ Land & Power Tariff Benefits – Special rates for up to 10 years
- ✅ Customised Incentives – Available for investments exceeding ₹400 crore
- ✅ FDI & Public-Private Partnerships – Promoting global collaborations
- ✅ R&D Assistance – Funding for advanced semiconductor technology



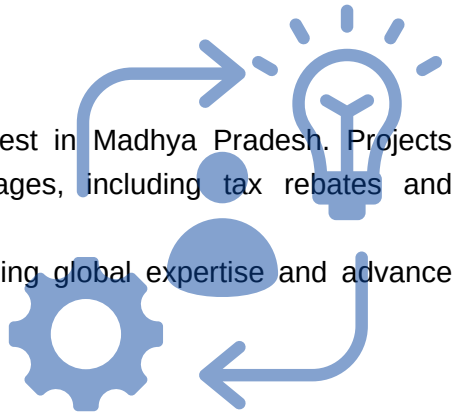
Madhya Pradesh has approved a new semiconductor policy to promote chip design and manufacturing. The policy offers financial incentives such as subsidies for capital investment, land, electricity, and interest rates to attract companies and foster innovation in the semiconductor industry.

With the rising demand for semiconductors, the state aims to become a key player in chip manufacturing.

Fiscal incentives for semiconductor manufacturers

The policy offers significant financial support for companies investing in semiconductor manufacturing. Capital investment subsidies of up to 25 per cent or 50 per cent of the subsidy provided by the Indian government are available, along with interest subsidies of 6 per cent for up to five years.

Moreover, the state will provide land at concessional rates and power tariff subsidies for the first 10 years to reduce operational costs.



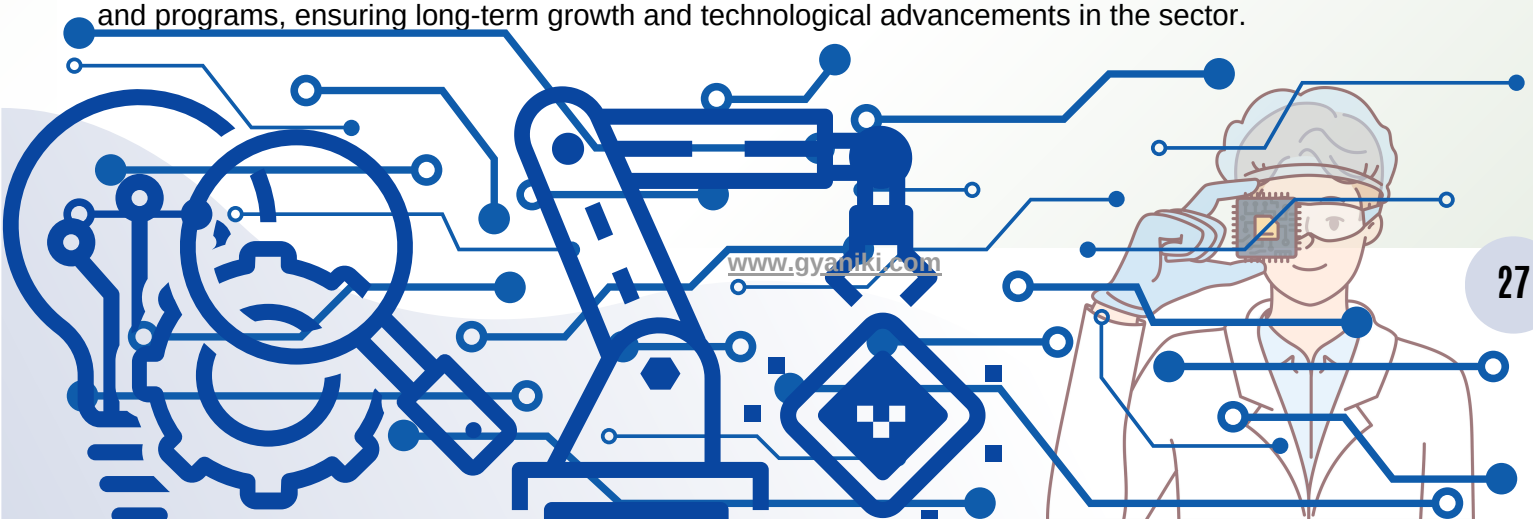
Attracting investment and innovation

The policy encourages both domestic and foreign companies to invest in Madhya Pradesh. Projects exceeding Rs 400 crore may receive customised incentive packages, including tax rebates and infrastructure support.

The state is also promoting public-private partnerships and FDI to bring global expertise and advance semiconductor technology to India.

Simplified process and focus on research & development

Madhya Pradesh is committed to simplifying the regulatory process, making it easier for companies to establish operations. The state will also support R&D in semiconductor technologies through special funds and programs, ensuring long-term growth and technological advancements in the sector.



Madhya Pradesh - EV Policy 2025

MADHYA PRADESH

FUTURE MOBILITY
SKILL DEVELOPMENT

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Madhya Pradesh has taken a bold step towards sustainable transportation with the introduction of its EV Policy 2025. This comprehensive framework aims to accelerate electric vehicle adoption, strengthen charging infrastructure, and promote green mobility through financial incentives, regulatory benefits, and ambitious electrification targets.

Key Highlights of the EV Policy 2025

1. Strong Financial Incentives for EV Buyers

The Madhya Pradesh government is offering subsidies ranging from **₹5,000 to ₹10 lakh** across multiple EV segments, making electric mobility more accessible:

- **Electric Cars**: Up to **₹50,000** per vehicle **(₹2,500 per kWh)**, limited to 10,000 EVs priced below ₹25 lakh.
- **Electric Two-Wheelers**: Maximum subsidy of **₹10,000** per vehicle (**₹5,000 per kWh**) for 1 lakh e-bikes priced below ₹1.5 lakh.
- **Electric Three-Wheelers**: **₹20,000** per vehicle (**₹5,000 per kWh**) for 15,000 e-autos priced below ₹5 lakh.
- **Electric Buses**: Capital subsidy of **₹10 lakh** per unit for 100 government and 100 non-government buses.
- **Electric Light Commercial Vehicles (e-LCVs)**: **₹50,000** per vehicle (₹5,000 per kWh) for 5,000 units.
- **Electric Cycles**: **₹5,000** per e-cycle for 30,000 vehicles priced below ₹40,000.

These state subsidies are over and above the incentives under the **PM E-Drive scheme**, which provides central-level support for commercial EVs.

2. 100% Exemption on Vehicle Tax & Registration Fees

To further boost adoption, all electric vehicles registered under the policy will enjoy a full waiver on road tax and registration fees, along with:

- One-year **free parking** at designated locations.
- **Scrapping** incentives of up to **₹7,500** per vehicle.
- **Retrofitting** incentives (up to **₹2.5 lakh for buses, ₹15,000 for cars, and ₹5,000 for two-wheelers**).

3. Massive Charging Infrastructure Expansion

To support the growing EV ecosystem, the policy mandates:

- One **charging station per sq. km** in key urban centers.
- **Charging points at all petrol pumps** across the state.
- **Fast chargers every 100 km** on highways and every 20 km on major roads.

Madhya Pradesh - EV Policy 2025

MADHYA PRADESH

4. Government's Role in EV Transition

Madhya Pradesh is setting a precedent for government-led EV adoption, with plans to:

- Electrify 80% of all government vehicles by the end of the policy period.
- Establish the Madhya Pradesh EV Promotion Board to oversee implementation.
- Develop Bhopal, Indore, Jabalpur, Gwalior, and Ujjain as model EV cities with robust charging infrastructure, shared mobility solutions, and green zones.

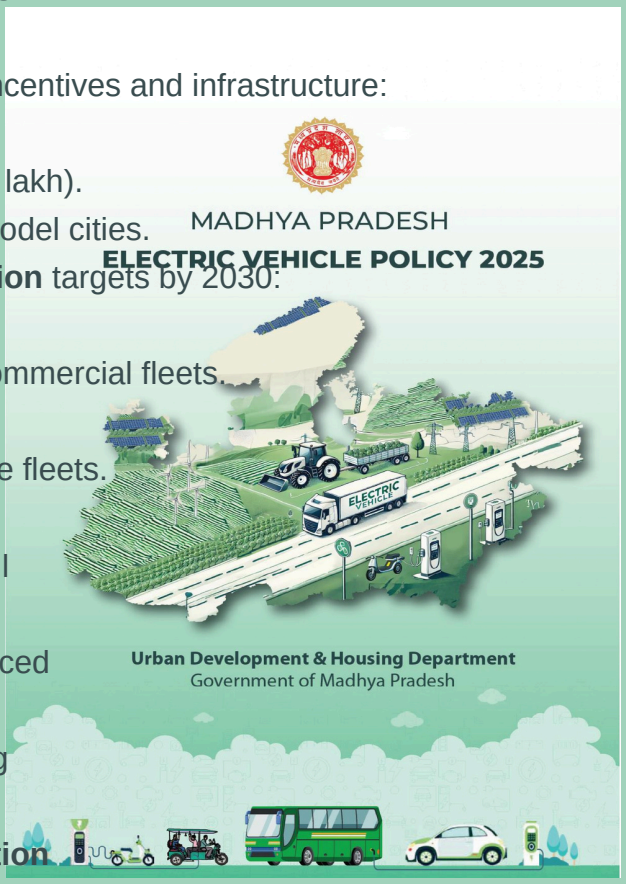
5. Green Revenue Model & Regulatory Push

The policy introduces new funding mechanisms to support incentives and infrastructure:

- **Pollution cess** of ₹0.10 per litre on diesel vehicles.
- **Higher road tax** for luxury petrol/diesel cars (above ₹25 lakh).
- **Fines for violations** in designated green zones in EV model cities.

Additionally, the government has set ambitious **EV penetration** targets by 2030:

- 15% of all new car registrations to be electric.
- 40% of new two-wheelers, with 100% electrification in commercial fleets.
- 70% of new three-wheeler registrations to be electric.
- 40% adoption in buses, including government and private fleets.



6. **Boost for EV R&D & Manufacturing**

Madhya Pradesh is also pushing for local innovation and skill development by:

- Allocating **₹2 crore** for Centers of Excellence and advanced testing labs.
- Encouraging **EV startups** and component manufacturing within the state.

Madhya Pradesh: A Transformational Leap for EV Adoption

With the Madhya Pradesh EV Policy 2025, the state is positioning itself as a frontrunner in India's electric mobility revolution. By integrating financial incentives, infrastructure expansion, and strong regulatory frameworks, the government aims to make electric vehicles the mainstream choice for both individual and commercial use.

As the draft policy is open for suggestions, stakeholders from the automotive industry, academia, and EV enthusiasts have the opportunity to shape the future of green mobility in Madhya Pradesh.

What do you think about this policy? Will it set a benchmark for other states?

Joint Ventures & Partnerships

Bosch - EMotorad

Bosch Global Software Technologies (BGSW) and EMotorad, along with its manufacturing arm Dynem, have signed a Memorandum of Understanding (MoU) to explore potential synergies in the micro-mobility segment.

Ather Energy - ChargeMOD

Ather Energy Limited has entered into a partnership with ChargeMOD to expand its electric vehicle (EV) charging network in Kerala. Through this collaboration, EV owners using the **LECCS (Light Electric Combined Charging System) connector** will gain access to 121 additional charging locations across the state.

JSW MG Motor India- LICO Materials Private Limited

JSW MG Motor India, in collaboration with LICO Materials Private Limited (Epsilon Group), has unveiled an **advanced Battery Energy Storage System (BESS)** under their sustainability initiative, '**Project Revive**.'

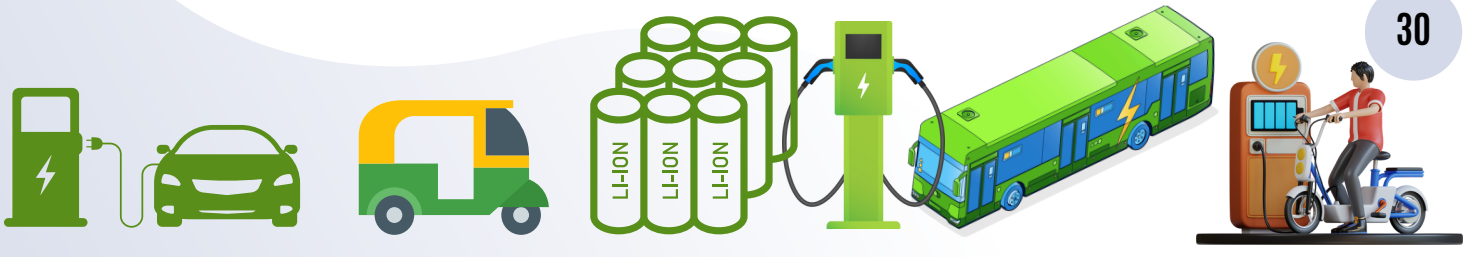
This innovative step highlights LICO Materials' expertise in end-of-life battery recycling and refurbishing, bringing to life three BESS models with storage capacities of **18kWh, 100kWh, and 300kWh.**

PURE EV - BE Energy

PURE EV, an Indian electric two-wheeler manufacturer, has partnered with France's BE Energy to introduce **Li-Ion battery reconditioning technology in India**, the companies announced in Hyderabad on Tuesday. The collaboration aims to double the lifespan of EV batteries by combining BE Energy's reconditioning equipment with PURE EV's BatricsFaraday technology.

Jitendra EV - Battery Smart

Jitendra New EV Tech Pvt. Ltd, an electric two-wheeler, has partnered with Battery Smart, a leading battery-swapping network for electric two- and three-wheelers. to integrate **Battery Smart's battery-swapping technology** into Jitendra EV's fleet, providing users with access to over **1,400 battery-swapping stations across 40 cities** in India.



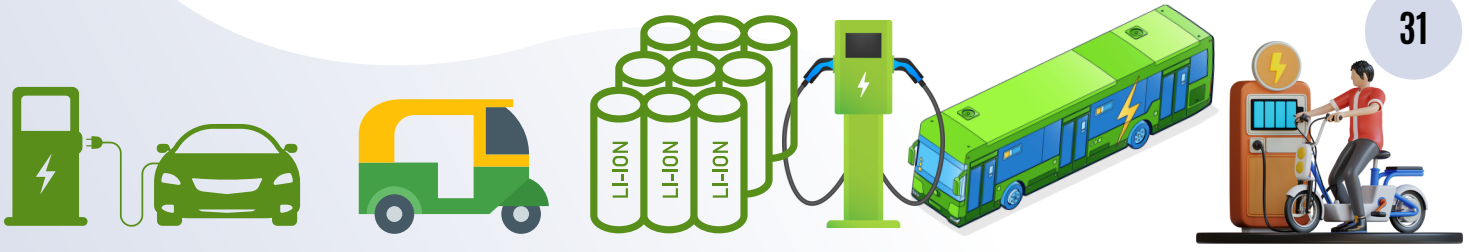
Joint Ventures & Partnerships

FlixBus - ETO Motors

FlixBus, the global mobility provider, has signed a Memorandum of Understanding with ETO Motors to deploy **electric intercity coaches** in India, marking its entry into the country's growing electric vehicle market. The collaboration includes plans for developing charging infrastructure along FlixBus's routes and creating a framework for future expansion of electric mobility solutions.

Sona Comstar - The ePlane Company

Sona Comstar and The The ePlane Company have signed an MoU to revolutionize India's **urban air mobility space**! Together, they will develop advanced powertrains for eVTOLs and drones, including gearboxes, motors, inverters, and cutting-edge components.



Joint Ventures & Partnerships

Servotech Renewable Power System Ltd - Watt & Well

Servotech Renewable Power System Ltd. (NSE: SERVOTECH) (Formerly known as Servotech Power Systems Ltd.), a leading provider of **sustainable energy solutions** in India, signed an agreement with France based company Watt & Well SAS, a technology leader in power electronics equipment for the Aerospace, Oil & Gas, Renewables and E-Mobility sectors, to **design, manufacture and sell EV charger components** in India.

The collaboration will initially focus on the development of a **30kW Power Module** for use in the Indian EV charging market. The companies will also jointly assess the viability and process for the production of a Bidirectional Power Module for V2G applications. Under the agreement, Servotech will manufacture Power Modules in India to achieve the Make in India mission, while Watt & Well will provide full technical support to achieve this mission. Servotech will also have the exclusive right to market and sell these components in India.

Matel Motion & Energy Solutions - Honda Power Pack Energy India (HEID)

Matel Motion & Energy Solutions has entered into a strategic partnership with Honda Power Pack Energy India (HEID) to enhance **battery-swapping technology** for electric vehicles in India. This collaboration aims to integrate Matel's advanced electric powertrain systems with Honda's swappable battery solutions, addressing key challenges in EV adoption such as range limitations and long charging times.

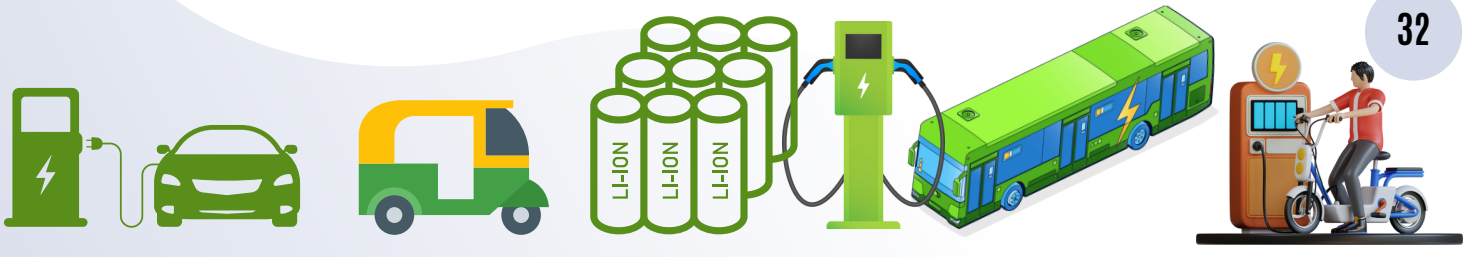
Zypp Electric - Indofast Energy

Zypp Electric is making a major stride in India's EV revolution with plans to **deploy 100,000 electric two-wheelers** over the next 12-18 months! This expansion builds on their existing fleet of 10,000+ EVs, supported by **IndoFast Energy's battery-swapping infrastructure.**

India - Argentina

India has signed a memorandum of understanding (MoU) with Argentina to deepen collaboration in **lithium exploration and mining.**

The MoU was signed between Mineral Exploration and Consultancy Limited (MECL), which comes under the mines ministry, and the provincial government of Argentina's Catamarca.



PVG E-Bike Throttle Precision Control for Electric Mobility!

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Experience seamless acceleration and unmatched durability with PVG's Hall Effect Throttle, designed for battery-operated bicycles, 2-wheelers & 3-wheelers (24V–72V DC systems).

Why Choose PVG E-Bike Throttle?

- Hall Effect Magnetic Sensor – Frictionless & long-lasting
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- Ergonomic & Fatigue-Free Design – Smooth throttle control
- Advanced Vibration Resistance – Durable PCB-mounted IC
- Customizable Options – Tailored connectors, pigtail length & switches

Technical Highlights:

- DC Input Voltage: 4.5-6VDC (Nominal: 5VDC)
- DC Output Voltage: 0.8V to 4.25V
- Operating Temperature: -40°C to 85°C
- Throttle Rotation Angle: 0° to 67°
- Overall Dimensions: 180 x 80 x 95 mm
- Max Operating Force: 25-30 N

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Joint Ventures & Partnerships

IONNA

Ionna the joint venture to build a high-powered EV charging network across North America, has received approval from regulatory authorities, and is now officially commencing operations. IONNA is a joint venture of seven of the world's foremost automakers: **BMW, General Motors, Honda, Hyundai, Kia, Mercedes-Benz, and Stellantis.**

With **Seth Cutler**, newly appointed as the **Chief Executive Officer, IONNA** targets to become one of the most accessible and reliable high-powered charging networks in North America with plans to deploy at least **30,000 chargers.**

"I am honored to lead IONNA and work alongside these esteemed automakers in shaping the future of electric mobility. Our shared commitment to creating an extensive, high-powered charging network reflects our dedication to revolutionizing the entire EV charging experience and helping to drive widespread EV adoption." **Seth Cutler, CEO IONNA**

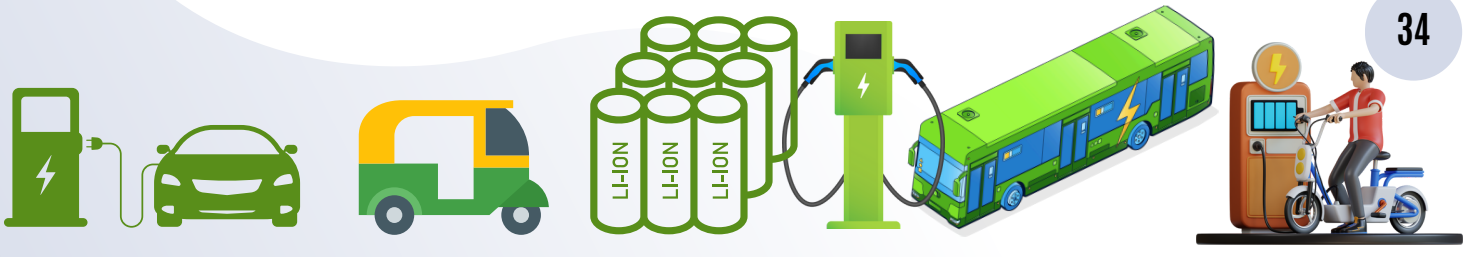
HCL Tech- ChargePoint

HCLTech, a leading global technology company, announced a collaboration with ChargePoint, a leading provider of **networked charging solutions** for electric vehicles (EVs), to accelerate innovation in EV charging software.

HCLTech has established an advanced r**esearch and development center for ChargePoint in Bengaluru, India.**

KPIT Technologies - Trentar

KPIT Technologies, an automotive software company, has transferred its sodium-ion battery technology to Trentar Energy Solutions for commercialization, the companies announced on February 12, 2025. The agreement includes a 3GWH manufacturing investment by Trentar and provides KPIT with upfront technology transfer fees plus royalties over an eight-year period.



Joint Ventures & Partnerships

Eberspaecher - Farasis

Eberspaecher and Farasis Energy Europe have entered into an exclusive strategic partnership. This includes collaboration in the areas of marketing, sales, development and production of low-voltage batteries for automotive applications.

- **Low-voltage batteries for automotive applications**
- **Combined battery management system and cell expertise**
- **Battery solutions from 12 to 48 volt from a single source**

Eastman - Urja Mobility

Eastman Auto and Power Ltd (EAPL) has entered into a strategic partnership with Urja Mobility to supply over **20,000 lithium-ion batteries** for electric three-wheelers in India. The companies signed a Memorandum of Understanding on February 11, 2025, focusing on battery leasing solutions and technology integration across the country.The acquisition of a **49% stake in Flash Electronics** by **Minda Corporation** marks a significant milestone in the Indian automotive landscape.

Eastman will incorporate Urja Mobility's IoT and software solutions into its lithium battery products, enabling remote monitoring and data analytics capabilities.

- **IoT & Data Analytics:** Advanced smart battery monitoring and remote diagnostics for enhanced performance.
- **Battery Leasing Model:** A cost-effective and scalable approach to accelerating EV adoption.
- **EAPL's Market Expansion:** Strengthening its leadership in E-rickshaw battery technology.

Euler Motors - Tata Power Renewables

Euler Motors has joined forces with Tata Power Renewables through a Memorandum of Understanding (MoU) aimed at expanding **fast-charging infrastructure** for **commercial electric vehicles.**

The partnership addresses a critical challenge in the commercial EV sector: accessible charging infrastructure. Under the agreement, Tata Power Renewables will deploy and maintain fast chargers specifically designed for Euler Motors' vehicle range, while Euler Motors will provide rent-free spaces for the charging stations.

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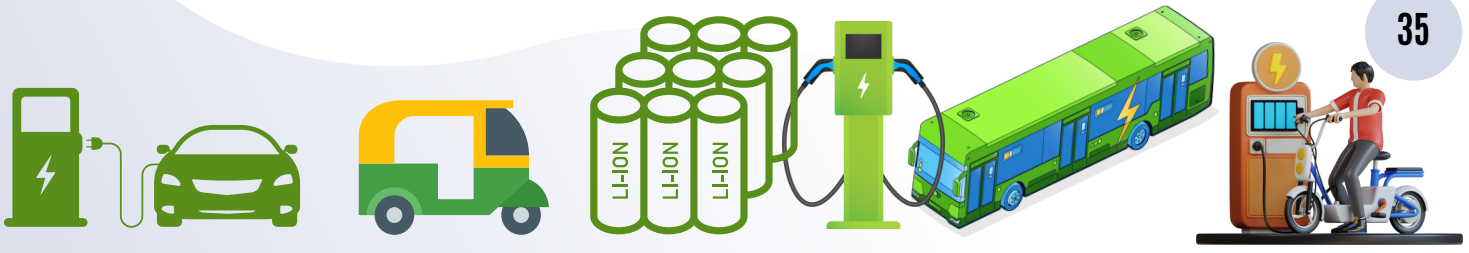

Joint Ventures & Partnerships

TATA.ev

TATA.ev, the leader of India's electric vehicle (EV) revolution, today announced a bold, groundbreaking initiative to transform the nation's charging infrastructure. Building on the success of surpassing 200,000 EV sales, TATA.ev boosted its commitment to make EVs more accessible and convenient by more than doubling the number of available charge points to 400,000 by 2027.

TATA.ev boosts India's Charging Infra

- 400,000 Charging Points nationwide by 2027
- 30,000+ public chargers via Open Collaboration 2.0
- Introduces TATA.ev Verified Chargers – easily locate reliable charging options nearby via iRA app
- To install 500+ TATA.ev Mega Chargers with priority access and services for TATA.ev customers
- Launched Dedicated Charging Helpline – a 24×7 service for any charging queries
- To launch Unified Payments Wallet

TATA.ev Mega Chargers

- Superfast chargers with 4 charging bays
- 500 Mega Chargers to be set-up in Phase 1
- In collaboration with reputed CPOs – Tata Power, ChargeZone, Statiq and Zeon
- Safe, high-quality, high-speed charging on prominent EV user routes in cities and on highways
- Priority access and service to TATA.ev customers
- Tariff benefits for TATA.ev customers
- Convenient access to all partner CPO chargers singularly via the iRA.ev app

Reliance New Energy Battery

The Ministry of Heavy Industries (MHI), Government of India, signed a Programme Agreement with Reliance New Energy Battery Limited (a subsidiary of Reliance Industries Limited) under the Production Linked Incentive (PLI) Scheme for Advanced Chemistry Cell (ACC) on February 17, 2025. This agreement awards Reliance New Energy Battery Limited a **10 GWh ACC capacity**, following a competitive global tender process and makes it eligible to receive incentives under India's ₹ 18,100 crore PLI ACC scheme.

UPCOMING FUTURE MOBILITY EVENTS

EV TECH INDIA EXPO 2025

7-9 March 2025 at
Auto Cluster Exhibition Centre,
Pune

As a renowned advocate for sustainable innovation in the e-mobility sector, SSEM's presence will bring unparalleled expertise and groundbreaking insights. Their commitment to driving smarter, greener mobility aligns perfectly with the expo's vision to transform transportation for a better tomorrow.

RenewX 2025

23, 24 & 25 April 2025,
Chennai Trade Centre, Nandambakkam.

RenewX is a platform built to accelerate the growth of the South Indian Renewable Energy and Electric Vehicle Market.

RenewX 9th edition
23 24 25 APRIL 2025
Chennai Trade Centre, Chennai

This event is powered by
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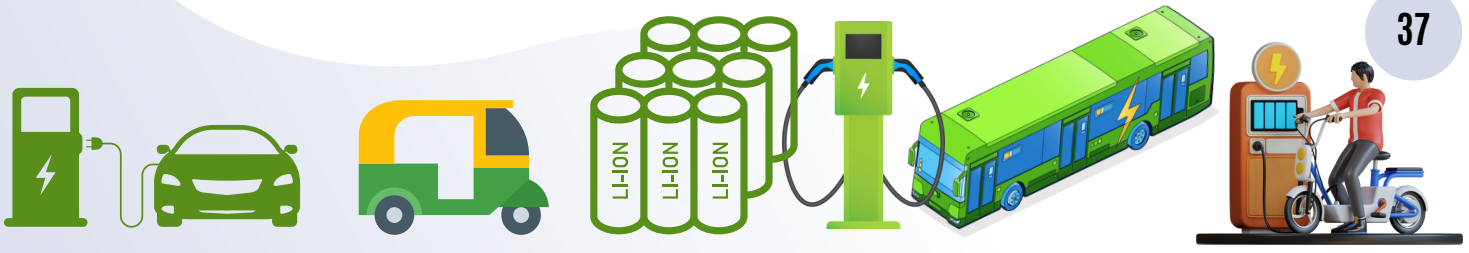

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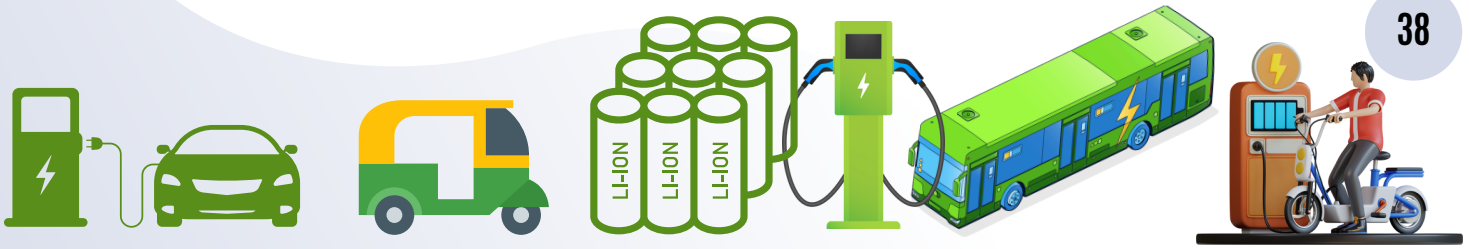


New Launch

BNC Motors

BNC Motors has launched the Perfetto electric scooter in India,

Key Performance Specifications:

- **Range**: Up to **160km per charge**, depending on the version.
- **Acceleration**: **0-40 kmph in just 3.7 seconds**.
- **Top Speed**: **70 kmph**

BBROS Mobility - Dhavak Electric Scooter

- IMT Faridabad-based BBROS Mobility
- **Variants**: Two options available

- **Battery: 4 kWh pack, offering 100+ km real-world range**
- **Motor Options:**
  - **Variant 1: 4.0 kW Mid-drive motor**
  - **Variant 2: 1.5 kW Hub-drive motor**
- **Top Speed:**
  - **Variant 1: 80-90 kmph**
  - **Variant 2: 60-65 kmph**

New Launch

Ola Electric has launched the Roadster X series of electric motorcycles

Ola Electric, India's largest EV manufacturer, announced its entry into the electric motorcycle segment with the launch of the Roadster X series on February 5, 2025. The new series includes five variants with prices ranging from ₹74,999 to ₹1,54,999, with deliveries scheduled to begin in mid-March.

Battery Capacity	Roadster X	Roadster	Roadster Pro
2.5 kWh	₹74,999	-	-
3.5 kWh	₹84,999	₹1.05 lakh	-
4.5 kWh	₹99,999	₹1.20 lakh	-
6 kWh	-	₹1.40 lakh	-
8 kWh	-	-	₹2.0 lakh
16 kWh	-	-	₹2.5 lakh

Ola Roadster Series Price & Specifications

Availability & Delivery Timeline

- **Roadster X & Roadster: Deliveries begin in January 2025.**
- **Roadster Pro: Delivery dates yet to be announced.**

New Launch

Specification	Roadster X	Roadster	Roadster Pro
Battery Options	**2.5 kWh, 3.5 kWh, 4.5 kWh**	**3.5 kWh, 4.5 kWh, 6 kWh**	**8 kWh, 16 kWh**
Price Range	**₹74,999 - ₹99,999**	**₹1.05 lakh - ₹1.40 lakh**	**₹2.0 lakh - ₹2.5 lakh**
Claimed Range	**Up to 200 km**	**Up to 248 km**	**Up to 579 km**
Power Output	**14.7 bhp (11 kW)**	**17.4 bhp (13 kW)**	**70 bhp (52 kW)**
0-40 kmph Acceleration	2.8 sec	2.2 sec	1.2 sec
Top Speed	**124 kmph**	**126 kmph**	**194 kmph**
Wheels	18-inch black alloy	Diamond-cut alloy	Premium alloy
Display	4.3-inch LCD	7-inch touchscreen	10-inch touchscreen
Front Suspension	Telescopic forks	Telescopic forks	USD forks
Rear Suspension	Twin shock absorbers	Twin shock absorbers	Premium mono-shock
Braking & Safety	ABS, Hill Hold, Traction Control	ABS, Hill Hold, Traction Control	ABS, ADAS, Hill Hold, Traction Control
Cell Technology	**Ola's 4680 cells**	**Ola's 4680 cells**	**Ola's 4680 cells**

New Launch

BYD - Sealion 7

BYD has launched the Sealion 7 electric SUV in India at Rs 48.9 lakh for the base Premium variant, going up to Rs 54.9 lakh for the top-spec Performance trim.

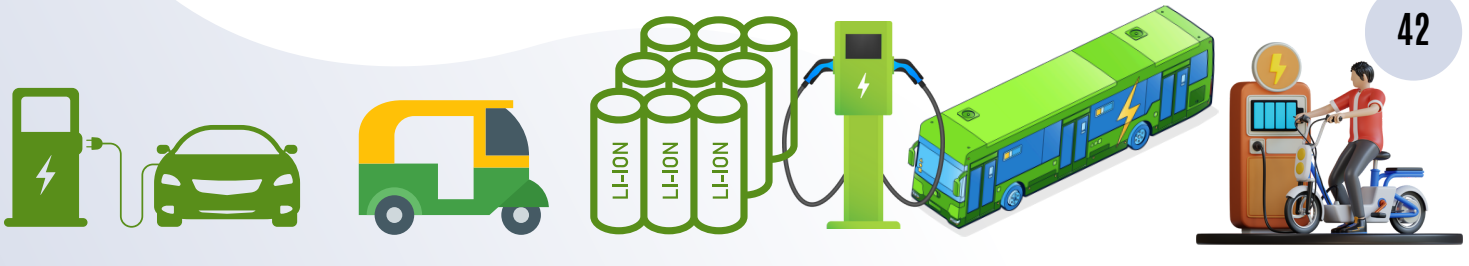
BYD - Sealion 7 offers up to 567 km range and features an 82.56 kWh battery pack across variants.

Performance & Features at a Glance:

✅ Power: 313hp (RWD) | 530hp (AWD)
✅ Battery: 82.5 kWh
✅ Range: 542-567 km (NEDC)
✅ Acceleration: 0-100 km/h in 6.7s (RWD) | 4.5s (AWD)
✅ Top Speed: 215 km/h
✅ Safety: 11 airbags, ADAS tech
✅ Luxury: Panoramic glass roof, 15.6” rotating touchscreen infotainment

Variants & Pricing (Ex-Showroom, Rs):

- Premium: ₹48.9 lakh (Battery: 82.56 kWh)
- Performance: ₹54.9 lakh (Battery: 82.56 kWh)



New Launch

BattRE Electric Mobility - LOEV+

BattRE Electric Mobility unveiled its new LOEV+ electric scooter today, featuring an Amaron 2kWh battery with a three-year warranty, and boasting 60 km/h maximum speed. Priced at ₹69,999 (ex-showroom

BattRE

Battery & Performance:

- Amaron 2kWh battery with a 3-year warranty
- Maximum speed: 60 km/h
- Charging time: 2 hours 50 minutes
- IP67-rated battery & charger using 21700 cells

Riding Modes & Range:

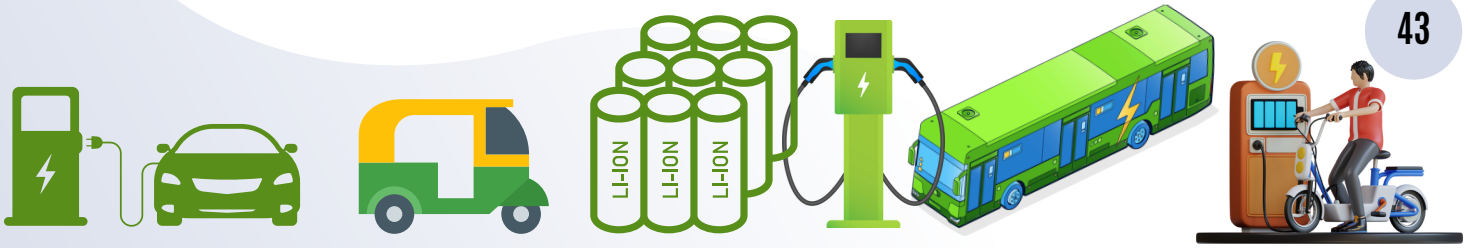
- Eco Mode (35 km/h): 90 km range
- Comfort Mode (48 km/h): 75 km range
- Sports Mode (60 km/h): 60 km range

Safety & Features:

- Combined disc-brake system
- 180mm ground clearance
- Parking switch & saree guard
- Cruise Control & Hill Hold Assist
- CAN-enabled communication system

Design & Display:

- 12-inch alloy wheels
- LED lighting system
- Speedometer with Distance-to-Empty & Battery State info
- Five color options:
  - Starlight Blue
  - Stormy Grey
  - Ice Blue
  - Midnight Black
  - Pearl White



Report - Guide to EV Charging Infrastructure and Grid Integration

Rising oil prices and rising energy demand have led to the high cost and capital consumption, as the transportation ecosystem's reliance on non-renewable energy sources has played an adverse role in recent years. The Government of India has developed a number of policies to encourage and facilitate the development of EV charging infrastructure in India.

The Indian government does not plan to mandate standardized charging ports for electric scooters, allowing manufacturers to use their own standards. This flexibility has resulted in a diverse charging infrastructure, posing challenges for EV owners in ensuring compatibility with public charging stations. Resulting in a varied landscape for EV charging infrastructure.

EV infrastructure encompasses **Level 1, Level 2, and DC fast chargers**, meeting diverse user needs, from home charging to rapid refuelling at public stations. AC charging is ideal for overnight charging at homes or workplaces with Level 1 & Level 2 standard chargers.

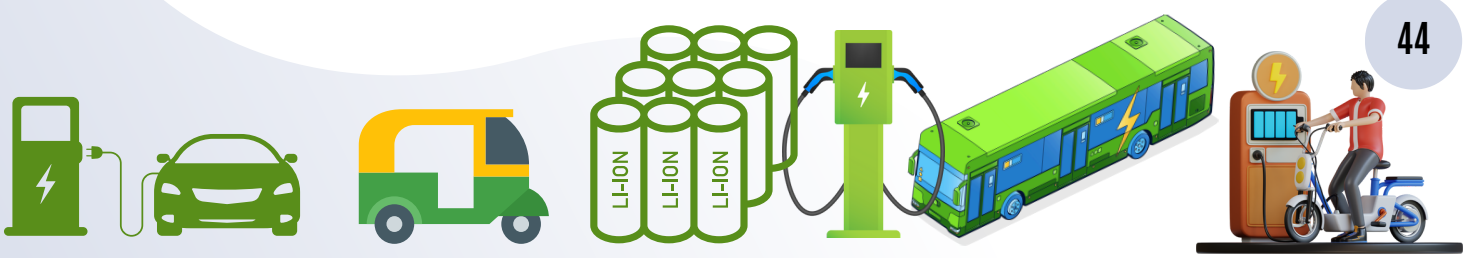
On November 7, 2023, the Ministry of Heavy Industries (MHI) introduced a new phased manufacturing program (PMP) for electric vehicle (EV) charger components under the **FAME India Scheme Phase-II** to boost domestic production. Outlined a comprehensive list of charger components and their timelines for the transition to domestically manufactured parts.

DC charging, including Level 3 fast chargers, is suitable for rapid charging in commercial areas, highways, and high-traffic locations. **Battery swapping** innovations offer quick alternatives, reducing downtime and addressing range anxiety. EVs can now be charged wirelessly via inductive or resonant systems, thanks to emerging technologies.

Smart grid integration optimizes charging times based on grid demand and renewable energy availability for efficient load management. Charging stations require reliable power, proper infrastructure, spacing, signage, safety features, and compliance with regulations and environmental guidelines. Balancing charging stations in urban and rural areas ensures widespread accessibility. Collaborations among governments, private corporations, and utility suppliers expedite infrastructure expansion by leveraging their assets. **Adhering to international charging standards** like CCS and CHAdeMO ensures interoperability among EVs and various charging stations through open communication protocols.

Obtaining **Environmental certifications** for charging stations and integrating solar and wind energy into infrastructure enhances sustainability and reduces EVs' carbon footprint.

In this article you will get the Idea of EV infrastructure promises a cleaner, more accessible world. Embrace the journey, where every charge fuels not just vehicles, but a greener tomorrow. The road ahead is electrifying, and the future is now.



Report - Guide to EV Charging Infrastructure and Grid Integration

Annexures

1. EV Charging Infrastructure Strategy in India
a) Working Principle
b) Types of Charging
c) Charging levels
d) Speed of Charger
e) Fast Charging
f) Types of Connector
g) Battery Swapping
2. Grid Integration
a) Distribution from HV bus to charging station unit
b) Arranging supply
c) Planning & Requirements for Charging Station
d) Utilization of different segments
e) Benefits and Guidelines
3. Implementation of Charging Station
a) Planning and Allocation
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c) Indian Regulation and Standards
d) Costing and setting up EV public charging station (PCS)
e) Roles and Responsibilities
4. Communication Protocol
5. Smart-connected EV Charging
6. Government Initiatives and Schemes under Fame II

To access details of annexures, please subscribe at www.gyaniki.com

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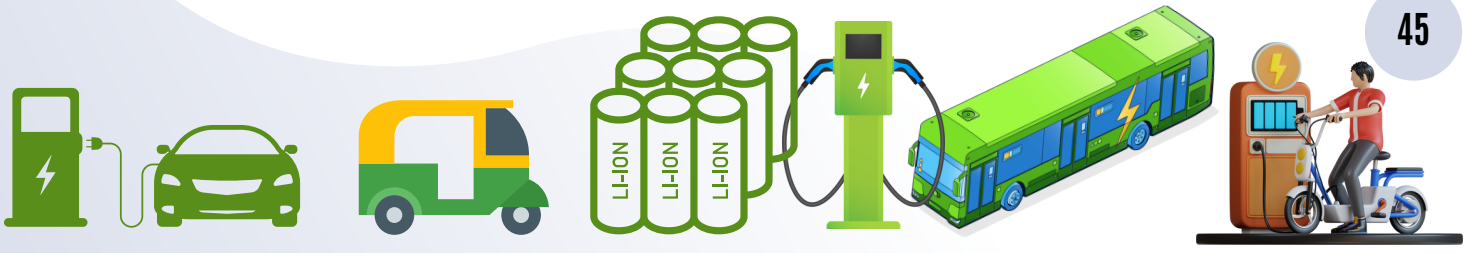


Report - Guide to Basics of Semiconductor

The transition of from traditional internal combustion engines (ICE) to electric vehicles (EVs) marks a significant shift in the automotive industry, presenting both challenges and opportunities for individuals and businesses alike.

As the **Indian Automobile ecosystem adapts to this transformative trend from the conventional mechanical to electrification path,** it becomes **imperative for newcomers from mechanical backgrounds to familiarize themselves with the basics of semiconductors and its manufacturing process, a vital component in electrification roadmap.**

With **OEM's and Tier-1 suppliers gearing up to build their teams and capacities** in response to the growing demand for next generation mobility, **understanding the fundamental principles of semiconductors becomes crucial for effectively contributing to this dynamic industry.**

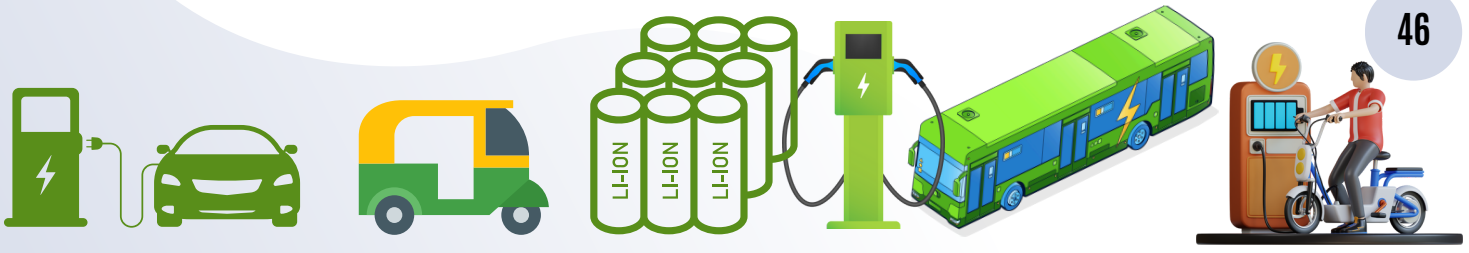
This **compiled report serves as an essential guide** commences with an introduction to **key PCB components, semiconductors**, explaining their role as materials that lie between conductors and insulators. It gets into the atomic structure of semiconductors and the concept of doping, which enhances their electrical properties. An exploration of semiconductor devices, such as **microcontrollers, microprocessors, transistors, IC's, diodes, showcases their significance in electronic circuits and their impact on the efficient functioning of automobiles.**

Next, the report briefs the **semiconductor manufacturing process**, Moore's Law and steps involved in producing integrated circuits in **fabrication facilities (fabs)**. It discusses the **distinction between fabs, foundries and IMD**, emphasizing their relevance in the current Indian semiconductor ecosystem, where suppliers are positioning themselves to cater to the surging demand for semiconductor chips in the EV market.

Semiconductors play an indispensable role in the efficient functioning of electric drivetrains, battery management systems and charging infrastructure.

As Indian Tier-1 suppliers slowly build their teams and capacity to meet the demands of the fast-growing Indian EV sector, there are **challenges and stiff competition** that are ahead and Government of India is supporting through with necessary research infrastructure and launching incentive schemes through "India Semiconductor Mission".

Overall, this **report guides new entrants transitioning from mechanical to electrification stream and focusing on the semiconductor domain** to navigate their transition successfully and empowering them to contribute effectively to the **growing Electrification in Indian Automobile ecosystem.**



Report - Guide to Basics of Semiconductor

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Report Content

1. Key Components on PCB
- **a) Microcontrollers**
- **b) Microprocessors**
- **c) Hardware Interfacing**

2. What is Semiconductor
- **a) Semiconductor Devices**
  - **• Transistors: IGBT, MOSFET**
  - **• Integrated Circuits**
  - **• Diodes**
- **b) Manufacturing Process**
- **c) Moore's Law**

3. Key Terminologies and Processing Units
- **a) Wafers**
- **b) Fabs**
- **c) Foundries**
- **d) IDM**

4. Semiconductor Value Chain and Players

5. Semiconductor Products and Application

6. India's Semiconductor Mission (ISM) and Incentive Schemes

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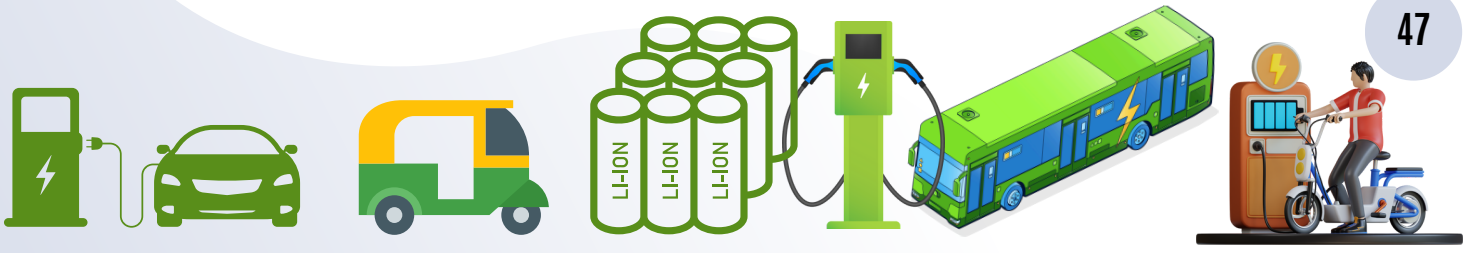

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