EV Report April 2025

GYANIKI

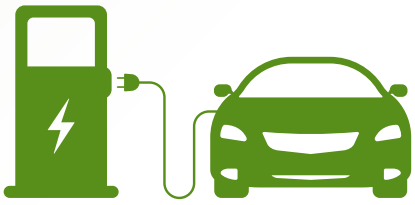
YOUR ACCESS TO FUTURE MOBILITY

AUTOMOTIVE CYBERSECURITY: UNECE REGULATION 155 & GLOBAL STANDARDS

INDIA EV SALES MARCH 2025

TOP MONEY MOVEMENT IN MOBILITY WORLD

NEWS, JOINT VENTURES & PARTNERSHIPS



UPCOMING EV SHOW

EV LAUNCH

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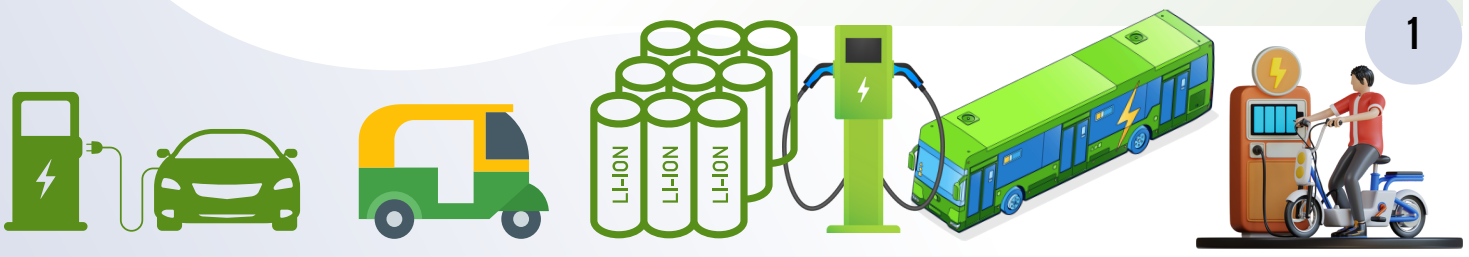


Regulatory Landscape: UNECE Regulation 155 & Global Standards

The regulatory landscape for automotive cybersecurity has undergone significant transformation, with **UNECE Regulation 155** emerging as a pivotal framework for ensuring vehicle cybersecurity. This month, we focus on the details of this regulation, its requirements, and its broader implications for manufacturers worldwide.

UNECE Regulation 155, adopted by the **United Nations Economic Commission for Europe (UNECE)**, establishes comprehensive cybersecurity requirements for vehicles. The regulation mandates that vehicle manufacturers implement a Cybersecurity Management System (CSMS) to protect vehicles from cyber threats throughout their lifecycle.

Key Requirements:

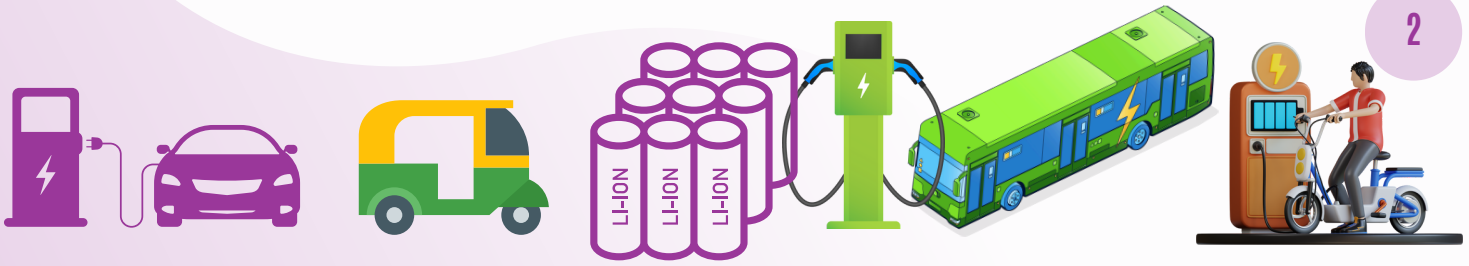
- **Risk Assessment**: Manufacturers must conduct rigorous risk assessments to identify and mitigate cybersecurity threats.
- **Incident Detection and Response**: Implementing processes to detect, report, and respond to cybersecurity incidents is essential.
- **Continuous Monitoring**: Ongoing monitoring of potential vulnerabilities and cyber threats is required.
- **Compliance and Certification**: Manufacturers must demonstrate compliance with the regulation to obtain type approval for new vehicle models.

Global Implications:

As of July 2024, UNECE Regulation 155 is mandatory for new vehicle types in WP.29 member countries, covering regions such as the EU, Japan, and South Korea. Compliance ensures not only regulatory approval but also enhances consumer trust by prioritizing cybersecurity.

Adhering to UNECE Regulation 155 is not a one-time task but a continuous commitment. Manufacturers must establish robust processes, allocate resources, and foster a cybersecurity culture to meet these regulatory demands effectively.

In India, the **Automotive Industry Standard (AIS)** 189 aligns with global efforts to strengthen vehicle cybersecurity. AIS 189 sets forth guidelines tailored to the Indian market, ensuring that cybersecurity measures are integrated into vehicle development and lifecycle management. Next month, we will focus deeper into AIS 189 and explore its requirements and implications for Indian manufacturers. Stay tuned!



Automotive Cybersecurity Risk Management Solutions

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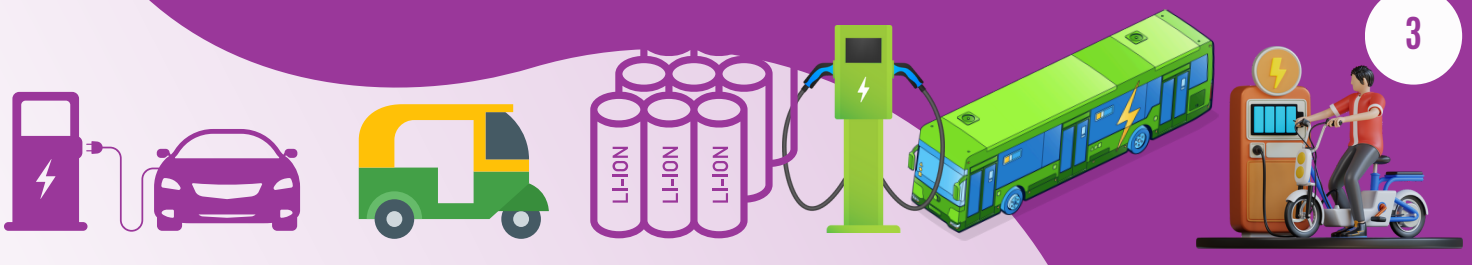

EV Report April 2025

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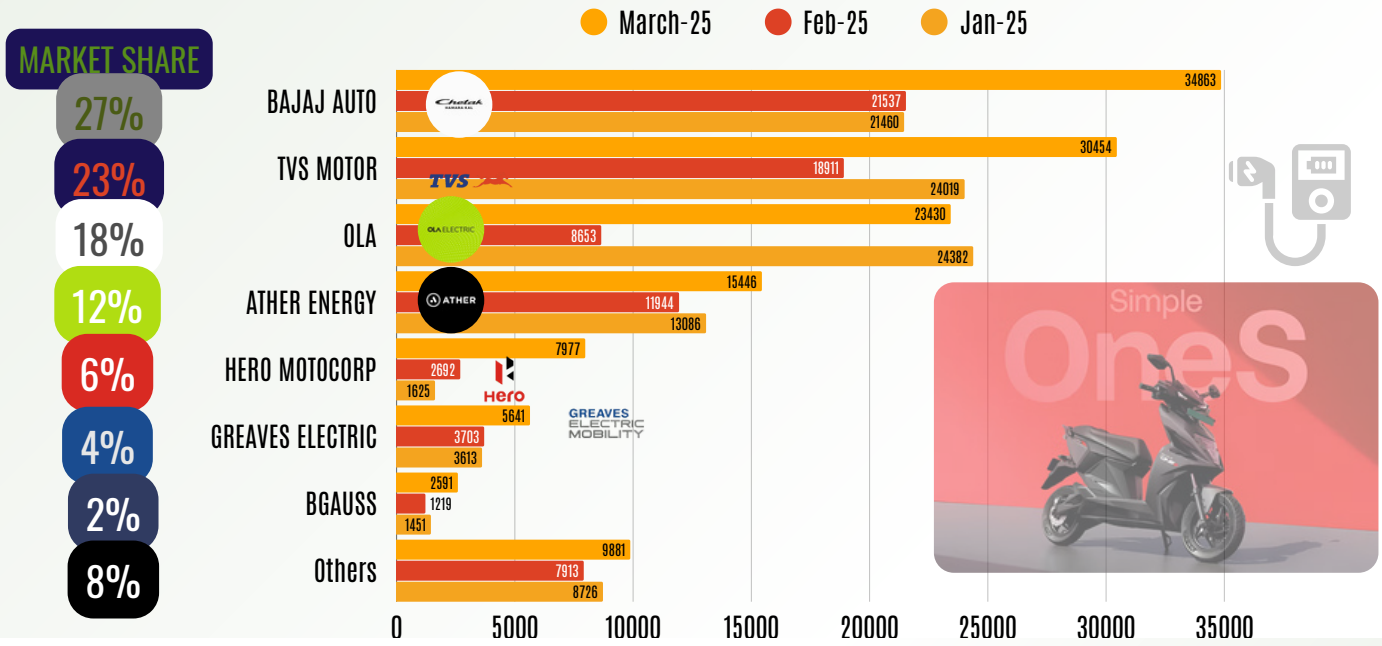
India EV 2W Sales March 2025

TOP EV-2W Sales by OEM

2W EV SALES MARCH 2025 INDIA - 1,30,283 UNITS



The Indian electric two-wheeler (E2W) industry experienced a remarkable upswing in March 2025, with total sales reaching 130,283 units. This figure marks the second-best month for the sector in the fiscal year 2025, following October 2024. The sales surge represents a 70% increase compared to February's 76,572 units and a 32% growth from January's 98,362 units.

India's Electric 2W Market: March 2025

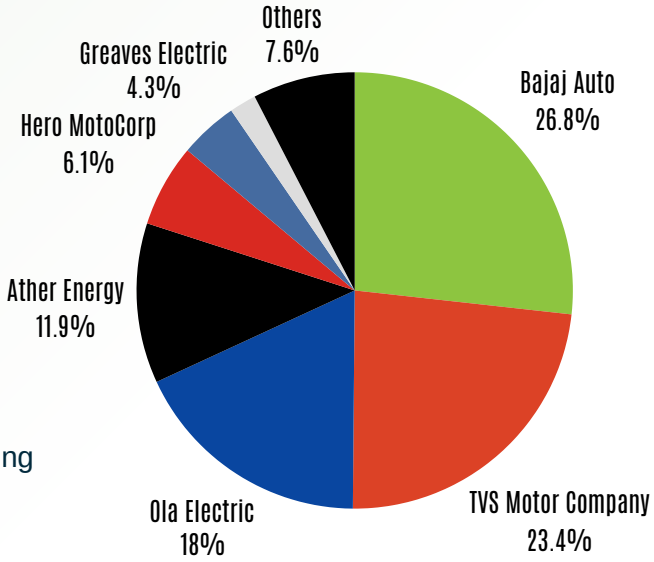
Bajaj Auto: Dominating the Market

Bajaj Auto has cemented its position as the market leader, achieving its best-ever monthly sales with **34,863 units, capturing a 26.75% market share.** The company sold an impressive average of **1,124 Chetak EVs per day**, showcasing the growing consumer preference for electric mobility. For FY2025, Bajaj Auto concluded with **230,761 units**, trailing just behind TVS Motor Company by 6,790 units.

TVS Motor Company: Close Competitor

TVS Motor Company also celebrated its best-ever monthly performance in March, selling **30,454 units**, which translates to a **23.38% market share**.

This achievement reflects a significant 61% growth from February's figures. TVS concluded FY2025 as the top-selling E2W original equipment manufacturer (OEM), maintaining a narrow lead over Bajaj Auto.



Ola Electric: A Strong Comeback

Ola Electric rebounded dramatically from a decline in February, registering **23,430 units sold**, up by an astonishing **171% month-on-month**. With a market share of **17.98%**,

Ather Energy: Consistent Growth

Ather Energy achieved its highest monthly sales to date with **15,446 units**, representing an increase of 29% over February and securing an **11.86% market share**. The **Ather Rizta model** remains a standout performer, further solidifying Ather's position in the competitive landscape of electric two-wheelers.

Hero MotoCorp: Rapid Growth

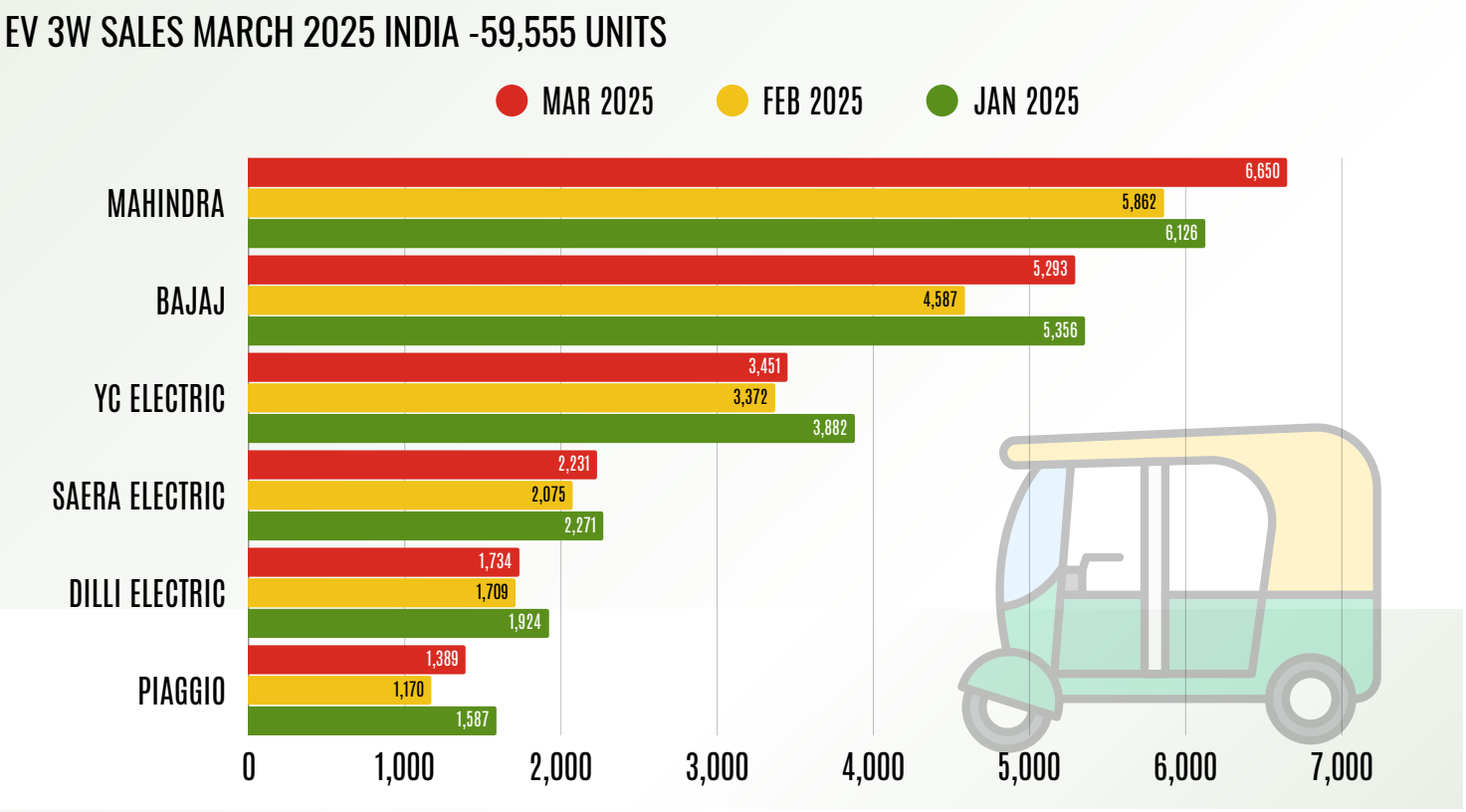
Hero MotoCorp reported a remarkable **196% month-on-month growth**, with sales reaching **7,977 units** thanks to the popularity of its **Vida V2 series**. The brand is actively working on expanding its electric vehicle portfolio to meet growing consumer demand.

Other Manufacturers: Collective Contribution

Other manufacturers collectively contributed 9,881 units, representing a steady overall growth trajectory for the E2W industry.

India EV 3W Sales March 2025

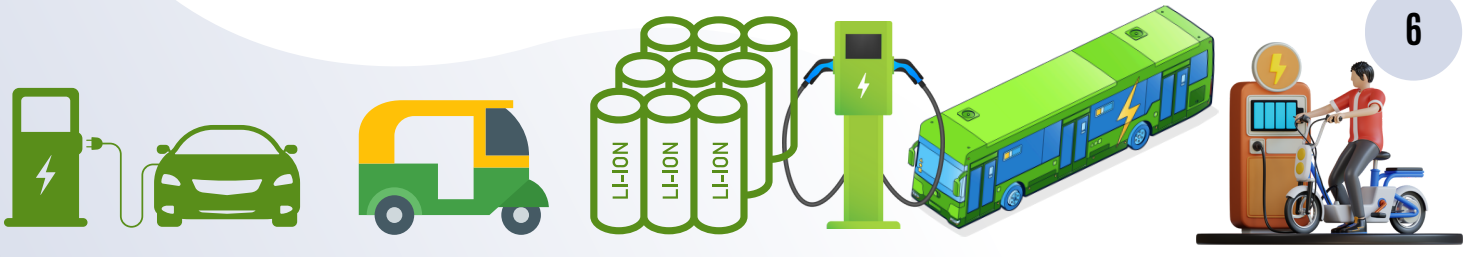
TOP EV 3W Sales Trend by OEM



Indian electric 3-wheeler manufacturers witness a rollercoaster quarter with February dips and March rebounds. Mahindra, Bajaj, and Piaggio emerge as key drivers of recovery.

OEM Performance Highlights

- **Mahindra & Mahindra:** Mahindra continued to solidify its position as a leading player in the E3W market. While February saw a slight dip in sales by 4.3%, March witnessed an impressive rebound with a growth of 13.4%.
- **Bajaj Auto Ltd**: Bajaj Auto displayed resilience despite a challenging February (-14.3%). The company bounced back strongly in March with a significant sales surge of 15.4%.
- **YC Electric Vehicle**: YC Electric Vehicles faced a tough February with a sales drop of 13.1%. However, the company managed to stabilize its performance in March with modest growth of 2.3%.
- **Saera Electric Auto Pvt Ltd**: Saera Electric saw an 8.6% dip in February but regained momentum with a 7.5% increase in March sales.
- **Dilli Electric Auto Pvt Ltd.:** Dilli Electric experienced an 11.2% decline in February but managed to grow slightly by 1.5% in March. The company is focusing on strengthening its dealership network to improve future sales performance.
- **Piaggio Vehicles Pvt Ltd**: Piaggio faced the steepest decline among major players in February (-26.3%) but staged a remarkable comeback with an 18.7% rise in March sales



India's Electric 3W Market: A Comprehensive Overview (FY2025)

The electric three-wheeler industry in India achieved record sales of 699,073 units in FY2025, representing 57% of total three-wheeler sales. Mahindra Last Mile Mobility leads with a 10% market share, while Bajaj Auto surges to second place with a remarkable 367% growth.

Market Leaders: Mahindra and Bajaj Auto

Mahindra Last Mile Mobility (MLMM) retained its leadership position in FY2025 with sales of 69,588 units—up by 15% YoY—giving it a consistent market share of 10%. MLMM's diverse portfolio includes models like Treo Zor and e-Alfa Cargo, catering to both passenger and cargo mobility needs. The company's robust performance underscores its commitment to shaping India's e-mobility landscape.

Bajaj Auto has emerged as a major disruptor in the e-3W space. With sales of over 50,779 units in FY2025—a staggering 367% YoY growth—the company jumped from No. 13 in FY2024 to No. 2 this fiscal year. Bajaj's innovative offerings like the RE E-Tec passenger EV and Maxima XL Cargo E-Tec have played a pivotal role in this meteoric rise. In February 2025, Bajaj launched its GoGo e3W brand featuring cutting-edge technology and best-in-class range of up to 248 km per charge.

ELECTRIC 3W GOODS SEGMENT

Company	Market Share	Sales (March 2025)
MAHINDRA	**26%**	695
BAJAJ AUTO	**20%**	539
EULER	**13%**	343
OMEGA SEIKI	**8%**	238
PIAGGIO	**6%**	165
Others	**26%**	821

ELECTRIC 3W PASSENGER SEGMENT

Company	Market Share	Sales (March 2025)
YC ELECTRIC	**11.83%**	441
J. S. AUTO	**9.39%**	380
DILLI ELECTRIC	**6.66%**	355
SAERA ELECTRIC	**4.13%**	257
ATUL AUTO	**3.02%**	246
Others	**64.98%**	5543

Other Key Players

YC Electric, previously ranked second, fell to third place due to slower growth rates. The company sold 44,632 units in FY2025—a modest increase of just 4% YoY—resulting in a market share of 6.38%. Meanwhile, Piaggio Vehicles faced significant setbacks with sales dropping by 26% YoY to 18,457 units.

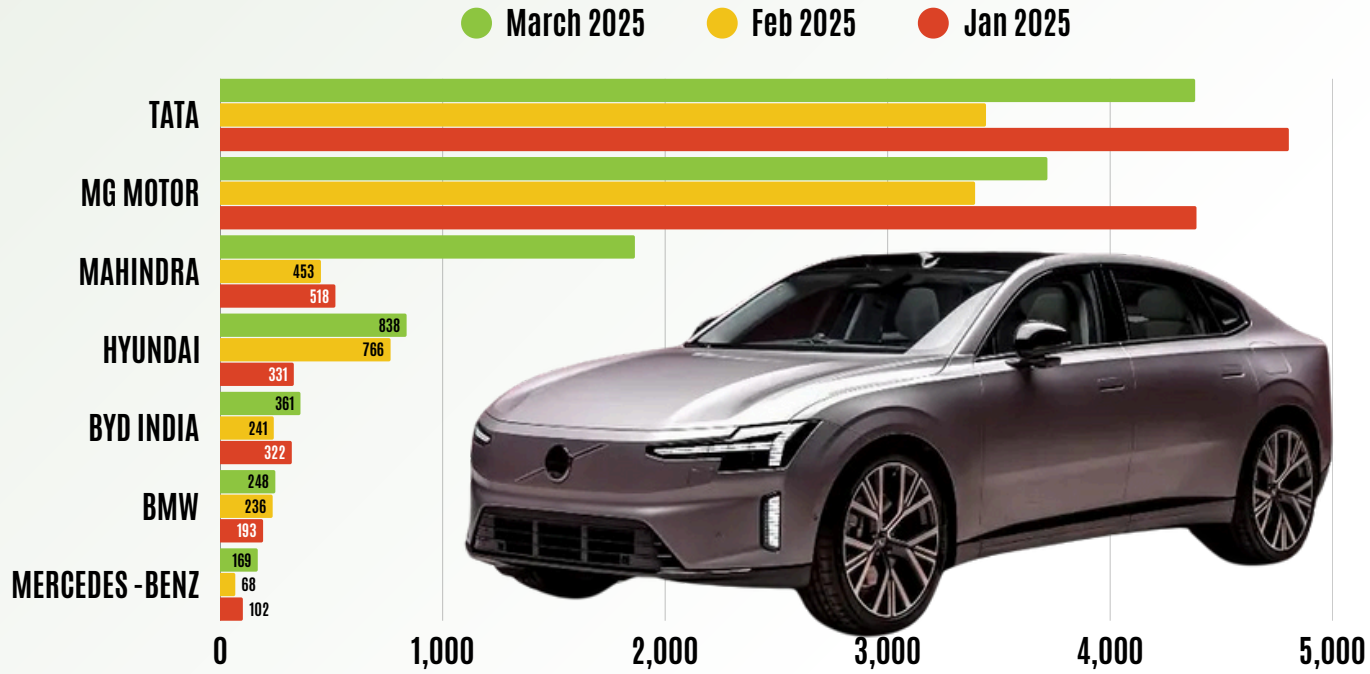
D**illi Electric Auto** also saw declining sales figures with a YoY decrease of 7%, selling only 24,207 units compared to FY2024's performance. The company's focus on electric rickshaws is facing stiff competition from better-built products offered by legacy players.

Murugappa Group's **TI Green Mobility (Montra Electric)** continued its upward trajectory with annual sales increasing by an impressive 115%. TVS Motor Co., which recently entered the e-3W market, recorded modest sales of 1,692 units as per Vahan data.

India EV Sales March 2025

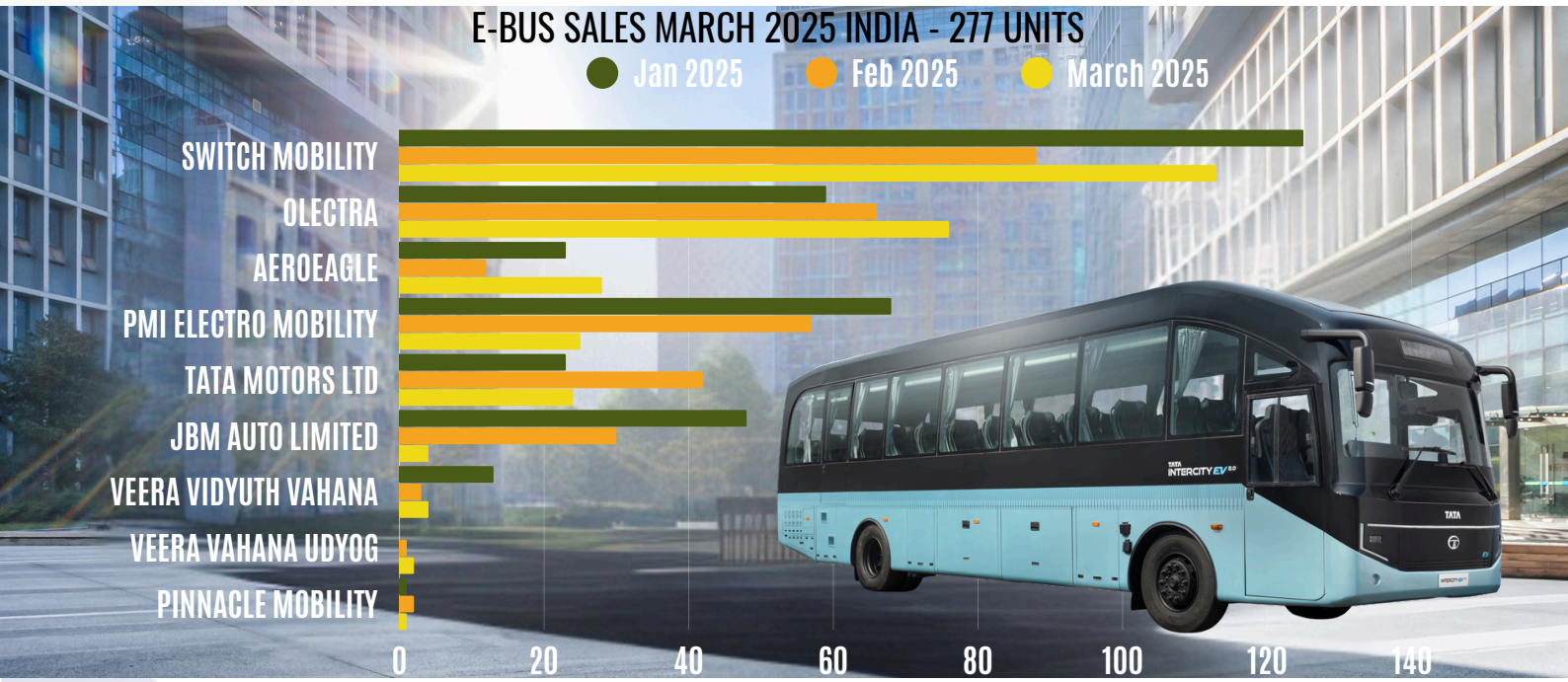
EV 4W Passenger Sales Trend by OEM

SALES MARCH 2025 INDIA - 11,685 UNITS



Electric four-wheelers playing a pivotal role in this growth. Comprising about 6% of total EV sales, this segment recorded an impressive 31,136 units sold FY 2025. Tata Motors and Morris Garages India (MG Motor) are at the forefront, driving this momentum with significant sales figures.

Data Source: Vahan Dashboard



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

Electric car and SUV sales in India reached an all-time high in FY2025, with over 107,500 units sold. Tata Motors and JSW MG Motor lead the market, while Mercedes-Benz India sees significant growth in luxury EVs.

Company	FY2025 Units Sold	Growth YoY (%)	Market Share (%)
Tata Motors	57,581	-11%	53.00%
JSW MG Motor India	30,153	+158%	28.00%
Mahindra & Mahindra	8,180	+34%	7.60%
BYD India	3,401	+90%	3%
Hyundai Motor India	2,410	+31%	2%
Luxury EV Segment	3,291 (Total)	+14%	--

Tata Motors remains the market leader in the electric passenger vehicle segment, though its market share fell to 53% in FY2025. The company sold 57,581 units, marking an 11% decline year-over-year compared to 64,441 units in FY20243. Despite this, Tata continues to have the largest electric vehicle portfolio among mass-market carmakers in India, including models like the **Nexon EV, Tigor EV, Tiago EV, and Punch EV5.**

JSW MG Motor India saw a remarkable surge, with sales increasing by 158% to 30,153 units in FY2025. This significant growth doubled its market share to 28%, positioning it as a strong competitor to Tata Motors3. MG's success can be attributed to its strategic offerings and aggressive marketing efforts.

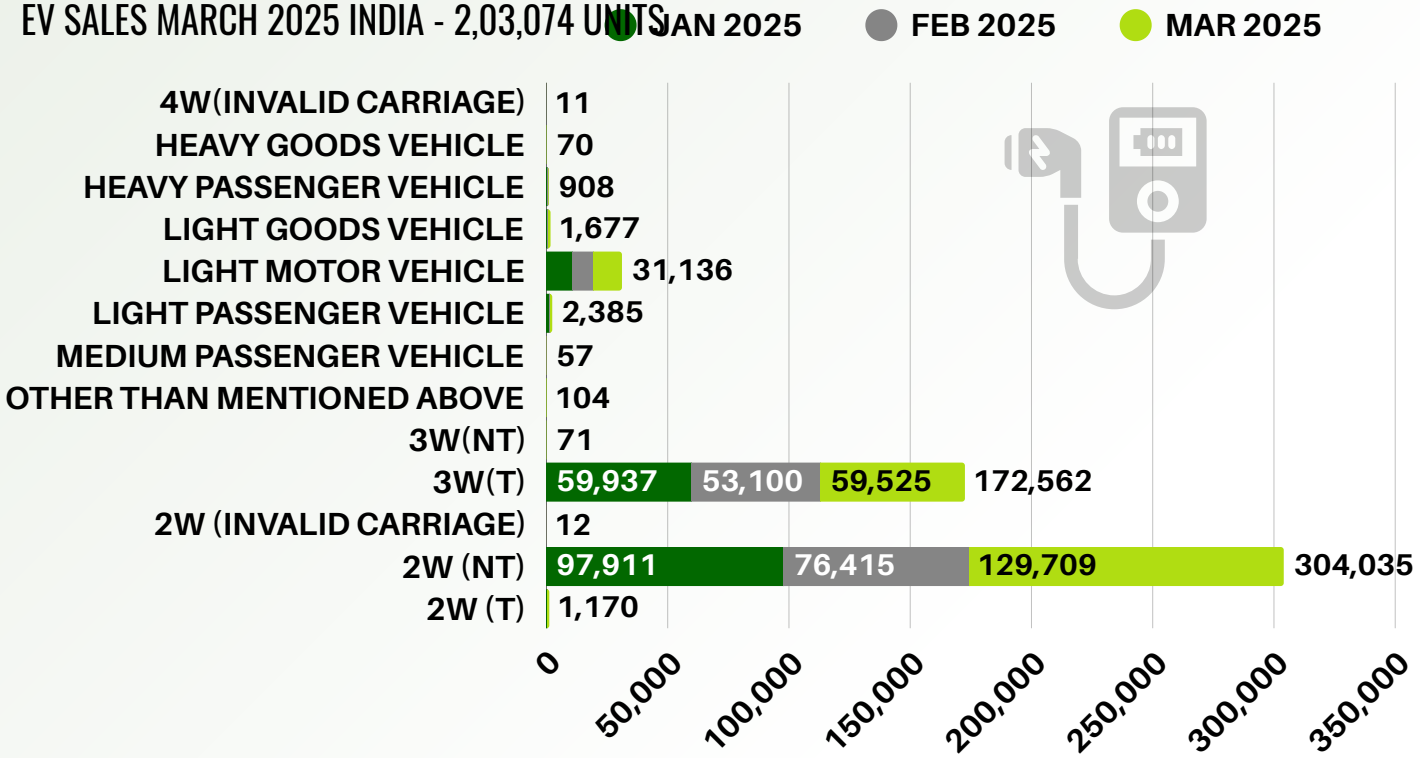
Mahindra & Mahindra also experienced growth, with sales rising by 34% to 8,180 units. Its market share increased slightly to 7.60% from 6.70% in FY20243. Mahindra's focus on electric mobility is evident through its participation in various segments, including passenger and commercial vehicles.

BYD India and **Hyundai Motor India** also reported notable increases in sales. BYD saw a 90% rise to 3,401 units, while Hyundai's sales grew by 31% to 2,410 units3. These companies are expanding their electric offerings to capitalize on the growing demand for EVs in India.

Luxury EV Segment

The luxury electric vehicle segment witnessed a 14% increase in sales, with Mercedes-Benz India standing out as a major player. The company achieved a remarkable 101% growth in luxury EV sales, contributing significantly to the overall luxury segment's total of 3,291 units3. This growth underscores the increasing appeal of luxury electric vehicles among Indian consumers.

India EV Sales March 2025 -Category-Wise



The Indian automobile sector witnessed dynamic shifts in FY2025 across various vehicle categories. While some segments showed resilience, others experienced a slowdown before rebounding in March. Here's a detailed analysis of sales trends, month-over-month (MoM) growth, and market share distribution across key segments.

Light Motor Vehicles (LMV) Maintain Market Dominance

The Light Motor Vehicle (LMV) category remained the largest segment, with 31,136 units sold in Q1 FY2025.

- January: 10,787 units | February: 8,664 units (-19.7%) | March: 11,685 units (+34.9%)

Despite a sales dip in February, LMV sales bounced back in March, indicating market recovery.

Two-Wheeler (NT) Leads the Growth Surge

The Non-Transport Two-Wheeler (NT) segment recorded a staggering 304,035 units in Q1 FY2025, making it the top-performing category.

- January: 97,911 units | February: 76,415 units (-21.9%) | March: 129,709 units (+69.7%)

The segment saw an exceptional 69.7% growth in March, reinforcing the growing adoption of two-wheelers.

Three-Wheeler (T) Market Resilience

The Three-Wheeler (T) segment, primarily comprising commercial vehicles, witnessed fluctuating demand but remained stable overall.

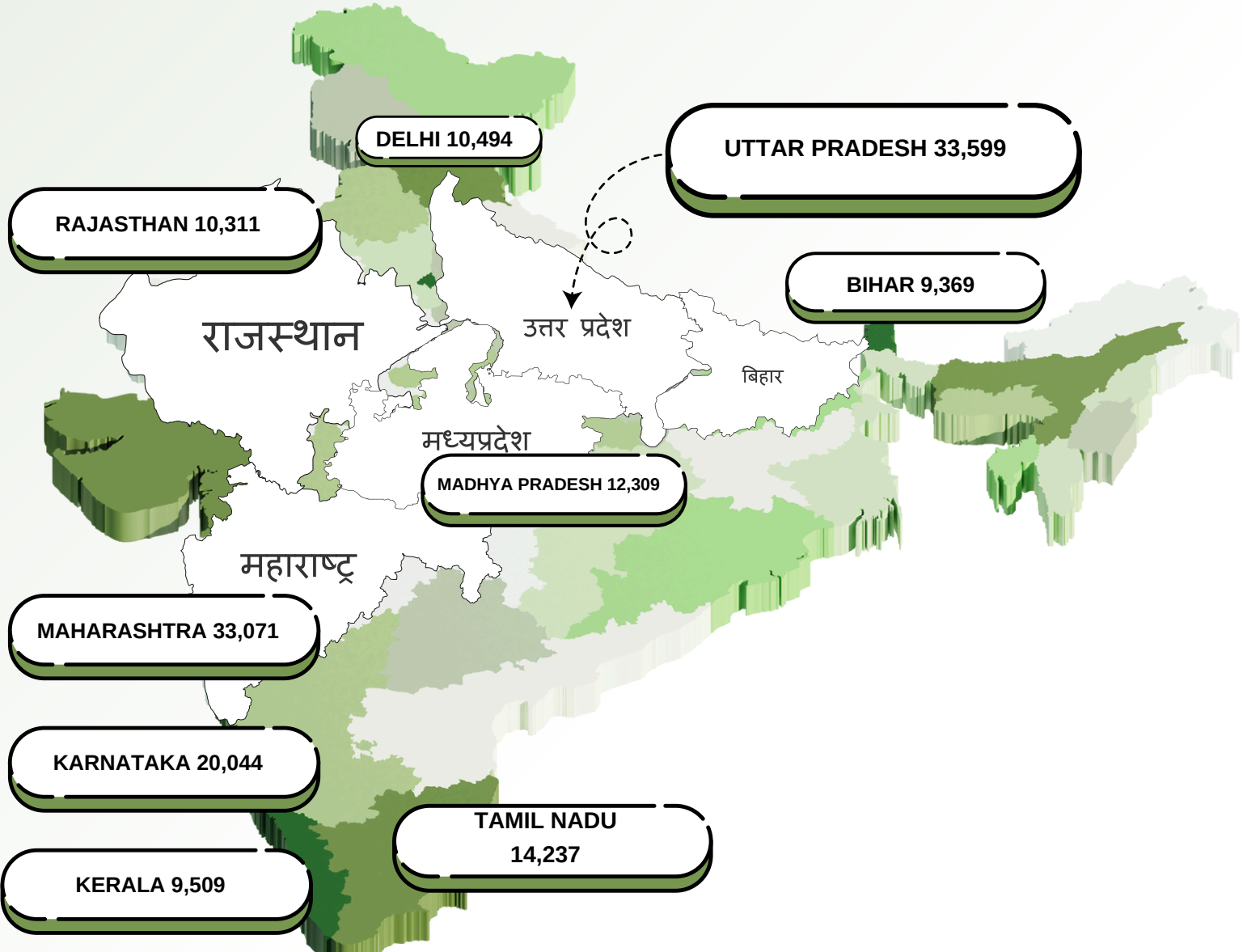
- January: 59,937 units | February: 53,100 units (-11.4%) | March: 59,525 units (+12.1%)

The segment recovered in March, highlighting sustained demand in urban and semi-urban areas.

Luxury & Passenger Vehicle Insights

- Heavy Passenger Vehicles: Declined 31% in February, but remained steady at 260 units in March.
- Light Passenger Vehicles: Dropped from 1,092 units in January to 585 units in March, signaling a shift in consumer preferences.
- Medium Passenger Vehicles: Entered the market in February with 37 units sold, stabilizing at 20 units in March.

State Wise EV Sales in March 2025



Top-Performing States in EV Sales – Q1 FY2025

1. Uttar Pradesh (UP) Leads the EV Market

With 91,758 EV units sold in Q1, Uttar Pradesh emerged as the top-performing state.

January: 31,927 units | February: 26,232 units (-17.8% MoM decline) | March: 33,599 units (+28.1% MoM increase). The strong comeback in March indicates rising EV adoption in UP.

2. Maharashtra (MH) – Significant Surge in March

Maharashtra saw fluctuating sales but finished strong with 70,978 units sold in Q1.

January: 22,238 units | February: 15,669 units (-29.5% MoM decline) | March: 33,071 units (+111% MoM increase). The sharp rise in March suggests a renewed demand for EVs.

3. Karnataka (KA) – Steady Growth

Karnataka reported 49,302 EV sales in Q1, showing consistent performance.

January: 16,873 units | February: 12,385 units (-26.6% MoM decline) | March: 20,044 units (+61.8% MoM increase). The March rebound aligns with increased EV incentives in the state.

4. Tamil Nadu (TN) – Holding Ground

Tamil Nadu recorded 39,537 EV sales in Q1.

January: 13,701 units | February: 11,599 units (-15.4% MoM decline) | March: 14,237 units (+22.7% MoM increase). Tamil Nadu remains a key EV manufacturing hub.

State Wise EV Sales in March 2025

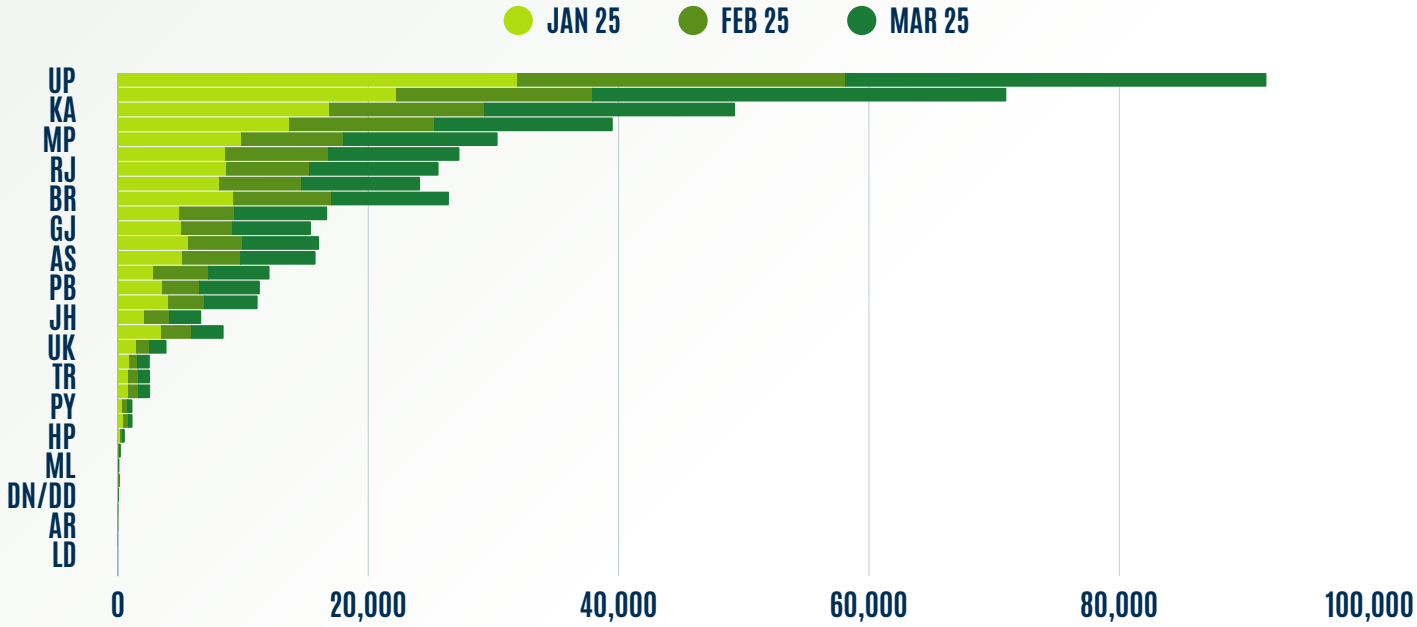
Noteworthy Market Trends

Delhi (DL) Stays Strong: With 27,284 units in Q1, Delhi maintains its dominance in EV adoption.

Rajasthan (RJ) & Kerala (KL) Growth: Both states saw sales recover in March, with 10,311 and 9,509 units respectively.

Odisha (OD) Breaks Into the Top 10: Sales grew 67.5% MoM in March, reaching 7,406 units.

Bihar (BR) & Gujarat (GJ) Show Moderate Growth: Bihar recorded 9,369 units, and Gujarat 6,298 units in Q1.

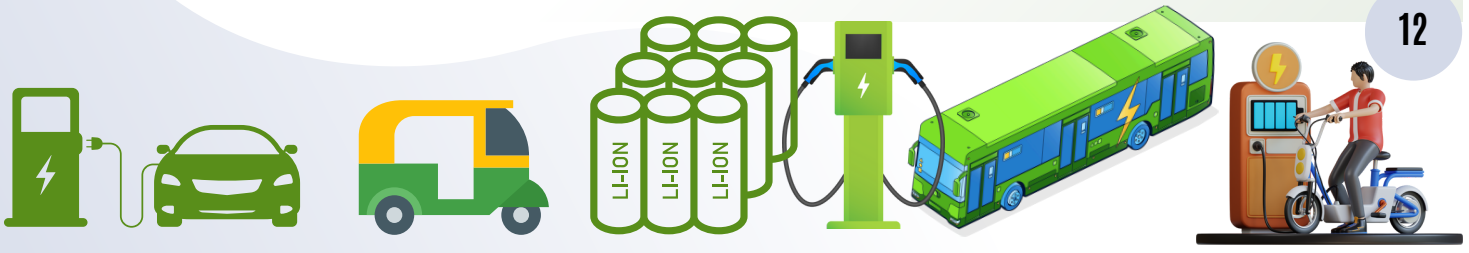


🚀 **Uttar Pradesh remains India's largest EV market, showing steady performance.**

📈 **Maharashtra's massive March growth (+111%) highlights renewed buyer interest.**

⚡ **Odisha & Karnataka's March comeback signals strong state-wise EV adoption.**

📉 **Smaller states like Chandigarh, Himachal Pradesh, and Goa recorded lower volumes but steady demand.**



BYD Revolutionary 1MW Charging Stations

BYD, a leading player in the electric vehicle (EV) market, unveiled its **1MW (1000 kW) fast charging stations**. This innovative technology, part of **BYD's Super e-Platform**, promises to add **400 km of range in just 5 minutes**, aligning EV charging times with traditional gas refueling. The first 500 units of these ultrafast charging stations are set to be operational in early April, with plans to deploy 4,000 stations across China. This rollout is poised to significantly impact the EV market, particularly with the launch of BYD's new models, the **Han L sedan and Tang L SUV.**

Technical Specifications

The **Megawatt Flash Charger** operates on a **1000V architecture** with a maximum current of **1000A, achieving a 10C charge rate**. It is specifically designed for passenger EVs like the BYD Han L and Tang L, which feature an **83.2 kWh Lithium Iron Phosphate (LFP) battery pack**, offering a full range of up to **701 km** (CLTC). The system relies on advanced **thermal management and Battery Energy Storage Systems (BESS)** at charging stations to deliver such high power.

Charging Curve Analysis

The charging behavior shows a non-linear power delivery:

- **Initial Phase (SoC ~8%):** The charging rate starts at 728 kW, indicating a ramp-up phase.
- **High-Power Phase (SoC 11% to 26%):** The rate reaches **1MW at 11% SoC** and remains constant until **26% SoC.** This segment corresponds to an energy addition of approximately **12.48 kWh**, taking about **45 seconds at 1000 kW.**
- **Reduced Power Phase (SoC 26% to ~62.5%)**: After 26% SoC, the rate decreases in multiple constant current stages, likely to manage heat and ensure battery health.

In a **5-minute charging session**, the range increased by **375 km**, slightly less than the claimed 400 km, possibly due to specific test conditions. This corresponds to an energy addition of approximately **44.5 kWh** in the battery pack, with an average power of about **534 kW.**

Supporting Technologies

- **Battery Chemistry**: BYD's LFP batteries are optimized for fast charging, offering stability and safety advantages over NMC packs. The short blade battery cells enhance this capability.
- **Thermal Management:** BYD's refrigerant-based cooling system is designed to manage the high heat generated during fast charging. It uses a refrigerant circulated through the battery pack to keep temperatures optimal.
- **BESS Integration**: Charging stations use BESS for high power delivery, mitigating grid strain, with each station potentially charging two cars at 500 kW each via dual guns3.

Comparison with Industry Standards

Current fast chargers typically offer up to 350 kW, with **Tesla's V3 Superchargers at around 350 kW**. BYD's 1MW system triples this, aligning with emerging standards like the second-generation **GB/T (Chaoji) at 900 kW (1500V, 600A).** However, BYD's approach is unique in integrating vehicle and station technology for passenger cars3.

Challenges and Future Implications

- **Infrastructure:** Deploying 4,000 stations requires significant investment in BESS and grid upgrades, potentially expensive.
- **Battery Longevity:** High charging rates may impact battery life, though BYD's cooling and LFP chemistry mitigate this.
- **Standardization:** High-power charging may need new connector standards, with dual-gun systems adding complexity.

Top Money Movement

Erisha E Mobility

Erisha E Mobility Private Limited, a subsidiary of Rana Group, has announced the acquisition of a $1 billion investment from a prominent UAE-based investor. This strategic funding is set to enhance Erisha's operational footprint across the UAE, Saudi Arabia, the USA, Europe, and various African nations, while simultaneously bolstering its existing business in India. The announcement was made on Monday, highlighting the company's ambitious plans for global expansion.

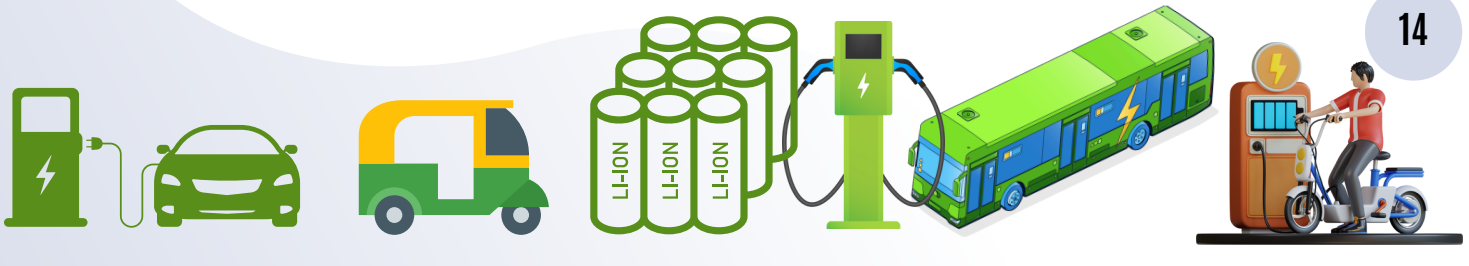
AmpereHour Energy

AmpereHour Energy, a leading player in the battery energy storage sector, has successfully raised $5 million in a Series A funding round led by Avaana Capital, with contributions from UC Impower and various angel investors. This strategic investment will enable the company to enhance its manufacturing capabilities, expand its research and development initiatives, and broaden its product offerings to meet the growing demand for sustainable energy solutions.

Altmin Private Limited

Altmin Private Limited has committed ₹750 crore to establish India's first lithium iron phosphate (LFP) cathode gigafactory in Divitipally, Telangana, marking a watershed moment for the nation's energy storage ambitions. The 20-acre facility will begin operations with an 8 GWh production capacity and scale to 100,000 metric tons per annum (MTPA) by 2030, positioning India among global leaders in LFP cathode manufacturing.

The plant's proximity to Amara Raja's lithium-cell gigafactory (under construction) creates a synergistic battery manufacturing cluster, streamlining supply chains for domestic EV and energy storage companies. Altmin estimates the project will generate 800 direct jobs and catalyze skill development in advanced battery technologies.



Top Money Movement

Euler Motors

Hero MotoCorp, the leading two-wheeler manufacturer in India, has announced a strategic investment of up to ₹525 crore (approximately $60 million) in Euler Motors, marking its entry into the burgeoning electric three-wheeler market. This acquisition will secure Hero MotoCorp a 32.5% stake in Euler Motors

Folks Motors

Folks Motors, India's first hybrid-electric retrofit automotive company, has committed ₹500 crore over five years under the Production Linked Incentive (PLI) scheme to develop dedicated EV warehousing industrial parks and strengthen domestic supply chains. This initiative addresses the critical challenge of achieving 50% local value addition in India's EV sector, aligning with national goals for self-reliant manufacturing.

FOLKS MOTOR
India's First Hybrid Electric Retrofit Car Company

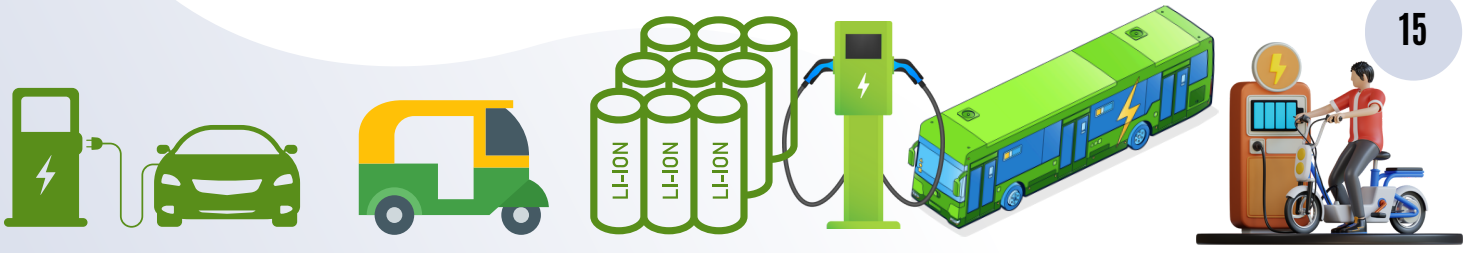
Key Financials:

- Integrated CAPEX: ₹250 crore via Folks Funds (AIF Category II).
- Loan Book Expansion: Folks Finance to expand to ₹250 crore for working capital and operational expenses.
- Broader Investment Channel: $700–$800 million pool, including a $100 million ESG bond.

Coreshell

Coreshell, a pioneering battery technology company, has successfully raised $24 million in funding aimed at scaling the production of its innovative lithium-ion battery cells. This funding round was anchored by Coreshell's strategic partner, Ferroglobe PLC, a global leader in the production of silicon and ferroalloys, alongside Zeon Ventures Inc. The financial backing will enable Coreshell to enhance its manufacturing capabilities and deliver commercial samples to automakers by 2025.

The funding round attracted a diverse group of investors, including Lane Ventures, Entrada Ventures, Foothill Ventures, Helios Climate Ventures, Translink Investment, Trousdale Ventures, and Asymmetry Ventures. This strong investor interest underscores the growing confidence in Coreshell's vision to revolutionize the EV battery landscape.



Top Money Movement

Samvardhana Motherson Automotive Systems Group B.V. (SMRP B.V.)

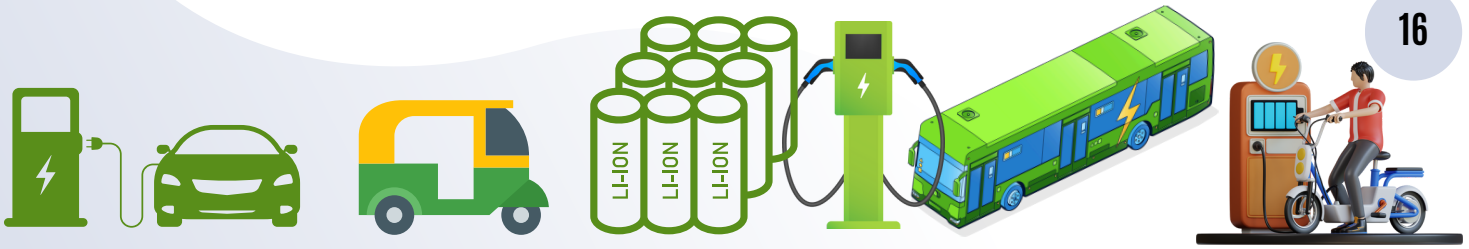
Samvardhana Motherson International Limited (SAMIL) has announced that its subsidiary, Samvardhana Motherson Automotive Systems Group B.V. (SMRP B.V.), will invest between USD 5-7 million in REE Automotive Ltd. This investment aims to maintain SMRP B.V.'s current shareholding percentage in the innovative Israeli electric mobility solutions company.

PULSETRAIN

Munich-based startup PULSETRAIN has successfully raised €6.1 million in seed funding aimed at enhancing the performance and lifespan of EV batteries. The funding round was led by Vsquared Ventures and Planet A, with participation from Climate Club. This financial boost is expected to accelerate the development of innovative technology that can extend battery life by as much as 80%, a game-changing prospect for manufacturers and consumers alike.

Key Highlights

- Funding Amount: €6.1 million seed round
- Lead Investors: Vsquared Ventures, Planet A
- Additional Participation: Climate Club
- Technological Edge: Up to 80% longer battery life
- Initial Focus: Electrification of two-wheelers and commercial vehicles



EV NEWS

Ministry of Heavy Industries

The Ministry of Heavy Industries has amended the PM E-DRIVE Scheme (S.O. 1078(E), March 3, 2025), as published in the Gazette of India on March 4, 2025. This update to the Phased Manufacturing Programme (PMP) emphasizes the domestic production of crucial EV components, marking a pivotal step towards a self-sufficient EV ecosystem in India.

Tata Motors

Tata Motors, India's largest commercial vehicle manufacturer, has embarked on a groundbreaking journey by launching the country's first-ever hydrogen-powered heavy-duty truck trials. This initiative, funded under the National Green Hydrogen Mission, aims to evaluate the commercial viability of hydrogen-powered trucks and develop the necessary infrastructure to support their operation. Over the next 24 months, 16 advanced hydrogen-powered vehicles will be deployed on key freight routes across India, including Mumbai, Pune, Delhi-NCR, Surat, Vadodara, Jamshedpur, and Kalinganagar.

Electronics Manufacturing Cluster (EMC)

Union Minister Ashwini Vaishnaw recently laid the foundation stone for four major manufacturing units at the Electronics Manufacturing Cluster (EMC) in Divitipally, Mahabubnagar District, Telangana. This initiative, part of the EMC-2.0 Scheme, underscores the state's commitment to becoming a pivotal player in the electronics and battery manufacturing sectors.

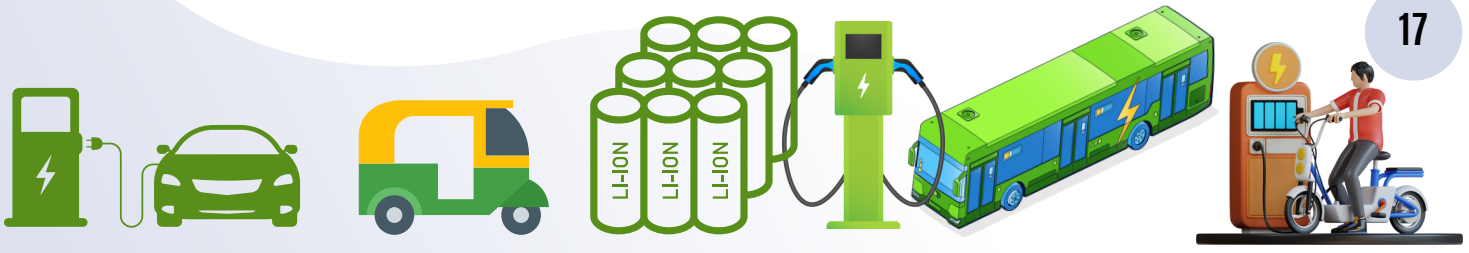
The groundbreaking ceremony marked the beginning of construction for Amara Raja's Giga Factory-1, Lohum's critical minerals refining and battery recycling plant, Scell Energy's cell casing manufacturing unit, and Altmin's LFP-CAM Giga Factory. These projects are expected to not only enhance India's electronics manufacturing ecosystem but also play a crucial role in the country's electric mobility ambitions.

Key Highlights of the Initiative

Amara Raja's Giga Factory-1:

- Investment: The facility is part of a projected investment of Rs 9,500 crore over five years.
- Capacity: It will include a 16 GW cell manufacturing plant and a 5 GW battery pack plant.
- Employment: Expected to create 4,500 direct jobs and a similar number of indirect jobs, significantly contributing to the socio-economic development of the region.

तेलंगाणा



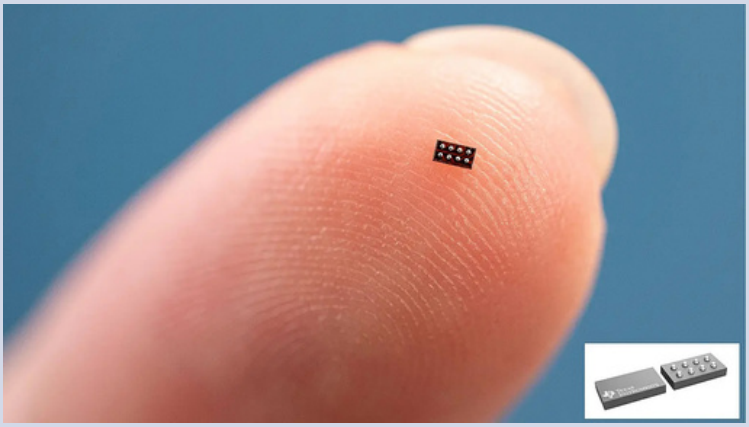
EV NEWS

SiMa.ai

SiMa.ai, a pioneering force in software-centric, embedded edge machine learning system-on-chip (MLSoC) solutions, has made a significant leap forward with the introduction of its first System-on-Module (SoM) featuring the powerful MLSoC Modalix 50 TOPS device. Developed in partnership with Enclustra, a renowned innovator in FPGA design and SoM development, this new SoM is designed to meet the burgeoning demands of multi-modal and Gen AI use cases at the embedded edge.

Texas Instruments (TI)

Texas Instruments (TI) has unveiled a suite of innovative power-management solutions aimed at enhancing the efficiency and scalability of data centers amid the rising demands of artificial intelligence (AI) workloads. These groundbreaking technologies were announced at the 2025 Applied Power Electronics Conference (APEC) and are set to redefine how data centers manage their power requirements.

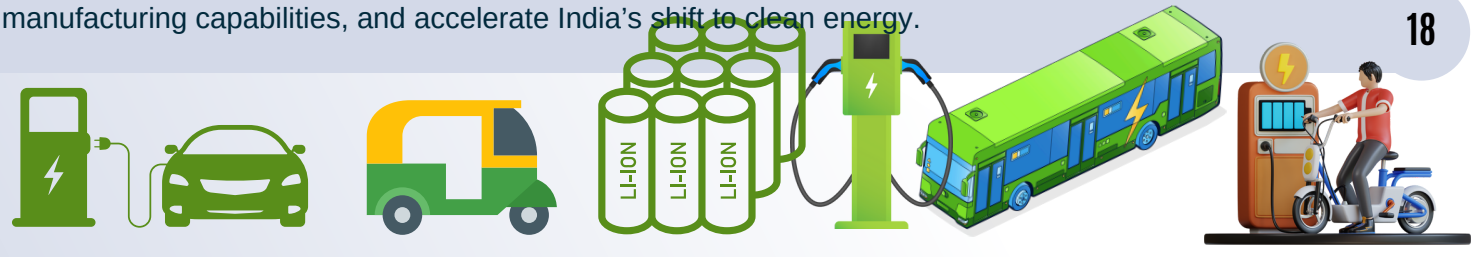


Texas Instruments (TI), a leading player in the semiconductor industry, has made a significant breakthrough with the launch of the world's smallest microcontroller unit (MCU), the MSPM0C1104. This innovative device, measuring just 1.38mm²—about the size of a black pepper flake—represents a major leap forward in microcontroller design, offering unparalleled compactness without compromising performance. The MSPM0C1104 is part of TI's comprehensive Arm Cortex-M0+ MSPM0 MCU portfolio, designed to enhance sensing and control capabilities in embedded systems across various industries, including automotive, medical, and consumer electronics.

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.



Raptee.HV

Chennai-based startup Raptee.HV has achieved a historic milestone with its T30 electric motorcycle, becoming the first Indian two-wheeler to receive Automotive Research Association of India (ARAI) certification for high-voltage technology. The certification paves the way for the motorcycle's compatibility with CCS2 DC fast-charging stations—the same infrastructure used by Tesla, Tata Motors, and other four-wheeled EVs.

Key Highlights:

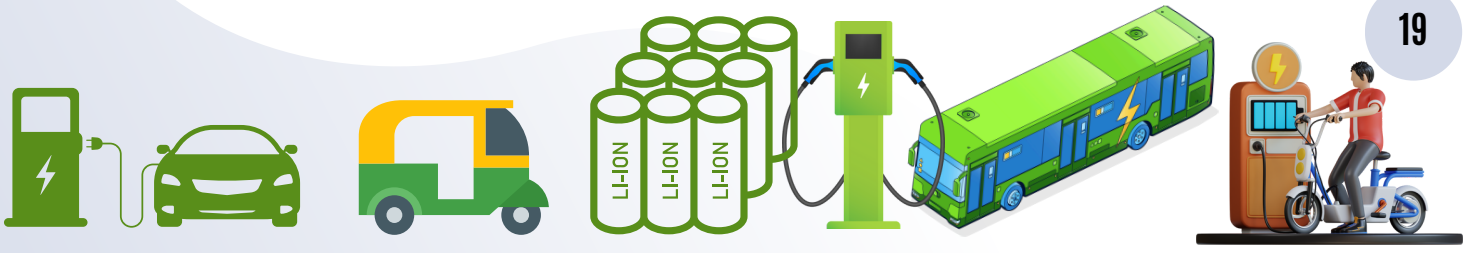
- 8,000+ pre-launch registrations since its October 2024 debut.
- Targeting $25 million in first-year sales, with deliveries starting in Chennai and Bangalore by Q1 2025–26.
- Actively negotiating a $19 million funding round to scale production.

Breaking Down the CCS2 Charging Advantage

The T30's integration with India's 22,000+ CCS2 chargers eliminates a critical barrier to EV adoption: charging anxiety. Unlike low-voltage electric scooters (which require 4–6 hours for a full charge), the T30 can recharge to 80% in 40–45 minutes at any CCS2 station.

EKA Mobility

EKA Mobility, in collaboration with KPIT Technologies (BSE: 532400) and Bharat Petroleum Corporation Limited (BPCL), has launched Kerala's first hydrogen fuel cell bus at Cochin International Airport (CIAL). The 9-meter bus, capable of carrying over 30 passengers, was unveiled at the Global Hydrogen & Renewable Energy Summit (March 12–13, 2025) and will operate under a three-year Proof of Concept (PoC) to validate hydrogen's viability in public transport.



FlixBus India

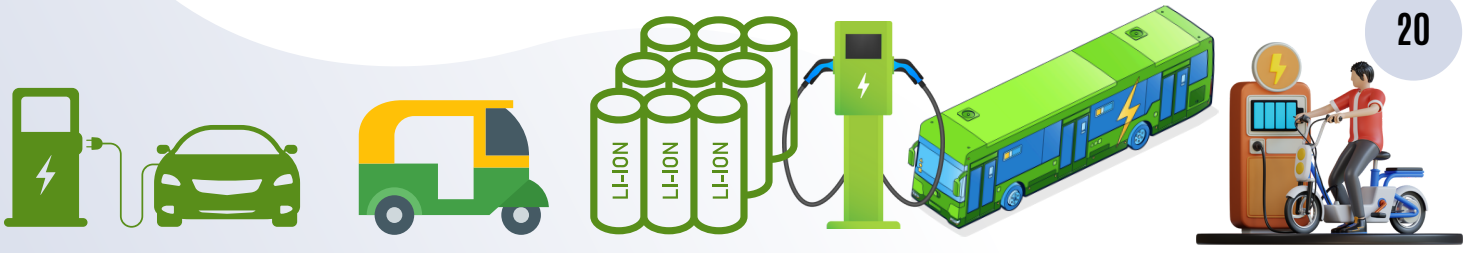
FlixBus India marked its first anniversary by introducing **electric bus service** between **Hyderabad and Vijayawada**, partnering with ETO Motors for the initiative.
Telangana Transport Minister Ponnam Prabhakar flagged off the service at ITC Kakatiya, Hyderabad, in the presence of German Embassy Counsellor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

BYD's Quantum Leap in EV Charging

BYD (Build Your Dreams) has unveiled its Super e-Platform, a technological marvel that charges electric vehicles faster than filling a gas tank. The system delivers 400 km of range in just 5 minutes using 1,000 kW (1 MW) charging power – double the capacity of Tesla's Superchargers. This breakthrough addresses one of the most persistent barriers to EV adoption: charging time.

⚡ **Ultra-Fast Charging: How It Works**

- The platform integrates three innovations: 10C Blade Battery: Uses lithium iron phosphate (LFP) chemistry to sustain 600 kW charging even at 90% battery capacity.
- 30,000 RPM Motors: The world's fastest mass-produced electric motors, enabling the Han L sedan to accelerate from 0–100 km/h in 2.7 seconds.
- Dual-Charging Infrastructure: Existing 500 kW stations can be upgraded to 1,000 kW instantly via parallel charging cables.



Exponent Energy

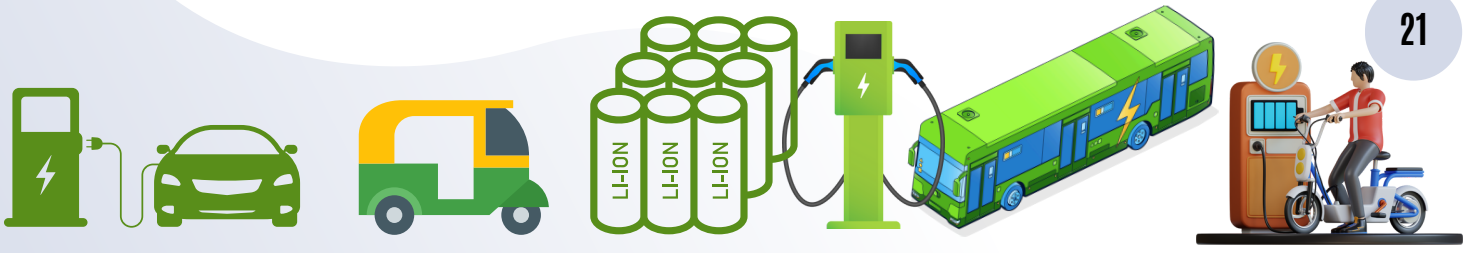
Exponent Energy has unveiled India's first 1MW rapid charging technology specifically designed for electric buses. This groundbreaking innovation not only sets a new standard for fast and scalable EV charging but also underscores the company's ambitious plans to launch the world's first 1.5MW rapid charging technology for EVs later this year.

Exponent Energy partnered with Veera Vahana, a leading bus manufacturer, to introduce the Veera Mahasamrat EV, India's first rapid-charging intercity electric bus. To support this fleet, Exponent deployed its 1MW charging technology, marking a pivotal moment in the development of EV infrastructure in India.

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.

Joint Ventures & Partnerships

Greaves Electric Mobility - Indofast Energy

Greaves Electric Mobility Limited (GEML), the electric mobility arm of Greaves Cotton Limited (GCL), has partnered with Indofast Energy, a 50-50 joint venture between Indian Oil and SUN Mobility. This strategic collaboration introduces the Ampere 'Magnus SW.S', an innovative e-scooter powered by Indofast Energy's advanced battery-swapping technology. Designed specifically for gig economy riders who cover over 100 km daily, the Ampere Magnus SW.S aims to minimize downtime with quick and efficient battery swaps, thereby reducing operational costs and enhancing efficiency.

Hala Mobility - iGowise Partner

Hala Mobility, an EV-as-a-service platform, has announced a strategic partnership with iGowise Mobility to deploy 2,000 high-speed electric trikes for last-mile delivery operations in cities like Hyderabad and Bangalore. This collaboration aims to address inefficiencies in last-mile logistics by leveraging purpose-built, anti-topple electric vehicles manufactured in India.

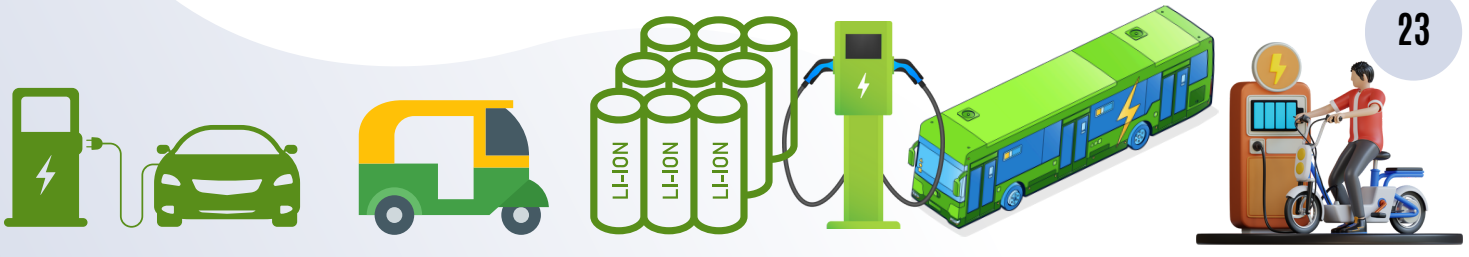
Under the agreement, iGowise will supply its innovative BeiGo electric pickup trikes

Turno - ThunderPlus

Turno and ThunderPlus have announced a strategic partnership to establish a network of ultra-fast charging stations along major highways. This initiative will begin with the Hyderabad to Vizag corridor, aiming to alleviate range anxiety for electric buses and commercial vehicles while promoting the adoption of cleaner transportation solutions.

Eicher Trucks - Magenta Mobility

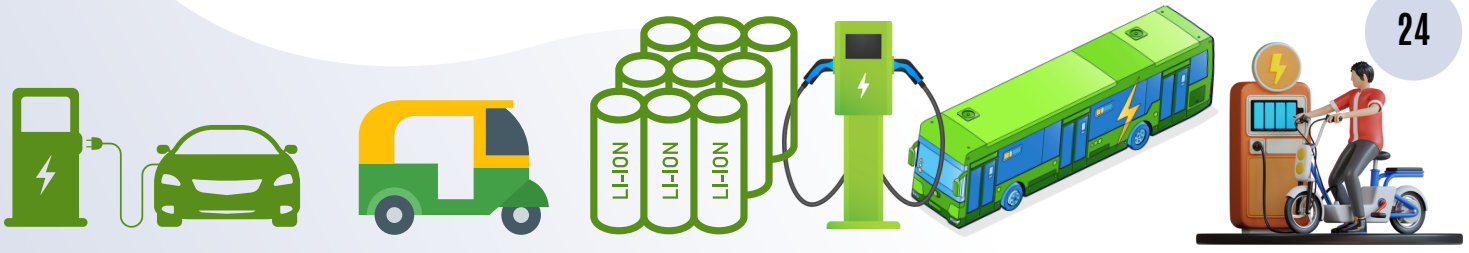
Eicher Trucks and Buses, a division of VE Commercial Vehicles (VECV), has partnered with Magenta Mobility to deploy 100 units of the newly launched Eicher Pro X electric small trucks across five Indian cities. This initiative supports Magenta's "Ab Ki Baar Dus Hazaar" campaign to expand its electric fleet to 10,000 vehicles by March 2025



Joint Ventures & Partnerships

General Motors - NVIDIA

General Motors (GM) has announced a significant expansion of its partnership with NVIDIA, aiming to revolutionize the automotive industry through advanced artificial intelligence (AI) technologies. This collaboration will focus on developing next-generation vehicles, optimizing manufacturing processes, and enhancing robotics capabilities. The announcement was made during the NVIDIA GTC global AI conference in San Jose, California.



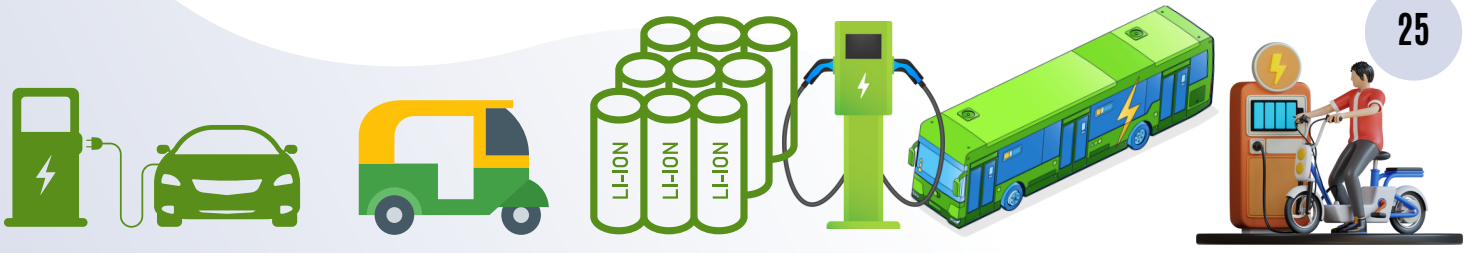
Joint Ventures & Partnerships

Montra Electric - Steam-A

Montra Electric's e-SCV division, Tivolt Electric Vehicles Private Limited, has announced a strategic partnership with technology firm Steam-A. This collaboration aims to integrate Steam-A's advanced EV Charging Management Suite, Iris, into Montra's extensive Powerdock charging network. The initiative is set to enhance the efficiency and reliability of EV charging infrastructure across the nation.

NIO & CATL

NIO (NYSE: NIO) and Contemporary Amperex Technology Co., Ltd. (CATL) (SHE: 300750) have formalized a landmark agreement in Ningde, Fujian, to co-develop the world's largest battery swapping network for passenger vehicles. The partnership, sealed on March 17, 2025, unites NIO's expansive charging/swapping infrastructure with CATL's industry-leading battery technology, backed by a RMB 2.5 billion ($345.6 million) investment from CATL into NIO Power.



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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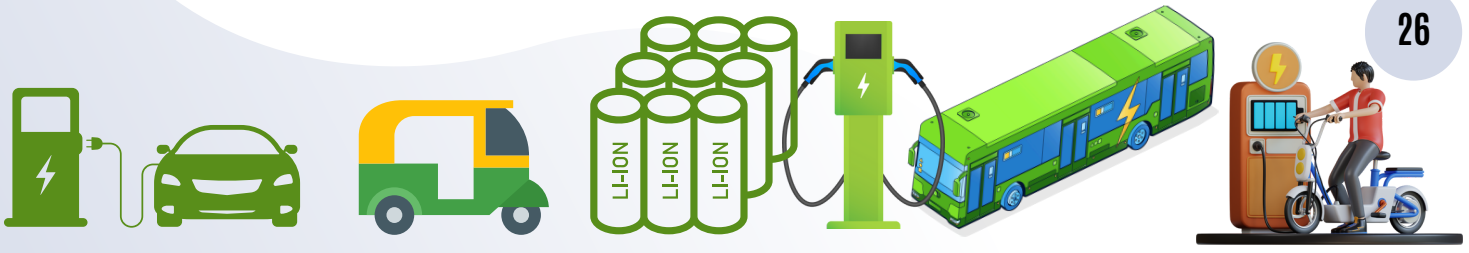


UPCOMING FUTURE MOBILITY EVENTS

EV TECH INDIA EXPO 2025

7-9 April 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.

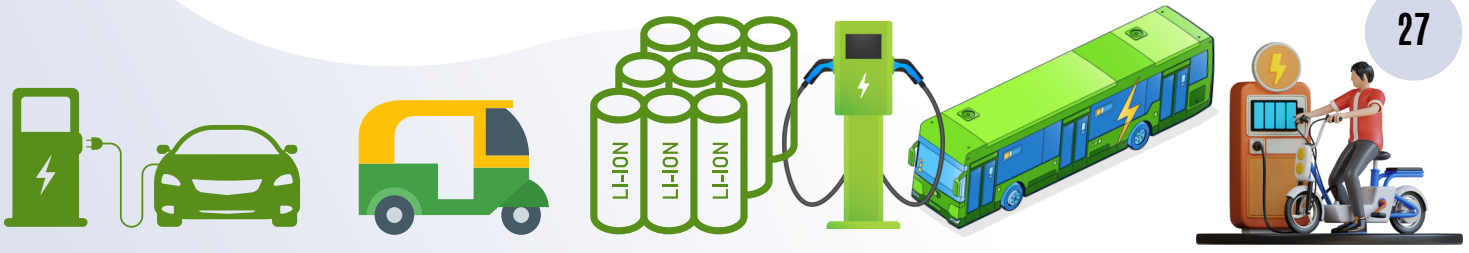
RenewX 2025

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
Renewable Electricity



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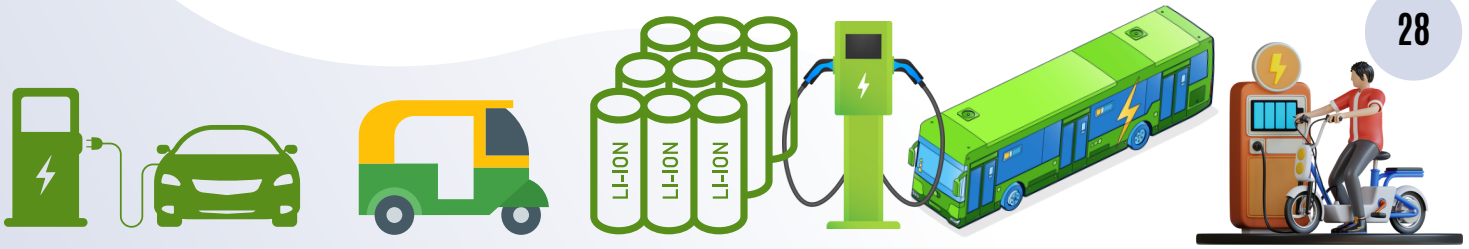


New Launch

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**

Ultraviolette Automotive : Tesseract electric scooter and the Shockwave electric motorcycle

Ultraviolette Automotive, a pioneering electric vehicle manufacturer in India, has made a bold entry into the mainstream market with the unveiling of two groundbreaking products: the Tesseract electric scooter and the Shockwave electric motorcycle. This strategic move is set to revolutionize the Indian electric two-wheeler segment with innovative features and competitive pricing.

Ultraviolette Shockwave Electric Motorcycle

- Torque: 505 Nm at the rear wheel.
- Power: 14.5 bhp (10.8 kW).
- Range: 165 km on a single charge.
- Acceleration: 0 to 60 kmph in 2.9 seconds.
- Top Speed: Limited to 120 kmph.

Ultraviolette Tesseract Electric Scooter

- IDC Range: Up to 261 km on a single charge with the 6 kWh battery pack.
- Peak Power Output: 20 bhp (15 kW) with the 6 kWh battery option.
- Fast Charging: Capable of charging up to 80% in under an hour.
- Battery Options: Available with 3.5 kWh and 5 kWh battery packs offering ranges of 162 km and 220 km respectively.
- Design and Features: Features a haptic feedback handlebar, integrated dashcam with UV AI, rear collision alert, lane change assist, and a spacious 34-liter under-seat storage capable of accommodating a full-face helmet

New Launch

TIER IV : Robotaxi Prototype

TIER IV, a leader in autonomous driving technology, has unveiled its latest prototype: a robotaxi designed to operate entirely without a steering wheel or pedals. This innovative vehicle will be showcased at an event organized by Kanagawa Prefecture and Central Japan Railway starting March 22, 2025.

Omega Seiki Mobility (OSM): Omega Seiki NRG

Revolutionizing Urban Mobility with Impressive Range and Fast Charging Capabilities

Priced: INR 3.55 lakhs (ex-showroom)

- 15 kWh battery pack
- 300 kilometers on a single charge
- 150 km of range in just 45 minutes using the Bharat DC-001 charger
- five-year or 200,000 km warranty
- 12.8 kW motor delivering 430 Nm of torque
- 47 km/h Top Speed

Kia India Unveils the New EV6

New Launch

Volvo ES90

Volvo Cars has unveiled its latest innovation, the Volvo ES90, a fully electric sedan that redefines expectations in the luxury EV market. Combining the elegance of a saloon, the versatility of a fastback, and the spaciousness of an SUV, the ES90 represents a bold step forward in Volvo's electrification journey.

Volvo ES90 offers three powertrain options tailored to different driving preferences

1. **Single-Motor Variant:**
   - Power: 338 bhp
   - Torque: 480 Nm
   - Battery: 92 kWh
   - Range: Up to 650 km (WLTP)
   - Acceleration (0–100 km/h): 6.9 seconds
2. **Twin-Motor Variant:**
   - Power: 455 bhp
   - Torque: 670 Nm
   - Battery: 106 kWh
   - Range: Up to 700 km (WLTP)
   - Acceleration (0–100 km/h): 5 seconds
3. **Twin-Motor Performance Variant:**
   - Power: 690 bhp
   - Torque: 870 Nm
   - Battery: 106 kWh
   - Acceleration (0–100 km/h): 4 seconds

New Launch

Ozotec

Ozotec has positioned itself at the forefront of innovation with the launch of its latest electric scooters. This new lineup promises to redefine urban mobility by integrating cutting-edge technology, high-performance capabilities, and smart connectivity features.

LITE Model: The Efficient Commuter

- Motor: 3kW BLDC Mid-Drive
- Top Speed: 65 km/h
- Max Torque: 150Nm
- Battery: 4kWh LFP (with optional configurations)
- Range: 215 km per charge
- Charging Time: 1 hour (20-80%)

Ultra Model: Smart and Compact

- Motor: 250W/1200W Hub Motor
- Top Speed: 25/65 km/h
- Battery: 1-3 kWh LiFePO4
- Range: 40-120 km
- Charging Time: 1 hour (20-80%)

- **Max Model: Robust and Reliable**
  - Motor: Similar to Ultra
  - Top Speed: Similar to Ultra
  - Range: Similar to Ultra
- **Neo Model: The Urban Trendsetter**
  - Motor: Similar to Ultra
  - Top Speed: Similar to Ultra
  - Range: Similar to Ultra

New Launch

ZELIO E Mobility - Little Gracy

ZELIO E Mobility has launched the Little Gracy, a license-free electric scooter designed for riders between the ages of 10 and 18. This innovative vehicle, priced starting at INR 49,500.

Key Features of the Little Gracy

The Little Gracy is available in three variants, each distinguished by its battery configuration:

- Base Model: Equipped with a 48V/32AH Lead Acid Battery, priced at INR 49,500, offering a range of 55-60 km.
- Mid-Tier Model: Features a 60V/32AH Lead Acid Battery, priced at INR 52,000, with a range of 70 km.
- Premium Model: Powered by a 60V/30AH Li-Ion Battery, priced at INR 58,000, providing a range of 70-75 km.

All variants are powered by a 48/60V BLDC motor, allowing for a top speed of 25 km/h. The scooter is designed to be energy-efficient, consuming approximately 1.5 units of electricity per charge. It weighs 80 kg and has a loading capacity of 150 kg, making it suitable for short-distance travel.

Advanced Features and Safety

The Little Gracy includes a range of features that enhance both convenience and safety: Digital Meter, USB Port, Keyless Drive, Center Lock with Anti-Theft Alarm, Reverse Gear, Parking Switch, Hydraulic Suspension, Drum Brakes.

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.

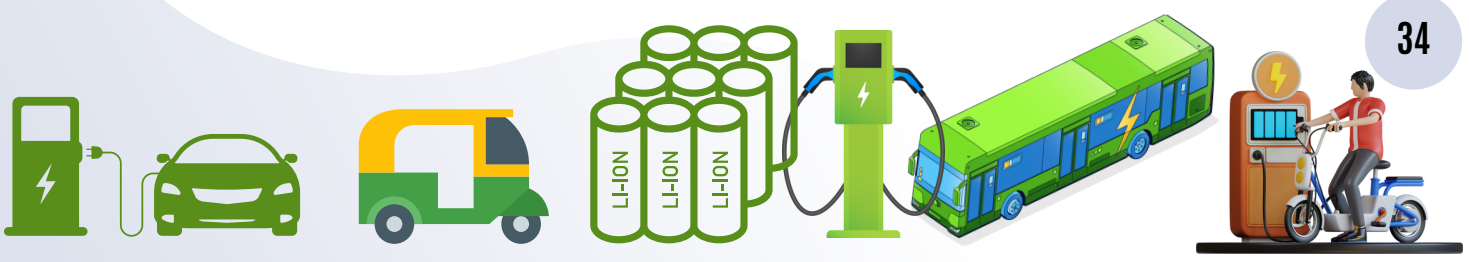
On November 7, 2023, the Ministry of Heavy Industries (MHI) introduced a new phased manufacturing program (PMP) for electric vehicle (EV) charger components under the **FAME India Scheme Phase-II** to boost domestic production. Outlined a comprehensive list of charger components and their timelines for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

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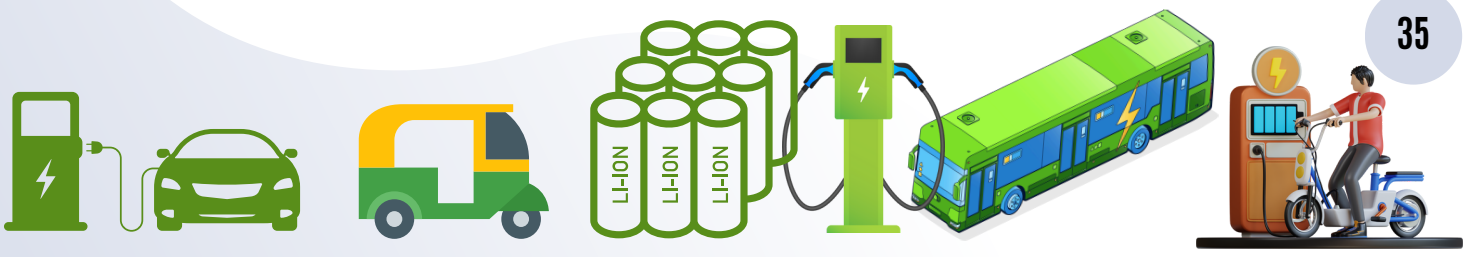


Report - Guide to Basics of Semiconductor

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.**

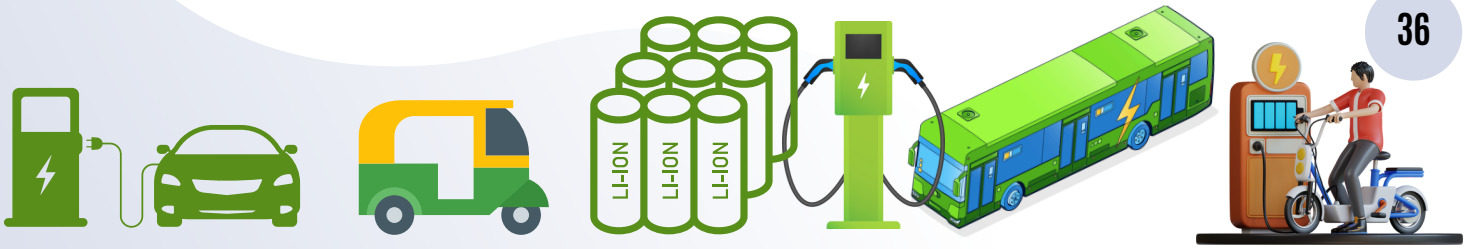
This **compiled report serves as an essential guide** commences with an introduction to **key PCB components, semiconductors**, explaining their role as materials that lie between conductors and insulators. It gets into the atomic structure of semiconductors and the concept of doping, which enhances 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.**



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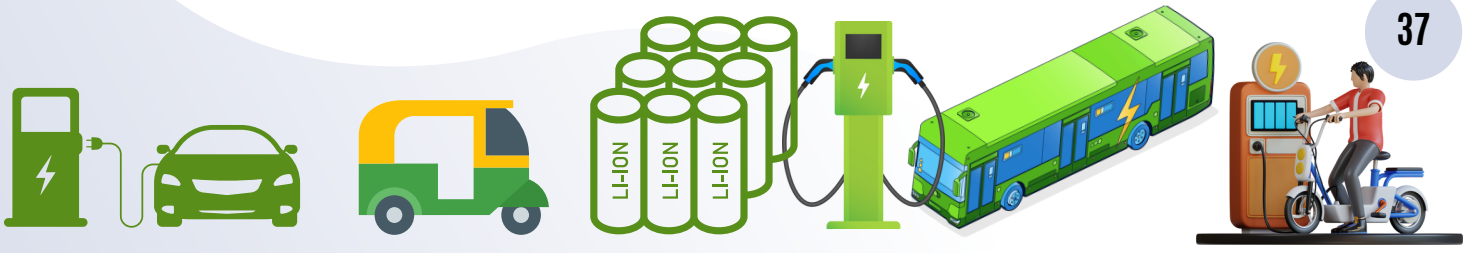

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About gyaniki

'gyaniki' is a technology platform that provides complete coverage of the current & evolving "ACCESS" [Autonomous, Connected, Customized, Electrified, Safe, Shared] to "Future Mobility".

'gyaniki' has evolved as a technology based digital portal platform created for researchers, product developers, industry professionals and academia members with a vision of incremental expansion in bridging the future mobility ecosystem through our services.

'gyaniki' undertakes specialized and customized research in Future Mobility

Our techno-commercial research covers on the core areas of:

- Benchmarking
- Key Components and Process
- Technologies
- Manufacturers and Suppliers
- Latest & upcoming industry trends (LiDAR, Neural Networks, Sensor fusion)
- Product Development Processes and Documentation (DFMEA, PFMEA, RCA)
- Tools of the trade. In design, simulation & validation (e.g.: GT suite, Simulink)
- Standards, Testing & Regulatory information.

EV Report April 2025