EV Report May 2025

GYANIKI

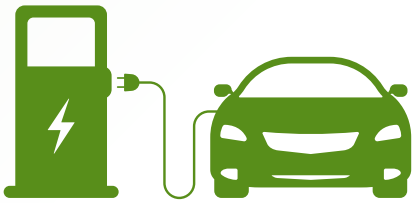
YOUR ACCESS TO FUTURE MOBILITY

AUTOMOTIVE CYBERSECURITY: UNECE REGULATION 155 & GLOBAL STANDARDS

INDIA EV SALES APRIL 2025

TOP MONEY MOVEMENT IN MOBILITY WORLD

NEWS, JOINT VENTURES & PARTNERSHIPS



UPCOMING EV SHOW

EV LAUNCH

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'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.
'gyaniki' also provides training programs across mobility domains.

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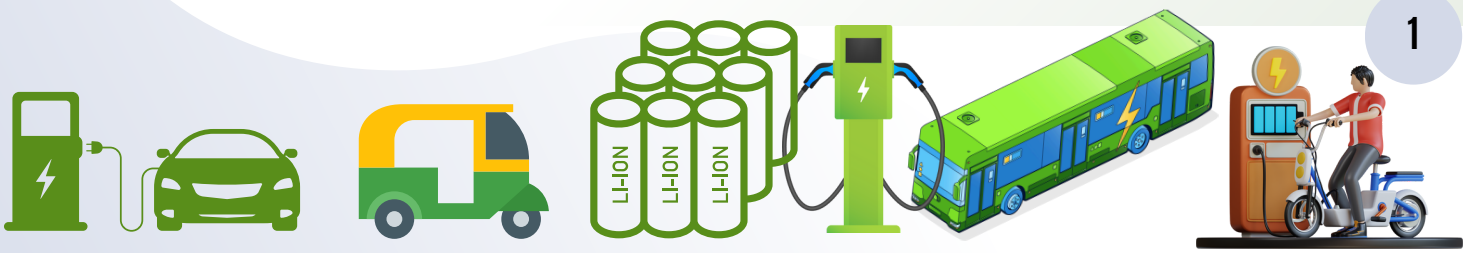


Regulatory Landscape: UNECE Regulation 155 & Global Standards

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:

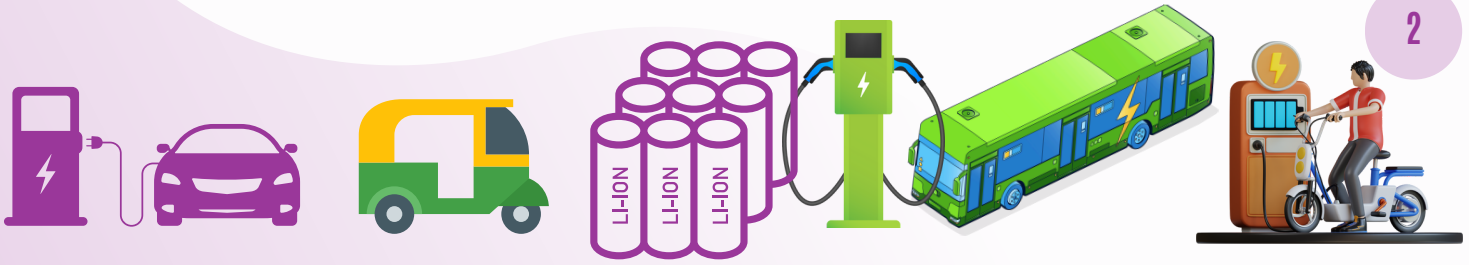
- **Risk Assessment**: Manufacturers must conduct rigorous risk assessments to identify and mitigate cybersecurity threats.
- **Incident Detection and Response**: Implementing processes to detect, report, and respond to cybersecurity incidents is essential.
- **Continuous Monitoring**: Ongoing monitoring 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!



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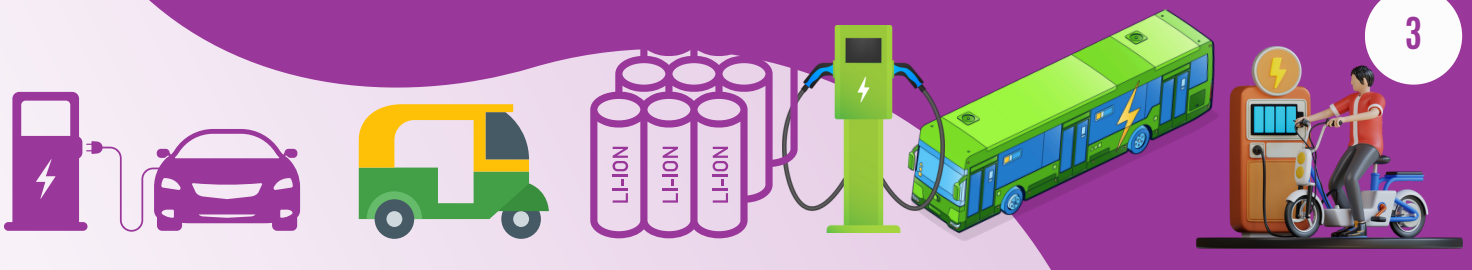

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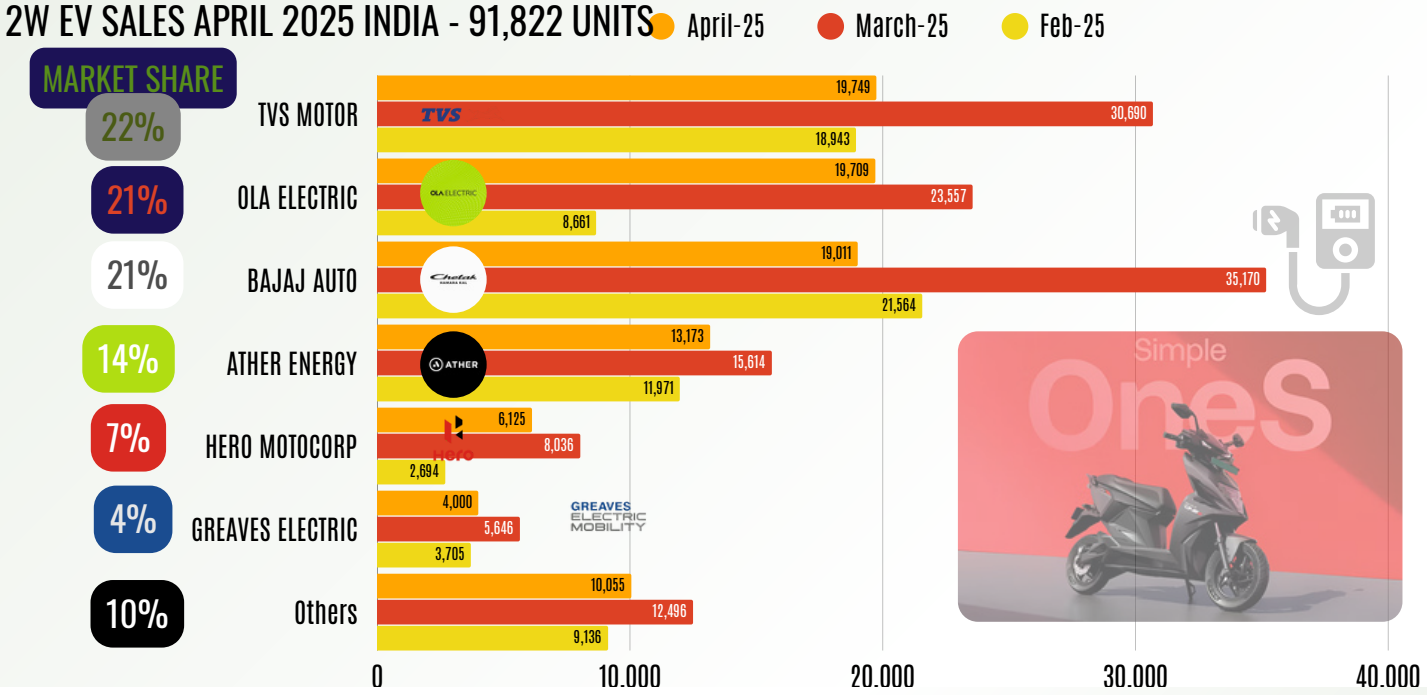
India EV 2W Sales April 2025

TOP EV-2W Sales by OEM

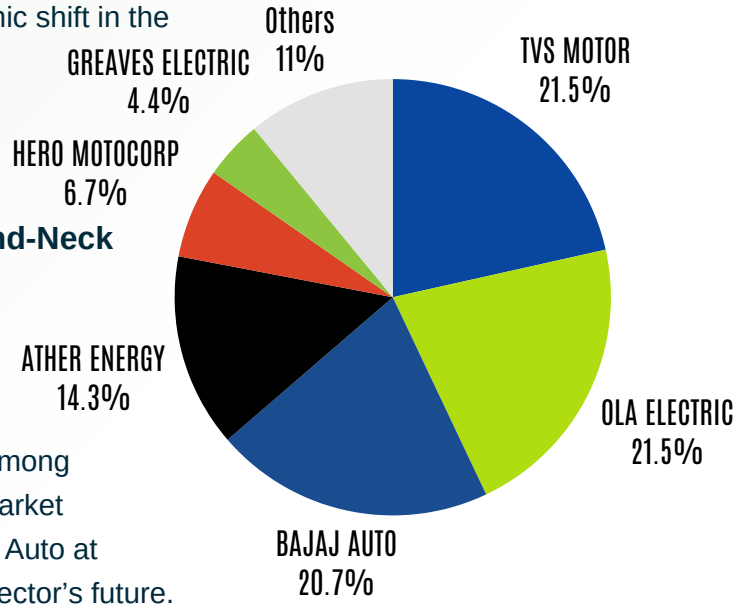


As per Vahan data, electric two-wheeler retail sales in April 2025 stood at 91,822 units. The market witnessed intense competition among the top three OEMs — TVS Motor (21.50%), Ola Electric (21.46%), and Bajaj Auto (20.71%), all vying closely for the top position. Ather Energy secured the fourth spot with a 14.34% market share, followed by Hero Motocorp at 6.67% and Greaves Electric at 4.36%. The remaining 10.96% was contributed by other manufacturers, highlighting a diversified but competitive electric mobility landscape in India.

India's Electric 2W Market: April 2025

India's Electric Two-Wheeler Market Shifts Gears: TVS Edges Ahead in Record-Breaking April 2025

April 2025 marked a watershed moment for India's electric two-wheeler (E2W) industry, with retail sales surging to an unprecedented 91,822 units, according to Vahan data. This milestone not only represents a robust 40% year-on-year growth but also signals a dynamic shift in the competitive landscape, as legacy manufacturers and new-age startups battle for supremacy in the world's largest two-wheeler market



The Race to the Top: TVS, Ola, and Bajaj Neck-and-Neck

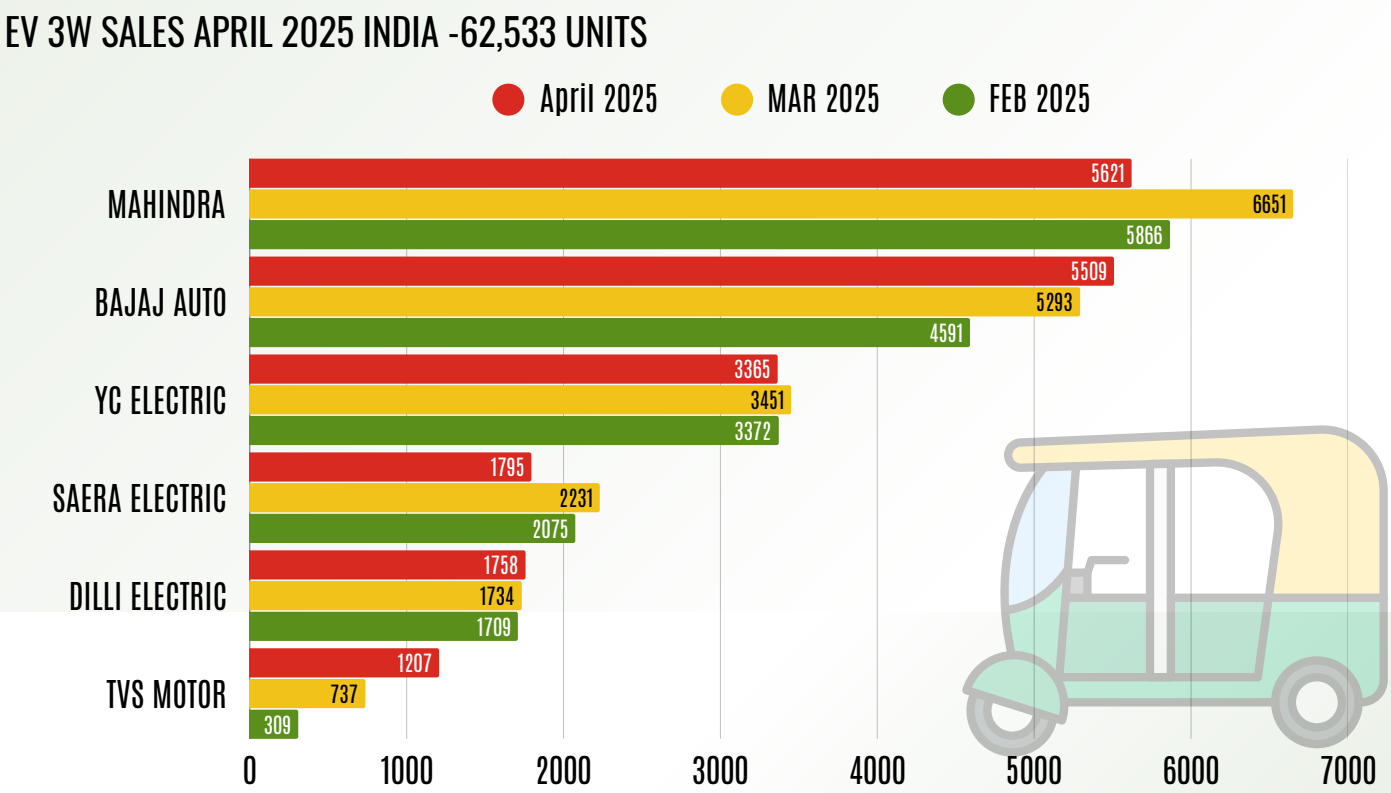
For the first time, TVS Motor Company clinched the top spot in electric two-wheeler sales, narrowly surpassing Ola Electric by just 27 units-19,749 units for TVS versus 19,709 for Ola Electric. Bajaj Auto was hot on their heels with 19,011 units, making the contest among the top three players remarkably tight. Their respective market shares-TVS at 21.50%, Ola Electric at 21.46%, and Bajaj Auto at 20.71%-underscore the fierce rivalry that is shaping the sector's future.

Ather Energy, with its innovative 450X model, secured the fourth position, selling 13,173 units and capturing a 14.34% market share. Hero MotoCorp and Greaves Electric followed with 6.67% and 4.36% shares, respectively, while a diverse group of other manufacturers accounted for the remaining 10.96% of the market

April 2025's record-breaking sales and the razor-thin margins separating the top contenders underscore the vibrancy and potential of India's electric two-wheeler ecosystem. As TVS, Ola, and Bajaj jostle for leadership, and as new entrants and established players alike innovate relentlessly, one thing is clear: the electric revolution on two wheels is accelerating, promising a cleaner, smarter, and more competitive future for Indian mobility

India EV 3W Sales April 2025

TOP EV 3W Sales Trend by OEM



Mahindra and Bajaj: Neck-and-Neck for Market Leadership

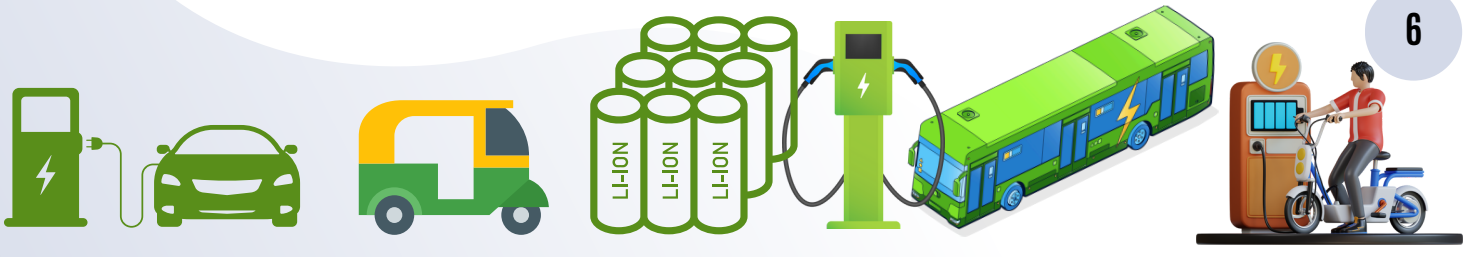
April 2025: A Record Month for Electric Three-Wheelers

India's electric vehicle (EV) sector continues to accelerate, with April 2025 marking a historic high for electric three-wheeler (E3W) sales. According to the latest Vahan Dashboard data, the country registered 62,533 E3W units in April, reflecting a robust 49% year-on-year growth and accounting for 63% of all three-wheeler sales that month. This surge comes even as overall EV sales in India touched 1,67,629 units in April, up 45% from the previous year, signaling strong momentum for the new fiscal year.

Mahindra and Bajaj: Neck-and-Neck for Market Leadership

The competition at the top of the E3W market is more intense than ever. Mahindra Last Mile Mobility led the pack with 5,640 units sold in April 2025, marking an impressive 87% year-on-year growth and securing a 9% market share. Hot on Mahindra's heels, Bajaj Auto recorded 5,509 units-a staggering 330% increase over the previous year-also capturing a 9% share and narrowing the gap with Mahindra to just 131 units. This fierce rivalry underscores the rapid evolution and growing competitiveness of the electric last-mile mobility segment.

Other notable players include YC Electric, which delivered 3,365 units (up 15%, 5% market share), Saera Electric Auto with 1,795 units (down 9%, 3% share), and Dilli Electric Auto at 1,758 units (up 9%, 3% share). TVS Motor, a recent entrant, sold 1,207 units, quickly establishing a presence with a 2% share.



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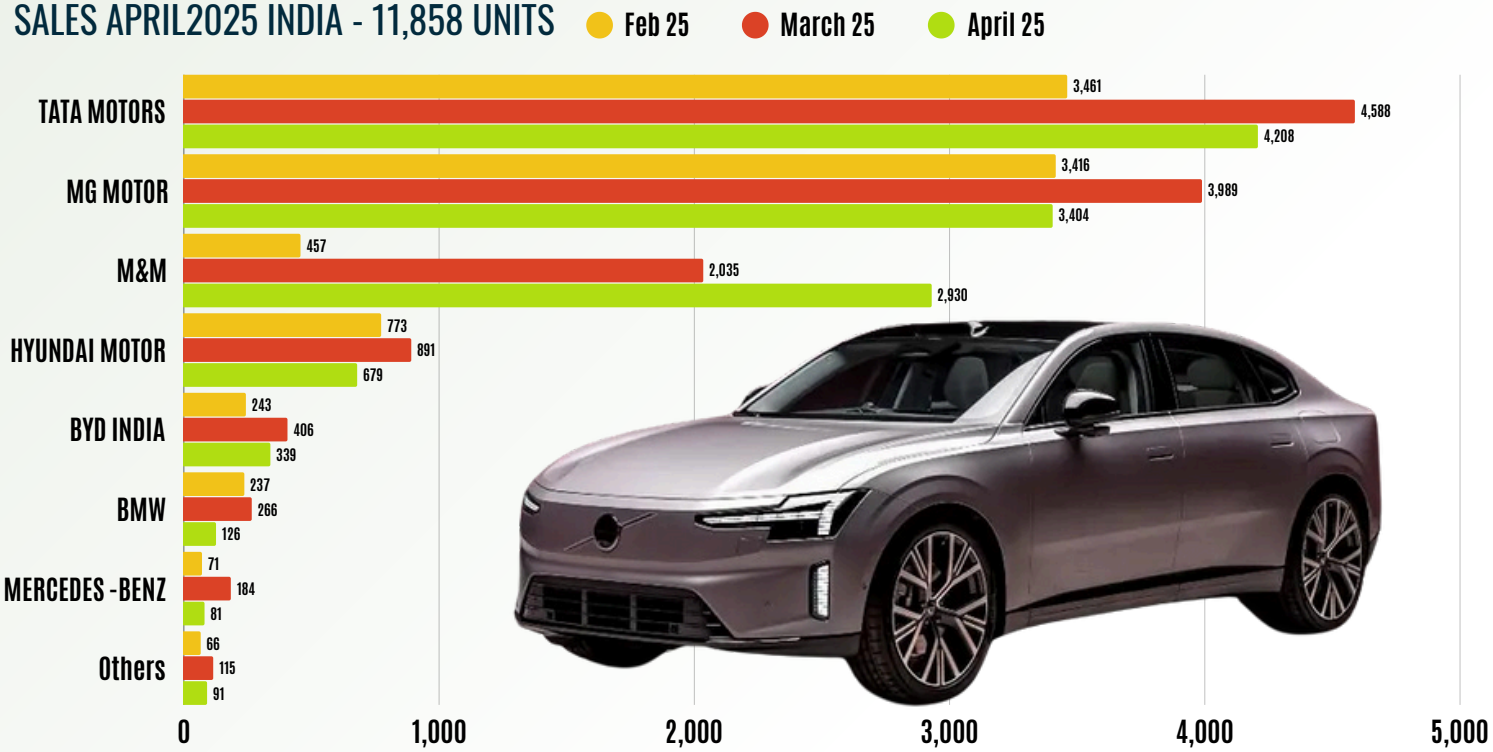
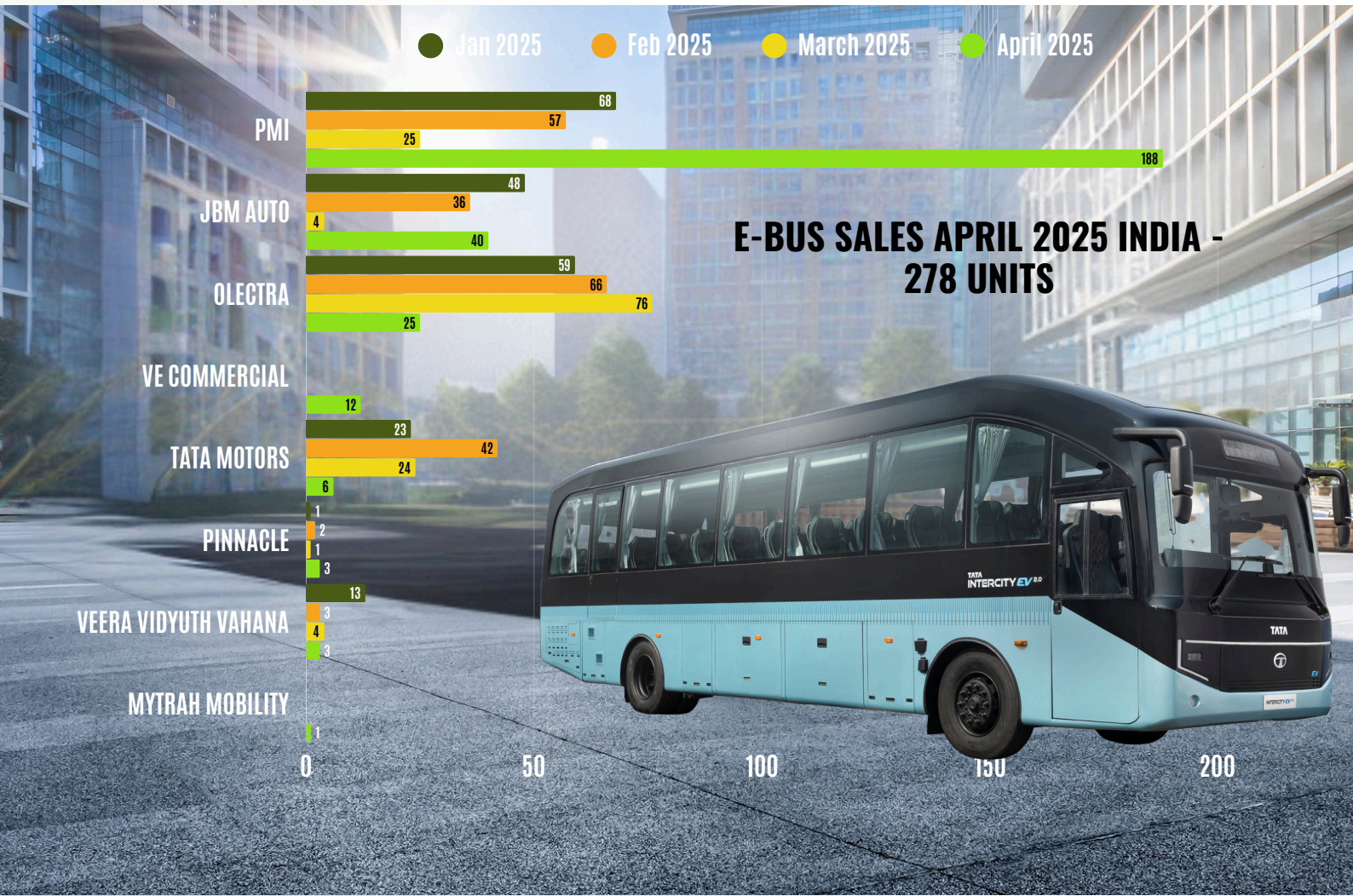
India EV Sales April 2025

EV 4W Passenger Sales Trend by OEM



Between January and April 2025, the Indian E4W market recorded consistent monthly volumes, despite some fluctuations. This period saw a cumulative sale of 43,865 E4Ws, reflecting the sector's resilience amid broader market volatility

Data Source: Vahan Dashboard



Indian Electric Four-Wheeler Market: Jan-Apr 2025 Sales Trends and Insights

Sales Overview: Jan–Apr 2025

Between January and April 2025, the Indian E4W market recorded consistent monthly volumes, despite some fluctuations. Total E4W sales for these four months stood at:

January: 10,809 units | February: 8,724 units || March: 12,474 units || April: 11,858 units

Company	JAN 25	FEB 25	March 25	APRIL 25	TOTAL
Tata Motors	4,810	3,461	4,588	4,208	17,067
JSW MG Motor India	4,394	3,416	3,989	3,404	15,203
Mahindra & Mahindra	522	457	2,035	2,930	5,944

Market Leaders: Tata Motors and MG Motor India

Tata Motors and MG Motor India have maintained their dominance, together accounting for a significant share of E4W sales.

Tata Motors led with 17,067 units sold over four months, consistently topping monthly charts. Its robust portfolio-including the Nexon EV, Tiago EV, and Punch EV-continues to attract a wide customer base.

MG Motor India followed closely, registering 15,203 units. MG's ZS EV and Comet have found favor among urban buyers, underlining the brand's strong positioning in the value and premium segments.

Mahindra's Surge: April Breakout

While Mahindra & Mahindra started the year with modest numbers, it posted a dramatic surge in March and April, moving from 522 units in January to 2,930 units in April. This leap is largely attributed to the ramp-up of its XUV400 EV and the launch of new electric SUVs, which have resonated with both fleet and private buyers.

In April 2025, Mahindra captured an impressive 24% market share in the E4W segment, signaling its growing influence and the effectiveness of its renewed EV strategy.

Hyundai, BYD, and Premium OEMs: Niche Growth

Hyundai posted steady gains, with sales peaking at 891 units in March, driven by the Creta EV and Ioniq 5.

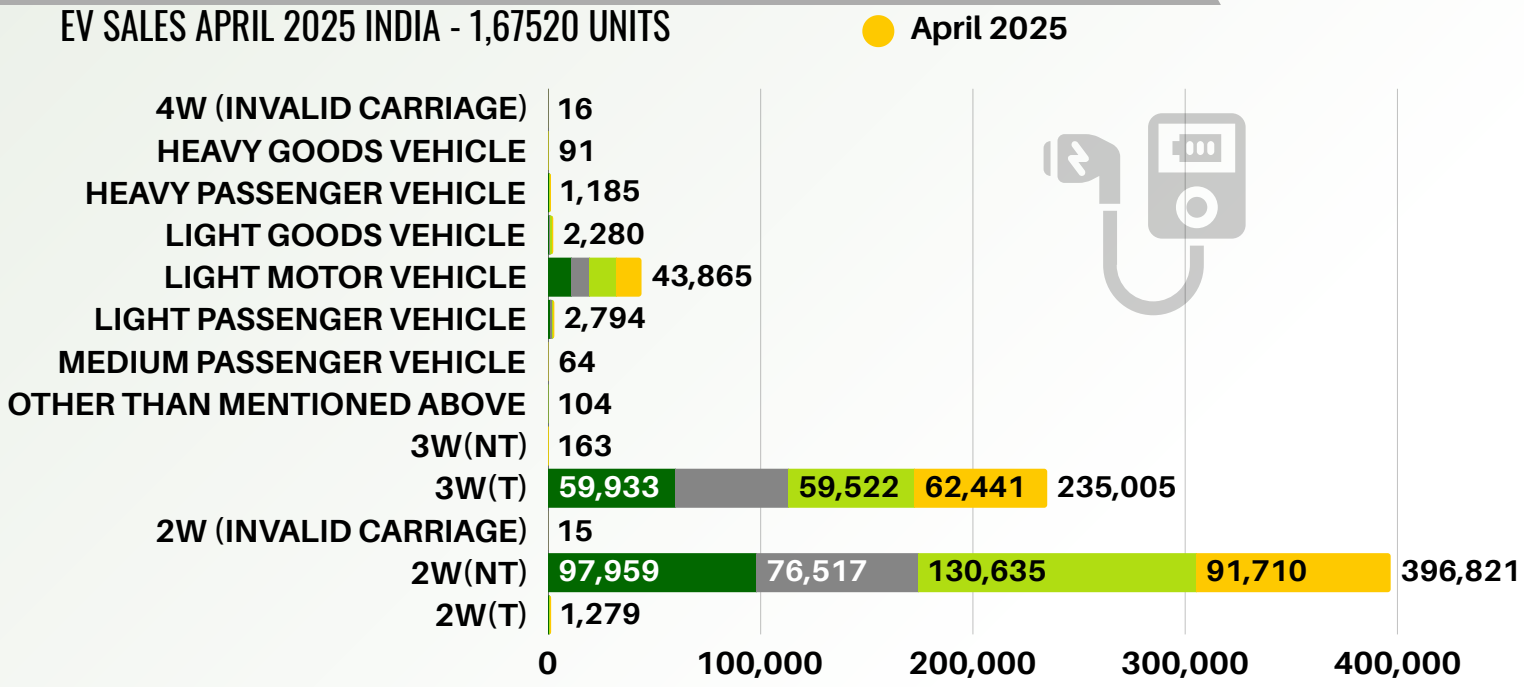
BYD India maintained a consistent presence, averaging around 300–400 units monthly, appealing to premium and fleet customers.

BMW, Mercedes-Benz, and Volvo continued to cater to luxury buyers, with monthly sales ranging from 20 to 266 units, underscoring the growing acceptance of electric mobility in the premium segment.

With a total of over 43,000 E4Ws sold in just four months, 2025 is poised to be a landmark year for India's electric mobility transition. Tata Motors and MG Motor India remain the benchmarks, but Mahindra's recent momentum suggests a more competitive landscape ahead. As OEMs introduce new models and technologies, and as infrastructure matures, the Indian E4W market is set for sustained, transformative growth.

The coming months will be critical in determining whether these trends hold or if new disruptors emerge. For now, the race for EV leadership remains as electrifying as ever.

India EV Sales April 2025 -Category-Wise



India's automotive sector records robust sales growth from January to April 2025, led by strong two- and three-wheeler demand. EV Passenger vehicle giants Tata, Mahindra, and MG report significant figures as the industry eyes continued momentum.

Segment Highlights

Two-Wheelers: The backbone of Indian mobility, two-wheelers (NT and T) accounted for nearly 400,000 units in four months, with March witnessing a record 130,635 units in the NT category. This surge aligns with broader industry data showing two-wheeler sales exceeding 1.5 million units in January 2025 alone.

Three-Wheelers: Three-wheeler (T) sales remained strong, consistently above 50,000 units monthly, peaking at 62,441 in April. The segment's performance underscores its critical role in last-mile connectivity and urban mobility.

Passenger Vehicles: Light motor vehicles saw steady growth, with a total of 43,865 units sold. Maruti Suzuki led the passenger vehicle segment, selling 152,000 units in April 2025, a 4% year-on-year increase. Mahindra & Mahindra reported 52,330 units in April, outpacing Tata Motors (45,199 units) and Hyundai (44,374 units).

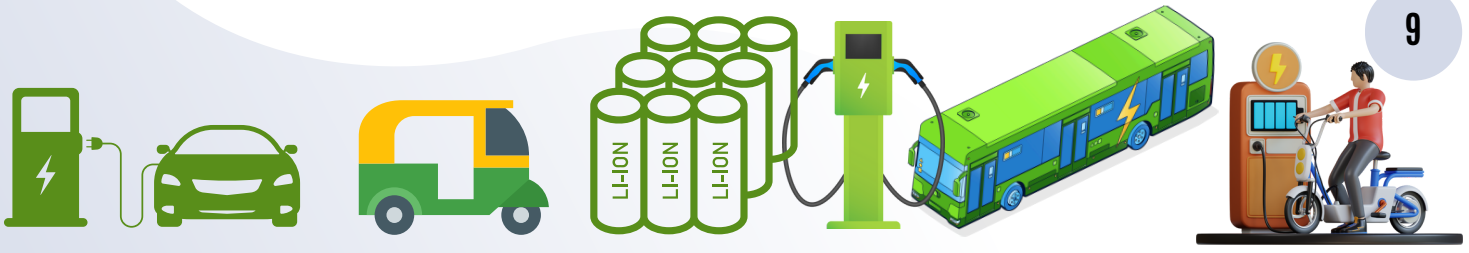
- **Commercial Vehicles:** Heavy and light goods vehicles combined contributed over 2,300 units, reflecting stable demand in logistics and infrastructure sectors.

Month-on-Month Trends

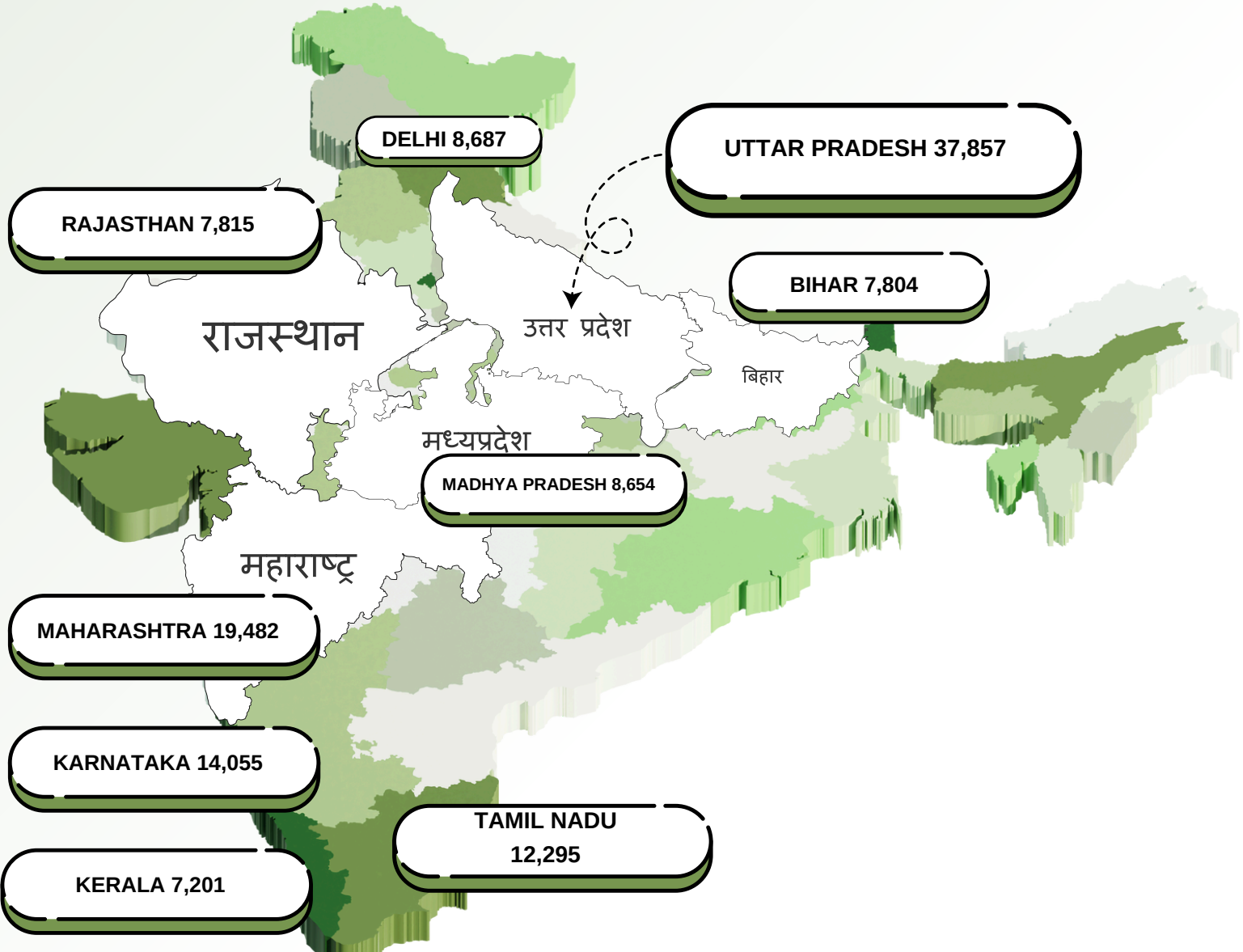
January to February: Sales dipped by 18%, from 171,268 to 140,076 units, reflecting a typical post-festive season slowdown.

February to March: A sharp 46% rebound, with sales peaking at 204,198 units, driven by year-end buying and new launches.

March to April: Sales moderated to 167,520 units, a 17% decline, yet remained above February levels.



State Wise EV Sales in April 2025

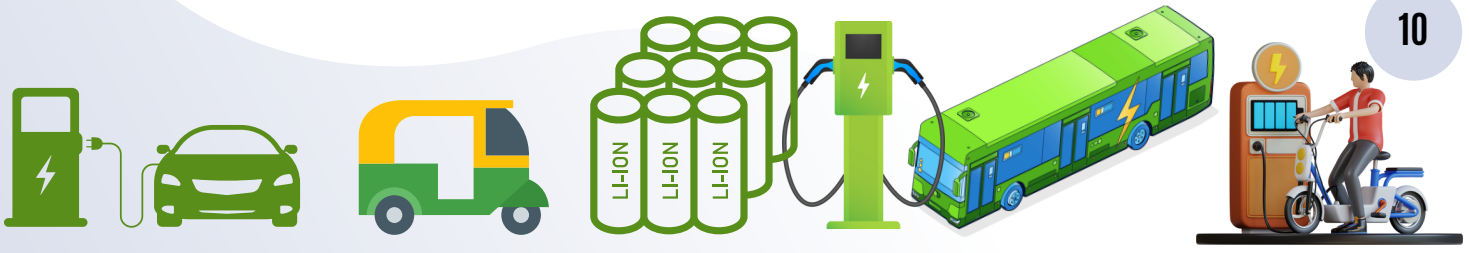


EV Market Sees March Peak, April Dip; Maharashtra, Uttar Pradesh, and Karnataka Lead the Charge Amid Fluctuating Incentives

India's electric vehicle (EV) market continued its dynamic growth in early 2025, with notable month-to-month and statewise variations. According to Vahan Dashboard data, total registered EV sales across all categories were:

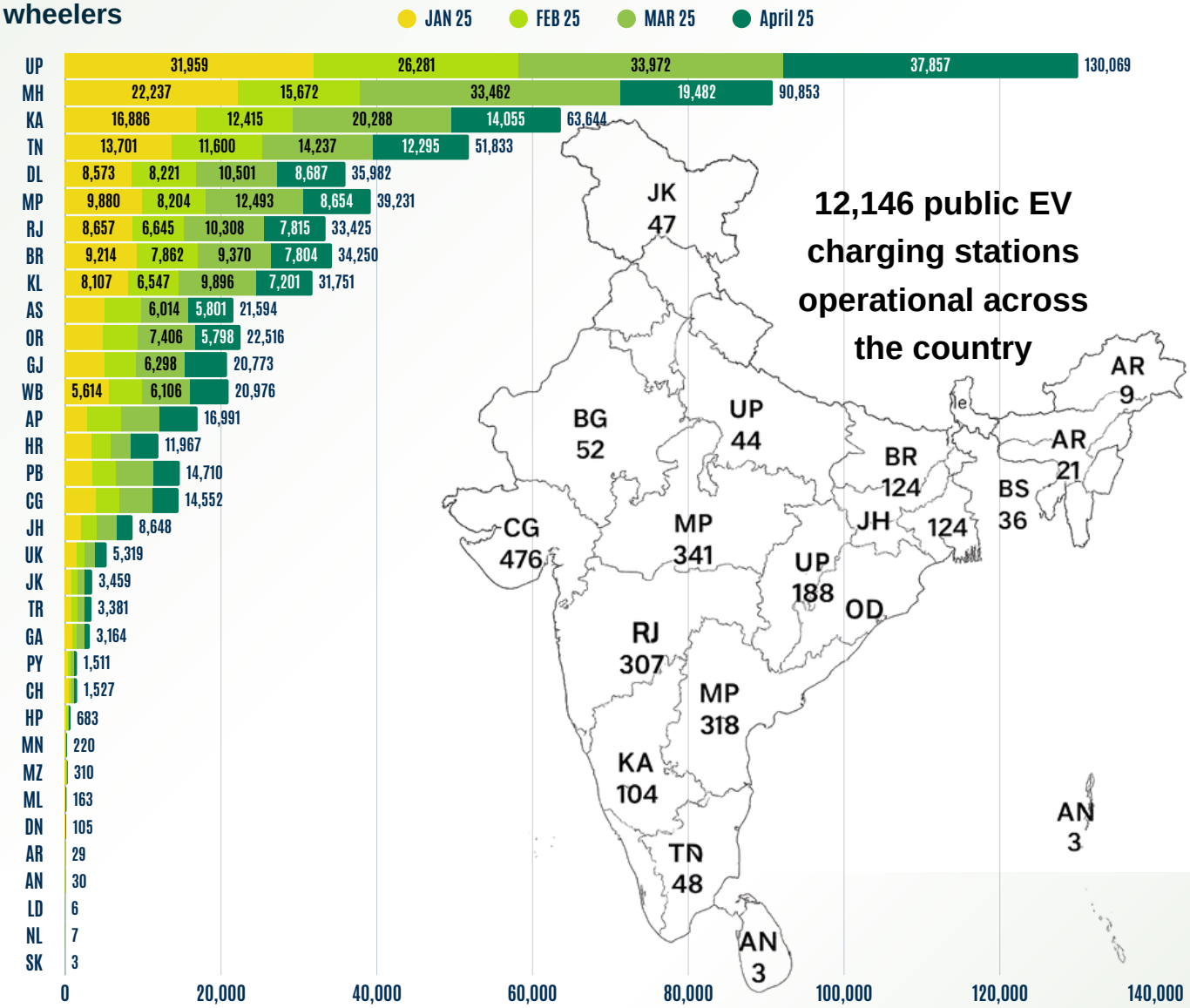
- **January 2025: 1,69,936 units**
- **February 2025: 1,40,096 units**
- **March 2025: 2,04,798 units**
- **April 2025: 1,67,520 units**

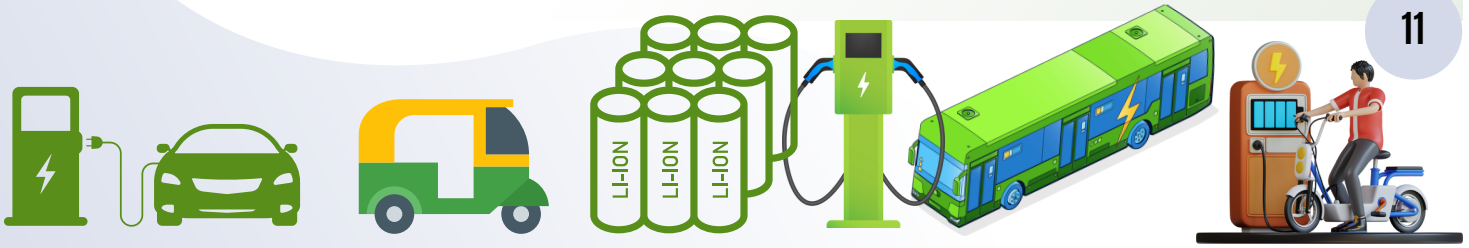
March 2025 marked the highest monthly sales in this period, while April saw a notable dip, especially in the two-wheeler segment, where penetration dropped from 8.7% in March to 5.5% in April



State Wise EV Sales in April 2025

- April 2025 saw a dip in EV sales compared to March, especially in the two-wheeler segment, due to reduced state incentives and market corrections after the fiscal year-end rush.
- India recorded 20,18,429 EV sales in the 12 months ending April 2025, just missing the 2-million milestone.
- OEMs are focusing on new launches and expanding portfolios to maintain momentum, with Tata and Mahindra leading in passenger vehicles, and TVS, OLA, and Bajaj in two-wheelers





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

Shakti Pumps

Shakti Pumps (I) Ltd. is making a bold move in the electric vehicle (EV) market with a **₹50 million investment** in SHAKTI EV MOBILITY PRIVATE LIMITED. This strategic expansion signals a strong commitment to India's growing clean energy ecosystem and the future of sustainable transportation.

Daimler Buses

Daimler Buses acquires a stake of 49 percent in the company SINOS GmbH, based in Regensburg. SINOS specializes in software solutions for the operation of electrified city bus fleets and in particular offers intelligent charging management systems. This allows, for example, e-buses to be charged when the load on the power grid is low, and electricity is inexpensive. With this shareholding, Daimler Buses and SINOS are further expanding their existing collaboration.

Calligo Technologies

Bengaluru-based **Calligo Technologies** has successfully raised **$1.1 million in a pre-Series A funding** round led by **seafund and Artha Venture Fund**. The startup is redefining **High-Performance Computing (HPC) and Artificial Intelligence (AI)** with its POSIT-based silicon chips, tackling inefficiencies in next-gen computing.

- Development of Version 2.0 of its breakthrough silicon chip
- Expansion of engineering capabilities
- Partnerships with System Integrators, OEMs, and ODMs

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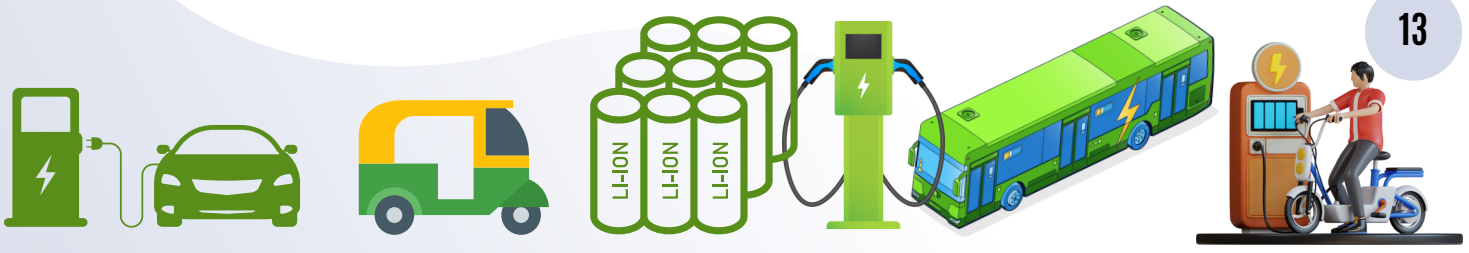
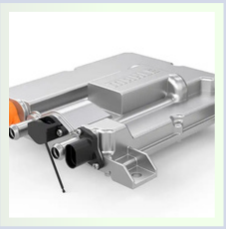


Top Money Movement

MAHLE

MAHLE, a global leader in automotive technology, has taken a major leap in the e-mobility sector with a **€200 million** order to supply cutting-edge **DC/DC converters** for battery-electric vehicles (BEVs) in China.



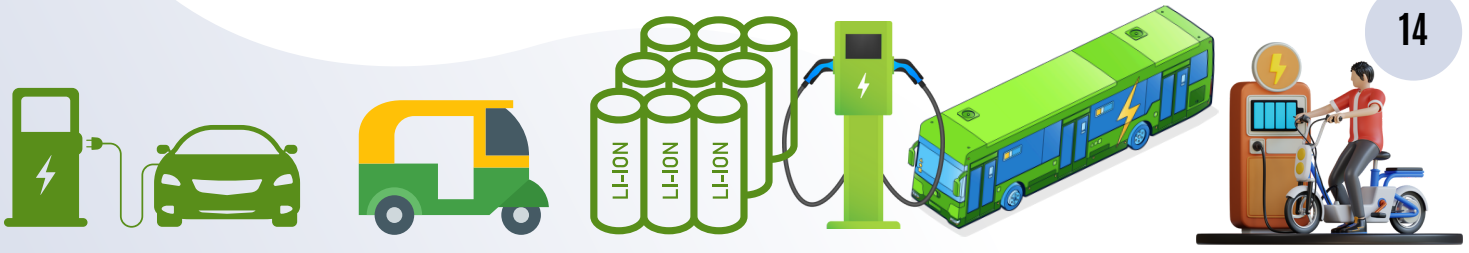
IPEC India

IPEC India, a homegrown EV charging solutions provider, has raised USD 3 million in funding from Gruhas, the investment platform co-founded by Nikhil Kamath and Abhijeet Pai.

IPEC India has been a silent powerhouse since 2017—founded as a joint venture between MEHER GROUP, Deki Electronics Ltd, and Sungho Electronics Corp.. With over **10 lakh EV chargers** already delivered to India's top EV OEMs, the company is now gearing up to scale up manufacturing to 50,000 units per month!

Nyobolt

UK-based battery tech pioneer Nyobolt has just raised **$30 million** in its latest funding round led by IQ Capital and Latitude, with key backing from Scania Invest and Takasago Industry. This brings their total funding to **$100 million**



EV NEWS

Replus

Replus, a battery manufacturing company under the LNJ Bhilwara Group, announced plans to expand its current production facility from 1GWh to 6GWh within the next year. The announcement came from the company's headquarters in Pune

Sany India

India's mining industry just witnessed a game-changing moment as Sany India launched the **SKT130S**, the country's first locally manufactured **100-tonne diesel-electric hybrid mining dump truck**. This revolutionary truck was unveiled at SANY's advanced manufacturing facility in Pune, setting a new benchmark in heavy machinery innovation.

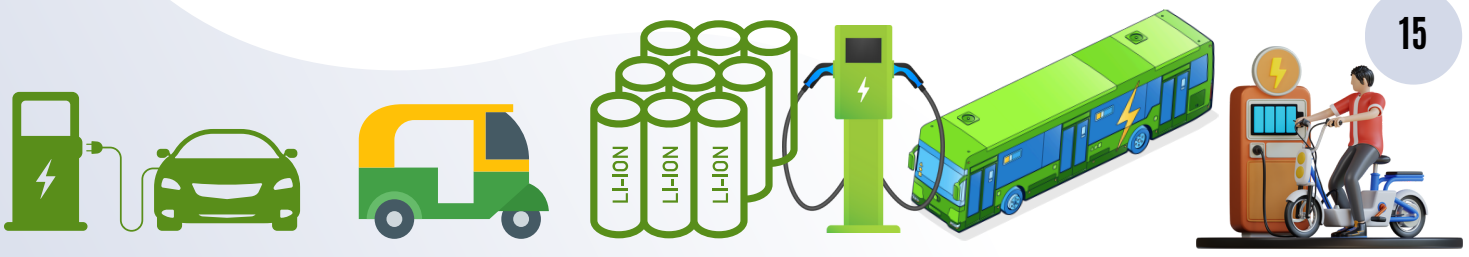
Valeo

Valeo, a global leader in **automotive technology**, has taken a major step in India's **EV transition** with the launch of its **state-of-the-art manufacturing and assembly lines in Pune**.

The expanded facility will focus on producing the innovative 3-in-1 Combo unit—an integrated solution combining On-Board Chargers, DC-DC Converters, and Power Distribution Units for electric vehicles. This technological advancement aims to provide more competitive solutions for Indian automakers while significantly increasing domestic value addition.

Valeo's 3-in-1 Combo unit represents a significant technological advancement, combining three essential components into a single, integrated solution:

1. **On-Board Charger (OBC)** – Converts AC power from the grid to charge the high-voltage battery (ranging from 7kW to 22kW)
2. **DC-DC Converter** – Converts high-voltage power to 12V for auxiliary systems and low-voltage battery charging
3. **Power Distribution Unit (PDU)** – Efficiently distributes power to critical electric vehicle components



Mercury EV-Tech

Mercury EV-Tech Limited has commissioned a 3.2 GW lithium-ion battery manufacturing facility at its Vadodara campus through its wholly owned subsidiary PowerMetz Energy Pvt. Ltd.

The facility is designed to produce multiple battery chemistries including LFP (Lithium Iron Phosphate), NMC (Nickel Manganese Cobalt), Sodium-Ion Cells, and Supercapacitor Modules. These batteries will support applications ranging from EV charging infrastructure to grid-scale storage for renewable energy.

Delhi Government's Electric Vehicle Policy 2.0

Delhi Government's Electric Vehicle Policy 2.0 is here—and it's packed with powerful incentives to supercharge the shift to electric mobility.

From ₹10,000 per kWh subsidies on electric two-wheelers to special benefits for women buyers, this policy is designed to accelerate EV adoption across every segment.

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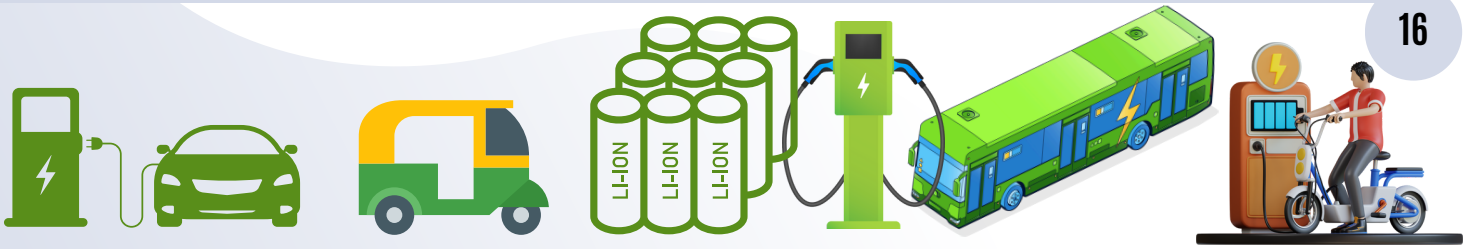
🔋 Key Highlights:

- ✅ ₹10,000/kWh subsidy on 2Ws (max ₹30,000)
- ✅ ₹10,000 scrappage bonus for 12+ year-old petrol 2Ws
- ✅ ₹12,000/kWh subsidy (up to ₹36,000) for first 10K women buyers
- ✅ ₹10,000/kWh subsidy on electric autos (max ₹45,000)
- ✅ ₹20,000 scrappage bonus for old CNG autos
- ✅ ₹1 lakh replacement incentive for CNG autos (10+ years old)
- ✅ Goods EVs: Up to ₹75,000 for eligible 4-wheelers

Delhi is targeting 95% EV registrations in new vehicles by 2027—this policy is a giant leap toward that vision.

EVR Motors

Napino Auto & Electronics Ltd has officially inaugurated its manufacturing line in Halol to kickstart the production of EVR Motors' patented electric traction motors – a landmark moment for India's e-2W industry.



EV NEWS

Olectra Greentech Limited

Olectra Greentech Limited, a leading player in the electric mobility sector, has announced a significant milestone with the receipt of a Letter of Award (LOA) from Himachal Road Transport Corporation (HRTC). The company will supply and maintain 297 electric buses in a deal valued at approximately ₹424.01 crores.

Sensata Technologies

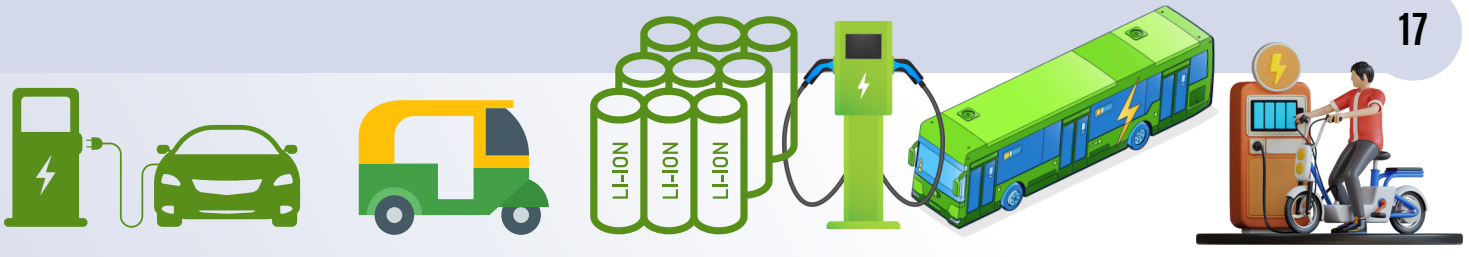
Sensata Technologies Launches STPS500 Series PyroFuse – Revolutionizing High-Voltage Safety

Key Features:

- Rapid disconnect time of less than 1 millisecond.
- High breaking capacity, interrupting currents up to 20,000A at 500V and 16,000A at 1000V.
- Continuous current handling up to 500A at 1000V.
- Superior sealing performance for enhanced arc suppression.
- Excellent post-isolation resistance over 50MΩ at 1000V.
- Compact and lightweight design.

Himachal Pradesh government

the Himachal Pradesh government has approved the installation of 402 electric vehicle (EV) charging stations across the state. These stations will be set up at strategically chosen government premises, including 252 at PWD Rest Houses, 100 at Forest Department rest houses, and others at Jal Shakti, HPSEBL offices, and district administrative complexes.



EV NEWS

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:

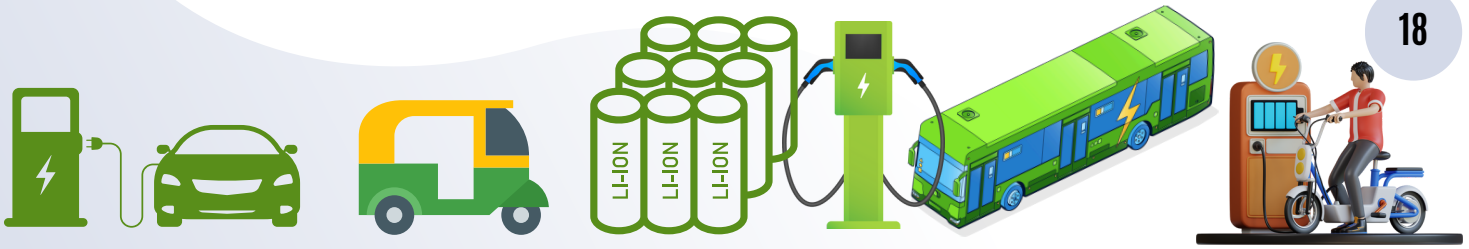
- 8,000+ pre-launch registrations since its October 2024 debut.
- Targeting $25 million in first-year sales, with deliveries starting in Chennai and Bangalore by Q1 2025–26.
- Actively negotiating a $19 million funding round to scale production.

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.

MATTER

Chief Minister Shri Bhupendra Patel inaugurated the country's first geared electric motorbike plant, set up by MATTER Company at Changodar, Ahmedabad.



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.

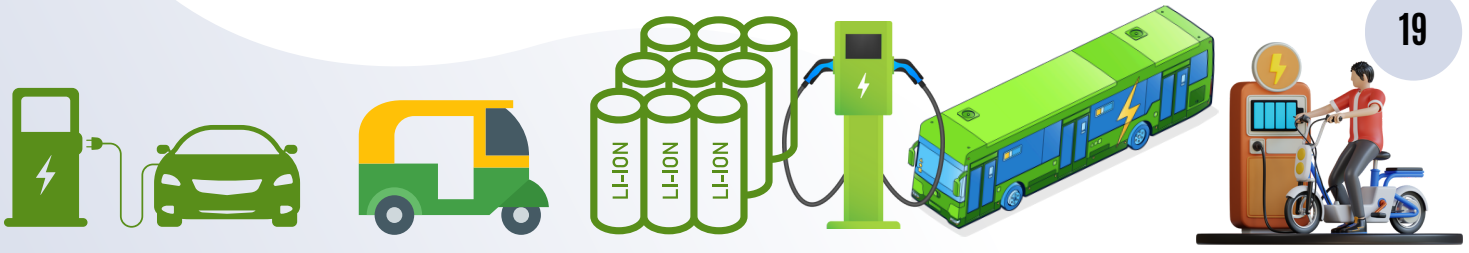
GreenLine Mobility Solutions

GreenLine invests $275 m to expand LNG trucking infrastructure

GreenLine Mobility Solutions, an Essar Group venture, on Thursday announced a $275 million equity investment to accelerate the decarbonisation of heavy trucking in India.

The investment in the company, which is India's first LNG and electric-powered heavy commercial trucking operator, includes a $20 million investment from investor and entrepreneur, Nikhil Kamath.

GreenLine offers its logistics services at cost parity with diesel trucks, ensuring that customers can reduce carbon emissions without incurring any additional costs.



Omega Seiki Mobility

Omega Seiki Mobility (OSM), a company focused on sustainable transportation solutions, has partnered with **Naari Shakti Women Welfare Charitable Trust** to provide 2,500 electric Pink Auto Rickshaws to women drivers across India. The initiative is part of OSM's Corporate Social Responsibility (CSR) programme and is intended to support women's participation in the mobility sector.

HYUNDAI MOBIS

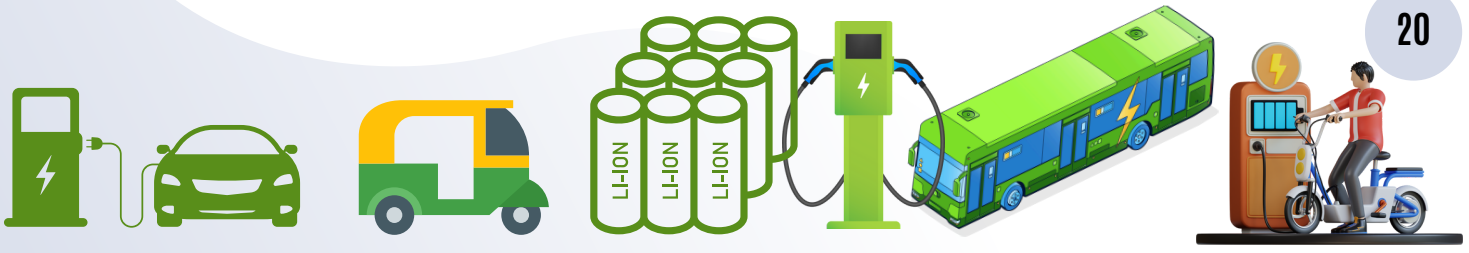
Hyundai Mobis

Hyundai Mobis will expand the operation of its Indian R&D center as a strategic base dedicated to automotive software. As the sales of high-value products equipped with software increases, the role of the company's Indian R&D center in verifying and analyzing them is also increasing.

Hyundai Mobis announced on 7 that it has opened an R&D base dedicated to software in Hyderabad, Telangana, which is known as the Silicon Valley of India.

Following the launching of its first Technical Center of India in 2007, Hyundai Mobis established its second Indian center in 2020, and has since operated those two centers. The new integrated large-scale R&D center aims to accommodate the increasing number of software R&D personnel and combine the company's dispersed R&D centers to maximize synergy.

Located in the center of Hyderabad, the new integrated R&D base has a total floor area of about 24,000 ㎡ and is located in a commercial area where global technology giants are concentrated, making it easy to secure excellent software talent. The 10-story building houses research spaces, data centers, labs and training rooms, partner workspaces, and break rooms.



Right DC Charging Solution for Your Business

Empowering Businesses with Scalable and Efficient EV Charging Infrastructure

The rapid adoption of electric vehicles (EVs) globally, and especially in India, has created a pressing need for robust charging solutions. DC charging, recognized for its speed, scalability, and efficiency, is emerging as the optimal choice for businesses seeking to cater to EV users or manage fleets effectively. This article explores the considerations for selecting the right DC charging solution tailored to business needs while highlighting industry leaders and products shaping India's EV charging landscape.

Why DC Charging is Essential for Businesses:

DC charging technology offers transformative benefits to two primary domains:

- **Commercial EV Charging:** Retailers, restaurants, hotels, and entertainment venues can attract EV customers by installing fast-charging stations. For instance, shopping centers with DC chargers enhance customer experience by enabling quick charging during visits.
- **Fleet Operations:** Businesses managing fleets of buses, vans, or trucks can reduce downtime and maximize productivity with efficient DC charging infrastructure at depots.

Key Considerations for Commercial EV Charging:

Customer Dwell Time: Businesses must assess how long customers typically stay at their premises. For high-traffic areas like motorway service stations, high-power DC chargers are essential.

Diverse EV Models: Chargers should accommodate various battery sizes and connector types (e.g., CCS-2 or GB/T) to cater to a broad customer base.

Charger Layout: Centralized or split arrangements should optimize traffic flow and charging efficiency.

Payment Options: Offering flexible payment methods like RFID cards or mobile apps enhances customer satisfaction.

Fleet Charging Insights:

Current Needs: Analyze fleet routes, dwell times at depots, and vehicle battery sizes to design an effective charging strategy.

Future Scalability: Modular chargers like Exicom's Harmony Gen 1.5 allow businesses to expand their infrastructure as fleets grow.

Industry Trends :

Combined AC/DC Charging Standards: The Bureau of Indian Standards (BIS) recently approved an indigenous AC/DC combined connector standard for light EVs, addressing interoperability challenges in India’s market.

Market Growth: Reports predict a CAGR of 54.6% in the global DC fast-charging market between 2024–2027.

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

Joint Ventures & Partnerships

Applied EV - Oxa

Applied EV, a leader in autonomous vehicle technology, and Oxa, a pioneer in self-driving software, have today announced a strategic partnership to enable the commercial deployment of autonomous vehicles at scale.

Expanding on their existing partnership, this new agreement combines Applied EV's expertise in secure, software-defined vehicle platforms with Oxa's self-driving software, to deliver an immediate turnkey solution that equips businesses with the necessary tools to integrate autonomy into their operations

IKEA - BLR Logistiks (I) Ltd

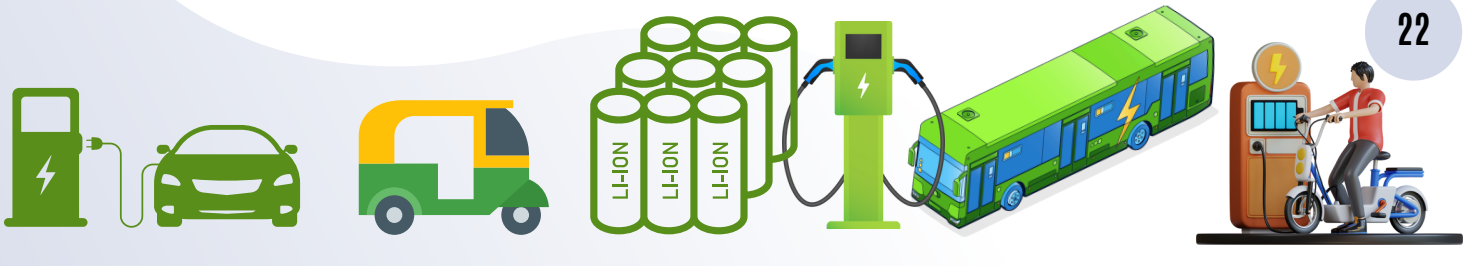
IKEA Supply, part of the Inter IKEA Group, has rolled out its first heavy-duty electric truck for public road operations in India. The truck, operated in partnership with logistics firm BLR Logistiks, began service in October 2024 and has since completed 100 trips transporting goods between the Mumbai port, IKEA's distribution centre in Pune, and its retail store in Mumbai.

Kazam - Yuma Energy

Kazam, a leading EV charging infrastructure provider, has joined forces with Yuma Energy to introduce battery-swapping at its Park & Charge hubs across India. The rollout has begun at the Mahadevapura facility in Bangalore, with plans for nationwide expansion.

Eicher Trucks - Magenta Mobility

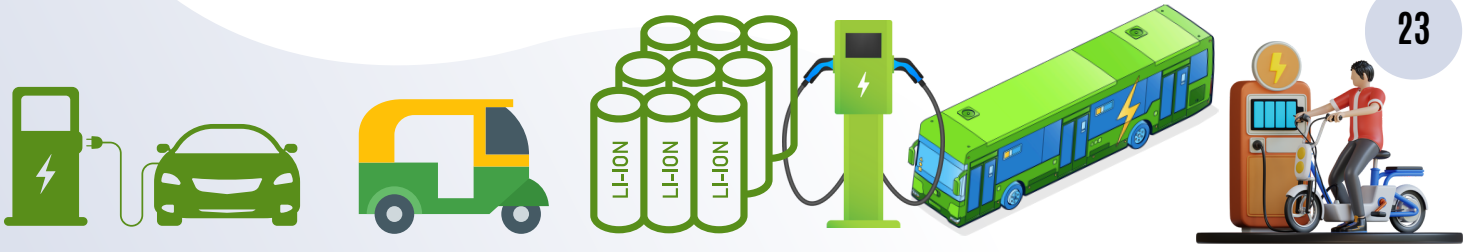
Eicher Trucks and Buses, a division of VE Commercial Vehicles (VECV), has partnered with Magenta Mobility to deploy 100 units of the newly launched Eicher Pro X electric small trucks across five Indian cities. This initiative supports Magenta's "Ab Ki Baar Dus Hazaar" campaign to expand its electric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



Joint Ventures & Partnerships

Remsons Industries - Astro Motors

Remsons Industries Limited, a veteran automotive OEM components manufacturer, has acquired a 51.01% stake in Astro Motors Private Limited for Rs. 14.22 crore. The deal, announced on April 9, 2025, was structured as a mix of Rs. 4.22 crore in equity issued on preferential basis and Rs. 10 crore in cash. Astro Motors manufactures electric three-wheelers for cargo, loaders, passengers, and micro mobility applications. The company operates a manufacturing facility in Chakan, Pune, and specializes in electric three-wheelers with gear technology.



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.

Greaves Cotton - Chara Technologies

Greaves Cotton Limited, a 165-year-old engineering company, has announced a strategic partnership with Bengaluru-based startup Chara Technologies to manufacture innovative rare-earth-free motors for electric mobility applications. The collaboration will focus on producing synchronous reluctance motors and controllers at Greaves' facility in Shendra, Aurangabad.

EzUrja Private Limited - Andrew Yule & Company Ltd (Govt of India Undertaking)

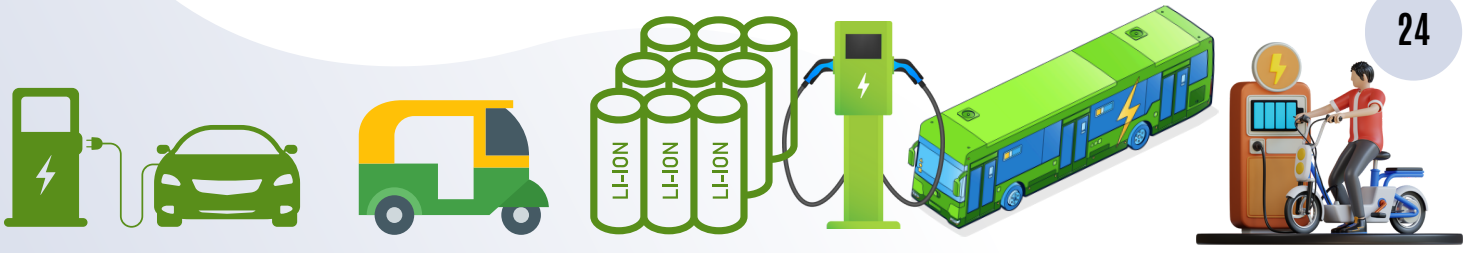
EzUrja Private Limited in collaboration with Andrew Yule & Company Ltd (Govt of India Undertaking) , this cutting-edge facility in Togami, Thakurpukur, hashtag#Kolkata, is a game-changer for the nation's EV ecosystem.

🌍 Key Highlights:

✅ 300 locally developed EV chargers.

✅ Integration of Solar, Wind & BESS for green energy storage

✅ Spanning 2 acres for large-scale, efficient charging



Joint Ventures & Partnerships

Atul Greentech Private Limited (AGPL) - Amara Raja Group

Atul Greentech Private Limited (AGPL) joins hands with the Amara Raja Group in a landmark partnership to develop and supply advanced **Lithium Iron Phosphate (LFP) battery packs and chargers for electric three-wheelers**.- **Low-voltage batteries for automotive applications** The cutting-edge LFP battery packs will be produced at Amara Raja's Giga Corridor in Telangana – a massive **₹9,500 Cr investment** committed to building a sustainable lithium-ion battery ecosystem.

StoreDot

StoreDot strengthens its position as a global leader in **Extreme Fast Charging (XFC) battery** innovation!

Under the new "**StoreDot XFC Shield**" brand, the company has secured a family of critical patents that protect:

- ⚡ **Silicon-carbon anode technology**
- ⚡ **Advanced EV cell architecture**
- ⚡ **Specialized electrolyte formulations**

With **100+ patents** now in its arsenal, StoreDot is poised to revolutionize EV charging by enabling ultra-fast, scalable, and safe battery solutions

Montra Electric - Magenta Mobility

Montra Electric and Magenta Mobility have inked an MoU to deliver 100 units of the **Eviator E350L** – a cutting-edge electric commercial vehicle developed by **Tivolt Electric Vehicles**, Montra's SCV division.

This partnership marks another milestone in transforming India's logistics with cleaner, smarter, and more efficient mobility solutions.

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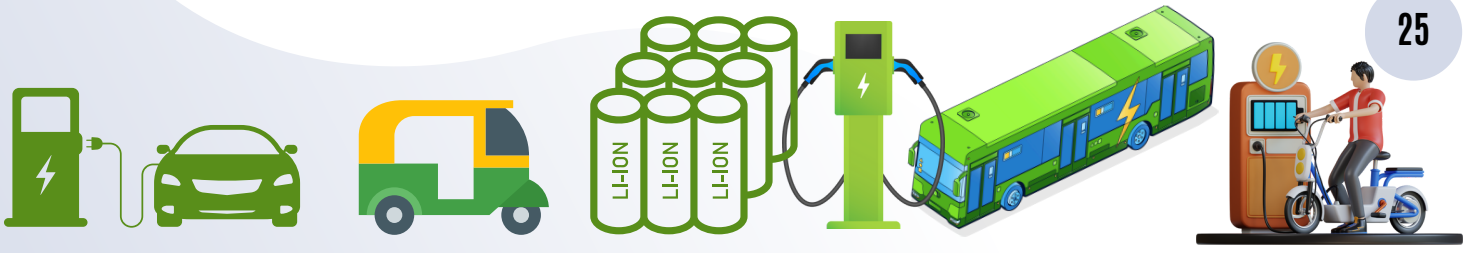


UPCOMING FUTURE MOBILITY EVENTS

PUNE'S ELECTRONICS EXPO 2025
15-16-17 MAY 2025
Auto Cluster Exhibition Center | Pune | India

Electronics ForYou expo PUNE

Green Energy India Expo 2025

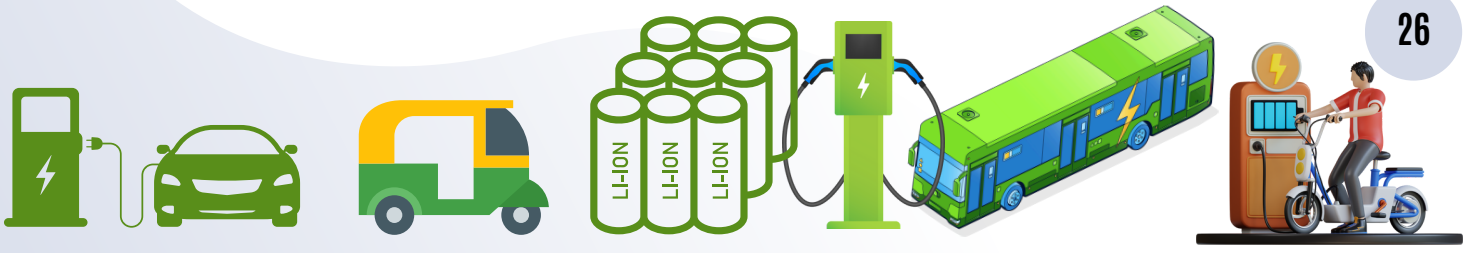
12th, 13th, and 14th June, 2025
at SS Convention Centre in Vijayawada, Andhra Pradesh

GREEN EXPO ENERGY INDIA

7TH EDITION™ GREEN VEHICLE EXPO

22-23-24 MAY 2025

Bangalore International Exhibition Centre, Bangalore



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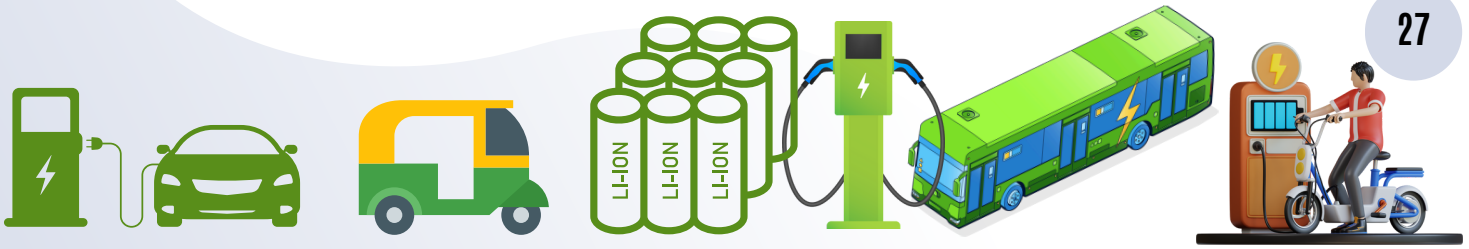


New Launch

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

New Launch

Range Rover Electric

Land Rover Range Rover Electric is expected to be launched in India soon

Performance figures are impressive:

Power: ~542bhp
Torque: 627lb ft
Range: ~300 miles (approx. 480 km)
0–100 km/h: ~4.5 seconds
Pricing: Estimated at £170,000 (approx. ₹1.8 crore)

Bajaj Chetak 3503

The Bajaj Chetak 3503 is the most affordable electric scooter in the 35 series, priced at ₹1.10 lakh. It offers a range of 151 km on a single charge, using the same 3.5 kWh battery pack as other Chetak models, but with a lower top speed of 63 kmph. The scooter is available in four colors: Brooklyn Black, Cyber White, Matt Grey, and Indigo Blue.

- Price: ₹1.10 lakh
- Range: 151 km on a single charge
- Battery: 3.5 kWh
- Charging Time: 3 hours 25 minutes for a full charge
- Top Speed: 63 kmph
- Under-seat Storage: 35 liters
- Colours: Brooklyn Black, Cyber White, Matt Grey, Indigo Blue
- Features: Hill hold assist, color LCD cluster with Bluetooth and music control, call management, Eco and Sports ride modes, LED headlights.

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.

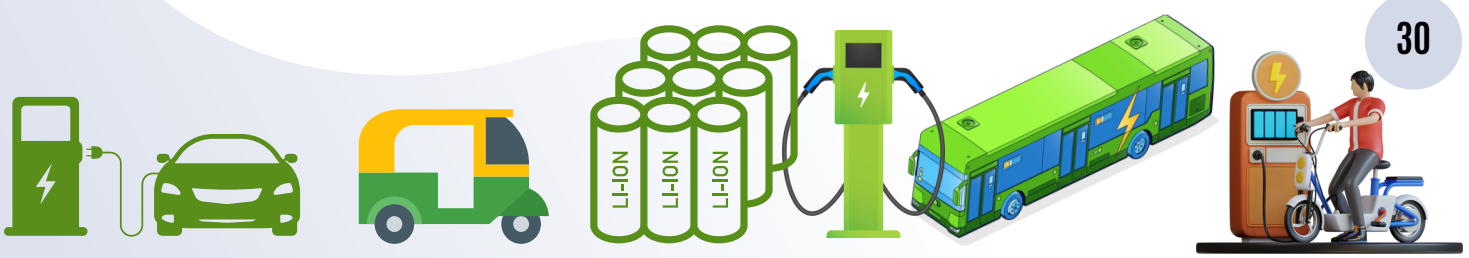
On November 7, 2023, the Ministry of Heavy Industries (MHI) introduced a new phased manufacturing program (PMP) for electric vehicle (EV) charger components under the **FAME India Scheme Phase-II** to boost domestic production. Outlined a comprehensive list of charger components and their timelines for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

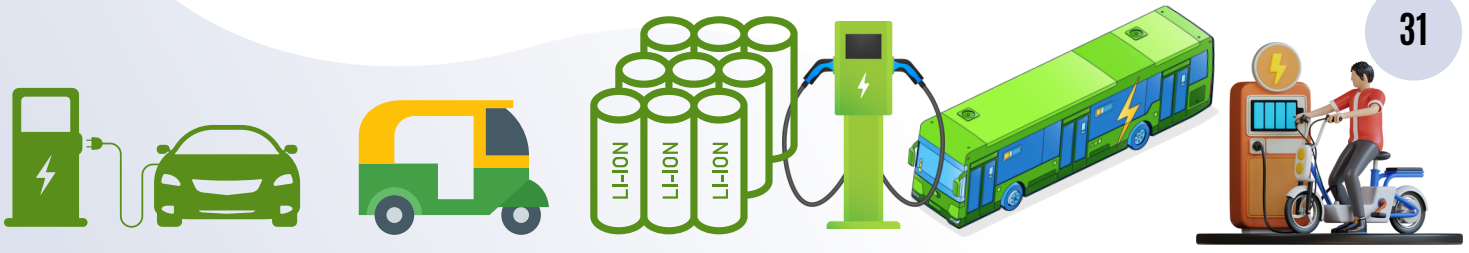
In this article you will get the Idea of EV infrastructure promises a cleaner, more accessible world. Embrace the journey, where every charge fuels not just vehicles, but a greener tomorrow. The road ahead is electrifying, and the future is now.



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



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.**

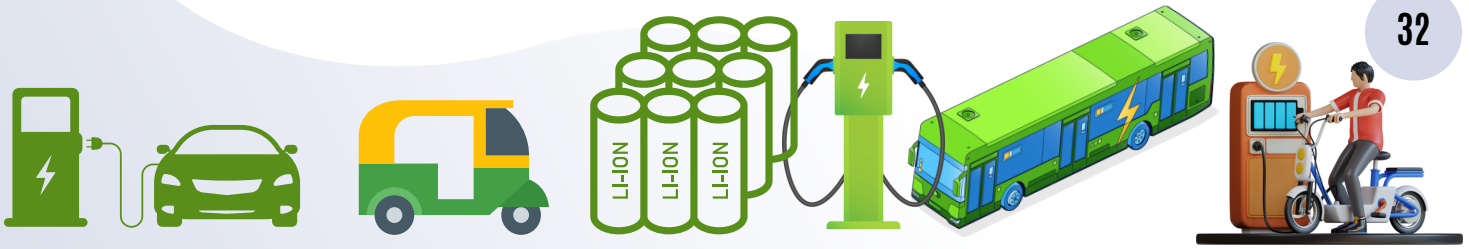
This **compiled report serves as an essential guide** commences with an introduction to **key PCB components, semiconductors**, explaining their role as materials that lie between conductors and insulators. It gets into the atomic structure of semiconductors and the concept of doping, which enhances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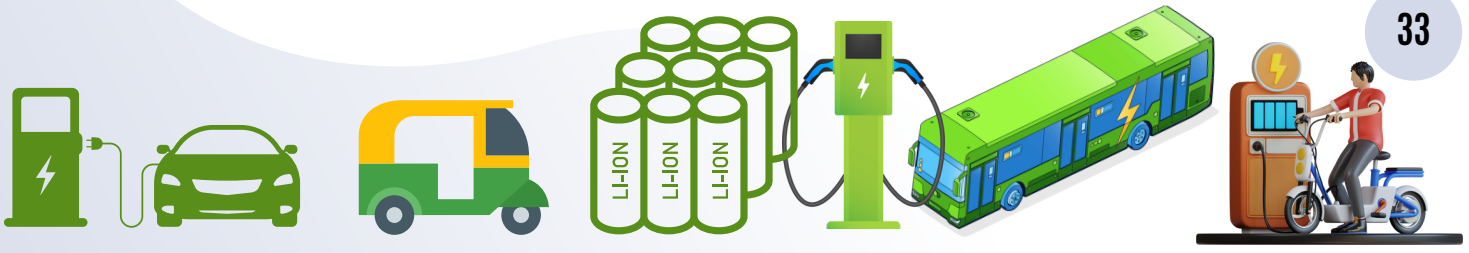

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‘gyaniki’ has evolved as a technology based digital portal platform created for researchers, product developers, industry professionals and academia members with a vision of incremental expansion in bridging the future mobility ecosystem through our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

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- 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.

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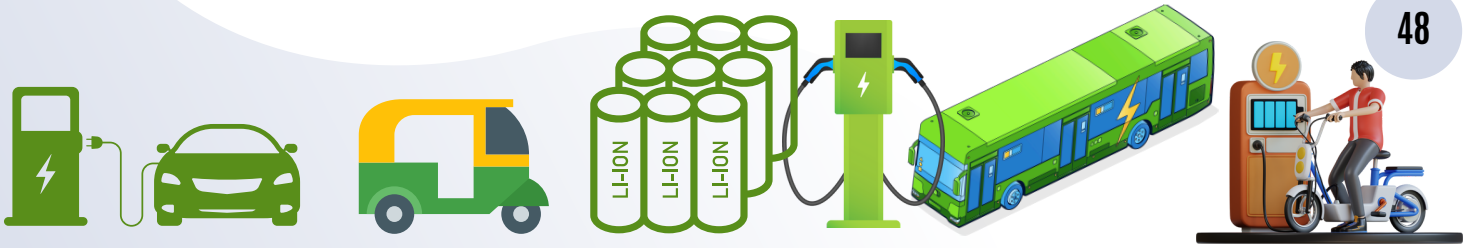

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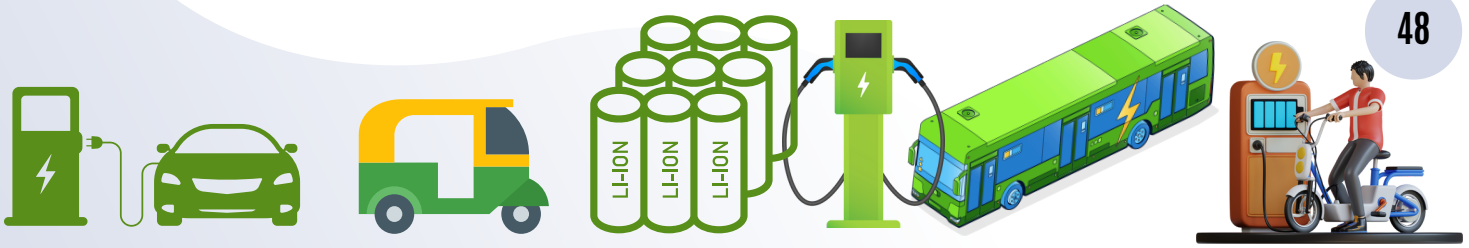

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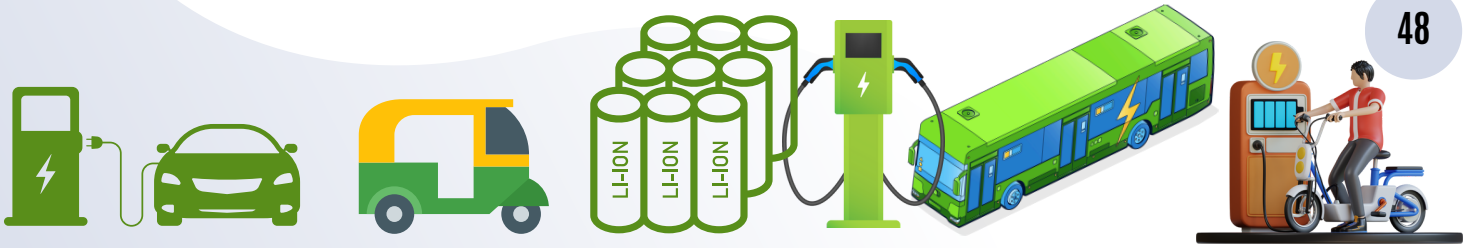

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