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September 2024

# EV Fleet Operations



# EV Update Inside

- Top Electric 2W OEM Sales September 2024
- Top Electric E-Rickshaw Sales September 2024
- Top Electric 3W (Passenger) & Goods Sales: September 2024
- ShEV: Megha Rajpal, Head Strategy & Growth MoEVing
- EV Milestones
- EV Based Fleet Operators in India
- Two-Wheeler Fleet operations: Challenges in expansion in Tire-2 & Tire-3 market by Mr. Abhishek Dwivedi from EVeez
- EV Launch
- Battery Swapping for EV Fleet Management by Mr. Deevik Garg from Whizz EV Mobility
- Who Got Funded
- EV vs ICE: TCO comparison for last mile delivery by Mr. Gaurav Rathore from EVeez
- Join Ventures & Partnerships
- Other EV Updates
- All India EV

# The Battery Show





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Monthly EV Sales Data of all EV's including 2W, 3W-Rickshaw, 3W-Goods, 3W-Passenger, E-Bus, E-Cars	Monthly EV Sales Data of all EV's including 2W, 3W-Rickshaw, 3W-Goods, 3W-Passenger, E-Bus, E-Cars	Monthly EV Sales Data of all EV's including 2W, 3W-Rickshaw, 3W-Goods, 3W-Passenger, E-Bus, E-Cars
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# Top EV 2W Manufacturers in India

## September 2024 Sales Data

1		24,659	11		467
2		19,103	12		401
3		18,084	13		336
4		12,676	14		316
5		4,304	15		297
6		2,775	16		292
7		1,237	17		276
8		1,205	18		221
9		698	19		208
10		645	20		160

# Top Electric E-Rickshaw Manufacturers

## September 2024 Sales Data

1	   3,819	11	   936
2	   2,508	12	   888
3	   1,965	13	   886
4	   1,194	14	   837
5	   1,193	15	   829
6	   1,159	16	   772
7	   1,115	17	   748
8	   989	18	   722
9	   965	19	   657
10	   962	20	   598

# Top Electric 3W Passenger & Goods

## Septembers 2024 Sales Data

3W Passenger	Sales
Mahindra Last Mile	4,642
Bajaj Auto	4,483
Piaggio Vehicle	1,549
TI Clean Mobility	598
Omega Seiki	287
Dilli Electric Auto	107
TVS Motor Company	58
Atul Auto Ltd	51
Atul Greentech	44
Daksh Industries	38
MLR Auto	37
Kerala Automobiles Ltd	35
Thukral Electric Bikes	23
Allfine Industries	22
Godawari electric	22
Extra Fast Solutions	17
Mahindra and Mahindra Ltd	17
Rasandik Engineering Industries	12
Euler Motors	11
R3 Enterprise	11

3W Goods	Sales
Bajaj Auto	519
Mahindra Lat Mile Mobility	482
Omega Seiki	224
Euler Motors	222
Piaggio Vehicles	113
M/S Vishnu Clean Energy	55
Atul Auto	52
Keto Motors	45
Green Evolve	40
Ravi Metal Works	40
Altigreen Propulsion	37
Atul Greentech	31
Zenmo Pvt Ltd	30
Dilli Electric	25
KLB Komaki	17
GRD Motors	9
Mahindra & Mahindra Ltd	7
Mini Metro EV	6
Thukral Electric	6
ECO Dynaamic Equipments	5







**Megha Rajpal**  
Head Strategy & Growth MoEVing

**Can you share your journey in the electric vehicle industry? What motivated you to enter the EV sector, particularly in the fleet management space?**

My journey in the EV sector started in 2017 when I was working on EV passenger vehicle and public charging rollout program for the Indian Government.

Seeing the potential of EVs to drastically reduce pollution in the cities that we live in was very compelling. During the covid lockdowns, I realized the huge impact fleet electrification could have as the air was much cleaner without any transport emissions.

That's when I moved from a consulting role to joining MoEVing in its early few months of setting up. The chance to create more impact through electrification of the last mile logistics sector seemed like the natural shift and MoEVing is at the forefront of this transition

**As a woman leader in the EV industry, what unique challenges have you encountered, and how did you overcome them?**

The EV industry in India is new, but it overlaps with the logistics sector, which has mostly been male-dominated.

There are some unique challenges because of this. It's common to be in meetings where most of the people are men, and I don't see as many women in leadership roles as there should be. While I've started seeing more women in these positions, the numbers are still low—often just one woman in a leadership team.

What has helped me, and I think helps others, is mentorship and having a community. I've learned the importance of both giving and receiving advice and support. Mentorship is especially valuable for women starting in this industry, as it helps them face challenges and feel more confident in male-dominated spaces. We need to keep supporting each other so we can grow in this field.

**The EV fleet industry is constantly evolving. From your perspective, what are the key challenges faced by fleet operators, and how do you see the industry addressing these challenges?**

The last 2–3 years have been great for the growth of passenger as well as logistics based EV fleet in the country. However, there is still a long way to go for EVs to be the norm for these sectors. A few key challenges we have to overcome are financing, charging infrastructure and after sales service.

First, financing is a big barrier to faster adoption of EVs. Fleets often struggle with high financing costs, which are much higher than ICE vehicle financing. The central government needs to step in with priority sector lending policies to lower these costs and make it easier for operators to access affordable finance from traditional lenders.

Second, charging infrastructure is another key challenge. As more fleets are deployed in cities, the demand for reliable charging infrastructure is increasing. However, limited availability of land and the high investment required to set up charging stations make it difficult to build the network needed to support these growing fleets.

Finally, after-sales service from OEMs is crucial for fleet operators. While many electric vehicles are well-designed and manufactured, maintaining a sustainable uptime of the vehicles is crucial. This requires OEMs to create strong after-sales support systems, including good maintenance contracts, warranties, and quick repair services.

**With advancements in EV technology, what trends do you think will have the biggest impact on fleet electrification in the next few years?**

The cost of batteries continues to fall, with the latest news of the price coming to about 53 \$ per kWh. With the reduction in cost, and improvement in technology, we can expect long range vehicles which will be a game changer for fleet electrification.

Another key trend is the rise of rapid charging solutions, which will drastically reduce downtime for fleet operators. As charging infrastructure becomes more robust and widely available, fleets will be able to operate more efficiently.

Additionally, telematics and routing systems will help optimize routes, track performance, and improve overall efficiency, further accelerating the adoption of electric vehicles in the fleet sector.

**On a more personal note, how do you balance the fast-paced demands of your professional life with personal well-being? Any strategies you could share for maintaining that balance?**

Maintaining balance in life is all about consciously making time for what truly matters. For me, it's crucial to set boundaries and allow myself to disconnect after a long day at work. I ensure I dedicate time to unwind by listening to audiobooks or podcasts, which helps me stay inspired and refreshed.

Watching the latest shows or movies on OTT platforms is another way I relax and recharge. Being a foodie, I find joy in cooking over the weekends or exploring new restaurants with family and friends. Moreover, I try to incorporate small breaks during my workday to stretch, walk, or simply pause for a moment –it makes a significant difference in staying balanced throughout the week.

**What advice would you give to young professionals, especially women, looking to build a career in the EV industry, particularly in leadership roles?**

The EV industry is growing fast, and it's an exciting time to be part of it. Over the next 20–30 years, this sector will continue to expand, especially in India, where clean mobility is becoming more important.

My advice to young professionals, especially women, is to take advantage of the many opportunities in this field. Don't hesitate to aim for leadership roles—your ideas and perspectives are important for shaping the future of sustainable transport.

Working in this industry won't just be about a job; you'll also be helping society and making the world a better, cleaner place for future generations. It's important to stay curious, build new skills, especially in such a fast-changing field.

**Looking ahead, what's your vision for the future of electric vehicle fleets in India, and what steps do you think the industry should take to accelerate this transition?**

The commercial vehicle industry, whether for passengers or logistics, is moving quickly toward electric vehicles (EVs). In the past six months, at least four new 4-wheeler cargo models have been launched, and larger more advanced models are being developed.

This shows the EV transition is happening fast. The government's goal of having 30% EVs by 2030 seems very achievable. To speed up this shift, the industry needs to focus on making financing easier, offering more EV options, and building a strong charging network.

These steps will help make the switch to EV fleets in India happen even faster.



# Milestones

## Government Launches ₹10,900 Crore PM E-DRIVE Scheme To Accelerate Electric Vehicle Adoption And Infrastructure Development



The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved a new scheme called the “PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme” to promote electric mobility across India. The scheme, proposed by the Ministry of Heavy Industries (MHI), will have a total outlay of ₹10,900 crore over two years. It is designed to accelerate the adoption of electric vehicles (EVs) and support the development of related infrastructure.

## Tata Power Hits Dual Milestone: 1 Lakh Home Chargers and 1,000+ E-Bus Charging Points



Tata Power, one of the country’s largest integrated power companies, surpassed the installation of 1 lakh home electric vehicle (EV) chargers across India. This milestone coincides with the observance of World EV Day and highlights the company’s commitment to making e-mobility adoption more accessible through reliable home charging solutions. These chargers have been deployed even in remote areas, providing customers with the convenience of charging their vehicles at home.

## Jio-bp Expands EV Charging Network With 500th Station Inauguration



Reliance Industries and bp’s joint venture, Jio-bp, has achieved a significant milestone with the inauguration of its 500th EV charging station in Mumbai. This achievement underscores the company’s swift growth in the electric vehicle charging infrastructure sector.

## Ultraviolette Automotive Begins Exports Of F77 Mach 2 E-Motorcycle To European Markets



Electric bike manufacturer Ultraviolette Automotive began exporting its F77 Mach 2 e-motorcycle to European Union markets on Tuesday, with Union Minister for Heavy Industries H D Kumaraswamy flagging off the first batch. The company stated that these exports of the high-performance, made-in-India electric motorcycle will boost India's standing in the global EV industry.

## Magenta Mobility Achieves Milestone with Deployment of Over 2,000 Electric Vehicles Across India



Magenta Mobility, a prominent player in integrated electric mobility solutions, has reached a significant milestone by successfully deploying over 2,000 electric vehicles (EVs) in more than 18 cities across India. This accomplishment highlights the company's dedication to promoting green logistics and enhancing sustainable urban transportation.

## Goa's Public Transport To Get 500 Electric Buses With INR 700 Crore IIT Alumni Investment



The cabinet has approved a proposal from Indian Institute of Technology (IIT) alumni to invest INR 700 crore in introducing electric buses to Goa's public transport system, according to Chief Minister Pramod Sawant. Ulhas Tuenkar, chairman of the state-run Kadamba Transport Corporation (KTCL), welcomed the initiative, highlighting its potential to revitalize the transport sector.

## Deccan Gold Mines Limited's First Lithium Ore Shipment to China Enhances Electric Mobility Supply Chain and Future Battery Production



Deccan Gold Mines Limited (DGML), the sole listed gold exploration and mining company in India, has announced a significant development in its expansion strategy. Through its step-down subsidiary, Deccan Gold Mozambique LDA (DGMoZ), DGML has successfully shipped its first consignment of lithium ore to China. The shipment, which comprises 150 tons of ore with a lithium oxide ( $\text{Li}_2\text{O}$ ) grade of 2.5%, represents the company's entry into the burgeoning lithium market.

## Reliance Industries Bags 10 GWh In Government's ACC Battery Storage PLI Scheme



The Ministry of Heavy Industries (MHI), Government of India, has announced the successful bidder under the Production Linked Incentive (PLI) Scheme for Advanced Chemistry Cell (ACC) Battery Storage. Reliance Industries Limited has been awarded 10 GWh ACC capacity under the scheme, based on the Quality & Cost Based Selection (QCBS) mechanism. This move represents a significant step in boosting domestic manufacturing capabilities, reducing dependence on imports, and positioning India as a leader in ACC battery production.

# EV Based Fleet Operators in India



## EV Fleet Business Challenges: Setting up in Tire-1 and Expanding in Tire-2 market

**Author:** Abhishek Dwivedi

*Co-founder and COO EVeez*



### Challenges in Tier 1 Cities for EV Two-Wheeler Fleet Operations:

In Tier 1 cities, the key challenge for EV two-wheeler fleet operations is the lack of robust charging infrastructure. While these cities have some charging stations, they remain sparse, causing logistical difficulties for fleets.

The time required for charging is also considerably longer than refueling, affecting operational efficiency. Range anxiety is another concern, as most EV two-wheelers have limited mileage, making precise route planning critical. The higher upfront costs of EVs, compared to traditional two-wheelers, further challenge businesses trying to scale.

Additionally, battery degradation due to frequent use in high-demand urban areas leads to higher maintenance costs. Specialized repair services for EVs are limited, causing potential downtime. Complex government policies and incentives, though available, can be difficult to navigate, creating barriers to adopting the full range of available benefits.

Finally, grid dependency in certain urban areas, combined with frequent power outages, complicates overnight or fast charging operations.

### Challenges in Expanding EV Two-Wheeler Fleet to Tier 2 and Tier 3 Markets:

In Tier 2 and Tier 3 markets, the lack of charging infrastructure is a critical issue. With few or no public charging stations, managing EV fleets becomes highly challenging.

Battery swapping, a potential solution, is still in its early stages, particularly in smaller towns. Moreover, long distances between towns and limited vehicle range make fleet operations difficult. High battery replacement costs, coupled with the lower purchasing power in these areas, also pose a barrier.

Supply chains and maintenance services for EVs are less developed, leading to costly repairs and longer downtimes. Awareness of government incentives and policies is limited, and businesses often miss out on the benefits available.

Additionally, the power supply in smaller towns can be unreliable, further complicating charging operations. Lastly, consumer skepticism and the long-standing trust in traditional vehicles require significant education and marketing to shift mindsets toward EV adoption.



To succeed, companies need to:

- Advocate for government support in building charging networks.
- Explore battery-swapping models to reduce downtime.
- Educate the market on EV benefits.
- Design business models that lower upfront costs, such as leasing or subscription services, and implement localized service networks.



  
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### A Detailed Guide to Lithium Battery Testing Requirements in India

- ✓ Why Lithium Battery Testing is Important
- ✓ Key Types of Lithium Battery Tests
- ✓ Global Standards for Lithium Battery Testing
- ✓ Indian Standards and Certifications for Lithium Batteries
- ✓ Quality Control in Battery Manufacturing

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# New EV Launch



## Warivo Motor Enters High-Speed Electric Scooter Market with CRX Launch

Warivo Motor India Pvt Ltd has expanded its product portfolio by launching its first high-speed electric scooter, the CRX. Designed to meet the varied commuting needs of Indian consumers, the CRX combines cutting-edge features and performance at an affordable price point.

## BYD India Unveils 'BYD eMAX 7': A New Era for Electric MPVs

BYD India has announced the launch of its upcoming electric MPV, the 'BYD eMAX 7'. This new model, designed for eco-conscious Indian families, will succeed the BYD e6, integrating advanced technology, luxury, and sustainability.



## Oben Electric Unveils Four New EVs and Expands Showroom Network on World EV Day

On World EV Day, Oben Electric revealed plans to introduce four new electric two-wheelers over the next six months. The new models will be priced between INR 60,000 and INR 1,50,000, highlighting the company's commitment to providing affordable and high-performance electric vehicles (EVs) that cater to diverse consumer needs.



## Godawari Electric Motors Launches eblu Cety on World EV Day

Godawari Electric Motors has unveiled its latest innovation, the eblu Cety, on World EV Day. This new auto-shaped e-rickshaw is set to revolutionize urban mobility with a price tag of INR 1,99,999/- ex-showroom.



## Mercedes-Maybach EQS 680 SUV Debuts In India: A New Era Of Luxury EVs

Mercedes-Benz has introduced the all-electric Mercedes-Maybach EQS 680 SUV, redefining the luxury SUV market in India. As the brand's first fully electric Maybach model, the EQS SUV represents the pinnacle of opulence and innovation. With its luxurious design, cutting-edge technology, and a holistic sensory experience, the EQS SUV marks a new era for Maybach in India.





### Euler Motors Expands Product Line With Storm EV

Euler Motors has expanded its product lineup with the launch of the Storm EV. This new electric four-wheeler small commercial vehicle (SCV) is priced between INR 8,99,999 and INR 12,99,999. The company has invested a significant amount in developing the Storm EV, with INR 100 crore allocated to research and development

### myTVS Launches Comprehensive MaaS Platform For EV Fleet Operators

myTVS, a leading automotive aftermarket platform in India, has launched a new Mobility-as-a-Service (MaaS) platform specifically designed for electric vehicle (EV) fleet operators. This platform offers a wide range of services, including leasing, real-time fleet management, charging solutions, spare parts, roadside assistance, and telematics.



### Tata Motors Revolutionizes SUV Market with Nexon.ev 45 kWh Launch



In addition to the CNG variant, Tata Motors has introduced the Nexon.ev with a 45 kWh battery pack, offering an enhanced real-world range of 350-370 km. The new variant addresses one of the biggest concerns in EV adoption – range anxiety – and ensures hassle-free intercity travel.

### JSW MG Motor India Unveils Pricing for Revolutionary MG Windsor

JSW MG Motor India has officially revealed the pricing for its latest model, the MG Windsor, starting at INR 13,49,800 (ex-showroom). The MG Windsor, India's first Intelligent Crossover Utility Vehicle (CUV), merges the comfort of a sedan with the versatility of an SUV, providing a premium business-class experience for customers.





### iVOOMi Launches Jeet X ZE Electric Scooter on Amazon

iVOOMi announced the availability of its flagship electric scooter, the Jeet X ZE, on Amazon. This strategic move allows customers across India to easily purchase the cutting-edge electric vehicle (EV) through one of the country's largest e-commerce platforms, expanding iVOOMi's market reach and ensuring greater convenience for buyers.

### JSW MG Motor India Enhances EV Experience With New BaaS Program For Comet And ZS Models

JSW MG Motor India has announced the expansion of its innovative Battery-as-a-Service (BaaS) program to include the popular MG Comet EV and MG ZS EV models, aiming to revolutionize the passenger electric vehicle (EV) market in India. The BaaS initiative was initially launched with the MG Windsor and has received positive responses from customers.



### Ultraviolette Introduces F99, India's First High-Performance Superbike Targeting Speed Records

Ultraviolette Automotive, a Bengaluru-based company, has introduced the F99 Factory Racing Platform, marking India's debut in the superbike segment. Designed and engineered entirely at Ultraviolette's R&D headquarters in Bengaluru, the F99 is set to achieve the fastest top speed and quarter-mile time for an Indian motorcycle within 90 days.

### Bajaj Auto Launches Chetak Blue 3202 Electric Scooter With Enhanced Range And New Features

Bajaj Auto has launched a new variant of the Chetak electric scooter, called the Chetak Blue 3202. This new variant is priced at Rs 1.15 lakh (ex-showroom), which is nearly Rs 14,000 less than the Blue 3201 Special Edition. It will be available for purchase on Flipkart in the next few weeks.



# Battery Swapping for EV Fleet Management

**Author: Deevik Garg**

*Whizz EV Mobility*

*In the fast-paced world of last-mile delivery, time is crucial. Imagine a delivery rider spending 4 hours a day waiting for an electric vehicle (EV) to charge. That's hours of lost productivity, fewer deliveries, and reduced income for both the rider and the business. This is where battery swapping comes in, offering a revolutionary solution for the EV delivery ecosystem.*

*As companies and governments push for sustainable solutions to reduce carbon emissions, battery swapping is emerging as a crucial component for the success of EV fleets in last-mile delivery.*

Whizz EV, a leading fleet operator, has embraced this technology, with over 700 EVs on battery swapping. The company is committed to driving the adoption of electric mobility through its fleet, ensuring riders can maximize productivity and efficiency.

Battery swapping eliminates one of the biggest challenges for EV riders—charging downtime. Instead of waiting hours to charge, riders can exchange their depleted battery for a fully charged one in just minutes, getting back on the road faster and completing more deliveries.

Fleet operators like Whizz EV benefit from improved operational efficiency.

## **A Boon for Last-Mile Delivery**

Battery swapping is not just an advantage but a necessity for last-mile delivery. In an industry where speed and reliability are critical, swapping batteries instead of charging them has reshaped how EVs are integrated into delivery fleets.

The process is simple: riders drive to a swapping station, replace the empty battery, and get back to work within 10 minutes, drastically reducing downtime. Whizz EV has capitalized on this advantage, allowing its fleet to operate without extended stops for charging.

For fleet owners like Whizz EV, this system also reduces the upfront cost of adopting EVs. Batteries often represent up to 40% of an EV's total cost.

By separating the battery from the vehicle purchase, fleet owners can lease batteries or pay per swap, making it easier to transition to electric vehicles without large capital investments.



For riders, the benefits are immediate. Without long charging times, they can work throughout their shifts, maximizing delivery volume and income. Whizz EV riders benefit from this increased productivity, spending more time delivering and less time waiting for their vehicles to charge.

## **Reducing Range Anxiety**

One major barrier to EV adoption in the delivery sector is range anxiety—the fear that an EV's battery won't last long enough to complete a full day's work.

Many budget electric vehicles offer a range of 80–100 kilometers per charge, which may not be enough for riders covering 120–150 kilometers daily. Stopping to recharge in the middle of a shift cuts into productivity.

Whizz EV addresses this challenge through battery swapping, allowing riders to quickly replace an empty battery with a fully charged one. This eliminates range anxiety for riders and ensures they can meet their delivery targets without interruptions.

The flexibility of battery swapping makes EVs much more practical for long shifts and high-demand routes.

## Leading Companies Driving Change

Battery swapping in India has grown significantly due to the efforts of companies like Sun Mobility and Battery Smart.

Their extensive networks of swapping stations provide seamless, fast battery replacements, driving EV adoption in the logistics and delivery sectors.

Whizz EV, in partnership with these battery swapping pioneers, ensures its fleet remains one of the most efficient in the market.

## Environmental Impact and Sustainability

Battery swapping also plays a key role in reducing the carbon footprint of delivery operations. The logistics and delivery sectors are known for high carbon emissions, and transitioning to electric vehicles is crucial to reducing environmental damage.

By promoting EV use, Whizz EV helps reduce reliance on fossil fuels, resulting in fewer greenhouse gas emissions.

Swapping systems also enable more efficient, centralized battery charging. Batteries can be recharged using renewable energy sources like solar or wind power, further reducing the environmental impact.

Centralized battery management ensures charging takes place during off-peak hours, improving grid efficiency and reducing overall energy demand. Whizz EV is committed to sustainability, actively promoting eco-friendly practices that benefit both its riders and the planet.

## The Future of Fleet Management

Battery swapping isn't just a short-term fix—it has the potential to transform fleet management. As EV adoption grows, particularly in delivery and logistics, swapping stations will become more widespread, creating a seamless, efficient, and cost-effective ecosystem for managing electric fleets.

Fleet operators like Whizz EV can integrate battery swapping into their operations, simplifying charging logistics and reducing maintenance costs.

The flexibility of battery swapping also opens doors for innovations in battery technology.

As battery life, capacity, and charging speeds improve, the modular nature of battery swapping will allow fleet operators to upgrade batteries without replacing entire vehicles.

This is a significant advantage over fixed battery systems, where upgrades typically require buying new vehicles.

## A New Era for EV Fleets

Battery swapping is emerging as a key enabler of EV adoption in last-mile delivery fleets. The combination of reduced downtime, lower upfront costs, and increased flexibility makes it an ideal solution for both riders and fleet operators.

With industry leaders like Sun Mobility and Battery Smart driving the development of this infrastructure, the future of battery swapping looks promising as cities and governments push for sustainable transportation.

Fleet operators like Whizz EV are actively promoting this ecosystem through partnerships with Sun Mobility and Battery Smart.

More than 90% of Whizz EV's fleet relies on battery swapping, ensuring riders can maximize productivity without lengthy charging delays. This system allows riders to spend more time delivering, boosting earnings while enhancing operational efficiency.

For riders, the ability to quickly swap batteries means more deliveries, higher income, and fewer operational challenges. For fleet owners, it translates to reduced capital costs, easier maintenance, and the ability to scale operations without the limitations of traditional EV charging.

Whizz EV is a key player in this battery swapping revolution, proving that the transition to electric is not only viable but also profitable and sustainable for everyone involved.



# Who Got Funded?

- **Clean Electric Closes \$6M Series A Round To Boost EV Energy Storage Solutions**

Clean Electric has successfully closed its Series A funding round, securing INR 48.5 crore (\$6 million). The round was co-led by pi Ventures, Info Edge Ventures, and Kalaari Capital, with additional support from Lok Capital and other strategic investors.



- **Revfin Boosts EV Market Presence with 15,000-Vehicle Acquisition from SUN Mobility**

Revfin has taken a significant leap in its sustainable mobility strategy by acquiring a portfolio of over 15,000 vehicles valued at ₹100 Crore, which are operating on the SUN Mobility platform. This move underscores Revfin's commitment to accelerating electric vehicle adoption and transforming fleet operations across the country.



- **EaseMyTrip Enters EV Market With INR 200 Crore Investment In Electric Buses**

Travel booking platform EaseMyTrip announced that it is entering the electric bus manufacturing sector through its new subsidiary, Easy Green Mobility. The company plans to invest INR 200 crore over the next 2-3 years to develop electric buses and establish a manufacturing facility.



- **Everest Fleet Gears Up For Growth With \$30 Million Series C Funding Led By Uber India**

Mumbai-based fleet operator Everest Fleet has secured \$30 million as part of its ongoing \$50 million Series C funding round, led by Uber's Indian subsidiary. The company's board approved the issuance of 13,726 Series C compulsory convertible preference shares, raising ₹251.7 crore (\$30 million), according to regulatory filings obtained from ToFler.



- **JBM ECOLIFE Receives \$100M Boost From ADB And AIIB For EV Bus Operations In India**

JBM ECOLIFE Mobility (P) Ltd, a subsidiary of JBM Auto Limited and a leader in electric bus mobility in India, has secured \$100 million in strategic funding from the Asian Development Bank (ADB) and the Asian Infrastructure Investment Bank (AIIB). The funds will be used to supply and operate 650 electric buses across multiple states in India under the Gross Cost Contract (GCC) model



EV Skateboard: Types, Features and Manufactures

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## EV vs ICE: TCO comparison for Last Mile Delivery

**Author:** Gaurav Rathore

Co-founder and CEO EVeez



Growing food delivery, quick commerce, and e-commerce in India has created demand for quick, cost-effective and eco-friendly last-mile delivery solutions. Two-wheelers form the back bone of this LMD process, with Three & Four – wheelers also playing an important role.

High logistics cost is driving logistics organizations to compare electric vehicles (EVs) against internal combustion engine (ICE) vehicles in order to determine the total cost of ownership (TCO) for their fleets. Here, we examine the TCO of EVs vs ICE in India with a focus on operating costs, maintenance costs, and government incentives encouraging the green transition.

The cost of electric vehicles has been reducing and is now only slightly higher than their ICE equivalents (at least in the value for money segment where LMD operates).

Government subsidies have played an important role in this through FAME, EMPS, and now PM e-Drive schemes. Other benefits like road tax exemptions also help bridge this gap.

TCO is most affected by fuel expenses; an EV saves a lot compared to ICE. *To highlight this point, consider the typical use case of last-mile delivery operations where 80 km distance per day is needed to fulfill the deliveries.*

In case of ICE 2-wheelers the fuel expenses can be anywhere from Rs. 1.8/km to Rs. 2.2/km. Besides this the maintenance cost of the ICE 2-wheeler adds another Rs. 0.5/km (including regular service, consumable parts like brakes and tyres, etc.), bringing the operating cost to around Rs. 2.5/km.

*This totals to Rs. 6000 per month on the operating costs.* Adding the ownership costs will take the TCO closer to Rs. 10,000 per month.

A similar run on an EV will cost significantly less. Energy required will be 2 units, equivalent to Rs. 18/day, leading to an energy cost of Rs. 540/month. EV maintenance is also cheaper than ICE as it does not have many moving parts and also does not need engine oil, gear oil and other consumables.

A typical maintenance cost for EV 2-wheelers come to Rs. 0.3/km. This brings the monthly maintenance cost to Rs. 720/month. Assuming a higher upfront cost of EV compared to ICE, the TCO for an EV 2-wheeler still comes under Rs. 6,500 per month.

A similar analysis can be done for other form factors and the results will be similar. This highlights the potential to significantly reduce cost and improve the bottom line for the last mile logistics companies.

Besides operating costs, there are many other tax and government fee related benefits of EV over ICE.

The GST on EV is 5% which is the lowest slab. ICE vehicles attract a higher GST (upto 28%) depending upon the product. Higher rates of depreciation are permitted for EV compared to ICE, thereby lowering the tax liability. There are incentives related to Road Tax, Vehicle Registration Cost that many state governments give further incentivize EV adoption.

The TCO question for the ICE vs EV is well settled for intensive use cases such as Last Mile Delivery. The main challenge is on the consumer front where the electric vehicle runs much less than 80km/day. In such cases the higher upfront cost of an EV is not offset by the savings on the operating costs.

With the advent of EV subscription and Battery-as-a-Service models, switching from ICE to EV has become easier. These innovative models ensure that there is no capex required for the switch and the fleet operations are easily managed by expert teams, enabling the last mile organisations to focus on their core strengths and leveraging the cost advantage of electric mobility.

Apart from financial benefits, EVs are better for our environment. Indian government efforts at carbon reduction line up with global aims for climate change.

**Zero tailpipe emissions** from electric vehicles reduce air pollution and will help India reach its 30% electric mobility objective by 2030 (NITI Aayog, India's Electric Mobility Vision 2030). Adoption of electric vehicles benefits metro cities like Delhi and Mumbai, where air quality is progressively worsening.

EVs appeal environmentally and help businesses comply with regulations, therefore enhancing their brand image and drawing in customers that align with their principles.



# Joint Ventures and Partnerships

- **Tata Motors and Tata Power Join Forces to Establish 200 Fast-Charging Stations for Electric Commercial Vehicles Across India**

Tata Power EV Charging Solutions Limited, a subsidiary of Tata Power Renewable Energy Limited, has signed a Memorandum of Understanding (MoU) with Tata Motors to set up 200 fast-charging stations for electric commercial vehicles (CVs) across India's major metropolitan cities—Mumbai, Delhi, Chennai, Bengaluru, and Kolkata.

- **Honda Collaborates with IIT Delhi and IIT Bombay on AI Research to Advance Cooperative Intelligence for Safer, Smarter Mobility**

Honda Cars India Limited (HCIL) has announced a strategic joint research collaboration with the Indian Institutes of Technology (IITs) — specifically IIT Delhi and IIT Bombay — to further develop Honda's Cooperative Intelligence (CI), a proprietary artificial intelligence technology aimed at fostering mutual understanding between machines and humans.

- **Terra Charge Partners with Airports Authority of India to Launch EV Charging Hubs**

Terra Charge has announced a strategic partnership with the Airports Authority of India (AAI) to set up electric vehicle (EV) charging hubs at major airports across the country, starting with Raja Bhoj International Airport in Bhopal. This initiative marks Terra Charge's first collaboration with AAI and represents a significant investment in expanding India's public EV charging infrastructure.

- **Epic Energy Limited Forms Joint Venture with Fenfeo Automotive to Establish EV Charger Manufacturing Unit**

Epic Energy Limited (EPIC) has entered into a Joint Venture Agreement with Coimbatore-based Fenfeo Automotive Private Limited to set up an Electric Vehicle (EV) Charger manufacturing facility. The unit will have an initial installed capacity of 15,000 chargers per year and will be located in Coimbatore.

- **Musashi Seimitsu Industry and Log9 Materials Form Strategic Partnership to Transform Electric Vehicle Market**

Musashi Seimitsu Industry Co., Ltd., the parent company of Musashi India and a leading manufacturer of transmission components for two- and four-wheelers, has announced a strategic partnership with Log9 Materials, an advanced battery technology company.

- **EMotorad and Booz Mobility Partner to Revolutionize India's Electric Transportation Sector**

MS Dhoni-backed EMotorad and Booz Mobility, a Shark Tank-featured company, have entered a strategic partnership to revolutionize electric transportation. This collaboration marks the first-ever partnership between an original equipment manufacturer (OEM) and a micro-mobility operator in India.

- **Tata Motors Partners with ESAF Small Finance Bank to Provide Tailored Financing for Commercial Vehicles**

Tata Motors has announced the signing of a Memorandum of Understanding (MoU) with ESAF Small Finance Bank, aimed at offering customized financing solutions for its commercial vehicle customers. Initially focusing on Small Commercial Vehicles (SCVs) and Light Commercial Vehicles (LCVs), the partnership will soon extend to cover Tata Motors' entire commercial vehicle portfolio.

- **Bharat Petroleum and IONAGE Extend Partnership to Enhance EV Charging Accessibility in India**

Bharat Petroleum Corporation Limited (BPCL) has announced an extended partnership with IONAGE reinforcing their commitment to a sustainable future. This collaboration will ensure that all current and future BPCL electric vehicle (EV) chargers nationwide remain accessible through the IONAGE platform, significantly enhancing convenience for EV owners.

- **Thunder Plus Teams Up With India Post To Launch Historic EV Charging Station In Hyderabad**

Thunder Plus has teamed up with India's Department of Post to launch the country's first EV charging station within a public post office. The innovative project debuted at the Sainikpuri Head Post Office in Hyderabad.

- **Noida Airport Expands Electric Vehicle Infrastructure With Statiq**

Noida International Airport (NIA) has announced a key partnership with Statiq, India's leading electric vehicle (EV) charging network provider, to develop a comprehensive airside EV charging infrastructure. Statiq will oversee the entire operation of the charging network, from installation to maintenance, ensuring its round-the-clock availability.

- **EKA Mobility Partners with Skyline Motors to Launch Electric Bus Service in Uttarakhand**

EKA Mobility, a subsidiary of Pinnacle Industries and a prominent player in the electric vehicle sector, has announced the deployment of its EKA 9 electric buses in collaboration with Skyline Motors (India) Private Limited. These e-buses will operate along the Dehradun-Rishikesh route, passing through Haridwar, covering a total distance of 300 kilometers daily.

- **The Climate Pledge Unveils \$2.65 Million EV Charging Network In Bengaluru To Accelerate Electric Vehicle Adoption**

The Climate Pledge—co-founded by Amazon and Global Optimism—has announced a new initiative called Joint Operation Unifying Last-mile Electrification (JOULE). This \$2.65 million project aims to build a network of shared EV charging stations across Bengaluru, India's tech capital, powered entirely by renewable energy. The first charging station at Doddakallasandra is now operational.

- **Neuron Energy Partners with Pointo to Drive Lithium-Ion Battery Leasing for E-Rickshaws in India**

Neuron Energy, a leading EV battery manufacturer, has announced a strategic partnership with Pointo, a pioneer in the Battery-as-a-Service (BaaS) model. This collaboration aims to lease high-capacity lithium-ion batteries to commercial e-rickshaws in India, marking a major step toward advancing sustainable electric mobility in the country.

- **Cygni Energy and HiNa Partner to Drive Sodium-Ion Battery Innovation for Electric Vehicles in India**

Hyderabad-based Cygni Energy Private Limited announced a strategic partnership with HiNa Battery Technologies, a global leader in Sodium-ion technology. This collaboration aims to create India-specific storage solutions using HiNa's cutting-edge Sodium-ion cells, with a focus on sustainable and cost-effective energy alternatives to Lithium-based batteries.

- **Vidyut Partners with JSW MG Motor India to Launch Battery-as-a-Service Financing, Revolutionizing Electric Vehicle Ownership**

Vidyut partnered with JSW MG Motor India to introduce an innovative Battery-as-a-Service (BaaS) financing model for passenger electric vehicles. The initiative, launched for models including the MG Comet EV, MG Windsor EV, and MG ZS EV, aims to reduce the overall cost of EV ownership.

- **Spark Minda to license EDS technology from Sanco for local EV Component Production**

Minda Corporation has signed a Technology Licensing Agreement with Sanco Connecting Technology to expand its offerings in the Indian EV market. The collaboration focuses on developing and manufacturing Electrical Distribution Systems (EDS), including charging systems, Power Distribution Units (PDU), and Battery Distribution Units (BDU).

- **DAEWOO India Partners with eBikeGo to Revolutionize Personal Electric Mobility**

DAEWOO India and eBikeGo, a leading electric mobility platform, have announced a strategic collaboration aimed at transforming the personal electric mobility market over the next five years.

- **CESL And KADA To Launch Electric Bicycle Initiative In Andhra Pradesh To Support Rural Entrepreneurs**

Convergence Energy Services Limited (CESL) has teamed up with the Kuppam Area Development Authority (KADA) to introduce 300 cargo electric bicycles in Kuppam, Andhra Pradesh. This initiative, part of the Sustainable Transport for Rural Entrepreneurs (STREE) program, aims to enhance micro-mobility and support local entrepreneurship in the region.

# Other EV Updates

- **iVOOMi Launches Exclusive Partner Bonus Program to Empower EV Dealerships in Maharashtra and Tamil Nadu**
- **Raft Cosmic EV Announces New INR 50 Crore Electric Scooter Manufacturing Facility In Howrah**
- **Competition Commission Of India Approves NIIF's Increased Stake In Ather Energy**
- **India Introduces Revised Guidelines For Electric Vehicle Charging Infrastructure**
- **Delhi Government To Electrify Gramin Seva Autos For Sustainable Rural Transport**
- **CESL Issues Tender For EV Charging And Battery Swapping Stations Under BOOM Model**
- **Delhi's Transport Minister Hails Food Delivery Gig Workers As 'Pollution Warriors' For Promoting Electric Vehicles**

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