EV REPORT DEC 2025

GYANIKI

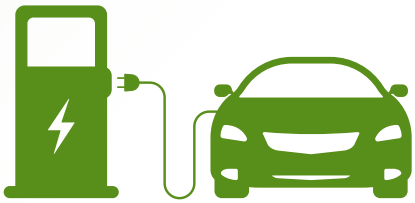
YOUR ACCESS TO FUTURE MOBILITY

EXPANDING ATTACK SURFACE IN CONNECTED VEHICLES

INDIA EV SALES NOV 2025

TOP MONEY MOVEMENT IN MOBILITY WORLD

NEWS, JOINT VENTURES & PARTNERSHIPS



UPCOMING EV SHOW & EXPO

EV LAUNCH

GYANIKI REPORTS

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

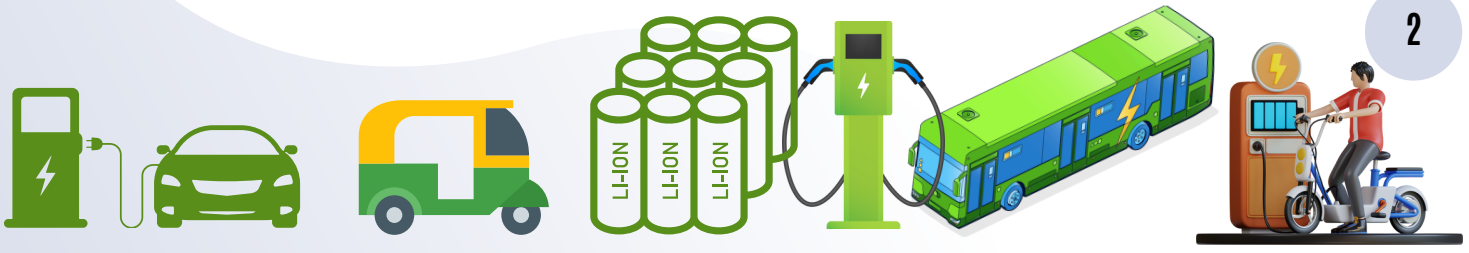
www.gyaniki.com

Gyaniki TECH TALKS - EV Startup Lessons

Team gyaniki hosted an insightful Tech Talk with **Rajeev Ranadive, CMD of Pixy Cars Pvt. Ltd.**, exploring the startup mindset in EV launches, the future of retrofitment EV cars, and innovative waterway mobility solutions.

Topics Covered in gyaniki TECH TALKS Discussion:

- Why every new vehicle launch is like a startup for OEMs
- How OEMs plan and execute model launches
- Identifying “Gaps” in the EV market
- “Differentiation” as the key to success
- Importance of adopting the right technology
- Case studies – Indian Army & Jungle Safari EV Cars: Successes & Lessons Learned
- Upcoming Pixy Cars products for land and waterways mobility
- Emerging Battery Trends & Q&A



List Your Company With gyaniki

LIST YOUR COMPANY
IN JUST ₹1000 PER YEAR

What's for You?

- ✓ Dedicated company page
- ✓ Feature a Company Introduction
- ✓ Highlight Key Products or Services
- ✓ Share Contact Details for Direct Reach
- ✓ Gain visibility among Electric Mobility Enthusiasts, Academia, and Industry Experts

Scan QR to Pay ⇨

gyaniki®

Why list with gyaniki?

- ❖ Appear on a platform dedicated to Future Mobility & EV Innovations
- ❖ Boost your reach with a Targeted, Niche Audience
- ❖ Strengthen your online presence with a Dedicated Listing
- ❖ Join a growing ecosystem of Thought Leaders and Technology Pioneers

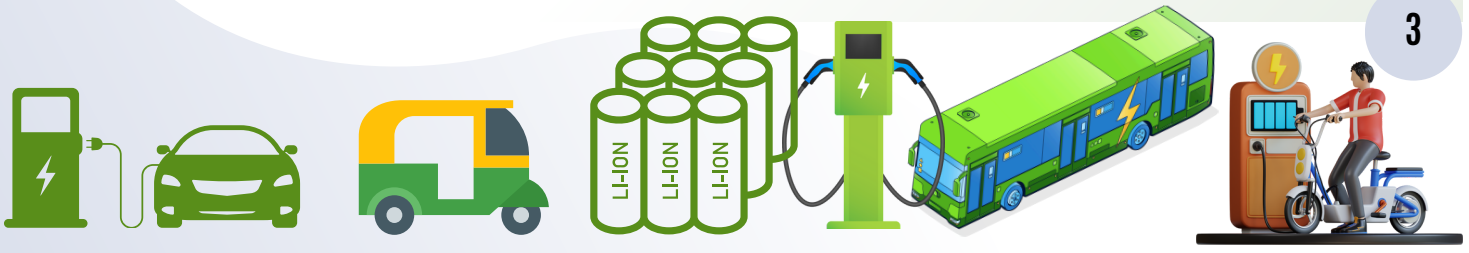
Expand your impact...
Grow your reach...
Dominate your market!

Visit www.gyaniki.com or
Contact for more details:
+91 8080123226
admin@gyaniki.com

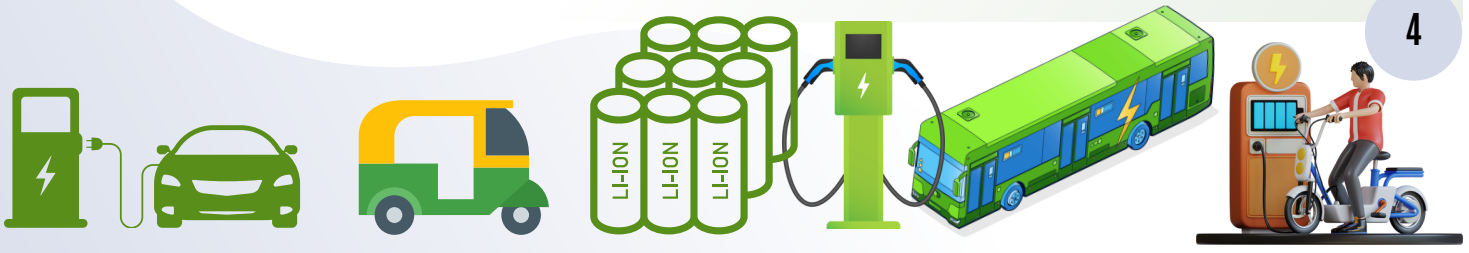
FUTURE MOBILITY PARTNERS

vroomble®
Transformation for Future Mobility

Dedicated platform for technical workforce
EMERGE
A division of Vroomble Services Private Limited



Whats' Inside



Expanding Attack Surface in Connected Vehicles

FUTURE MOBILITY TECHNOLOGY

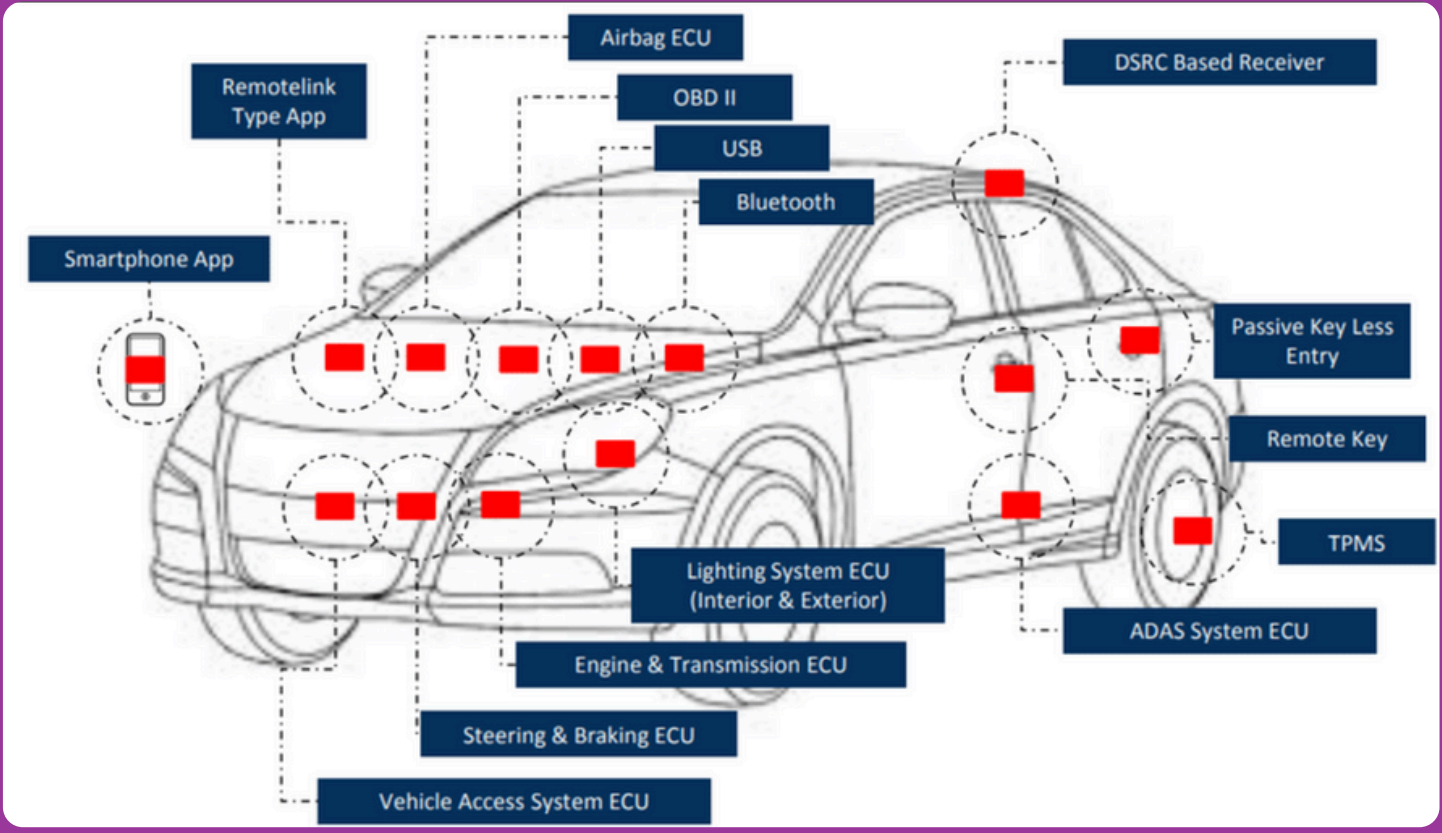
gyaniki

Recent discussions in the automotive industry have highlighted a growing dependence on software-defined capabilities, cloud-based services, and remote update mechanisms. As these technologies expand, one reality has become clear: cybersecurity can no longer focus only on the vehicle itself. The entire digital ecosystem connected to a vehicle now requires equal protection.

Today's vehicles interact continuously with telematics systems, mobile applications, backend APIs, diagnostic tools, cloud platforms, and connected roadside infrastructure. These integrations enable real-time services, efficient updates, improved ADAS performance, and new mobility functions. At the same time, they create a wider set of potential entry points for cyberattacks, significantly expanding the overall attack surface far beyond traditional in-vehicle networks.

Isolated Systems to Fully Connected Digital Platforms

In the past, most vehicle systems operated in isolation with minimal external interaction, making cybersecurity risks limited and often dependent on physical access. Today, connected vehicles introduce multiple digital entry points.



Expanding Attack Surface in Connected Vehicles

Connectivity Component	Examples	Potential Risks
Telematics Control Unit (TCU)	Cellular	Remote vehicle manipulation
Infotainment System	Bluetooth, Wi-Fi, USB	Malware injection, internal network access
Mobile Applications	Remote unlock, vehicle location	Credential theft, spoofing
Cloud Platforms	Analytics, OTA servers	Large-scale fleet attacks
Backend / Partner APIs	Navigation, telematics	Weak integration security
Diagnostic Tools & OBD-II	Flashing, servicing	Firmware tampering, reverse engineering
V2X Communication	V2V, V2I	Spoofed messages leading to unsafe actions

Evolving Cybersecurity Strategy: Vehicle-Centric to Ecosystem-Centric

Traditional cybersecurity efforts mainly focused on securing in-vehicle ECUs and maintaining network separation. However, with increased connectivity, risks now extend across the entire digital ecosystem. Effective protection today requires:

- Secure communication starting from in-vehicle components (like ECUs), through the telematics unit, and all the way to external platforms such as cloud systems, mobile apps, and backend services
- Implementing strong authentication for remote operations
- Protecting V2X communication from spoofing and replay attacks
- Securing diagnostic access points, including OBD-II ports
- Continuously monitoring both vehicle and cloud-based systems for abnormal activity

Expanding Attack Surface in Connected Vehicles

Real-World Incidents That Illustrate the Risk

• Jeep Cherokee Uconnect Hack (2015) Researchers remotely accessed the vehicle using a vulnerability in the cellular-connected infotainment system, manipulating steering and braking.

Lesson: A non-safety system can be used as a gateway into critical vehicle functions.

• Tesla Mobile App Token Exposure (2021–2023) Security researchers demonstrated that if API tokens from Tesla's app were compromised, attackers could execute remote commands like vehicle unlock.

Lesson: Mobile app and cloud interface security are as important as in-vehicle protection.

• Kia & Hyundai API Vulnerabilities (2023) A cybersecurity analyst reported that backend API misconfigurations in manufacturer applications allowed unauthorized users to trigger remote features like engine start and door unlocking.

Lesson: Backend systems and API configurations are part of the automotive attack surface.

How the Attack Surface is Expanding

• Increased Connectivity

Modern vehicles use multiple external wireless interfaces such as Wi-Fi, cellular (4G/5G), Bluetooth, and satellite links. Each of these channels can become an entry point if not securely configured and monitored.

• Highly Networked Internal Architecture

Vehicles now contain dozens of interconnected ECUs. A single compromised ECU or gateway can potentially provide lateral access to other internal systems across the vehicle network.

•Shift to Software-Defined Vehicles (SDVs)

With the transition to SDVs, vehicles now rely heavily on software-based functions, cloud connectivity, and AI-enhanced features. This expands cybersecurity risks beyond physical components to software integrity, data privacy, and authorization control of remote functions.

• Dependence on OTA Updates

While over-the-air updates enable rapid patch deployment and feature upgrades, a compromised OTA process could allow attackers to inject malicious firmware at scale, impacting multiple vehicles or even entire fleets.

• Cloud and Backend Exposure

A significant portion of vehicle data and control capability is now managed through cloud platforms and backend systems. Vulnerabilities in APIs, servers, or remote management interfaces can be exploited to target vehicles indirectly.

• Vehicle-to-Everything (V2X) Communication

As vehicles exchange information with other vehicles and roadside infrastructure, attacke may intercept, replay, or manipulate transmitted data potentially leading to incorrect decision-making or unsafe vehicle behavior.

Expanding Attack Surface in Connected Vehicles

• Supply Chain Risks

The automotive supply chain involves multiple hardware, software, and cybersecurity providers. Hidden vulnerabilities in third-party components or integrations can unintentionally introduce risk into the vehicle ecosystem.

• Emerging Connected Services

Systems such as EV charging stations, smart mobility platforms, and fleet management tools have become extensions of the vehicle network. If compromised, they can act as indirect pathways for cyberattacks.

Mitigation Strategies to Reduce the Attack Surface

1. Security by Design

Cybersecurity must be considered from the concept and design phase. Every connected component and interface should be designed with built-in protection, ensuring vulnerabilities are minimized before implementation.

2. Zero-Trust Communication

Assume that no communication channel is secure by default. Each message, service and device must verify identity and authenticity before exchanging data or commands.

3. Strong Identity and Access Control

Use secure cryptographic keys and digital certificates and manage credentials carefully. This helps ensure that only authorized users and systems can access vehicle functions or connected services.

4. Secure OTA Updates

All over-the-air software updates must be digitally signed and verified for integrity before installation. The update framework should support failure recovery mechanisms such as rollback to retain vehicle functionality if an update is compromised or unsuccessful.

5. Continuous Monitoring

Deploy intrusion detection and anomaly detection systems to monitor vehicle and cloud communication in real time. Early detection of abnormal behavior allows rapid containment and response to cyber threats.

6. Supplier and API Security

Before integrating external components or services, perform risk assessments and dependency validation. Weaknesses in supplier systems, cloud-based APIs, or embedded software can introduce vulnerabilities throughout the vehicle ecosystem.

7. Lifecycle Cybersecurity

Protection must continue after vehicle production and delivery. Ongoing vulnerabili assessments, timely patch deployment, and an established Cyber Incident Response P (CIRP) are essential to ensure long-term resilience.

Automotive Cybersecurity Risk Management Solutions

READY TO IMPLEMENT A CYBERSECURITY MANAGEMENT SYSTEM (CSMS), BUT NOT SURE WHERE TO START?

Our CSMS-ready templates and checklists are built specifically for automotive manufacturers.

- Pre-built templates for every CSMS requirement (aligned with ISO/SAE 21434 & UN R155)
- Confirmation review checklists for TARA, Concept, and Specification phases and other relevant workproducts
- Easy to customize for your processes and team structure
- Simplifies evidence gathering and supports certification readiness

Spend less time on compliance, more on securing your products.
Get your CSMS toolkit and implement effective CSMS.

cyphyi

Bengaluru, KA, India
Austin, TX, USA

YOUR TRUSTED PARTNER IN AUTOMOTIVE CYBERSECURITY COMPLIANCE

Schedule a consulting call at

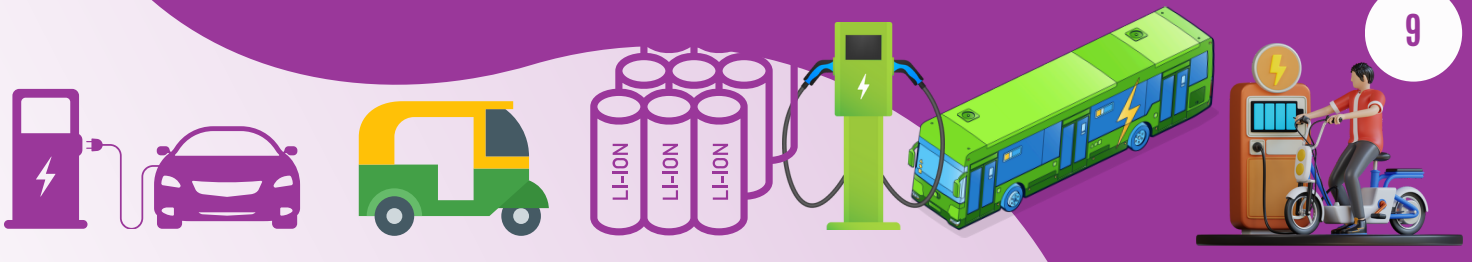
hello@cyphyi.com

www.cyphyi.com

FUTURE MOBILITY PARTNERS

vroomble®
Transformation for Future Mobility

Dedicated platform for technical workforce
EMERGE
A division of Vroomble Services Private Limited

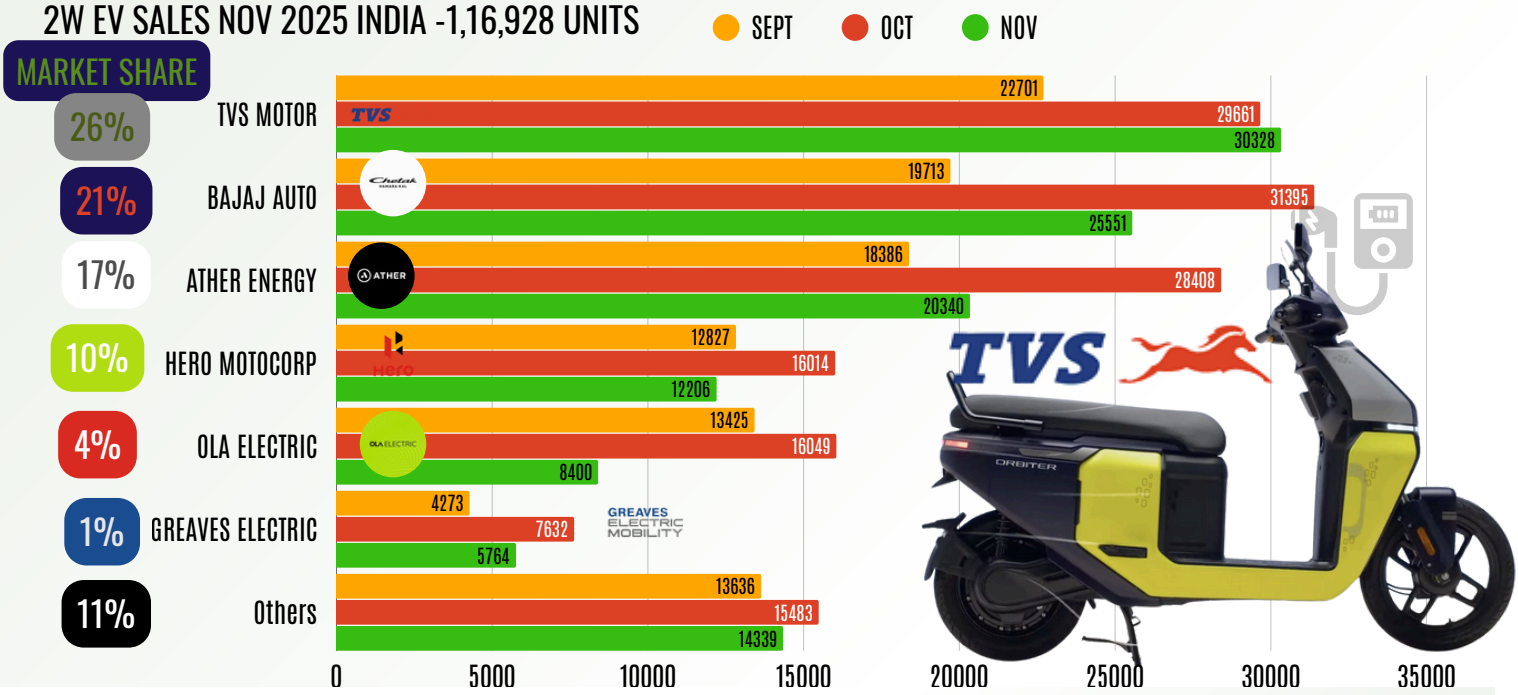


EV Report DEC 2025

gyaniki
www.gyaniki.com

India EV 2W Sales NOV 2025

TOP EV-2W Sales by OEM



India's electric two-wheeler market demonstrated dynamic movement over the last three months, driven by festival-season demand, new model introductions, and competitive pricing strategies. November 2025 ended with 116,928 units, moderating from the October spike but maintaining strong year-on-year momentum. Below is an in-depth analysis for newsletter publication.

India's Two-Wheeler Market NOV 2025

India's electric two-wheeler market closed November 2025 on a steady note, balancing out the festive spike of October while preserving solid year-on-year momentum. Despite a natural market correction, consumer interest remained robust, supported by wider model choices, expanding retail networks, and improving cost economics.

Over the past three months—from September to November—the segment has shown a clear pattern: build-up → festive surge → stabilization. Here's a concise breakdown of how the market performed and what it means for the EV industry's near future.

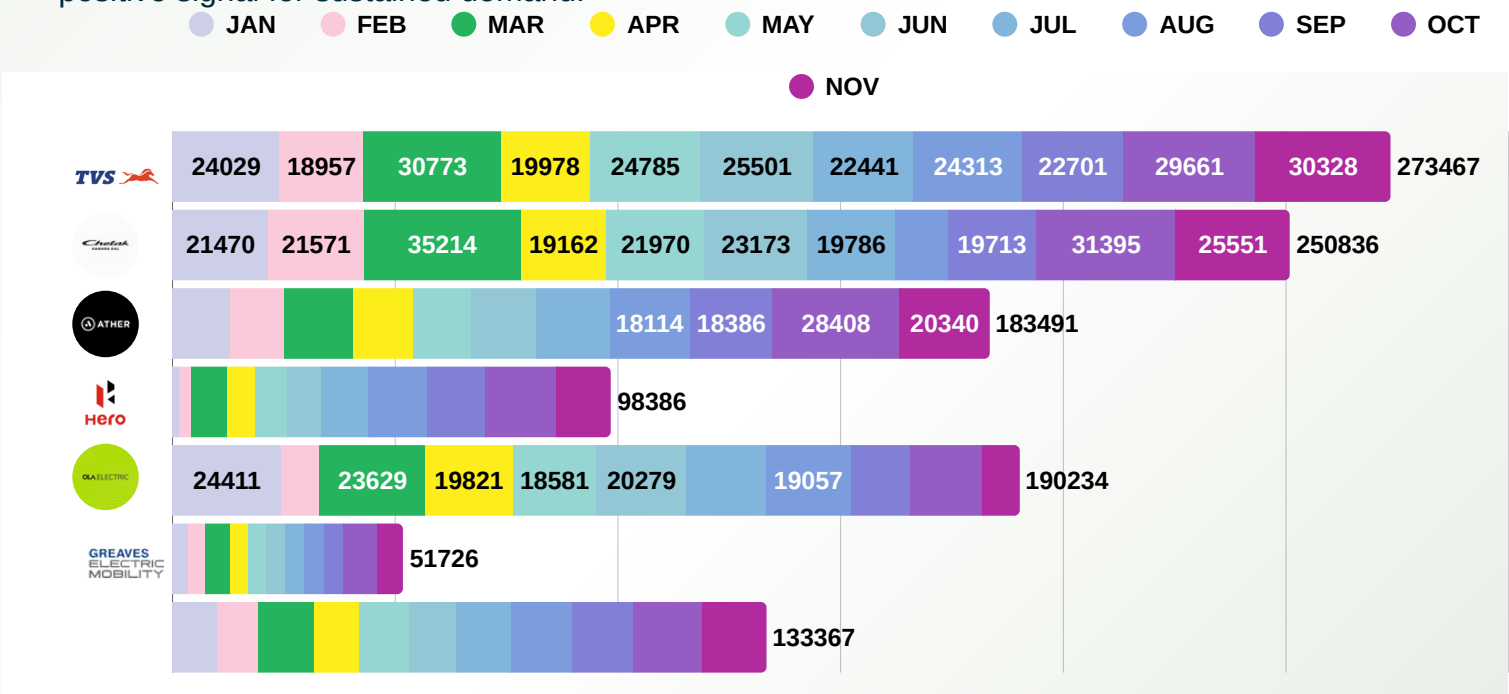
Monthly Sales Snapshot (Sept → Nov 2025)

• September: 104,961 units

• October: 144,642 units (~38% surge during festive demand)

• November: 116,928 units (~19% correction, still higher than September)

Even with tapering after October's peak, the market stayed firmly above pre-festive volumes — a positive signal for sustained demand.



OEM Performance Trends (Month-on-Month)

TVS Motor Company – The Only Player with Positive MoM Growth

Sep → Oct → Nov: 22,701 → 29,661 → 30,328

Bajaj Auto – Strong but Normalizing

31,395 (Oct) peak followed by 25,551 (Nov)

Despite an 18.6% drop, Bajaj maintains a commanding #2 position.

Ather Energy – Market Correction After Festive High

28,408 (Oct) → 20,340 (Nov) (-28% MoM)

Hero MotoCorp – Stable 10–12% Share Band

OLA Electric – Largest Decline

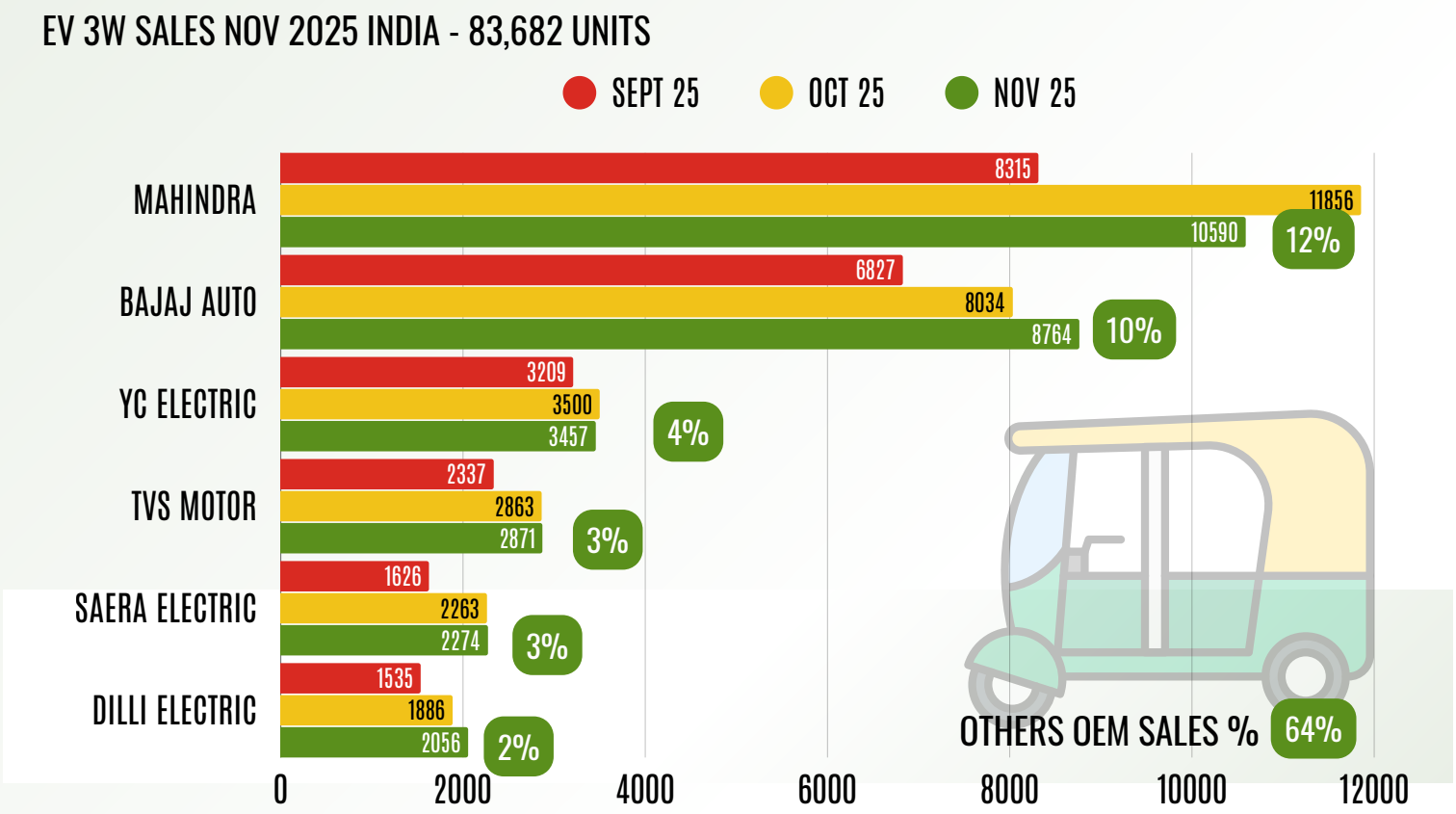
-47.7% MoM, driven by supply constraints and aggressive competition in key metros.

Greaves Electric Mobility – Tier-2/3 Strength

- Seasonal dip but steady demand from value-conscious buyers.

India EV 3W Sales NOV 2025

TOP EV 3W Sales Trend by OEM



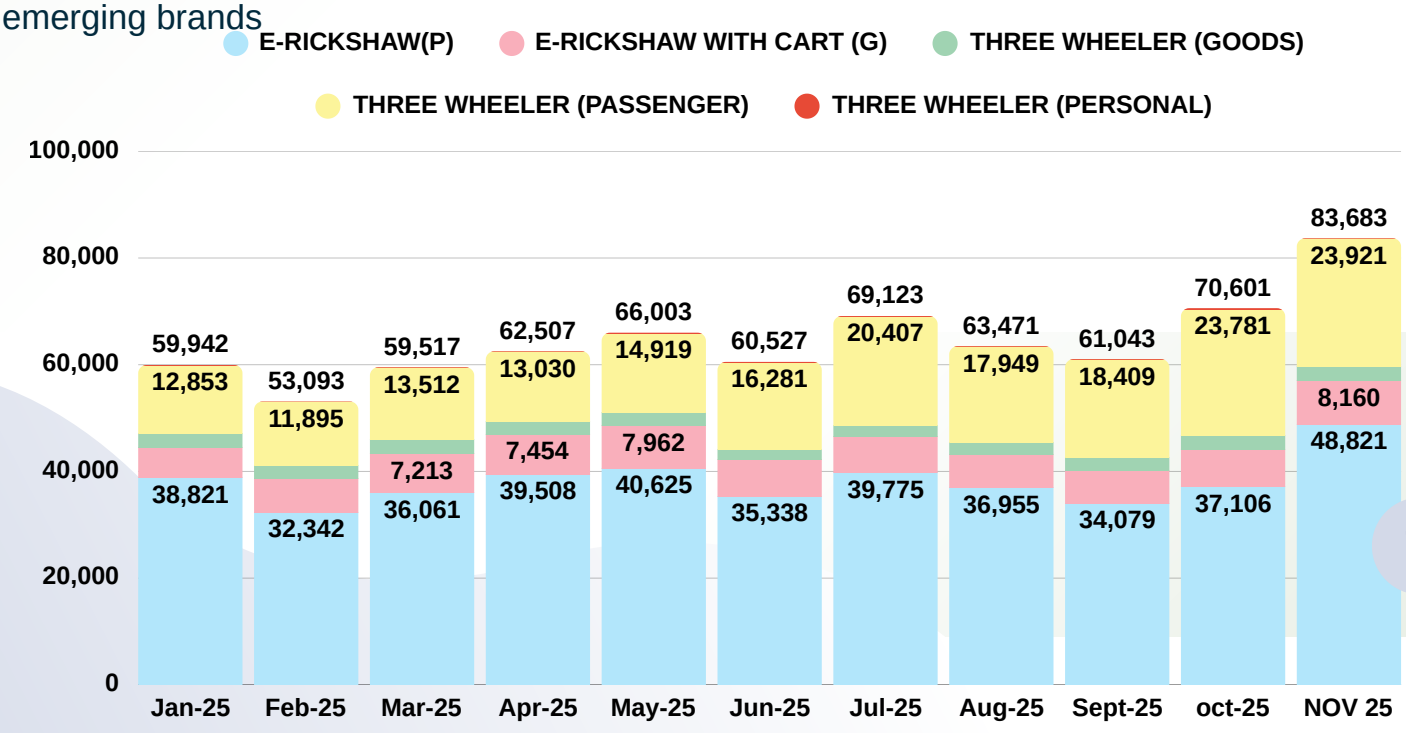
November recorded a remarkable 83,682 units, registering the highest monthly sales in 2025 and a 18.5% MoM growth compared to October (70,601 units).

🔹 Key Highlights for November 2025

Best month of 2025 with 83,682 units sold || +18.5% MoM growth from October ||

Strong demand from logistics, e-commerce fleets, and commercial passenger operators

“Others OEMs” category showed an extraordinary jump, indicating rising traction of emerging brands



India EV 3W Sales NOV 2025

India's Electric 3-Wheeler Market Clocks Its Strongest Quarter of 2025 | November Breaks All Records

November 2025: Highest Monthly EV 3W Sales of the Year

- 83,682 units sold
- +18.6% MoM growth from October's 70,601 units
- 37% cumulative growth in 90 days (Sep–Nov)

The sales spike reflects strong festive-season buying, accelerated fleet renewals, and expanding adoption in micro-logistics and shared mobility segments.

Top 5 OEMs – November 2025 Performance

Mahindra Last Mile Mobility (MLMML) — 10,590 units (12.65%)

Still the market leader despite a dip from October.

Bajaj Auto Ltd — 8,764 units (10.47%)

Showing consistent MoM growth; strong traction in passenger e-mobility.

YC Electric Vehicles — 3,457 units (4.13%)

Stable retail numbers with marginal correction.

TVS Motor Company — 2,871 units (3.43%)

One of the most remarkable YoY performers, emerging rapidly in the mid-premium segment.

Saera Electric Auto — 2,274 units (2.71%)

Bounce back from their September low, gaining steady retail strength.

Segment-Wise Demand Snapshot (Nov 2025)

E-Rickshaw (Passenger): 48,821 units | +31.5% || Largest contributor — nearly 58% of total sales

E-Rickshaw with Cart: 8,160 units | +16.8% || Steady expansion driven by local commerce & courier services

3W Passenger (L5): 23,921 units | +0.6% || Plateauing but consistent, especially in larger cities

3W Goods (Cargo): 2,708 units | +5.7% || Growing gradually with rising adoption in urban logistics

3W Personal: 73 units | -57.8% || Still a niche category

Key Industry Takeaways

1 **Record-Breaking Month for E-Rickshaws ||** Passenger e-rickshaw sales surged past 48,000, reinforcing their dominance in Tier-2 and Tier-3 mobility markets.

2. **Mahindra & Bajaj Strengthen Leadership** || Together, they contribute over 23% of national 3W EV sales, benefiting from nationwide dealer networks and robust after-sales ecosystems.

3. **TVS Shows Highest YoY Momentum** || From 133 units in Jan to 2,871 in Nov—TVS is the fastest-growing OEM in the category.

4. **Fragmentation Continues to Define the Market** || Small and regional manufacturers still hold 64% share, indicating the sector's decentralised growth.

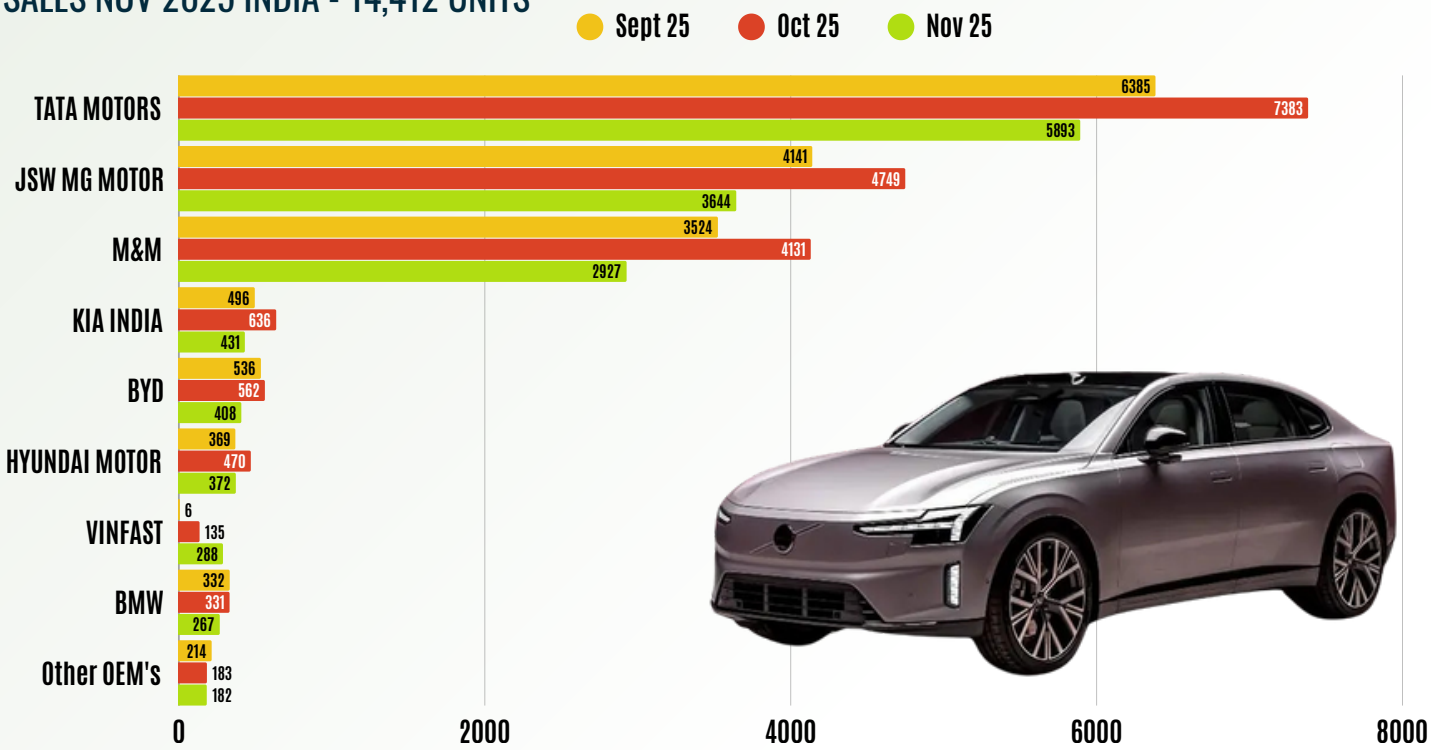
5. **Goods Carrier Segment Grows Steadily** || ith 2,708 units, logistics-focused 3W EVs continue their gradual adoption curve.

gyaniki®
www.gyaniki.com

India EV Sales NOV 2025

EV 4W Passenger Sales Trend by OEM

SALES NOV 2025 INDIA - 14,412 UNITS



The Electric Light Motor Vehicle (E-LMV) segment witnessed dynamic shifts between September and November 2025, marked by new entrants, fluctuating OEM performances, and evolving consumer demand. Total EV sales in November 2025 stood at 14,412 units, reflecting a cooling phase compared to the peak volumes of October 2025.

Tata remains the undisputed volume leader, capturing nearly half of the EV PV market.

E-LMV Sales in NOV 2025 - TATA Leads

India's E-LMV Market Sees Post-Festive Reset | Nov 2025 Sales Dip but Long-Term Trajectory Remains Strong

India's Electric Light Motor Vehicle (E-LMV) market recalibrated in November 2025, showing a natural correction after the festive-season surge. While total sales softened to 14,412 units (down 22.4% MoM from October), the broader industry outlook continues to remain positive with sales still 27% above early-year averages.

November 2025 EV Market Snapshot || Total E-LMV Sales: 14,412 || MoM Decline: –22.4% vs. Oct 2025

Reason for Correction:

- Inventory balancing after festive highs
- OEM supply chain realignment
- Buyers awaiting MY2026 upgrades

Despite the dip, FY25 remains significantly stronger than H1, with +20–25% healthier volumes.

✓ Market Normalization Post-Festive Peak – November's dip is consistent with historical patterns.

✓ VinFast Becomes a Key New Entrant – 113% MoM growth positions it as the fastest-scaling EV brand this quarter.

✓ Tata's Demand Softens Slightly – Still the undisputed leader, but competitive pressure is building from two fronts: MG's stability and Mahindra's upcoming MY2026 launches.

✓ MG & Mahindra Mirror Segment Contraction – Broad-based correction, not brand-specific weakness.

✓ Luxury EVs Stable – Sub-3% share but steady; upgrades expected in Q1 2026 may stimulate interest.

India EV Sales NOV 2025

EV Bus Sales Trend by OEM

India's E-Bus Market Rebounds Strongly in November 2025 — Pinnacle Steals the Spotlight

India's electric bus segment marked a sharp turnaround in November 2025, signaling a renewed push in clean public mobility. The month closed with 367 e-bus registrations, climbing 29.6% over October's 283 units. A strong surge by Pinnacle Mobility Solutions, coupled with steady performance by Olectra Greentech and PMI Electro Mobility, reflects a market transitioning from pilot volumes to scaled public transport electrification.

Monthly Market Snapshot — November 2025

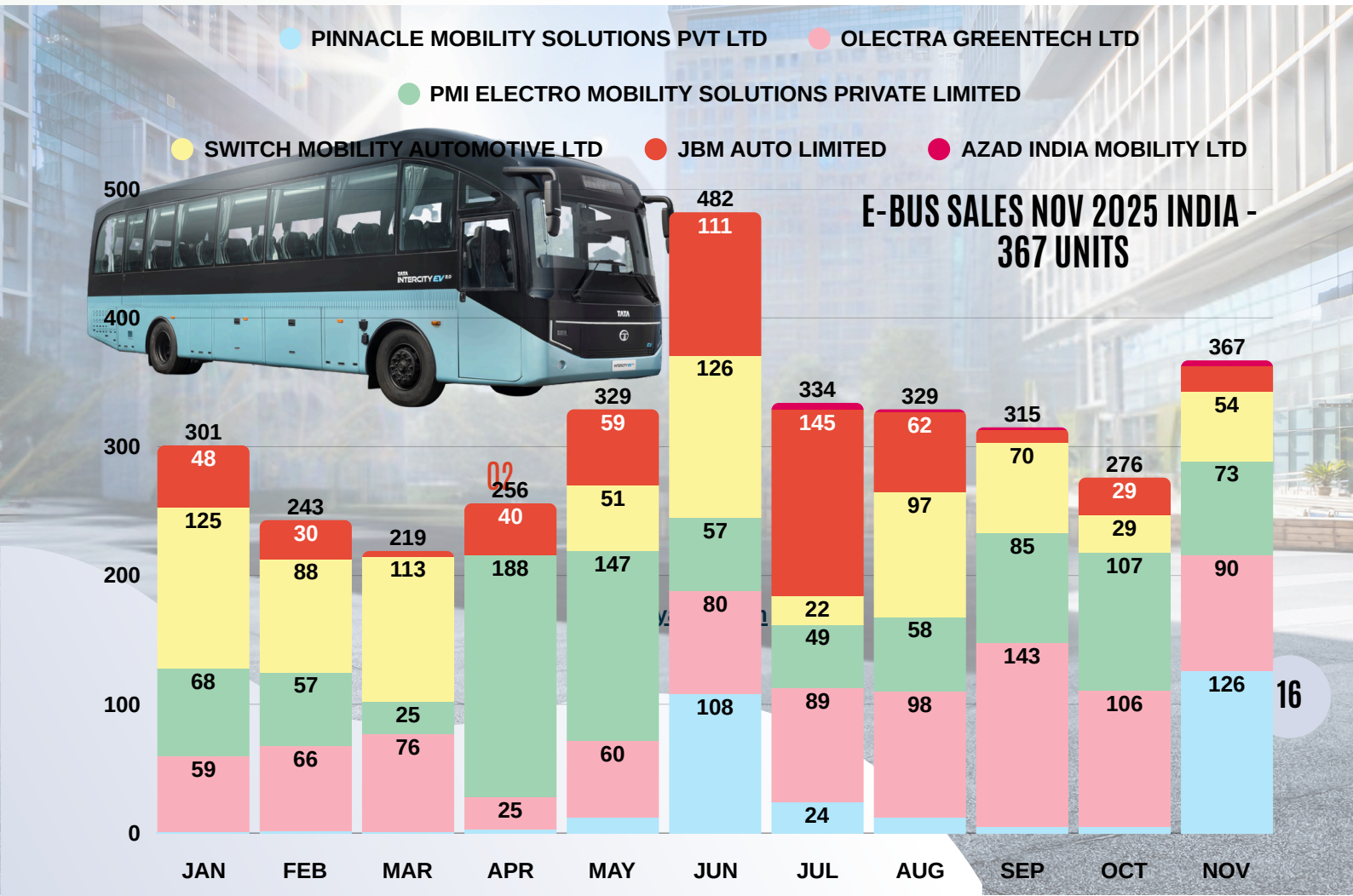
India's e-bus demand strengthened after a muted October, with OEMs clearing pending orders across Delhi, Pune, Bengaluru, and Hyderabad.

Key highlights:

- Total Nov sales: 367 units
- MoM growth: +29.6%
- Demand driven by STU fleet commitments and city-level decarbonization targets

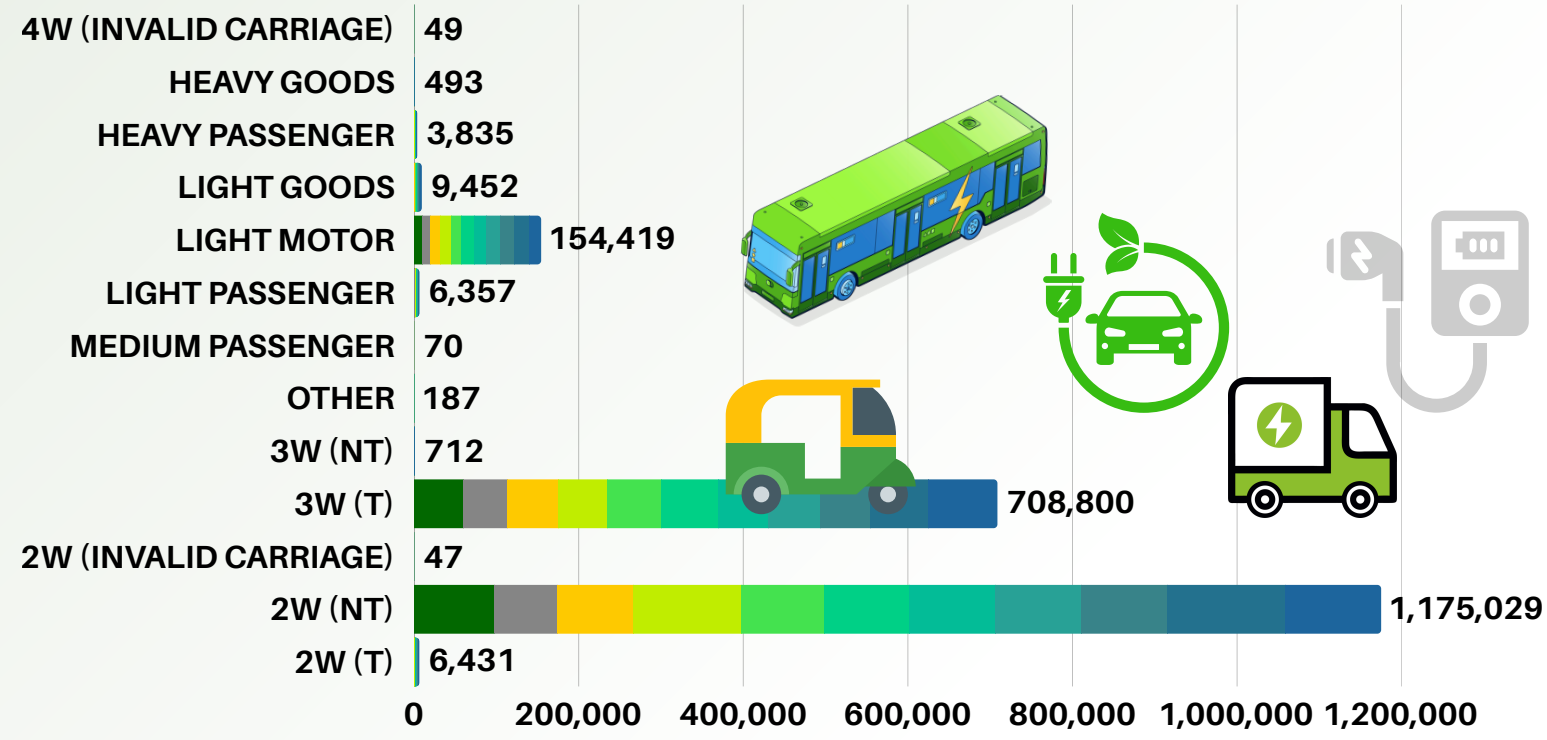
Top 5 OEMs — November 2025 (Market Share %)

Pinnacle Mobility Solutions — 126 units (34.3%)
Olectra Greentech — 90 units (24.5%)
PMI Electro Mobility — 73 units (19.9%)
Switch Mobility — 54 units (14.7%)
JBM Auto — 20 units (5.4%)



India EV Sales Jan - NOV 2025 -Category-Wise

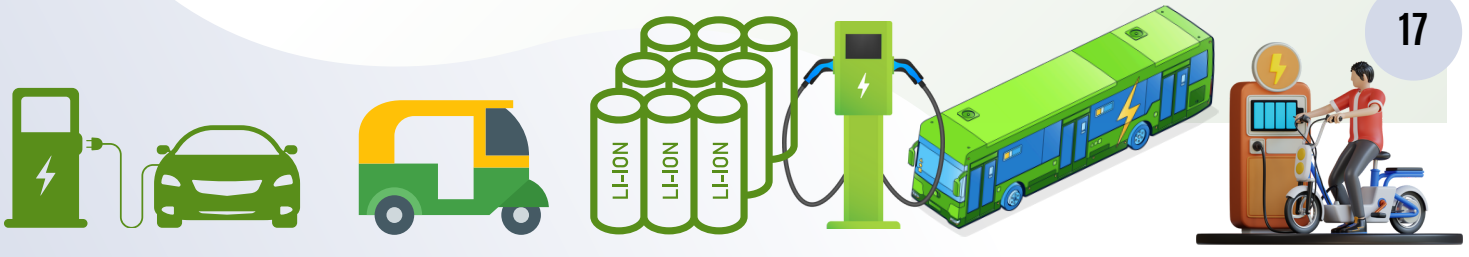
EV SALES NOV 2025 INDIA - 2,17,088 UNITS



As 2025 nears its close, India's electric mobility landscape continues to deliver one clear message — the shift to EVs is no longer a trend, but a structural transformation. November 2025 reflected this strongly, with steady performance across categories and notable surges in commercial EV adoption.

EV Sales Pulse: November 2025 Snapshot

- **Three-Wheelers (T) | 83,609 units** || Still the workhorse of EV adoption — e-rickshaw demand in Tier-2/3 cities continues to outperform expectations.
- **Two-Wheeler (NT) | 1,15,957 units** || A mild seasonal dip, but remains India's largest and most influential EV segment.
- **Light Goods Vehicles | 1,225 units** || Boosted by last-mile logistics and EV fleet expansion by e-commerce players.
- **Light Motor Vehicles | 14,411 units** || Lower than October, but maintaining strong long-term traction throughout 2025.
- **Heavy Passenger Vehicles | 375 units** || A sharp revival as STUs executed EV bus orders in November.



India EV Sales OCT - NOV 2025 -Category-Wise

🏆 **Top 5 MoM Growth Leaders (Oct → Nov 2025)**

1. Heavy Goods Vehicle (HGV) || 98 → 115 units | +108% MoM || Driven by logistics operators accelerating fleet electrification.

2. Two-Wheeler (T) || 622 → 968 units | +55.6% MoM || Delivery and quick-commerce fleet orders contributed to the rebound.

3. Heavy Passenger Vehicle || 290 → 375 units | +29.3% MoM || Backed by rapid EV bus deployment in state transport networks.

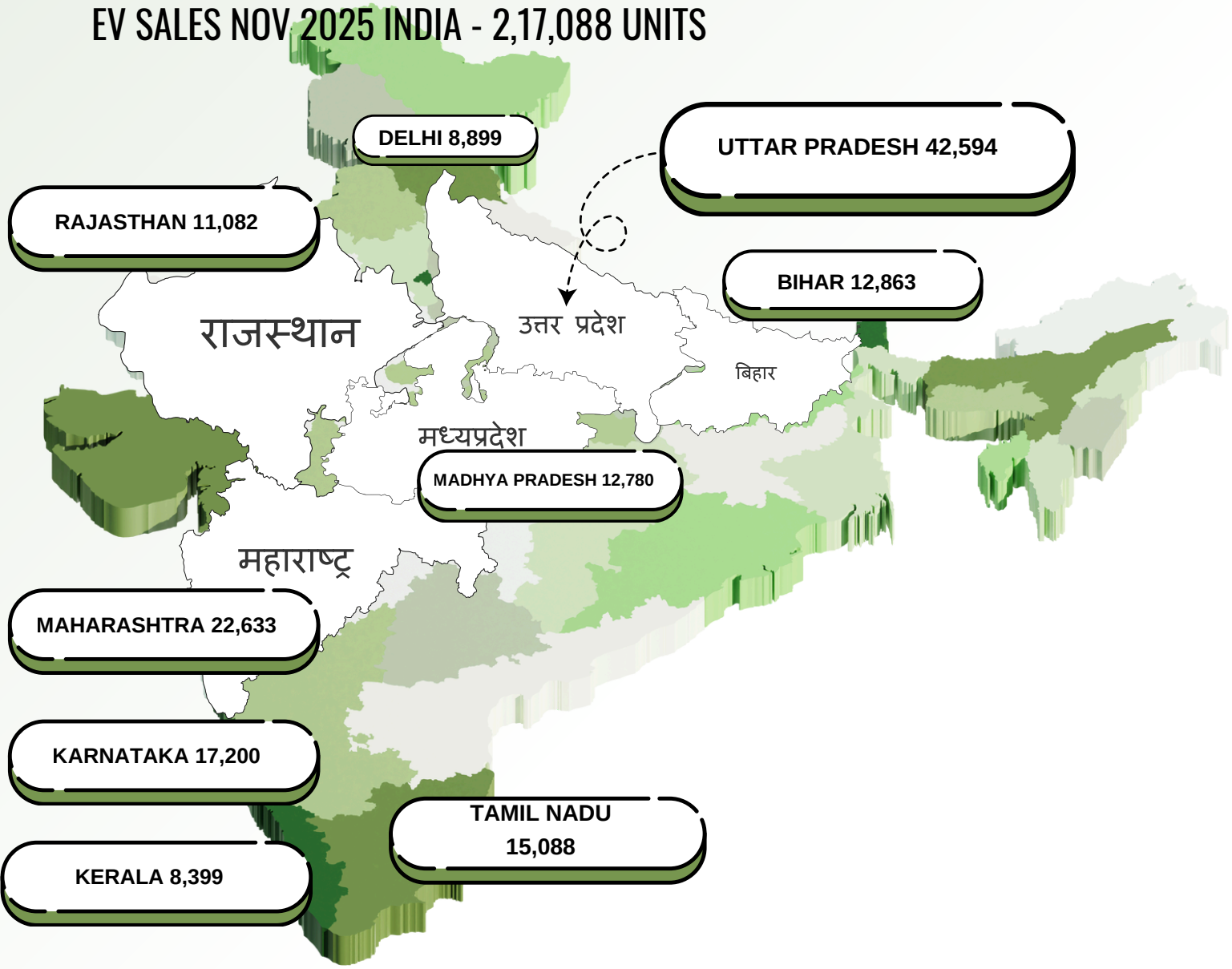
4. Three-Wheeler (T) || 70,428 → 83,609 units | +18.7% MoM || Continued dominance in affordable urban mobility.

Market Share & Emerging Patterns

- Two-Wheelers (NT) retain the largest share of India's EV market.
- Three-Wheelers (T) maintain second place, driven by rural and semi-urban mobility.
- LMV + LGV together indicate the rise of commercial EVs as mainstream.
- Commercial EV segments—HGV, LGV, MPV—outperformed personal segments in MoM growth.
- E-rickshaws remain India's most cost-efficient mobility solution, scaling rapidly across new geographies

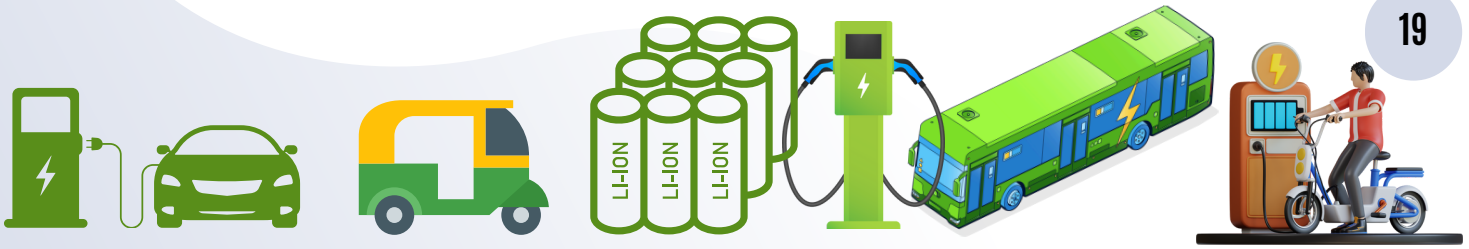
State Wise EV Sales in NOV- 2025

EV SALES NOV 2025 INDIA - 2,17,088 UNITS



India's Electric Vehicle market continued its strong upward trajectory through 2025, recording significant momentum across multiple key states. With November 2025 emerging as one of the highest-performing months of the year, the industry reinforced its rapid shift toward electrified mobility.

A strong rise across high-demand northern and western states — particularly Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, and West Bengal — has reshaped the EV adoption landscape for the year.



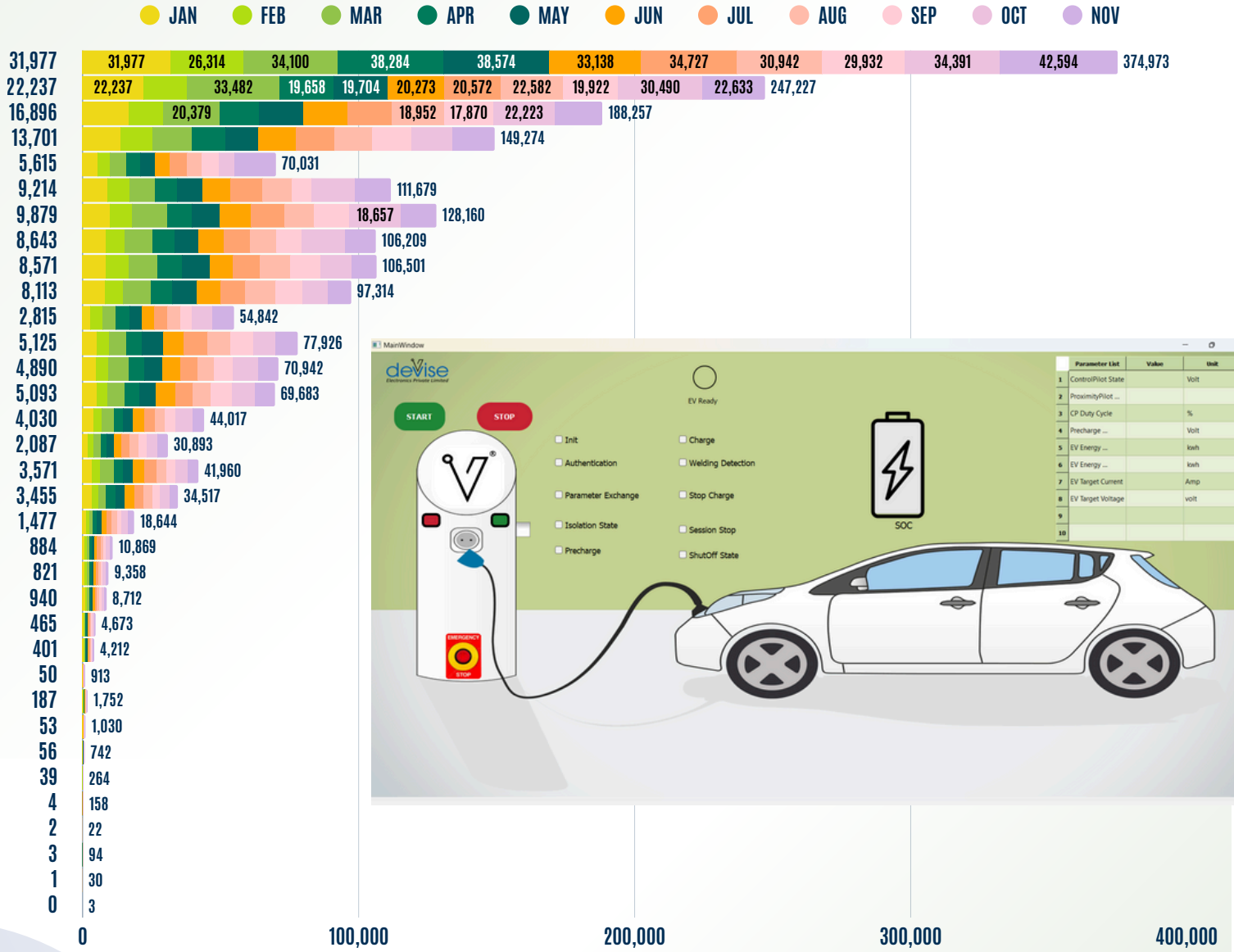
State Wise EV Sales NOV 2025

FUTURE MOBILITY TECHNOLOGY

gyaniki®

www.gyaniki.com

- Uttar Pradesh leads the nation once again with an impressive 42,594 units, its highest monthly sales of 2025.
- West Bengal recorded a surge, posting 14,875 units, nearly 3X higher than October — one of the sharpest jumps of any state.
- Bihar (12,863 units) and Madhya Pradesh (12,780 units) continued to show strong regional adoption.
- Maharashtra recorded 22,633 units, showing steady but fluctuating performance compared to October's peak.



www.gyaniki.com

State Wise EV Sales JAN - NOV025

FUTURE MOBILITY TECHNOLOGY
gyaniki®
www.gyaniki.com

Top MoM Growth Performer — West Bengal Leads the Charge

Based purely on data-validated MoM growth:

West Bengal: +166% || 5,588 → 14,875 units — Driven by explosive demand in E2W and stronger state incentives.

Other states showed steady or corrected performance:

- Andhra Pradesh: +8% (7,266 → 7,879 units)
- Uttarakhand: Steady (2,223 → 2,223 units)

Some northeastern states saw marginal corrections but maintained stable yearly adoption.

📍 **Market Share Leaders (Jan–Nov 2025)**

The top EV-adopting states continue to command a major share of India's electrified mobility landscape:

Uttar Pradesh: 370,968 units
Maharashtra: 248,227 units
Karnataka: 188,257 units
Tamil Nadu: 149,274 units
Bihar: 111,788 units

Together, these five states contribute more than 51% of India's cumulative EV sales in 2025.

National Trends Worth Watching

- **UP remains India's EV epicenter for the 11th straight month, driven by strong adoption of E2Ws and L5 cargo vehicles.**
- **West Bengal's breakout growth signifies rising affordability and improving dealer networks in the east.**
- **Tier-2/Tier-3 markets — including Bihar, MP, Rajasthan — are now shaping India's next wave of EV demand.**
- **Southern states (KA, TN) maintain consistent momentum backed by manufacturing ecosystems and fleet electrification.**
- **Delhi stabilizes with controlled YoY penetration amid policy recalibrations.**
- **Smaller regions such as Meghalaya, Manipur, Mizoram show encouraging micro-market expansion, especially in last-mile mobility.**

SkillCircuit ProLab by Devise Electronics

Empowering Future Mobility: The Launch of SkillCircuit ProLab by Devise Electronics

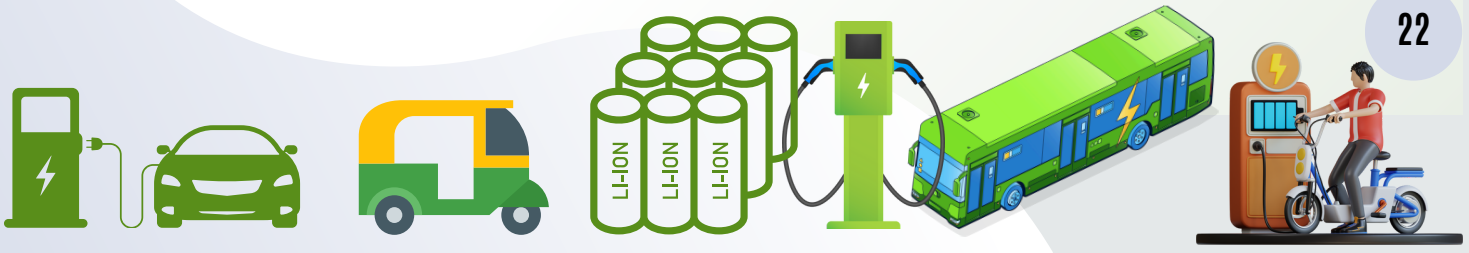
Enabling Action-Oriented Learning for Advanced EV Technologies and ADAS through SkillCircuit ProLab

The future of mobility hinges on innovative skill development, and the electric vehicle (EV) sector is at the forefront of this transformation. Devise Electronics inaugurated their cutting-edge SkillCircuit ProLab, a visionary step in turning theoretical knowledge into practical, action-oriented learning. Hosted with the honor of eminent industry leaders from Tata Motors Passenger Vehicles, Dr. Ranga Srinivas Gunti and Sneha Nair, this launch amplifies the critical intersection of learning, ideation, and real-world application for the EV industry.

SKILLCIRCUIT
PROLABS
POWERED BY DEVISE ELECTRONICS

What SkillCircuit ProLab Offers:

- Hands-on learning and development in EV design and components
- Advanced Driver Assistance Systems (ADAS) and Edge AI technologies
- Benchmarking, teardown analysis, and costing studies in EVs
- Quality and root cause investigations for automotive excellence
- A collaborative ecosystem for companies seeking R&D and technical expertise



SkillCircuit ProLab by Devise Electronics

Why This Matters for Future Mobility

The EV sector is evolving at a rapid pace with demand for a workforce proficient not only in traditional automotive skills but also in electronics, AI, and software. NITI Aayog forecasts a need for over 10 million skilled EV workers by 2030, emphasizing major skill gaps in Battery Management Systems, Power Electronics, and ADAS technologies. SkillCircuit ProLab's hands-on approach equips engineers and technicians with real-time problem solving and innovation capabilities, vital for the upcoming surge in EV production and services.

The Role of ADAS and Edge AI

The integration of ADAS in EVs is revolutionizing vehicle safety and autonomy. The global Edge AI market for ADAS is projected to reach over $1.2 billion by 2025, driven by capabilities like object detection, lane keeping, and adaptive cruise control. The ProLab's focus on these emerging technologies promises to nurture experts who will lead the transition to smarter, safer, and more autonomous electric vehicles.

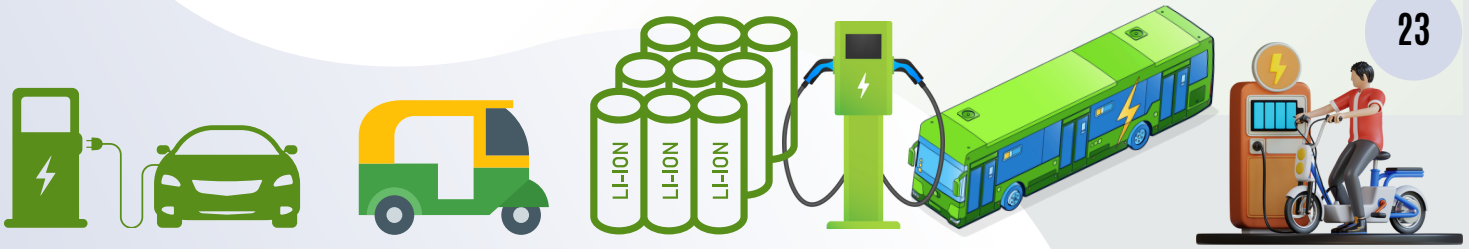
Shaping India's Electric Mobility Workforce

India's EV ambitions demand training ecosystems that foster innovation, inclusivity, and industry collaboration. SkillCircuit ProLab reflects this vision by providing an industry-ready platform that aligns with government and industry goals to close the skill gap. Through collaborations with OEMs like Tata Motors, aspiring professionals will gain exposure to next-gen automotive technologies and quality standards.

FUTURE MOBILITY PARTNERS

vroomble®
Transformation for Future Mobility

Dedicated platform for technical workforce
EMERGE
A division of Vroomble Services Private Limited



IPTIF, in collaboration with Devise for EV Talent Development

IPTIF, Devise Electronics, and LFEI Unite to Empower Students & Professionals in Electric Vehicle Service and Maintenance

In a significant step towards building skilled talent for India's booming electric vehicle sector, IPTIF, in collaboration with Devise Electronics Pvt. Ltd., Pune, and Little Flower Engineering Institute (LFEI), Kochi, has announced the launch of the Certificate Training Programme in Electric Vehicle (EV) Service & Maintenance.

With a 360-hour, hands-on, offline training programme, this initiative is designed to equip students, professionals, and career enthusiasts with practical expertise and industry-ready skills in the fast-evolving world of EV technology.

Key Highlights of the Programme

- Comprehensive EV Training: Focus areas include EV architecture, diagnostics, troubleshooting, battery management systems, and overall service workflows.
- Dual Certification: Participants receive nationally recognized, industry-validated certification, boosting credibility and employability.
- Placement Assistance & Industry Connect: Direct engagement with EV manufacturers, service centers, and mobility innovators, ensuring career pathways in a competitive market.
- State-of-the-Art Facilities: Training delivered at well-equipped centers in Kochi an Coimbatore ensures experiential, practical learning on real EV systems.

SITARC EV Foundation and Devise Electronics Forge Strategic Partnership

Why This Collaboration Matters

The electric vehicle market in India is projected to grow exponentially over the next decade, with industry estimates predicting that EVs could account for 30%–40% of all vehicle sales by 2030. A transformation of this scale demands not only robust manufacturing infrastructure but also a trained workforce capable of maintaining, servicing, and innovating within EV ecosystems.

By joining forces, IPTIF, Devise Electronics, and LFEI are creating a holistic bridge between academic learning and industry application. This programme not only prepares participants for immediate job opportunities but also positions them for long-term growth in a sector that rewards technical mastery and adaptive thinking.

Opportunities for Students and Professors

This initiative opens doors for students, professors, and academic institutions in several ways:

- **Curriculum Integration**: Professors can align academic coursework with industry-led EV service training to give students practical exposure.
- **Skill Enhancement**: Students can acquire specialized EV skills that are in high demand, making them competitive for placements both in India and abroad.
- **Research Collaboration**: Faculty members can partner with industry experts to engage in applied research in battery systems, diagnostics, and green mobility innovations.
- **Career Tie-Ups**: Institutions can establish lasting relationships with the EV industry, ensuring a consistent talent pipeline.

If you are a student or educator looking to be part of the green mobility revolution, this is your moment. Participating in programmes like these can supercharge your career trajectory, enhance your employability, and place you at the heart of the EV transformation story.

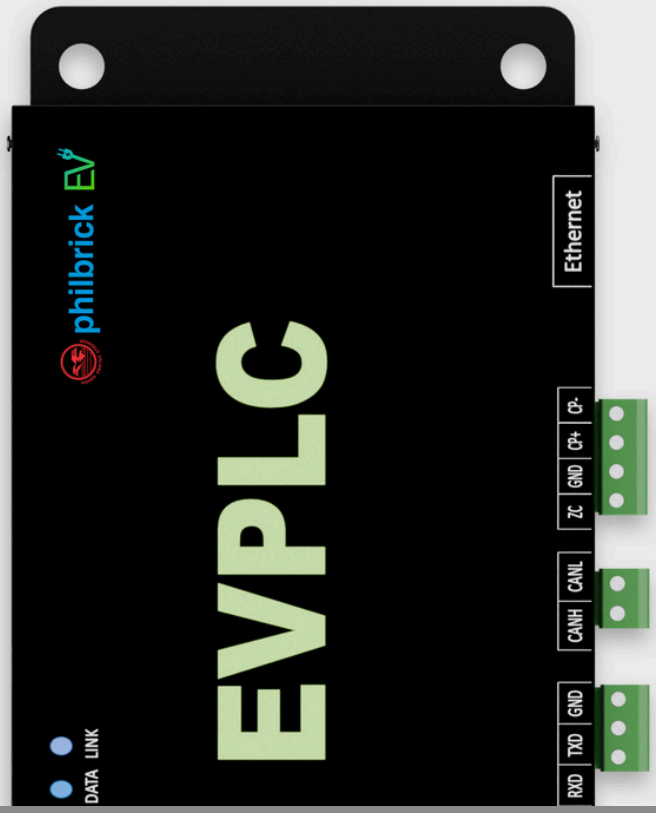
The collaboration between IPTIF, Devise Electronics, and LFEI sets a powerful precedent — blending cutting-edge technology, practical training, and career enablement. As an editor in the future mobility space, I see this as an exemplary model for how industry and academia should work together to make India ready for the sustainable transport era.

philbrick EV

www.ev.philbrickindia.com

New Product Launch

Introducing our latest innovation



sales@philbrickindia.com

https://ev.philbrickindia.com

FUTURE MOBILITY PARTNERS

vroomble®
Transformation for Future Mobility

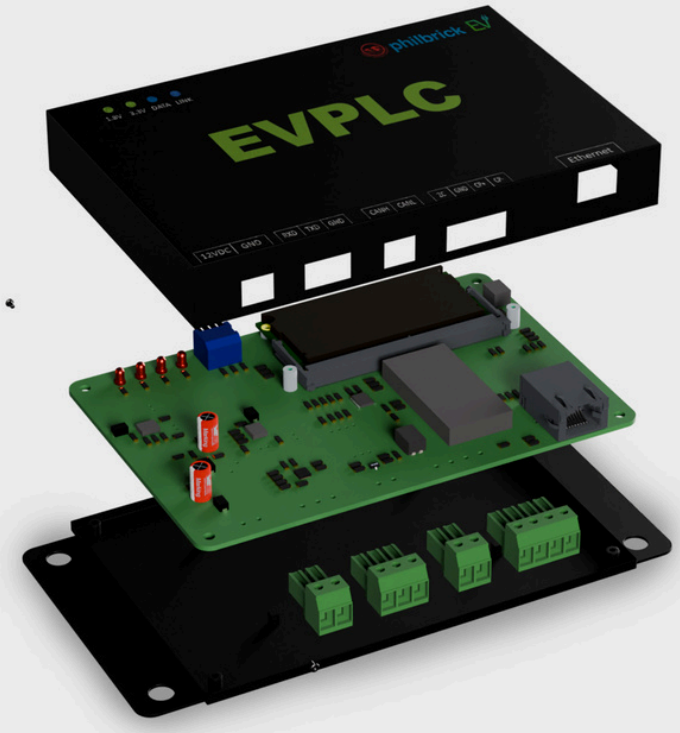
Dedicated platform for technical workforce
EMERGE
A division of Vroomble Services Private Limited

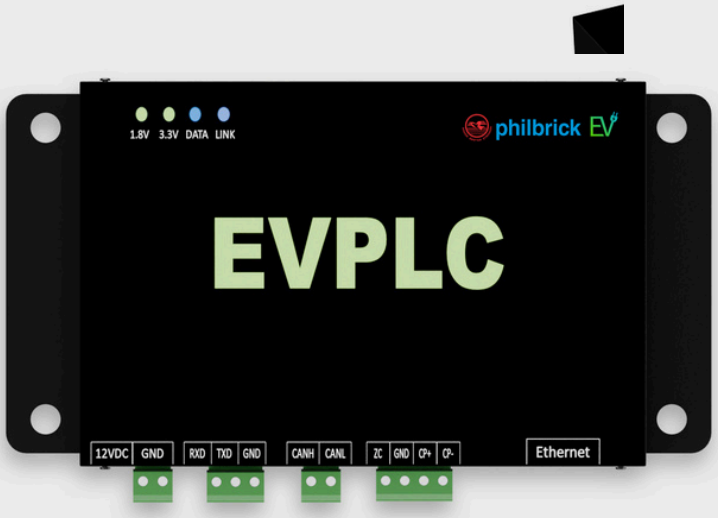
EVPLC By PhilbrickEV

philbrick EV

CONTACT US

+91 9978986631
sales@philbrickindia.com
https://ev.philbrickindia.com





philbrick EV

EVPLC Modem

POWERLINE COMMUNICATION FOR EVSE SUPPORTING DC EV CHARGING– FULLY COMPLIANT WITH ISO 15118 AND DIN SPEC 70121 STANDARDS

FUTURE MOBILITY PARTNERS

vroomble® Transformation for Future Mobility

Dedicated platform for technical workforce
EMERGE
A division of Vroomble Services Private Limited

Top Money Movement

3ev Industries

Bengaluru-based electric vehicle OEM 3ev Industries has taken a major step forward, locking in a ₹120 Crore Series A commitment, with Mahanagar Gas Limited (MGL) leading the round. The investment marks a significant cross-sector collaboration between clean mobility and India's natural gas ecosystem—highlighting the evolving shift toward multi-energy mobility platforms.

Ultraviolette Automotive

Ultraviolette Automotive has raised a fresh $45 million (Series E) round, bringing Zoho and Lingotto onboard as new strategic investors—marking another strong vote of confidence in India's premium electric mobility ecosystem. This comes shortly after the $21 million investment from TDK Ventures, strengthening the company's momentum as it scales for domestic and global growth.

Xbattery Energy

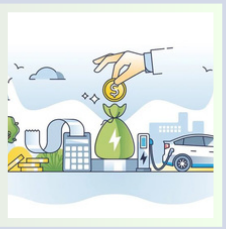
Xbattery Energy Private Limited, a Hyderabad-based startup building advanced Battery Management Systems (hashtag#BMS), has successfully raised USD 2.3 Million in a seed round, led by Bipin Patel Family Office with participation from Jhaveri Credits.

Top Money Movement

Chara Technologies

Chara Technologies has raised INR 52 crore (USD 6 million) in a Series A round led by Arkam Ventures, with participation from Exfinity Venture Partners, Kalaari Capital, and IIMA Ventures.

The funding will support the establishment of a state-of-the-art testing and validation facility in Bengaluru, reinforcing India's leadership in sustainable and indigenous motor technologies.



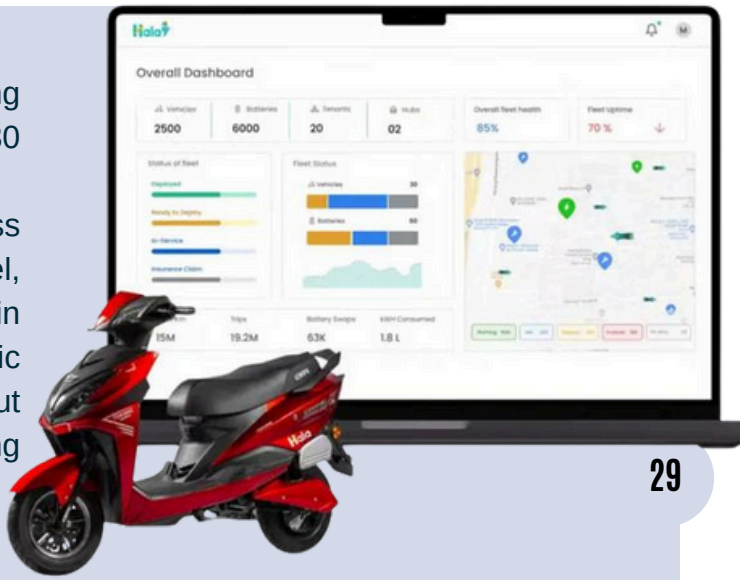
NVIDIA

Autonomous vehicle startup Wayve has taken a bold step forward in its long-standing alliance with NVIDIA, announcing a letter of intent to evaluate a $500 million strategic investment in its upcoming funding round.

Hala Mobility

Hala Mobility—one of the country's fastest-growing electric fleet operators—has successfully raised ₹30 crore to accelerate its next growth phase.

The company aims to expand its EV fleet across major cities through a franchise-based model, empowering local entrepreneurs to participate in India's green mobility revolution. This strategic approach not only strengthens fleet accessibility but also supports the nation's broader goal of transitioning towards sustainable and shared mobility.



Top Money Movement

BillionE Mobility

BillionE Mobility has locked in 250+ long-term contracts to deploy medium- and heavy-duty electric trucks (12T to 55T GVW) across industries like:

📦 E-commerce | 💊 Pharma | 🧱 Cement | 🏗️ Steel | 🧴 FMCG | 🚗 Automotive | 🌐 Global Logistics

✅ Currently operating 60+ heavy-duty e-trucks

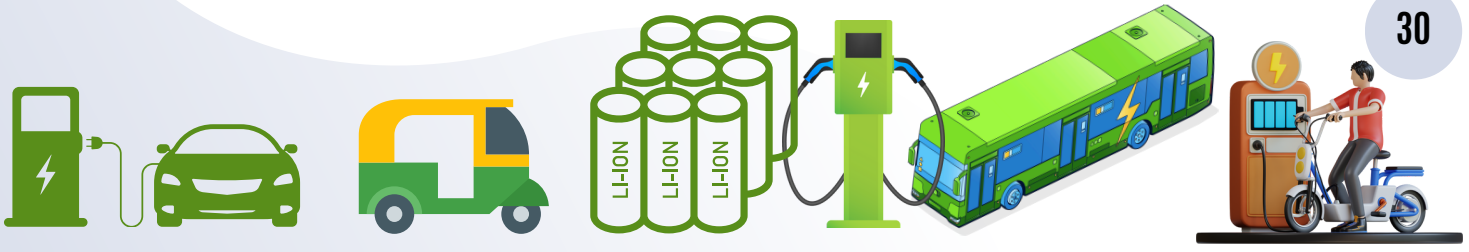
✅ Backed by **$10 million** in seed + debt funding, and now raising $15M Pre-Series A

✅ Integrated ecosystem powered by ChargeZone

✅ Tapping into the ₹500 Cr PM E-DRIVE subsidy program — up to ₹9.6L per e-truck 💰

Volt14 Solutions

Volt14 Solutions has successfully **raised $1.87M in a Pre-Series A round** led by Blume Ventures, with strong backing from Beyond NEXT VENTURES., Spectrum Impact, Supermorpheus, and Cocoon Capital – taking their total funding to **$4.02M**!

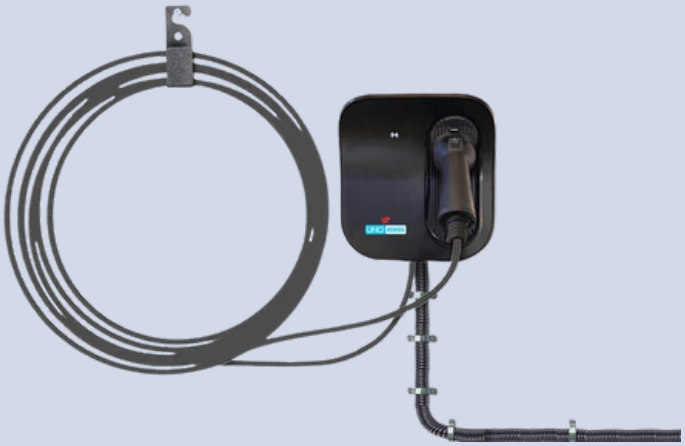


EV NEWS

Uno Minda

Uno Minda has stepped forward with a feature-rich Car EV Wall Charger aimed at simplifying and enabling reliable home charging for EV owners across the country.

The new wall-mounted charger delivers 7.4kW AC single-phase output, supports Type 2 connectors, and is equipped with smart connectivity features—bringing OEM-grade charging technology to residential users at an accessible price point.



Varroc Engineering

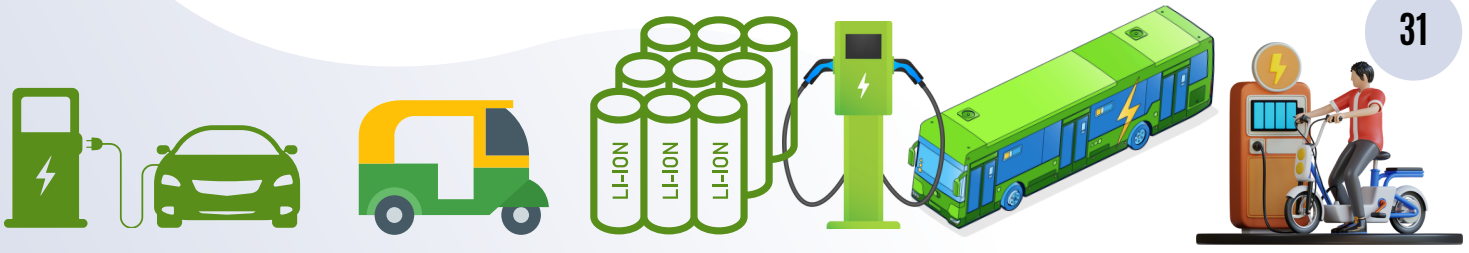
Pune-based Tier-1 supplier Varroc Engineering has secured a significant multi-year contract from a global EV OEM to deliver high-voltage electronics for next-generation e-powertrain systems. The 8-year agreement marks one of the company's strongest strategic wins in the EV components domain.

The production will be executed from Varroc's Romania facility, which has been aligned to meet global quality benchmarks and will scale up to a peak annual capacity of ₹8,000 crore worth of high-voltage electronics.

Mahindra

Mahindra has taken a decisive step toward strengthening India's long-distance EV ecosystem with the launch of its Charge_IN ultra-fast charging network, featuring 180 kW high-power chargers strategically placed across national highways.

The company plans to deploy 250 stations, creating 1,000+ fast-charging points by 2027, marking one of the most ambitious OEM-led infrastructure expansions in the country.



EV NEWS

Maxvolt Energy

Ghaziabad-based Maxvolt Energy has acquired 55,000 sq. ft. of land in the Duhai Industrial Area to establish a new integrated Li-ion manufacturing & recycling plant.

Once operational, this facility will triple production capacity from 72,000 units to 2.25 lakh units, marking a significant boost for India's fast-growing EV supply chain.

VINCI Autoroutes

VINCI Autoroutes and Electreon have successfully demonstrated the world's first dynamic wireless-charging motorway on France's A10!

The A10 "Charge as You Drive" project makes this possible by embedding induction coils under the road surface, transmitting up to 300 kW peak power to EVs equipped with receivers.

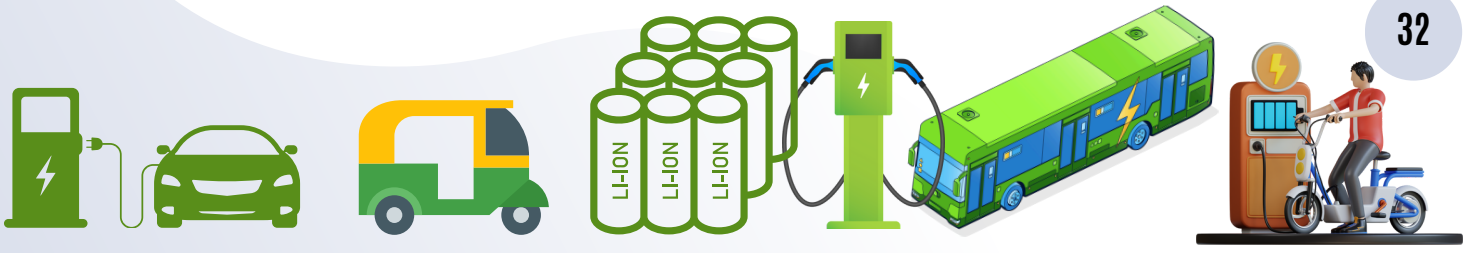
Power Build Batteries

Power Build Batteries, a subsidiary of Time Technoplast Ltd, has achieved a key milestone by receiving ICAT certification for its 'eSTART with Selenium' e-rickshaw batteries — a crucial approval that validates the product's quality, safety, and performance for OEM integration.

This certification, granted by the International Centre for Automotive Technology (ICAT) under the Government of India's National Automotive Board, marks a significant advancement for the brand's entry into India's expanding electric three-wheeler ecosystem.

Simple Energy

Simple Energy has set a new benchmark by becoming India's first OEM to commercially produce heavy rare earth-free electric motors.



EV NEWS

Repono

Repono AB has announced the acquisition of a 202 MW / 404 MWh standalone Battery Energy Storage System (BESS) in Argeș County, Romania.

The project, fully ready for construction, already holds a grid connection contract at the 220 kV Pitești Substation with Transelectrica. Once operational, it will become one of Southeast Europe's largest grid-scale storage systems, capable of storing and delivering clean energy to over 120,000 households during high-demand hours.

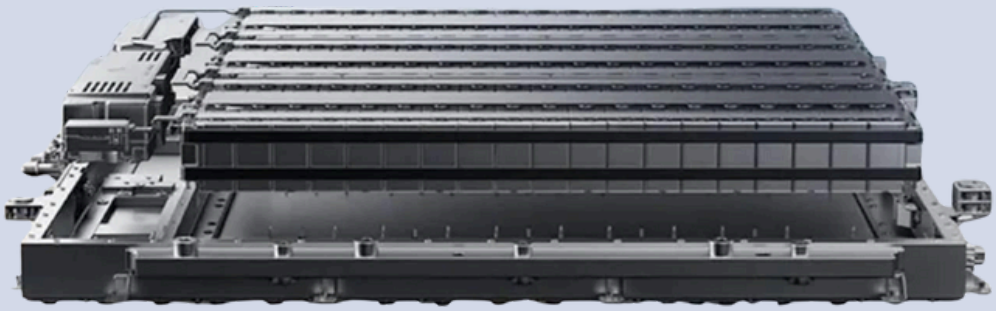
To ensure efficient market integration, Gunvor and Enspired will manage market optimisation, backed by legal support from RTPR to maintain full regulatory compliance in Romania.

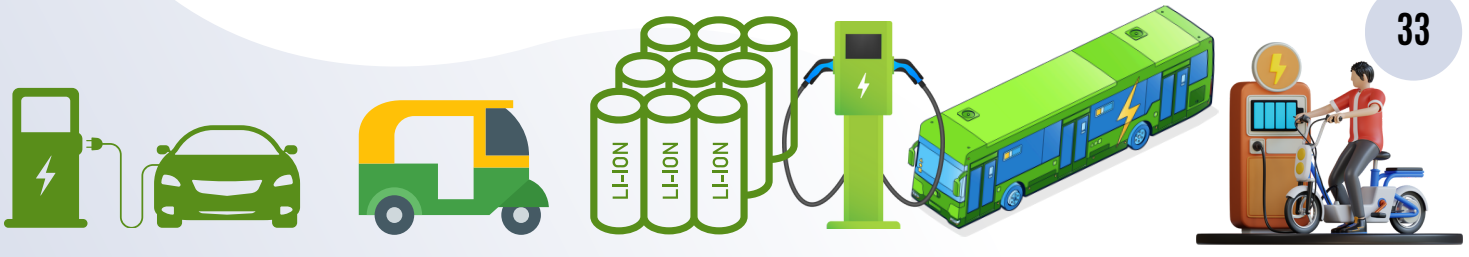
Chery Powers

Chery has announced a groundbreaking leap in next-generation solid-state battery development, setting new benchmarks in EV performance, range, and efficiency.

With its latest innovation, Chery claims EVs could theoretically exceed 1,500 km per charge — with real-world performance expected around 1,300 km. Pilot testing begins in 2026, followed by a wider commercial rollout in 2027.

According to reports, Chery's Solid-State Battery Research Institute has developed a module featuring an in-situ polymerised solid electrolyte system and lithium-rich manganese cathode material. The company aims to achieve an energy density of 400 Wh/kg in 2024, scaling up to 600 Wh/kg by 2025.





EV NEWS

MoEVing

MoEVing has rolled out 700 new Tata electric vehicles across India, reinforcing its leadership in zero-emission last-mile delivery.

Partnering with Tata Motors Commercial Vehicles and leading dealers — Pascos, Johar Automobiles, and Bhandari Automotive — MoEVing's latest deployment covers 10+ key cities, including Delhi NCR, Mumbai, Pune, Chennai, Hyderabad, Bengaluru, and Kolkata.

Relux Electric Pvt. Ltd.

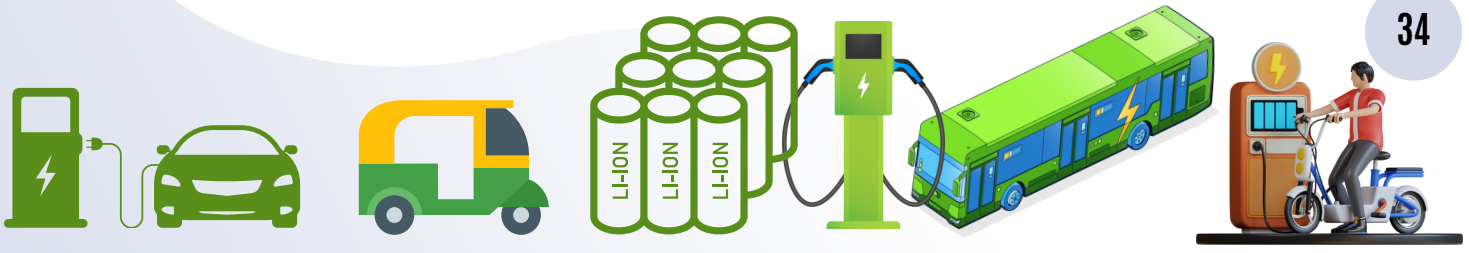
Tamil Nadu Green Energy Corporation Limited (TNGECL) announced a strategic partnership with Relux Electric Pvt. Ltd. to establish 500 new EV charging stations across the state.

- The initiative will start with a feasibility study on government-owned lands.
- Tamil Nadu already operates ~1,300 EV charging stations and is developing a digital mapping system for user-friendly access.
- Relux Electric, one of India's leading EV charging infrastructure providers, will implement the project across key locations.
- This collaboration strengthens Tamil Nadu's vision of a sustainable, low-carbon mobility ecosystem.

Sila

Sila has officially launched the first U.S. automotive-scale silicon anode plant at Moses Lake, Washington – a landmark step in strengthening domestic EV battery supply chains.

- The 600,000 sq. ft. facility is now producing Titan Silicon™, a next-generation anode material designed to replace graphite in lithium-ion batteries. With up to 20% higher energy density and 2x faster charging, Titan Silicon™ is set to reshape EV performance and accelerate clean energy adoption.
- Energy Independence: Reduces U.S. reliance on imported graphite.
- Sustainability: Powered by clean hydropower from the Columbia River.
- Scalability: Initial 2–5 GWh capacity, with potential to reach 250 GWh in five years.
- Economic Growth: Creating up to 500 skilled jobs via local partnerships.
- Applications Beyond EVs: From consumer electronics to satellites and defense.



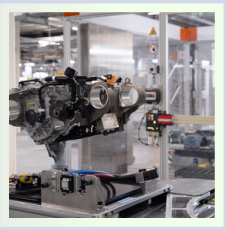
GLOBAL LAUNCH

Beachman unveils the '64 Street Spec, an electric café racer starting at $5,750. The modular platform offers e-bike, moped, and motorcycle trims with ranges up to 70 miles.

- New Model Entry: The ’64 Street Spec starts at $5,750 and features a vintage design inspired by London café racers.
- Versatile Classifications: The vehicle is available in e-bike, moped, and motorcycle trim packages.
- Performance Specs: Top speeds range from 20 mph to 50 mph, depending on the selected mode or model variant.
- Battery Range: An upgraded battery option provides a maximum driving range of up to 70 miles.

GLOBAL EV NEWS

BMW Steyr



The BMW Group Plant Steyr has officially started series production of the sixth-generation (Gen6) electric engine for the Neue Klasse, marking a significant milestone in BMW's electrification strategy. This development positions Steyr as a cornerstone of BMW's global production network and underscores the company's commitment to sustainable mobility. Milan Nedeljković, BMW AG's Board Member for Production, emphasized, "Plant Steyr is central to the Neue Klasse," highlighting its role in shaping BMW's electric future.

Panasonic Energy

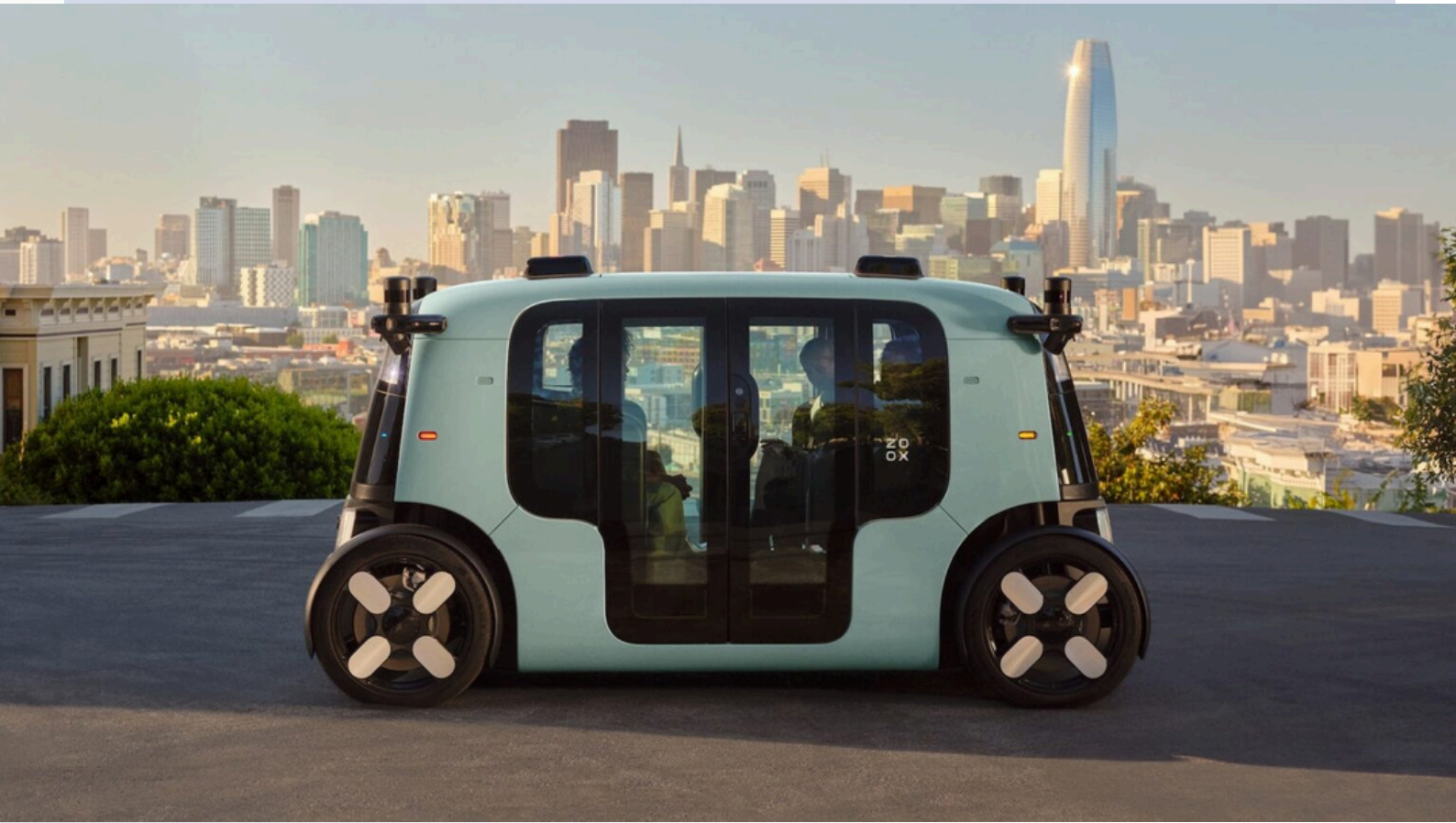
Panasonic Energy Co., Ltd. has finalized a multi-year agreement to supply Zoox with cylindrical lithium-ion battery cells. Deliveries will commence in early 2026 to power the Amazon-owned company's autonomous ride-hailing fleet. This partnership secures a critical component for Zoox's purpose-built vehicles.

Highlights

- Supply of 2170 battery cells begins in early 2026.
- Production will start in Japan before expanding to Kansas.
- Zoox recently opened a serial production facility in Hayward, California.

Operational Milestones (as of Sept. 2025):

- Total Cells Shipped: Approximately 20 billion globally.
- EV Equivalence: Power provided for roughly 4 million electric vehicles.
- Safety Record: Zero vehicle recalls attributed to battery issues.



Joint Ventures & Partnerships

Honda - OMC Power Pvt. Ltd

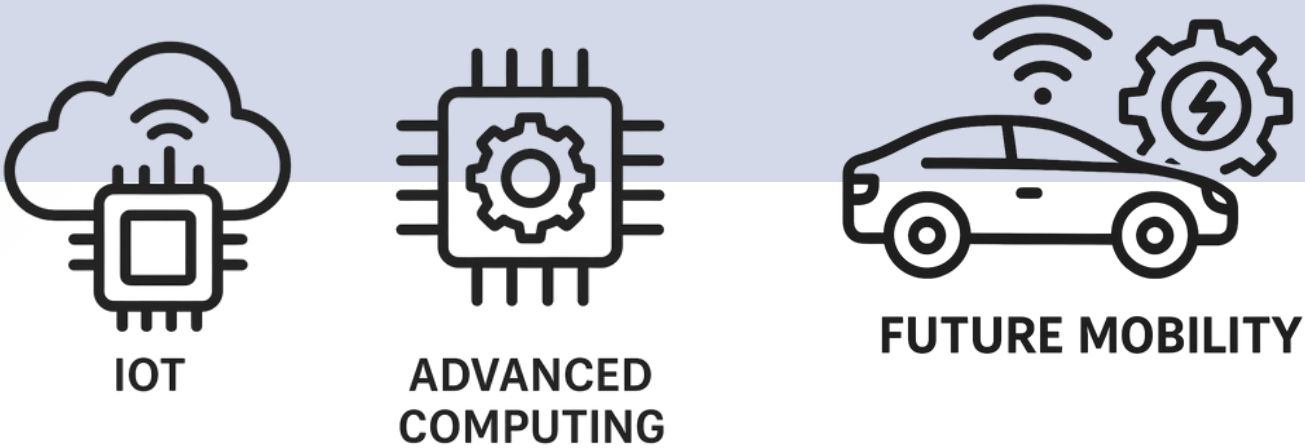
Honda Motor Co., Ltd. has announced its investment in OMC Power Pvt. Ltd., a leading distributed power and mini-grid provider in India.

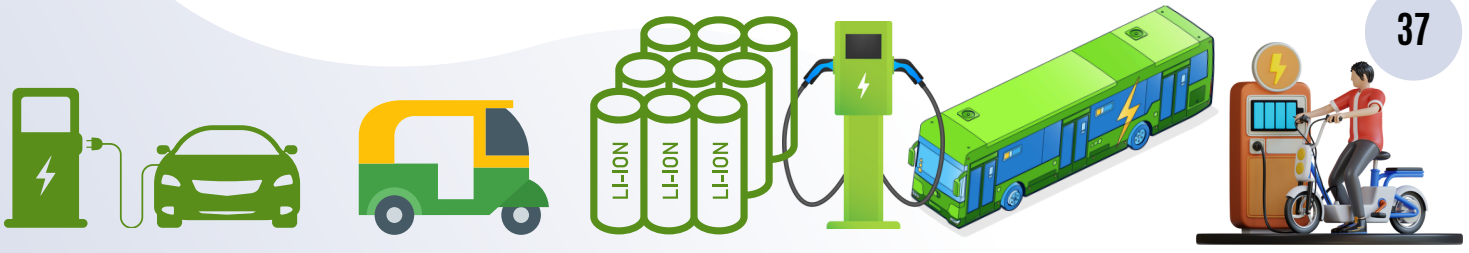
This partnership aims to enhance stable power supply using battery-based solutions, accelerating India's journey toward clean and reliable energy. Beginning January 2026, OMC Power will launch a leasing business for Uninterruptible Power Supply (UPS) devices powered by the Honda Mobile Power Pack e: — a portable, swappable battery solution designed for both mobility and stationary applications.

Batt:RE - Battery Smart

Batt:RE has joined hands with Battery Smart to launch Battery-as-a-Service (BaaS) solutions for electric two-wheelers in Jaipur.

Under this partnership, Beez Electric has already deployed 1,000+ Batt:RE e-scooters powered by Battery Smart's rapid swapping technology, giving riders access to 100+ swap stations across the city. With battery replacement taking under two minutes, this initiative significantly reduces downtime while improving fleet efficiency and promoting cleaner urban mobility.





Joint Ventures & Partnerships

EKA Mobility - Shriram Green Finance Ltd

EKA Mobility, a pioneer in electric vehicles and technology, has signed a Memorandum of Understanding (MoU) with Shriram Green Finance Ltd. (a 100% subsidiary of Shriram Finance Limited.).

BillionE Mobility - Hindalco

BillionE Mobility and Hindalco Industries Limited have joined forces to launch Gujarat's first heavy-duty electric freight corridor, covering 160 km between Dahej and Asoj — a move set to redefine India's freight logistics landscape.

Supported by ChargeZone, India's largest EV charging network (founded by Kartikey Hariyani), this corridor features advanced charging hubs at Karjan, Bharuch, and along key industrial routes.

Geon - Auto Sales India

GEON has joined hands with Auto Sales India Ltd to expand its lithium-ion battery solutions across Northeast India.

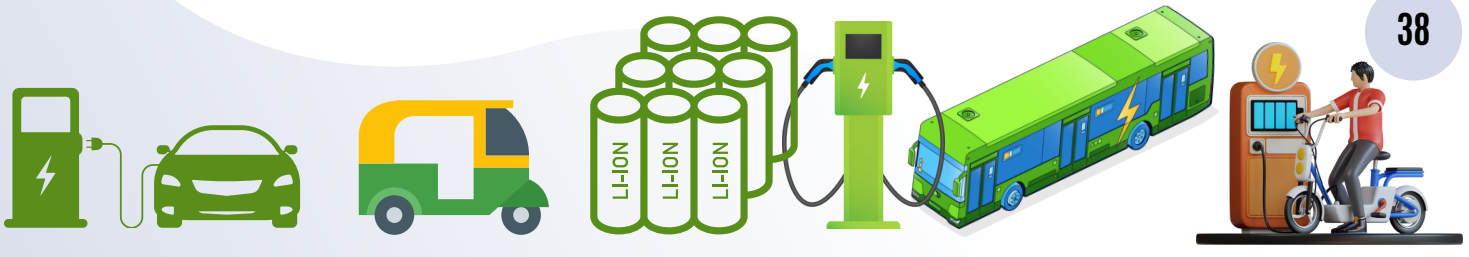
This strategic collaboration will introduce EV batteries for electric three-wheelers and inverter batteries designed for both solar and grid applications—enhancing energy access across the eight Northeastern states.

With Auto Sales' strong regional distribution network and GEON's proven technological expertise, this partnership aims to meet the region's growing demand for reliable, future-ready energy systems—empowering mobility, homes, and businesses alike.

Electreon - ATLOS by CME

a global leader in wireless charging – has partnered with ATLoS, the Portugal-based autonomous vehicle manufacturer under Procme GmbH Group.

This strategic collaboration will integrate wireless charging technology into autonomous vehicles (AVs), creating sustainable, hands-free charging solutions for manufacturing hubs, warehouses, logistics, and ports.



Joint Ventures & Partnerships

Volttic - Tata Motors

Volttic has signed an MoU with Tata Motors, India's largest commercial vehicle manufacturer, to set up 2000+ new public EV charging stations across the country.

These upcoming facilities will be strategically installed at key logistics hubs, enabling fleet operators to enhance efficiency, reduce downtime, and increase earning potential — a huge leap toward sustainable logistics and clean transport.

JBM Group Electric Vehicles (India) - Al Habtoor Motors (UAE)

JBM Group Electric Vehicles (India) and Al Habtoor Motors (UAE) officially announced a strategic partnership to introduce JBM's advanced electric buses across the UAE. Under this agreement, Al Habtoor Motors will be the exclusive importer and distributor of JBM's e-buses, supporting the UAE's Net Zero by 2050 Strategic Initiative.

ElevenEs- ChemVolt

ChemVolt Global, one of India's leading clean energy and storage solution companies, has announced a strategic partnership with ElevenEs, Europe's foremost lithium-ion cell technology and manufacturing leader.

- Deployment of Advanced BESS Solutions across India and the Middle East — featuring high thermal stability, longer lifecycle, and reduced degradation.
- Collaboration on Lithium-Ion Cell Manufacturing, leveraging ElevenEs' European LFP technology for domestic self-reliance in battery production.
- EV Battery Pack Supply to Indian OEMs, enabling faster adoption of high-performance and safe electric mobility solutions.

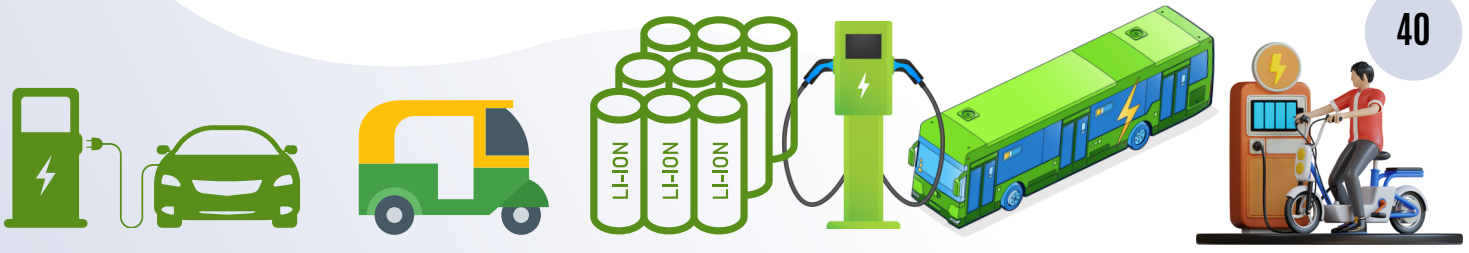
Joint Ventures & Partnerships

Switch Mobility - Bluwheelz

Switch Mobility has signed an MoU with Bluwheelz for the supply of 300 SWITCH IeV Series electric Light Commercial Vehicles (e-LCVs).

These vehicles will be deployed for last-mile and mid-mile logistics, strengthening the role of EVs in sustainable freight movement.

This partnership not only expands EV adoption in the logistics ecosystem but also drives the industry's transition towards low-emission and cleaner transportation solutions.



UPCOMING FUTURE MOBILITY EVENTS

PUNE'S ELECTRONICS EXPO
with Conference on Automotive & EV-related Electronics
8-9-10 JAN 2026
Auto Cluster Exhibition Center | Pune | India

Harit Bharat Expo 2026
India's Largest Renewable Energy Business Platform
January 16-18, 2026
Venue
JECC, Jaipur, Rajasthan

SIAT & SIAT Expo 2026 (January 28–30, 2026): The Symposium on International Automotive Technology (SIAT) is a major biennial event organized by the Automotive Research Association of India (ARAI) in Pune. The theme is "Innovative Pathways for Safe & Sustainable Mobility," with discussions and exhibits covering:

- E-mobility, Hydrogen fuel cells, and Alternative fuels
- Advanced Driver Assistance Systems (ADAS) and autonomous technologies
- AI-driven mobility and smart manufacturing
- Vehicle dynamics, safety, and testing/evaluation

SYMPOSIUM ON INTERNATIONAL AUTOMOTIVE TECHNOLOGY

SIAT 2026

Innovative Pathways for Safe and Sustainable Mobility

Organised by ARAI

ADVERTISE WITH GYANIKI

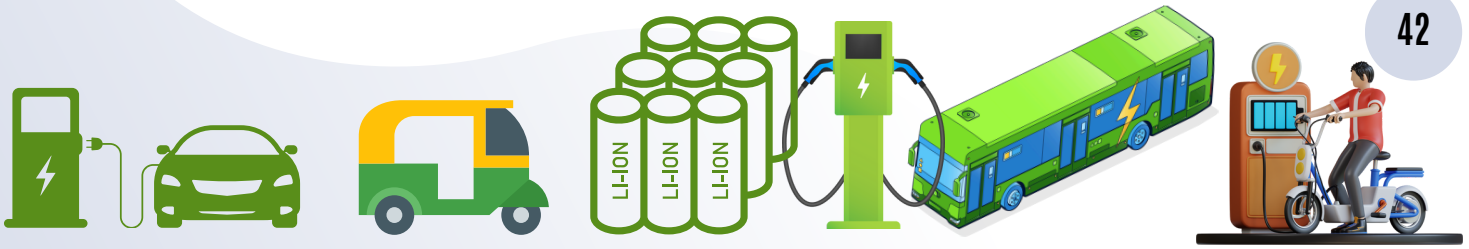
Showcase Your Brand and Work

WHAT WE OFFER

- Cover Stories
- Advertisements
- Email Marketing

Advertise with gyaniki magazine

Write to us at admin@gyaniki.com To Know More About How We Can Help You Promote Your Brand, +91 80801 23226.



New Launch

Bajaj Auto - Riki

🚗 Dual Variants for Urban & Commercial Needs
Riki P4005 (Passenger e-rickshaw) – ₹1,90,890
Riki C4005 (Cargo e-cart) – ₹2,00,876
(Prices ex-showroom)
🔋 Robust LFP Battery Pack
5.4 kWh LFP battery
149 km (P4005) / 164 km (C4005) claimed range
~4 hours full charging time
🛠️ Built for Daily Abuse
All-steel skateboard chassis for durability
Independent suspension + anti-roll bar
Hydraulic brakes with 25% better stopping distance
⛰️ Better Performance on Grades
19% gradeability (P4005) || 28% gradeability (C4005)
New hill-hold assist for smoother starts

Standard 3-year / 60,000 km warranty

Mahindra Unveils XEV 9S

Powertrain: 285 hp | 380 Nm | RWD
Battery Options: 59 kWh / 70 kWh / 79 kWh
Performance: 0–100 km/h in 7 seconds
Top Speed: 202 km/h
Boot Space: 527 litres (with 3rd row folded)
🖥️ Technology & Interior
Triple 12.3-inch displays standard across all variants
Separate provision for rear-seat entertainment
2nd-row slide, recline & ventilation
Powered Boss Mode for enhanced rear comfort
Level 2+ ADAS with extended highway and urban assist features
💸 Variant-wise Pricing
Pack One Above – 59 kWh: ₹19.95 lakh
Pack One Above – 79 kWh: ₹21.95 lakh
Pack Two Above – 70 kWh: ₹24.45 lakh
Pack Two Above – 79 kWh: ₹25.45 lakh
Pack Three – 79 kWh: ₹27.35 lakh
Pack Three Above – 79 kWh: ₹29.45 lakh
📅 Bookings open: 14 January 2026
📦 Deliveries begin: 23 January 2026

New Launch

Yamaha - Aerox-E & EC-06 Electric Scooters

India Yamaha Motor (IYM) has officially stepped into India's fast-growing electric scooter segment with two brand-new models — the Aerox-E and EC-06, marking a bold new chapter in Yamaha's sustainable mobility journey.

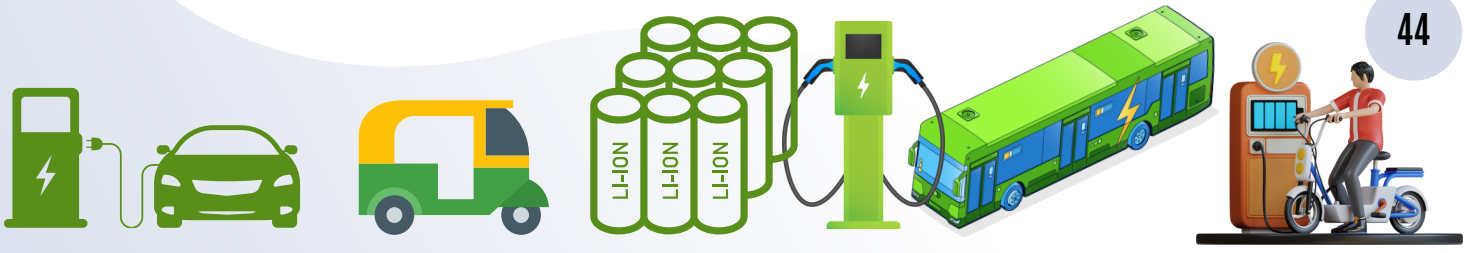
Aerox-E: Performance Meets Electrification

- Motor: 9.4 kW (Peak)
- Torque: 48 Nm
- Battery: Dual 3 kWh detachable packs
- Range: 106 km/charge
- Features: 3 riding modes (Eco, Standard, Power), Boost Mode, Reverse Gear, Front & Rear Disc Brakes with ABS
- Smart Tech: Turn-by-turn navigation, Y-Connect app, maintenance alerts, last parking locator & smart key access
- With a "no-compromise" performance design, Aerox-E will coexist alongside the popular Aerox 155, catering to riders seeking both thrill and sustainability.

EC-06: Urban Commuting, Redefined

Motor: 4.5 kW
Battery: 4 kWh (fixed)
Range: 160 km/charge
Charging Time: 9 hours (home socket)
Storage: 24.5 litres under-seat capacity
Design: Modern, compact, and built for urban traffic agility
Connectivity: Colour LCD, inbuilt telematics with SIM-based live data

- Developed in India, the EC-06 shares its platform with the River Indie, with Yamaha investing heavily in the Bengaluru-based EV startup to expand its local R&D footprint.



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.

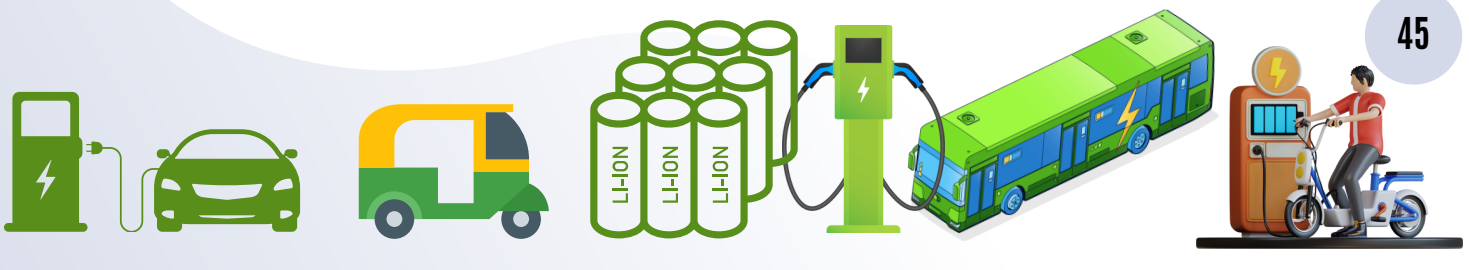
On November 7, 2023, the Ministry of Heavy Industries (MHI) introduced a new phased manufacturing program (PMP) for electric vehicle (EV) charger components under the **FAME India Scheme Phase-II** to boost domestic production. Outlined a comprehensive list of charger components and their timelines for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

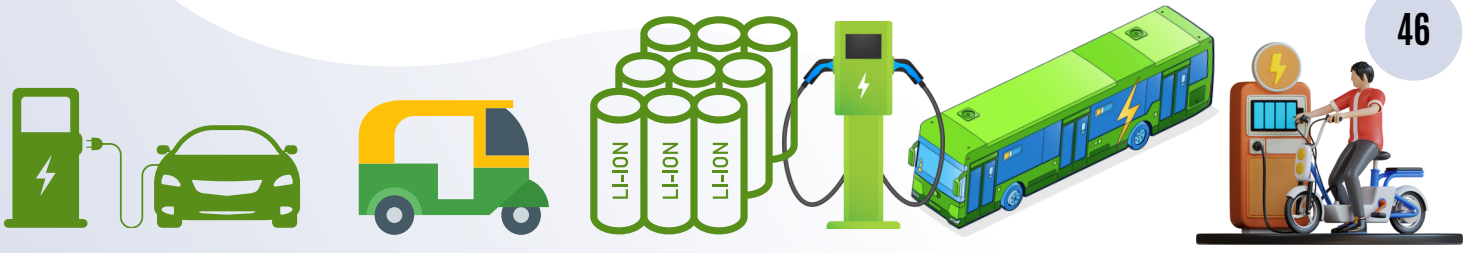
In this article you will get the Idea of EV infrastructure promises a cleaner, more accessible world. Embrace the journey, where every charge fuels not just vehicles, but a greener tomorrow. The road ahead is electrifying, and the future is now.



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.**

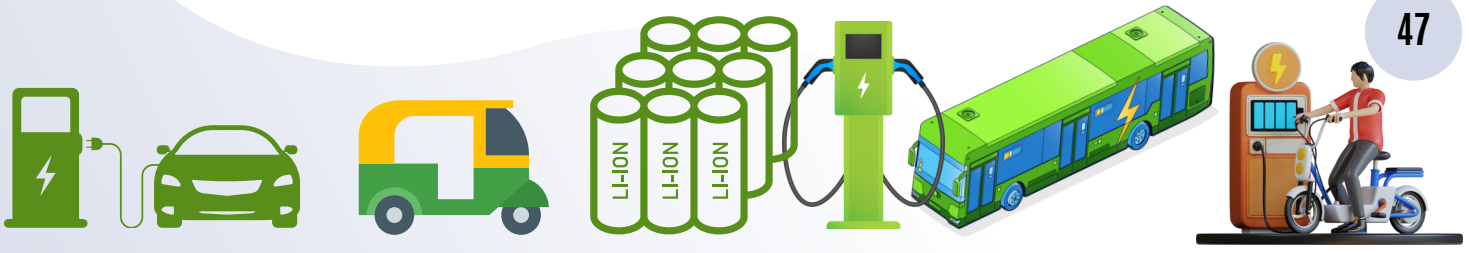
This **compiled report serves as an essential guide** commences with an introduction to **key PCB components, semiconductors**, explaining their role as materials that lie between conductors and insulators. It gets into the atomic structure of semiconductors and the concept of doping, which enhances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

gyaniki
www.gyaniki.com

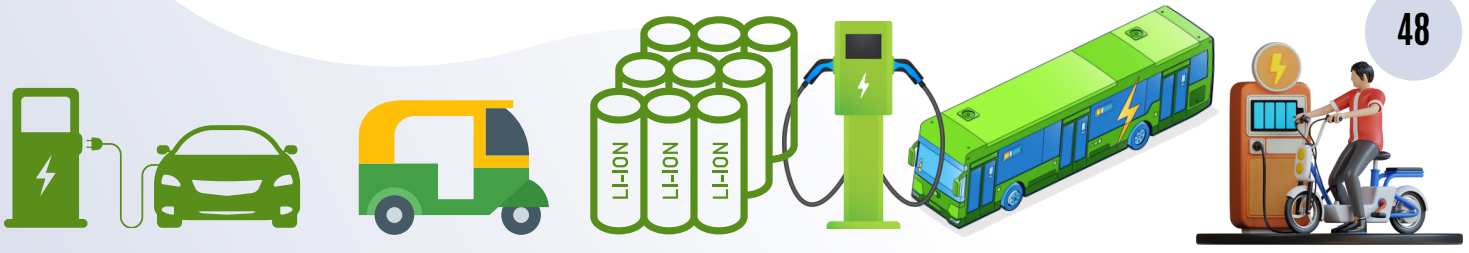
Report Content

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

This report can be obtained in 2 different ways:

- **Option 1** - Individual Report Subscription at INR 500/-
  Check to pay - **https://rzp.io/l/koMv7SBZH**
  (It Includes only the " Guide to Hydrogen" report)
- **Option 2**- Yearly Subscription Plan at INR 1500/-
  Click to check more details and pay - **https://rzp.io/l/GlVFwKiT**

(Yearly Subscription includes 52 weekly editions + 12 monthly editions + 4 quarterly editions + 200 future mobility companies to watch out for + New reports by the gyaniki team + Advertisement-free content.)
(Note: After payment Report will be sent to your email id



www.gyaniki.com

gyaniki | Your Access to Future Mobility

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".

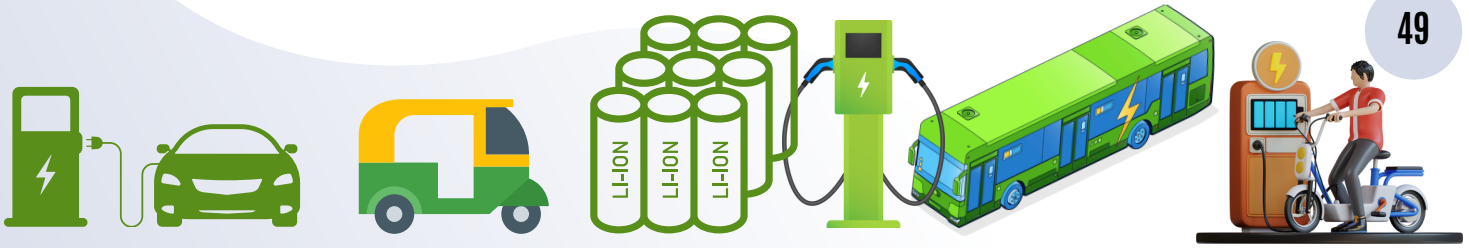
'gyaniki' has evolved as a technology based digital portal platform created for researchers, product developers, industry professionals and academia members with a vision of incremental expansion in bridging the future mobility ecosystem through our services.

'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 DEC 2025



www.gyaniki.com

gyaniki | Your Access to Future Mobility

List Your Company on gyaniki

EV Report DEC 2025

www.gyaniki.com