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# EVreporter

JANUARY 2026 | MAGAZINE

Issue no. 60

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# Engineering plastics solutions for E-mobility applications

## XYRON™ modified polyphenylene ether [mPPE]

## Solution for AIS156 Thermal Propagation & Fire Test

### Excellent flammability class

| Grade/UL94 | V-0 (mmt) | 5VA (mmt) |
|---|---|---|
| **XYRON™** 340Z | 0.75 | **2.5** |
| **XYRON™** 540Z | 0.75 | **2.5** |
| **XYRON™** 443Z | 0.75 | **2.5** |
| **XYRON™** G601Z | 1.50 | **2.0** |

### Burn Test for Li-B applications[4]

**FR PC/ABS**

**Burn temp:** 850°C
**Burn time:** 0 min 58 secs
**Burn through:** Yes
**Drip:** No

**XYRON™ 540Z**

**Burn temp:** 850°C
**Burn time:** 2 min 19 secs
**Burn through:** Yes
**Drip:** No

**XYRON™ 443Z**

**Burn temp:** 850°C
**Burn time:** 2 min 58 secs
**Burn through:** Yes
**Drip:** No

**Burn test method:**
Angle of flame: 20°, Thickness: 3 mm
Flame: Blue tip at the center of the plate
Time start: When the fire is turn on
Time stop: When burn through happen

### [5]Advantages of XYRON™

| Value proposition | | Property | XYRON™ | PC | PC/ABS |
|---|---|---|---|---|---|
| Energy efficiency due to low weight | | Low specific gravity | ● | ● | ● |
| Structural integrity for large and complex designs | | Dimension stable | ● | ● | ● |
| **Battery Safety** AIS-156 | Fire resistance test with thin plate | Thickness[4] | ● | ● | ● |
| | 1m drop test | Impact strength[1] | ● | ● | ● |
| | Direct/indirect contact of water | Impact strength (after aging) [2] | ● | ● | ● |
| | Thermal shock test | Impact strength (after aging) [3] | ● | ● | ● |

**Note:**
1 – Notched Charpy Impact ISO179
2 – Notched Charpy Impact ISO179 after conditioned using Internal Method: -20°C to 85°C/85%RH for 10 cycles.
3 – Notched Charpy Impact ISO179 after conditioned using AIS-156 – Thermal shock: -40°C to 80°C for 10 cycles.
4 – Asahi Kasei Method
5 – Result shown are estimates comparison conducted by Asahi Kasei

● Excellent
● Good

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# What's INSIDE



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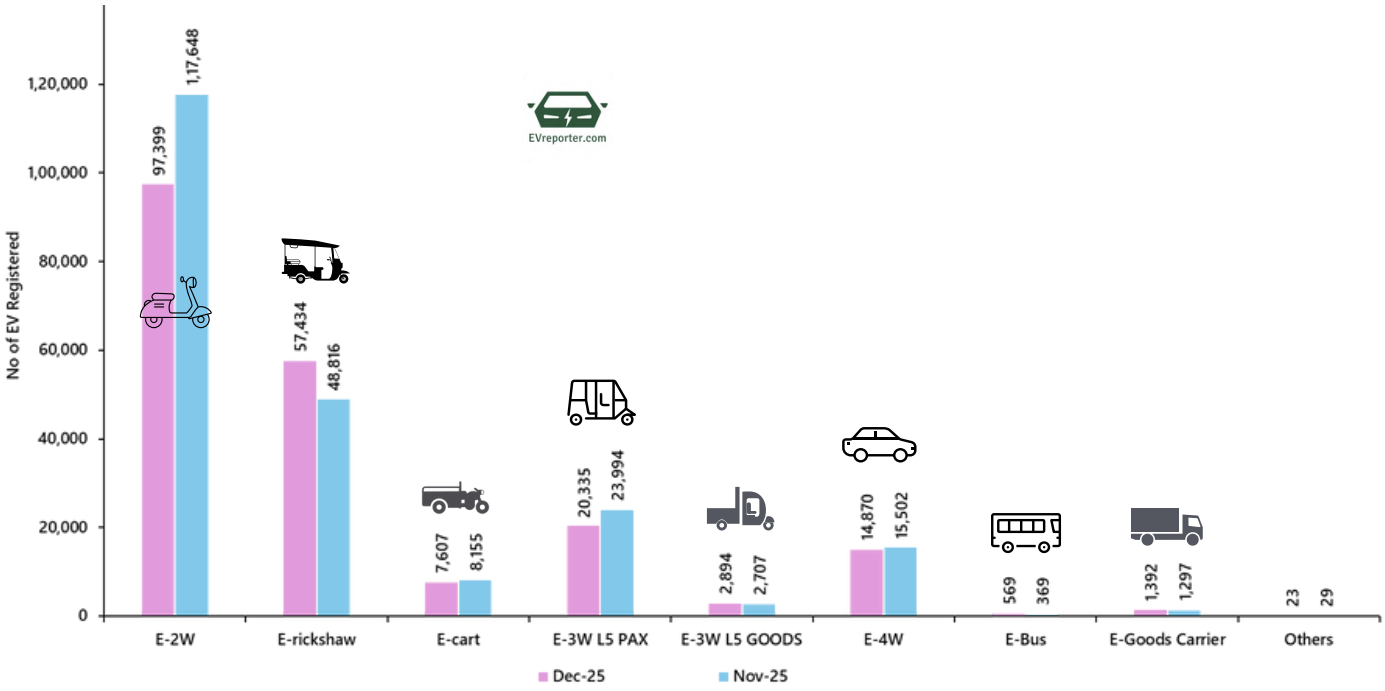
# Category-wise Electric Vehicle sales, Dec 2025 | India

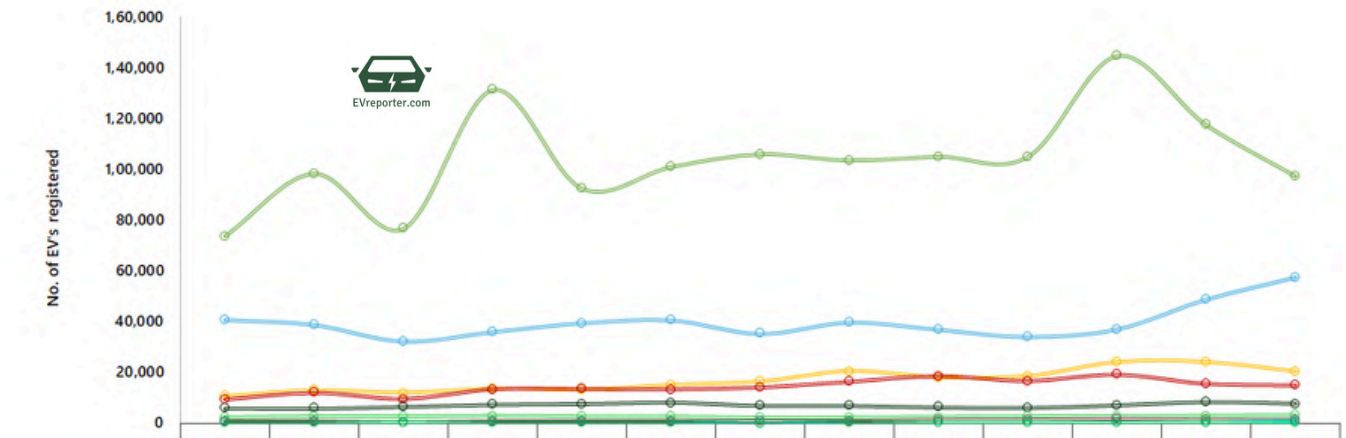
## Total Registered Electric Vehicle Sales - **Dec'25 - 2,02,523** I Nov'25 - 2,18,517




*'Goods Carrier' refers to N1, N2, N3 vehicles, including LCVs and HGVs, as categorised in Vahan dashboard. 'E-rickshaw' refers to low-speed electric 3Ws (up to 25 kmph) used for passenger transportation. 'E-cart' designates low-speed electric 3Ws (up to 25 kmph) used for goods transportation. 'L5M' stands for passenger 3W L5 vehicles, 'L5N' stands for Cargo 3W L5 vehicles.*

## Category wise-Sales Trend from Dec 2024 to Dec 2025

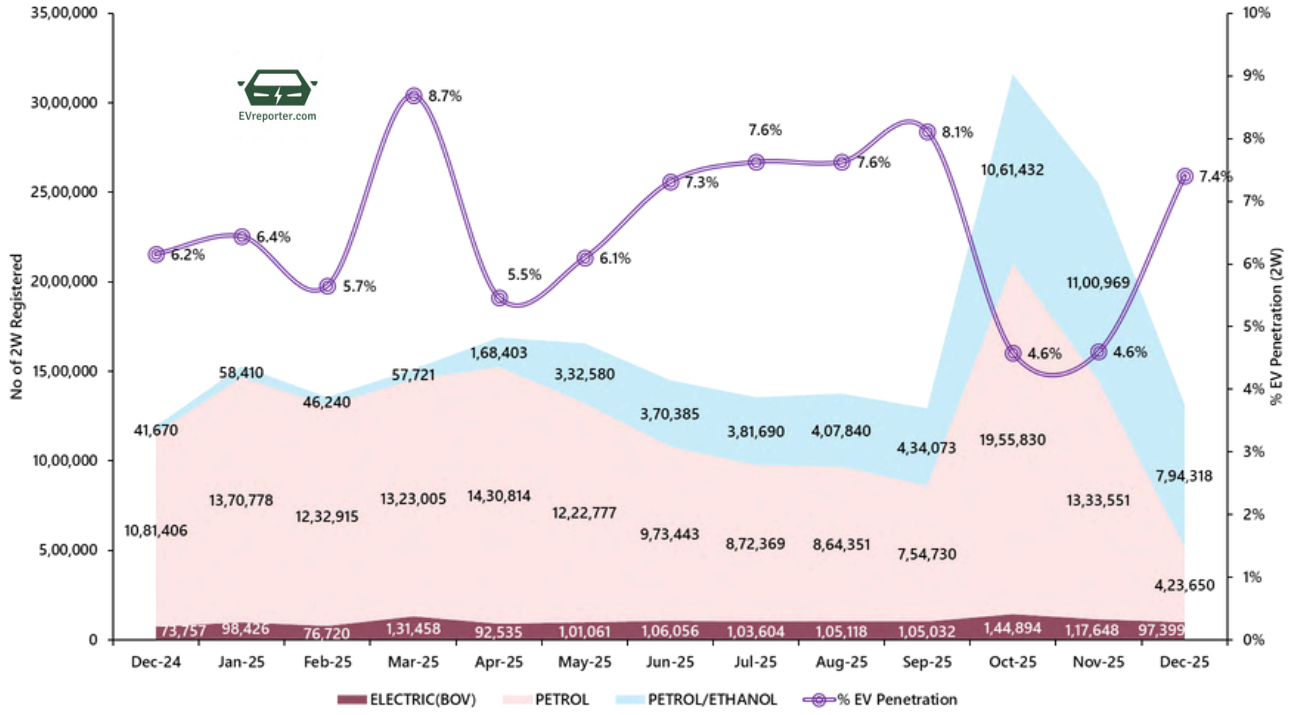
**22,70,346 EVs sold in last 12 months from Jan 2025 to Dec 2025**




| | Dec-24 | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 | Nov-25 | Dec-25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E-2W | 73757 | 98426 | 76720 | 131458 | 92535 | 101061 | 106056 | 103604 | 105118 | 105032 | 144894 | 117648 | 97399 |
| E-rickshaw | 40829 | 38819 | 32341 | 36060 | 39501 | 40624 | 35335 | 39773 | 36953 | 34078 | 37100 | 48816 | 57434 |
| E-3W L5 PAX | 10633 | 12877 | 11912 | 13542 | 13121 | 14992 | 16327 | 20445 | 18007 | 18493 | 23956 | 23994 | 20335 |
| E-cart | 5824 | 5750 | 6388 | 7212 | 7453 | 7961 | 6844 | 6807 | 6208 | 6034 | 6984 | 8155 | 7607 |
| E-3W L5 GOODS | 2130 | 2492 | 2450 | 2701 | 2423 | 2424 | 2016 | 2093 | 2297 | 2437 | 2561 | 2707 | 2894 |
| E-4W | 9261 | 11926 | 9494 | 13331 | 13405 | 13309 | 14045 | 16327 | 18556 | 16634 | 19161 | 15502 | 14870 |
| E-Bus | 176 | 372 | 307 | 280 | 284 | 338 | 529 | 363 | 394 | 346 | 290 | 369 | 569 |
| E-Goods Carrier | 503 | 577 | 491 | 680 | 618 | 679 | 616 | 882 | 1,143 | 1,220 | 1,483 | 1,297 | 1,392 |
| Others | 46 | 53 | 69 | 30 | 19 | 38 | 15 | 58 | 43 | 58 | 148 | 29 | 23 |
| TOTAL | 143159 | 171292 | 140172 | 205294 | 169359 | 181426 | 181783 | 190352 | 188719 | 184332 | 236577 | 218517 | 202523 |

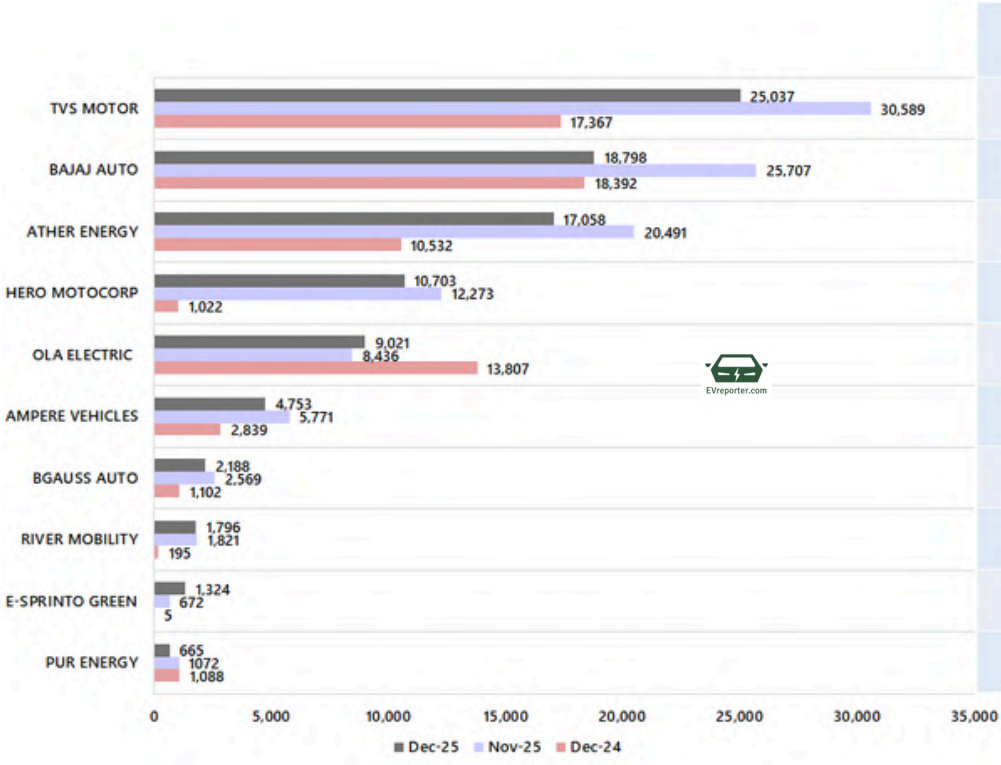
*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included. Low speed e-2W sales data not included.*

# Fuel wise 2-Wheeler Sales Trend, Dec 2024 - Dec 2025




*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included. Low speed e-2W sales data not included.*

## E-2W Sales in Dec 2025 | Leading OEMs

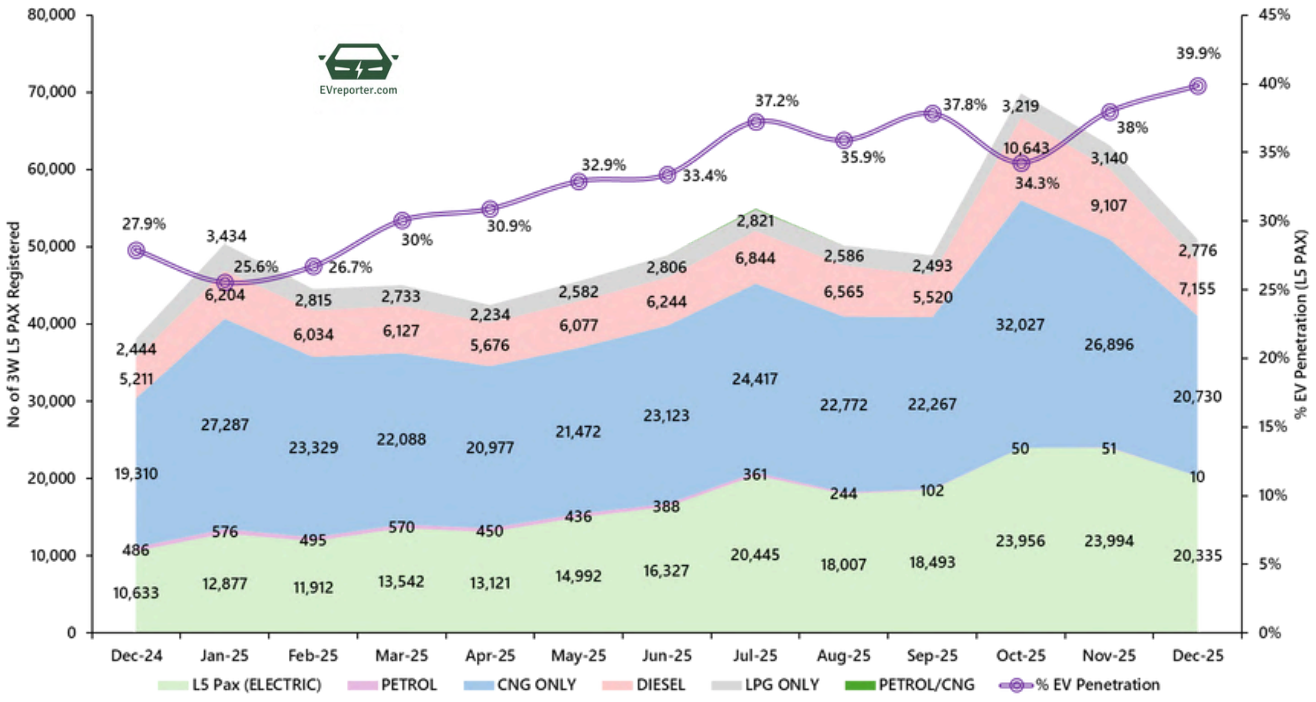



| | % Growth (Y-o-Y) | % Growth (M-o-M) |
|---|---|---|
| TVS MOTOR | 44.2% | -18.2% |
| BAJAJ AUTO | 2.2% | -26.9% |
| ATHER ENERGY | 62% | -16.8% |
| HERO MOTOCORP | - | -12.8% |
| OLA ELECTRIC | -34.7% | 6.9% |
| AMPERE VEHICLES | 67.4% | -17.6% |
| BGAUSS AUTO | 98.5% | -14.8% |
| RIVER MOBILITY | - | -1.4% |
| E-SPRINTO GREEN | - | 97% |
| PUR ENERGY | -38.9% | -38% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included. Low speed e-2W sales data not included.*

***For EV sales, including Telangana data, state-wise, city-wise (70 cities), Top performing RTO data and OEM-wise performance, check out the EVreporter Data Portal here.***

# Fuel-wise 3W **L5 Passenger** Sales Trend | Dec 2024 - Dec 2025




*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

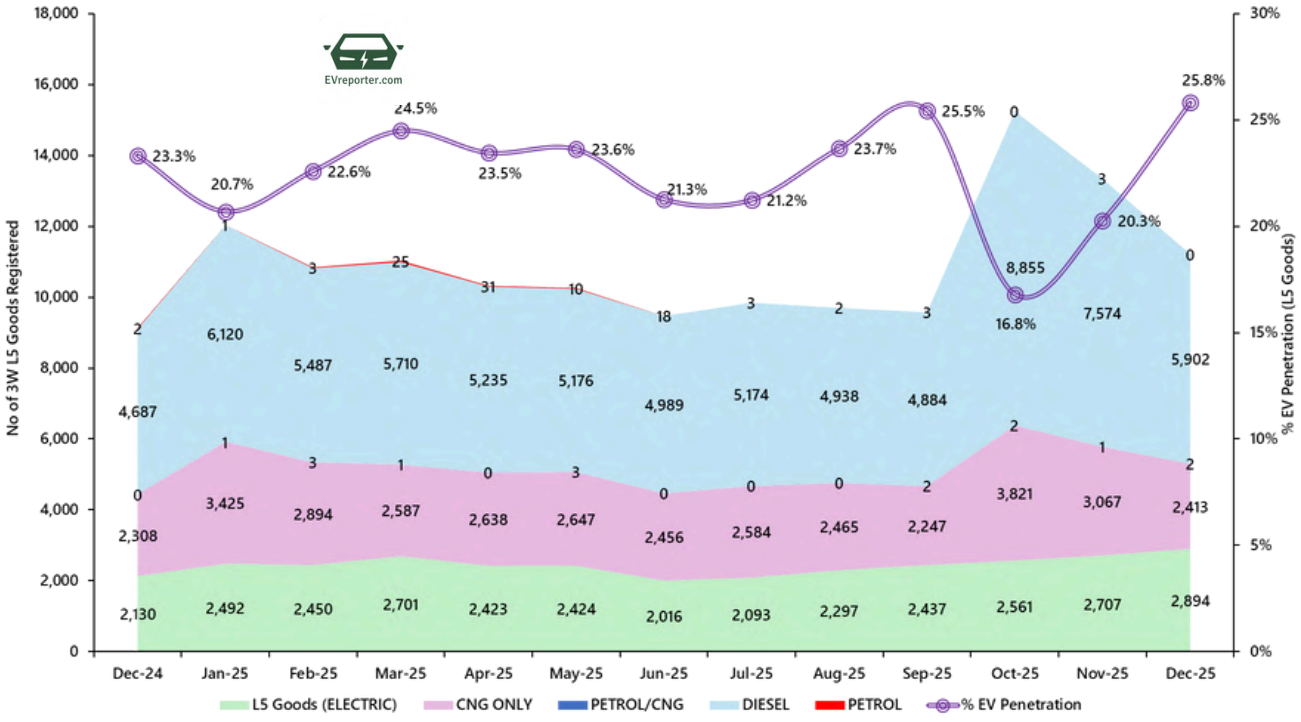
# E-3W L5 Passenger Sales | Leading OEMs


| | % Growth (Y-o-Y) | % Growth (M-o-M) |
|---|---|---|
| BAJAJ AUTO | 79% | -15% |
| MAHINDRA LAST MILE MOBILITY | 55.3% | -28.1% |
| TVS MOTOR | - | 0.5% |
| PIAGGIO VEHICLES | 0.2% | 6.7% |
| TI CLEAN MOBILITY | 43.4% | 9.9% |
| OMEGA SEIKI | 325% | 16.6% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

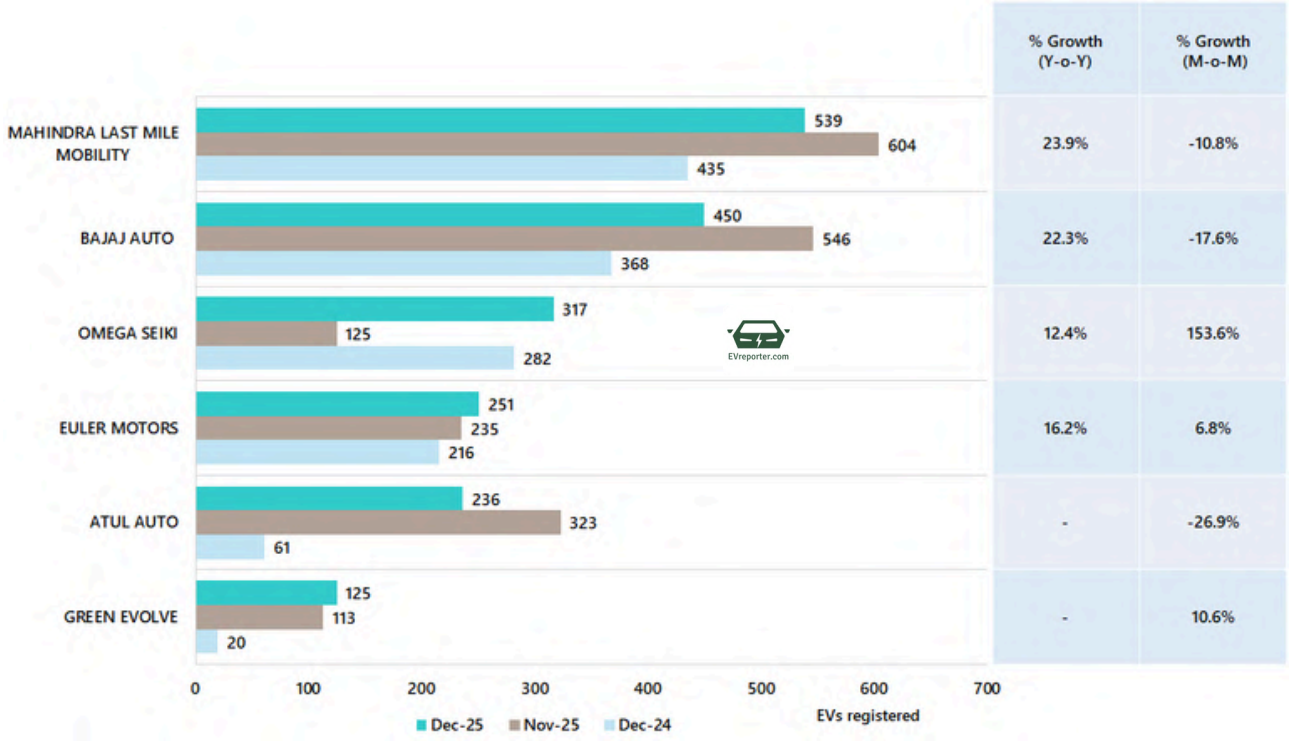
***For EV sales, including Telangana data, state-wise, city-wise (70 cities), Top performing RTO data and OEM-wise performance, check out the EVreporter Data Portal here.***

# Fuel wise 3W **L5 Goods** Sales Trend | Dec 2024 - Dec 2025




*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

# E-3W Goods L5 Sales | Leading OEMs

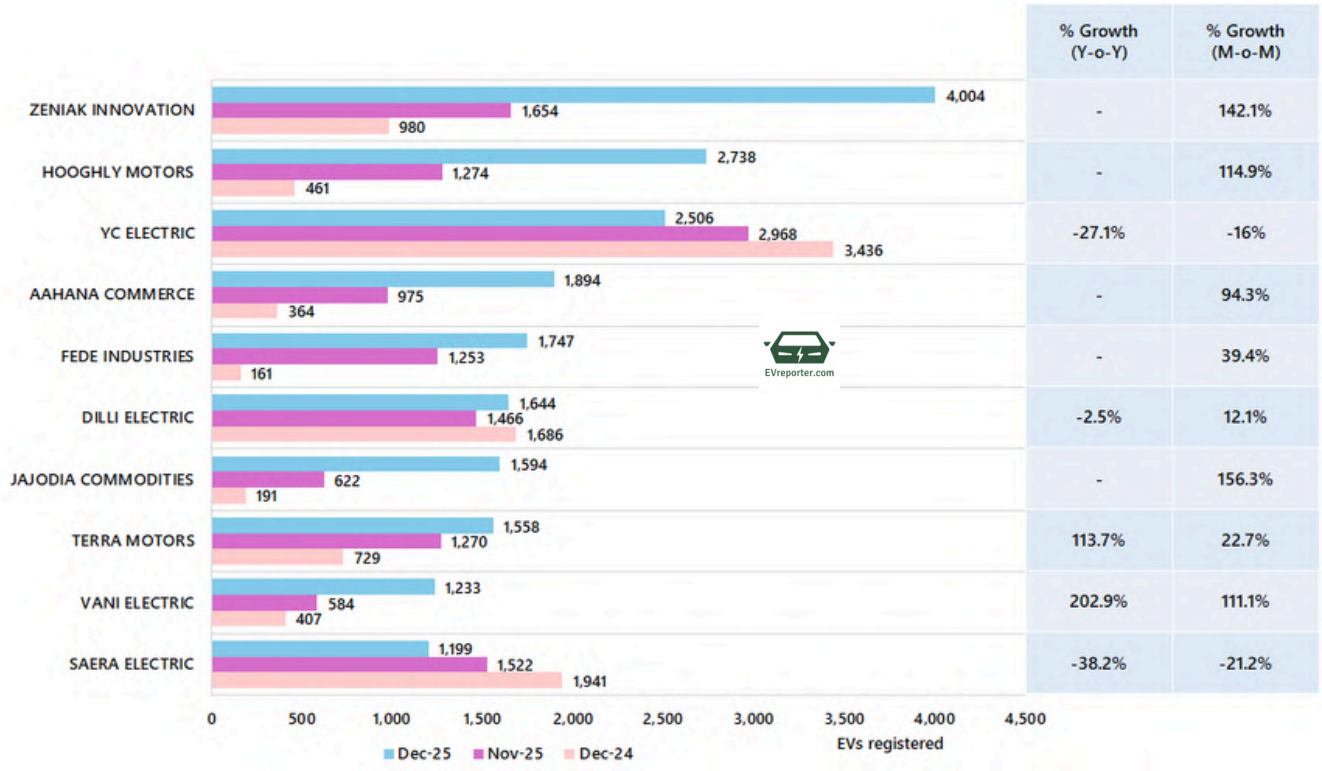



| | % Growth (Y-o-Y) | % Growth (M-o-M) |
|---|---|---|
| MAHINDRA LAST MILE MOBILITY | 23.9% | -10.8% |
| BAJAJ AUTO | 22.3% | -17.6% |
| OMEGA SEIKI | 12.4% | 153.6% |
| EULER MOTORS | 16.2% | 6.8% |
| ATUL AUTO | - | -26.9% |
| GREEN EVOLVE | - | 10.6% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

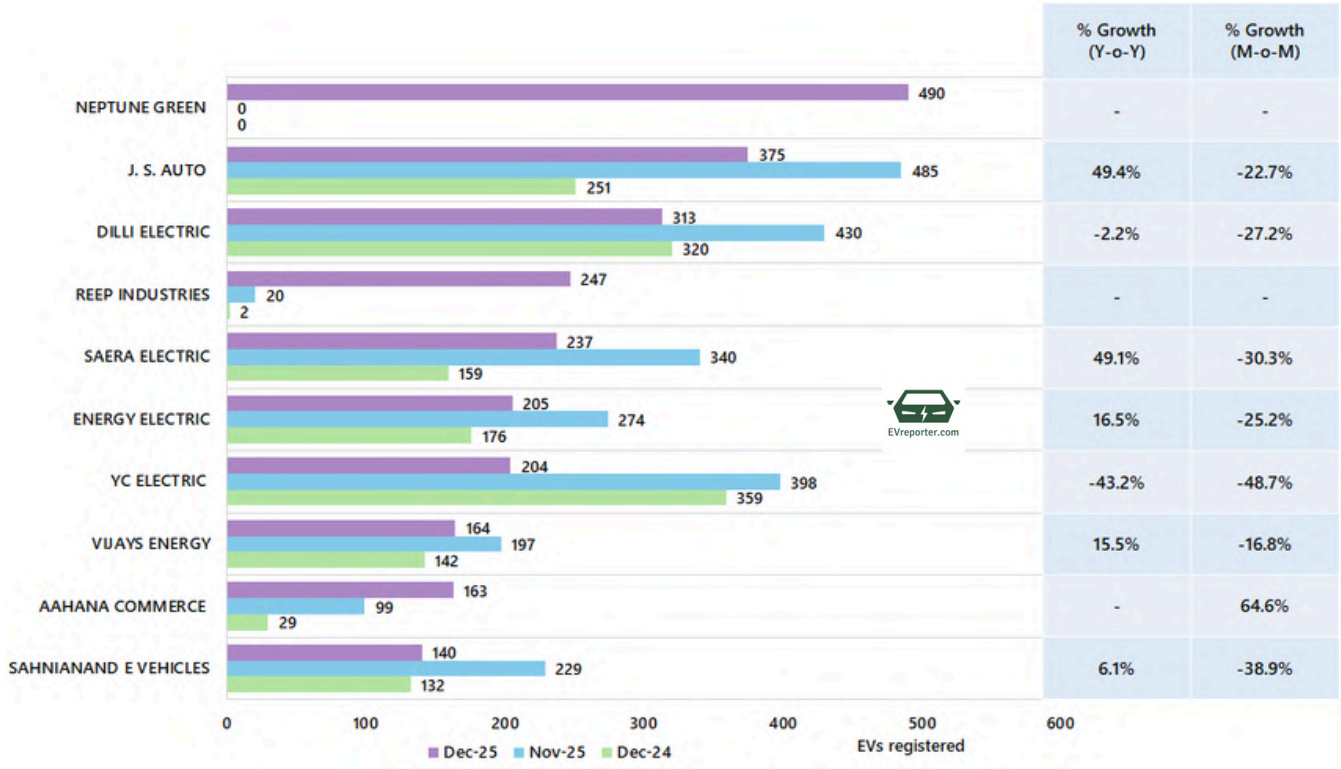
***For EV sales, including Telangana data, state-wise, city-wise (70 cities), Top performing RTO data and OEM-wise performance, check out the EVreporter Data Portal here.***

# E-rickshaw Sales Trend by OEM | Dec 2025




*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

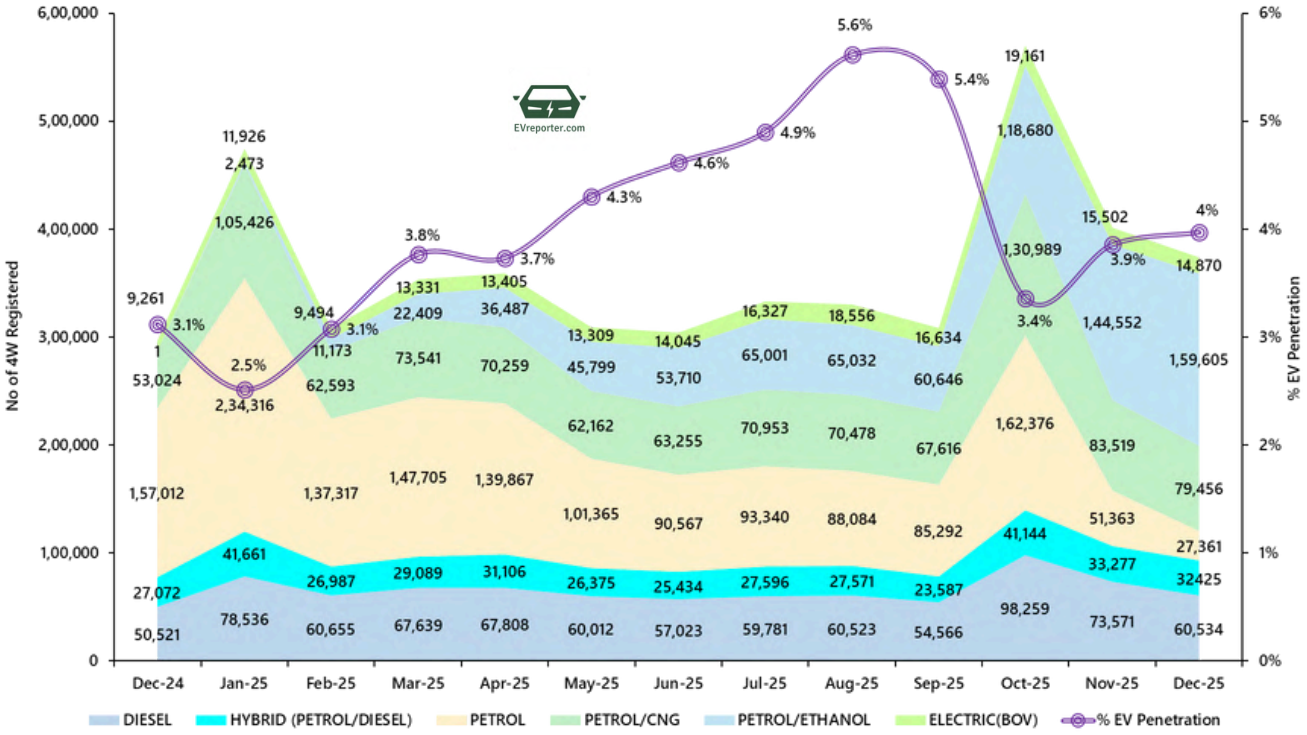
# E-cart Sales | Leading OEMs | Dec 2025




*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

***For EV sales, including Telangana data, state-wise, city-wise (70 cities), Top performing RTO data and OEM-wise performance, check out the EVreporter Data Portal here.***

# Fuel wise Car Sales Trend | Dec 2024 - Dec 2025




*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

# Electric Car Sales Trend by OEM

| S No. | Makers | Dec-25 | Nov-25 | Difference | % Change | Market Share Dec-25 |
|---|---|---|---|---|---|---|
| 1 | TATA MOTORS | 6,457 | 6,425 | 32 | 0.5% | 43.4% |
| 2 | JSW MG MOTOR | 3,558 | 3,851 | -293 | -7.6% | 23.9% |
| 3 | MAHINDRA & MAHINDRA | 3,084 | 3,120 | -36 | -1.2% | 20.7% |
| 4 | VINFAST AUTO | 376 | 308 | 68 | 22.1% | 2.5% |
| 5 | BMW INDIA | 345 | 280 | 65 | 23.2% | 2.3% |
| 6 | KIA INDIA | 313 | 477 | -164 | -34% | 2.1% |
| 7 | HYUNDAI MOTOR | 263 | 388 | -125 | -32.2% | 1.8% |
| 8 | BYD INDIA | 237 | 440 | -203 | -46.1% | 1.6% |
| 9 | MERCEDES -BENZ AG | 68 | 77 | -9 | -11.7% | 0.5% |
| 10 | TESLA INDIA MOTORS | 68 | 48 | 20 | 42% | 0.5% |
| 11 | STELLANTIS AUTOMOBILES | 45 | 33 | 12 | 36.4% | 0.3% |
| 12 | VOLVO AUTO | 37 | 32 | 5 | 15.6% | 0.2% |
| 13 | MARUTI SUZUKI | 9 | 14 | -5 | -35.7% | 0.1% |
| 14 | OTHERS | 10 | 9 | 1 | 11.1% | 0.1% |
| | TOTAL | 14,870 | 15,502 | -632 | -4.1% | 100% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

***Reach us at info@EVreporter.com with your custom automotive data requirements.***

# OEM wise Electric Bus Sales | Dec 2025

| S No. | Makers | Dec-25 | Nov-25 | Difference | % Change | Market Share Dec-25 |
|---|---|---|---|---|---|---|
| 1 | SWITCH MOBILITY | 175 | 54 | 121 | 224% | 30.8% |
| 2 | JBM AUTO | 138 | 20 | 118 | - | 24.3% |
| 3 | PMI ELECTRO MOBILITY | 127 | 73 | 54 | 74% | 22.3% |
| 4 | OLECTRA GREENTECH | 97 | 90 | 7 | 8% | 17% |
| 5 | PINNACLE MOBILITY | 10 | 126 | -116 | -92% | 1.8% |
| 6 | TATA MOTORS | 9 | 0 | 9 | - | 1.6% |
| 7 | VE COMMERCIAL | 8 | 0 | 8 | - | 1.4% |
| 8 | AEROEAGLE AUTOMOBILES | 5 | 0 | 5 | - | 0.9% |
| 9 | AZAD INDIA MOBILITY | 0 | 6 | -6 | - | - |
| | TOTAL | 569 | 369 | 200 | 54% | 100% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

# OEM wise E-Goods Carrier Sales | Dec 2025

| S No. | Makers | Dec-25 | Nov-25 | Difference | % Change | Market Share Dec-25 |
|---|---|---|---|---|---|---|
| 1 | TATA MOTORS | 520 | 491 | 29 | 5.9% | 37.4% |
| 2 | EULER MOTORS | 275 | 254 | 21 | 8.3% | 19.8% |
| 3 | MAHINDRA LAST MILE MOBILITY | 212 | 251 | -39 | -15.5% | 15.2% |
| 4 | SWITCH MOBILITY | 145 | 71 | 74 | 104.2% | 10.4% |
| 5 | TIVOLT ELECTRIC | 77 | 66 | 11 | 16.7% | 6% |
| 6 | VE COMMERCIAL | 70 | 46 | 24 | 52.2% | 5% |
| 7 | IPL TECH ELECTRIC | 32 | 11 | 21 | 190.9% | 2.3% |
| 8 | PINNACLE MOBILITY | 15 | 2 | 13 | - | 1.1% |
| 9 | OLECTRA GREENTECH | 13 | 4 | 9 | 225% | 0.9% |
| 10 | PROPEL INDUSTRIES | 10 | 27 | -17 | -63% | 0.7% |
| 11 | OTHERS | 23 | 74 | -51 | -68.9% | 1.7% |
| | TOTAL | 1,392 | 1,297 | 95 | 7.3% | 100% |

***For EV sales, including e-goods carriers, Telangana data, state-wise, city-wise (70 cities), top-performing RTO data, and OEM-wise performance, check out EVreporter Data Portal here.***

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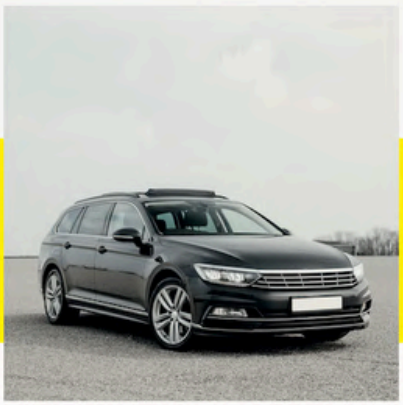

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# EV Penetration for Different Vehicle Category Sales in India

| Category | Dec-25 | Nov-25 | Dec-24 |
|---|---|---|---|
| 2W | 7.4% | 4.6% | 6.2% |
| 3W L5M | 39.9% | 38% | 27.9% |
| 3W L5N | 25.8% | 20.3% | 23.3% |
| 4W | 4% | 3.9% | 3.1% |
| Goods Carrier | 1.9% | 1.6% | 0.7% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

*'Goods Carrier' refers to N1,N2,N3 cargo vehicles, including LCVs and HGVs, as categorised in Vahan dashboard. 'L5M' stands for passenger 3W L5 vehicles, 'L5N' stands for Cargo 3W L5 vehicles.*

## ICE vs EV Sales & Penetration Trend

- India's EV Sales Trend for Dec 2025 shows a decline in monthly sales from Nov 2025.
- EV penetration for 2Ws bounced back with 7.4%, up from 4.6% in the last 2 months.
- **L5 Passenger segment maintained strong EV penetration at 39.9%** (highest to date).
- EV penetration in the L5 cargo segment also recovered to 25.8% from 20.3% in Nov 2025.
- Though small in absolute numbers, the Goods Carrier category is gradually gathering pace, with EV penetration rising to 1.9% from 0.7% the year before.
- **Bajaj Auto** attributed 13.6% of its Dec 2W sales to EVs, while EV penetration for TVS 2Ws stood at 9.4%. 97% of **Mahindra Last Mile Mobility**'s (MLMM) passenger 3W sales were electric. Nearly 60% of MLMM's cargo 3W sales were electric.
- Over **85% of JSW MG Motor India's** sales in Dec 2025 were EVs. EV penetration in the passenger car category stood at 12.4% for Tata Motors and 21.8% for BMW India.

**This section aims to showcase the part of EV sales for top-selling OEMs in the two-wheeler, three-wheeler and passenger vehicle categories.**

## India's Top 2W OEMs | ICE vs EV Sales for Dec 2025

| S No. | Maker | Total Sales Dec-25 | ICE | EV | % EV |
|---|---|---|---|---|---|
| 1 | HONDA MOTORCYCLE | 3,56,128 | 3,55,857 | 271 | 0.1% |
| 2 | HERO MOTOCORP | 2,90,813 | 2,80,110 | 10,703 | 3.7% |
| 3 | TVS MOTOR | 2,65,707 | 2,40,670 | 25,037 | 9.4% |
| 4 | BAJAJ AUTO | 1,38,012 | 1,19,214 | 18,798 | 13.6% |
| 5 | ROYAL-ENFIELD | 82,057 | 82,057 | 0 | - |
| 6 | SUZUKI MOTORCYCLE | 80,058 | 80,058 | 0 | - |
| 7 | INDIA YAMAHA | 54,363 | 54,363 | 0 | - |
| 8 | ATHER ENERGY | 17,058 | 0 | 17,058 | 100% |
| 9 | OLA ELECTRIC | 9,021 | 0 | 9,021 | 100% |
| 10 | AMPERE VEHICLES | 4,753 | 0 | 4,753 | 100% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

## India's Top 3W Pax Auto OEMs | ICE vs EV Sales for Dec 2025

| S No. | Maker | Total Sales Dec-25 | ICE | EV | % EV |
|---|---|---|---|---|---|
| 1 | BAJAJ AUTO | 30,465 | 23,539 | 6,926 | 22.7% |
| 2 | MAHINDRA LAST MILE MOBILITY | 6,857 | 209 | 6,648 | 97% |
| 3 | PIAGGIO VEHICLES | 5,034 | 3,795 | 1,239 | 24.6% |
| 4 | TVS MOTOR | 5,019 | 2,188 | 2,831 | 56.4% |
| 5 | ATUL AUTO | 1,118 | 913 | 205 | 18.3% |
| 6 | TI CLEAN MOBILITY | 644 | 0 | 644 | 100% |
| 7 | OMEGA SEIKI | 442 | 0 | 442 | 100% |
| 8 | SAERA ELECTRIC | 408 | 0 | 408 | 100% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

***For EV sales, including e-goods carriers, Telangana data, state-wise, city-wise (70 cities), top-performing RTO data, and OEM-wise performance, check out EVreporter Data Portal here.***

## India's Top 3W Goods Auto OEMs | ICE vs EV Sales for Dec 2025

| S No. | Maker | Total Sales Dec-25 | ICE | EV | % EV |
|---|---|---|---|---|---|
| 1 | BAJAJ AUTO | 4,600 | 4,150 | 450 | 9.8% |
| 2 | PIAGGIO VEHICLES | 2,500 | 2,413 | 87 | 3.5% |
| 3 | ATUL AUTO | 1,373 | 1,137 | 236 | 17.2% |
| 4 | MAHINDRA LAST MILE MOBILITY | 900 | 361 | 539 | 59.9% |
| 5 | OMEGA SEIKI | 317 | 0 | 317 | 100% |
| 6 | EULER MOTORS | 251 | 0 | 251 | 100% |
| 7 | MLR AUTO | 131 | 128 | 3 | 2.3% |
| 8 | GREEN EVOLVE | 125 | 0 | 125 | 100% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

## India's Top 4W OEMs | ICE vs EV Sales for Dec 2025

| S No. | Maker | Total Sales Dec-25 | ICE | EV | % EV |
|---|---|---|---|---|---|
| 1 | MARUTI SUZUKI | 1,50,019 | 1,50,010 | 9 | 0.01% |
| 2 | TATA MOTORS | 52,025 | 45,568 | 6,457 | 12.4% |
| 3 | HYUNDAI MOTOR | 48,376 | 48,113 | 263 | 0.5% |
| 4 | MAHINDRA & MAHINDRA | 47,627 | 44,543 | 3,084 | 6.5% |
| 5 | TOYOTA KIRLOSKAR | 25,850 | 25,850 | 0 | - |
| 6 | KIA INDIA | 20,561 | 20,248 | 313 | 1.5% |
| 7 | SKODA AUTO VOLKSWAGEN | 9,111 | 9,111 | 0 | - |
| 8 | HONDA CARS | 5,535 | 5,535 | 0 | - |
| 9 | JSW MG MOTOR | 4,177 | 619 | 3,558 | 85.2% |
| 10 | RENAULT INDIA | 3,300 | 3,300 | 0 | - |
| 11 | NISSAN MOTOR | 1,742 | 1,742 | 0 | - |
| 12 | BMW INDIA | 1,582 | 1,237 | 345 | 21.8% |

*Source: Vahan Dashboard as of Jan 2, 2026. Telangana Data not included.*

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*FROM ZERO TO REVENUE*

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- How does charging business economics work?
- Permits, site selection and load assessment
- Business case | set-up and scale up
- Process of deployment
- Maintenance model
- Q&A

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# Beyond Financing: How Vertelo is Solving the Complete Fleet Electrification Puzzle

*Mumbai-based **Vertelo** makes it easier for commercial fleet operators to transition from conventional to electric vehicles. Launched in April 2024 by **Macquarie Asset Management,** Vertelo is backed by the **Green Climate Fund** and **Allianz**, amongst others. It covers the entire lifecycle of the underlying assets, including asset finalization, upfront capital solution, charging infrastructure, maintenance and energy management.*

*We caught up with their CEO, **Sandeep Gambhir**, to discuss Vertelo's work as a fleet electrification platform and his outlook towards how the industry is positioned to evolve.*

---

## Could you please explain what Verterlo does and what your priority areas of work are?

We were conceptualized as a fleet electrification platform to enable large fleet operators to transition from ICE to electric vehicles and address the key hurdles they face in electrification. What we offer is an end-to-end solution.

- At Vertelo, operators engage with us at the very initial stages, when electrifying their fleet is still at the **consideration stage**. We help them assess whether electrification makes sense, identify suitable OEMs and asset classes, evaluate unit economics, and conduct route assessments.

- Once the operator decides to go electric, the next step is **asset selection.** A major concern for operators is whether the asset will perform reliably—this involves the right battery chemistry and size, energy and charging management. We assess route feasibility, such as Bangalore - Chennai or Mumbai–Pune, and ensure that the right asset and adequate charging infrastructure are available at the start point, midpoint, and endpoint.

- After the asset has been finalised and discussions with OEMs are complete, the next stage is **financing/leasing the asset,** where we engage with the operators and offer bespoke solutions and structures/tenors that are better than comparable options, making asset ownership/operations more feasible for them.

- Beyond this, we also facilitate **the maintenance of the asset throughout its lifecycle** through comprehensive AMC arrangements that are entirely OEM-driven, specifically for larger asset classes such as buses and trucks.

- We work with the operators to provide a **comprehensive Depot setup,** including charging infrastructure, office space, parking, driver facilities, and maintenance infrastructure, including pits and storage space for spare parts and their technicians. This creates a long-term relationship of 7 to 8 years with the operator, aligned with the asset lifecycle.

We handhold the operator throughout the entire journey— while financing or leasing is integral, but the overall solution goes far beyond a single transaction and what we follow is a relationship led approach with only one goal, the operator has to make money in this business, because unless the operator makes money, neither us, nor the OEM will make money in the longer run.

### Are there any specific vehicle segments that you are prioritising for electrification?

We are backed by the Green Climate Fund and the Macquarie and Allianz, amongst others, and these are climate impact investors with a clear objective to mitigate the impact of climate change. Accordingly, from both a financing and an overall solution standpoint, we are focusing on **asset classes that have higher levels of emissions**. At this stage, we are not focused on two-wheelers or three-wheelers, which are more of a retail play. Instead, ours is a wholesale lending approach focused on the larger form factors, working with larger asset classes, large fleet operators, and larger OEMs.

Our focus segments include **cars, light commercial vehicles (LCVs), buses, and trucks,** along with the associated energy management and charging infrastructure.

### What differentiates Vertelo from other platforms offering asset financing and fleet management solutions?

There are a few key differentiators.

- The first is the **scale of capital** we are bringing to this initiative. In July 25, we closed one of India's largest funding raises for a platform of this nature, **raising USD 405 million** to enable Vertelo to deliver on its mandate.

- We are a pure-play electric platform with a **full ecosystem approach**. While there is competition in this space, it is highly fragmented. Banks and NBFCs typically operate at what we call stage three or four, focusing only on financing, which is largely transactional. Charge point operators, on the other hand, focus on charging and do not cover asset acquisition, AMC, fleet management, telematics, or battery replacement. We partner with Operators and OEMs, acting as a facilitator between them.

- While banks, NBFCs, and CPOs are our closest competitors, there is currently no comparable end-to-end platform operating at this level. The traditional mindset in India still views transactions largely from an IRR perspective. While we address that to ensure that we are competitive, we also bring significant value-added capabilities, which help us get differentiated over primarily IRR-led transactions.

- The biggest differentiator for us is our team, which includes leaders from domains such as financial services, automotive, and engineering, people who understand the entire EV ecosystem and operations, with backgrounds and experience working with large OEMs.

Our team is involved right from the conceptualisation stage and even in the manufacturing process, including presence at OEM production lines, to ensure the quality and reliability of the asset before it is dispatched from the plant. The value we bring goes well beyond marginal IRR improvements, and that's visible to the operators, and they appreciate this partnership.

## Could you share the current scale of Vertelo's deployments?

We started our first transaction in April 2024 with Chalo. Nearly half of Chalo's electric fleet in Mumbai was initially funded by us, and based on our relationship-led approach, we have since completed a follow-on transaction. 80% of Chalo's electric fleet in Mumbai is now funded by us.


To date, we have executed **~12 transactions, covering close to 375 assets** that are either already on the ground or about to be deployed. These are largely buses and cars. We have raised approximately ₹3,500 crore in total, of which **approximately ₹400 crore of capital** will be deployed by the end of this financial year.

We have covered multiple asset classes, including inter-city coaches and intra-city buses, cars across multiple use cases, such as B2B employee transportation and ride-hailing. We have also constructed depots, with our first depot already operational in Chennai and the second scheduled to go live in Coimbatore by the end of this month. More are in the pipeline.

**Before the end of this financial year, we also expect to close a transaction in the truck segment and the battery space.**

## How much capital do you plan to allocate across the different aspects of the ecosystem Vertelo addresses as a platform?

We have raised **USD 405 million, and we now also have an operational NBFC**, having received our RBI licence towards the end of November 2025. With conservative leverage of about 3x, we can deploy between USD 1.2 billion and USD 1.6 billion. The first year is typically slower, as the focus is on building strong foundational pillars which has now happened and the real acceleration is expected in 2027 and 2028.

The industry-level pipeline is very encouraging, with several large tenders already announced and a few more upcoming soon. On the bus side alone, just the CESL tenders will account for around ₹15,000 crore of deployment over the next 2 years, and this, in addition to the state-level tenders, makes the **overall opportunity close to 17,500 buses in the public transportation space in the immediate future,** and more are expected on similar lines every year going forward. **Logistics and trucking space present an even larger opportunity than buses.**

Several Tier-1 OEMs, including Tata Motors, Ashok Leyland, IPLTech - Montra, and SANY, are launching multiple variants of e-trucks, with first-generation vehicles already operating on the road.

Given this pipeline, we are comfortable deploying **USD 1.5–2 billion across asset classes over the next seven to ten years. Around 10 per cent of the capital deployment will be allocated to charging infrastructure,** which we view as the backbone of the ecosystem, while the remaining capital will be deployed across vehicle assets—primarily buses and trucks, followed by cars and light commercial vehicles.


## How does the platform generate revenue?

Like most platforms, we have multiple revenue streams, but our approach is relationship-led rather than transaction-led. We recognise that **we may not match large banks purely on lending spreads**. Instead, we embed significant value-added services around that spread, which the operator receives at no additional cost but adds to the stickiness of our relationship.

From a revenue perspective, **we earn through lending spreads as well as through services.** These include the end-to-end services platform, depot creation, charging infrastructure, and energy management solutions. There are also **refinancing opportunities, particularly around battery replacements,** which typically occur every three to five years, depending on the asset use case.

In addition, we are building a **technology stack that helps operators optimise asset performance.** For buses and trucks that we finance, embedded devices capture data beyond basic telematics, including power consumption, performance metrics, breakdown data, and driving patterns. This data is presented through intelligent dashboards to help operators improve utilisation and efficiency.

Overall, Vertelo's business model is a **blend of financing income and service-led revenue,** anchored in long-term partnerships with fleet operators.

## How do you view end-of-life vehicle management, and how critical is it to your overall business planning and profitability?

We facilitate the management and maintenance of the asset through its entire lifecycle, largely in partnership with OEMs. As part of our financing or leasing arrangements, we mandate **end-to-end AMC, particularly for high-voltage systems and batteries,** where OEM expertise is critical. Operators are not permitted to service these components independently, while other maintenance activities can be handled by fleet operators after OEM-led training.

More than end-of-life sales value realisation, **enhancing the useful life of the asset, including battery life, is a key focus**. For a bus with a useful life of 10–12 years, batteries may be replaced twice during its lifecycle, depending upon the use case. Through proper maintenance and monitoring, the life of the asset is optimised, enhancing the useful life, thereby **reducing the Residual Value risk**. As we go along, there will be alternative use cases for returned batteries and secondary applications, such as energy storage, which will help defer residual value (RV) realisation by extending the economic life of the asset.

***While secondary battery use cases are expected to become clearer over the next 2 to 3 years, full end-of-life vehicle management remains a longer-term consideration, likely 7 to 8 years away. Since EVs have fewer components, battery replacement alone can significantly extend asset life and reduce RV risk.***

Residual value estimation for EVs is still **evolving and remains uncertain**, even for manufacturers. India does not yet have electric buses that have completed their primary use cycle. With primary asset lives of eight to ten years, any RV estimate today would be largely speculative, and the same applies to electric cars. As a result, when assets are held on our balance sheet, we assume **conservative residual values due to the lack of reliable data.** Our approach to mitigating RV risk focuses on extending asset life including batteries replacement through optimizing performance using a data-driven approach and intelligent asset management.

## As we enter 2026, what are Vertelo's expansion plans for the year? Where do you see Vertelo positioned in the commercial fleet space over time?

We are very bullish about the year ahead and the next couple of years. A large part of this confidence comes from the **government's role as a key facilitator** and a strong supporter of the emerging EV Landscape. Policy clarity has been consistent, and recent tenders clearly indicate the government's direction on electrification across segments. From Vertelo's standpoint, we are entering the next year with a strong pipeline. Many of the earlier contracts will translate into on-the-ground deployments in 2026.

**From around 375 vehicles on our platform today, we expect to cross 1,000 buses within the next financial year.** We expect to close this year with ~100 electric trucks on our balance sheet, with significant growth thereafter. Depot infrastructure across cities is also progressing steadily.

While Vertelo may be perceived as a startup, we began with strong conviction and capital backing, having raised significant funds upfront. The primary risk now is execution—**deploying assets, lending responsibly, and ensuring asset and portfolio performance.** The market is large and here to stay, but we are in no hurry to get it wrong. Rather than aggressively chasing scale, we are focused on building a strong foundation that will enable sustainable growth in the years ahead.

# Electric Vehicle Sales Trend in CY 2025 | India

| Category | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 | Nov-25 | Dec-25 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E-2W | 98,426 | 76,720 | 131,458 | 92,535 | 101,061 | 106,056 | 103,604 | 105,118 | 105,032 | 144,894 | 117,648 | 97,399 | 1,279,951 |
| E-rickshaw | 38,819 | 32,341 | 36,060 | 39,501 | 40,624 | 35,335 | 39,773 | 36,953 | 34,078 | 37,100 | 48,816 | 57,434 | 476,834 |
| E-cart | 5,750 | 6,388 | 7,212 | 7,453 | 7,961 | 6,844 | 6,807 | 6,208 | 6,034 | 6,984 | 8,155 | 7,607 | 83,403 |
| E-3W L5 Pax | 12,877 | 11,912 | 13,542 | 13,121 | 14,992 | 16,327 | 20,445 | 18,007 | 18,493 | 23,956 | 23,994 | 20,335 | 208,001 |
| E-3W L5 Goods | 2,492 | 2,450 | 2,701 | 2,423 | 2,424 | 2,016 | 2,093 | 2,297 | 2,437 | 2,561 | 2,707 | 2,894 | 29,495 |
| E-4W | 11,926 | 9,494 | 13,331 | 13,405 | 13,309 | 14,045 | 16,327 | 18,556 | 16,634 | 19,161 | 15,502 | 14,870 | 176,560 |
| E-Bus | 372 | 307 | 280 | 284 | 338 | 529 | 363 | 394 | 346 | 290 | 369 | 569 | 4,441 |
| E-Goods Carrier (N1+N2) | 543 | 477 | 641 | 583 | 632 | 604 | 861 | 1,055 | 1,154 | 1,354 | 1,179 | 1,286 | 10,369 |
| E-Goods Carrier (N3) | 34 | 14 | 39 | 35 | 47 | 12 | 21 | 88 | 66 | 129 | 118 | 106 | 709 |
| Others | 53 | 69 | 30 | 19 | 38 | 15 | 58 | 43 | 58 | 148 | 29 | 23 | 583 |
| TOTAL | 171,292 | 140,172 | 205,294 | 169,359 | 181,426 | 181,783 | 190,352 | 188,719 | 184,332 | 236,577 | 218,517 | 202,523 | 2,270,346 |

*Graph and Tables: EVreporter Intelligence | Data Source: Vahan Dashboard (as of 2nd Jan 2026). Excludes Telangana data*
*N1: GVW not exceeding 3.5 tons | N2: GVW between 3.5 and 12 tons | N3: GVW exceeding 12 tons.*

## Observations

- EVs account for **8% of India's automobile sales in 2025.** In 2025, India's EV sales surpassed 22 lakh units.
- With total sales of 22,70,346 electric vehicles, India's EV industry has recorded the highest sales to date across all vehicle segments. EV sales for 2025 show a **16.3% YoY growth** from 19,52,799 units sold in CY 2024.
- Electric 2Ws, with sales of 12,79,951 units in 2025, registered the highest segment share and a **11.4% growth** over CY 2024. [low-speed e-2W data not included]. e-2Ws accounted for 56.4% of the total EV sales in 2025, down from 58.9% in 2024.
- 1,76,560 units of electric 4Ws were registered in 2025, marking a **year-on-year growth of 76.9%.**
- EV adoption in the e-Goods carrier segment gained initial momentum in 2025.

## 2W Sales in CY 2025 vs CY 2024

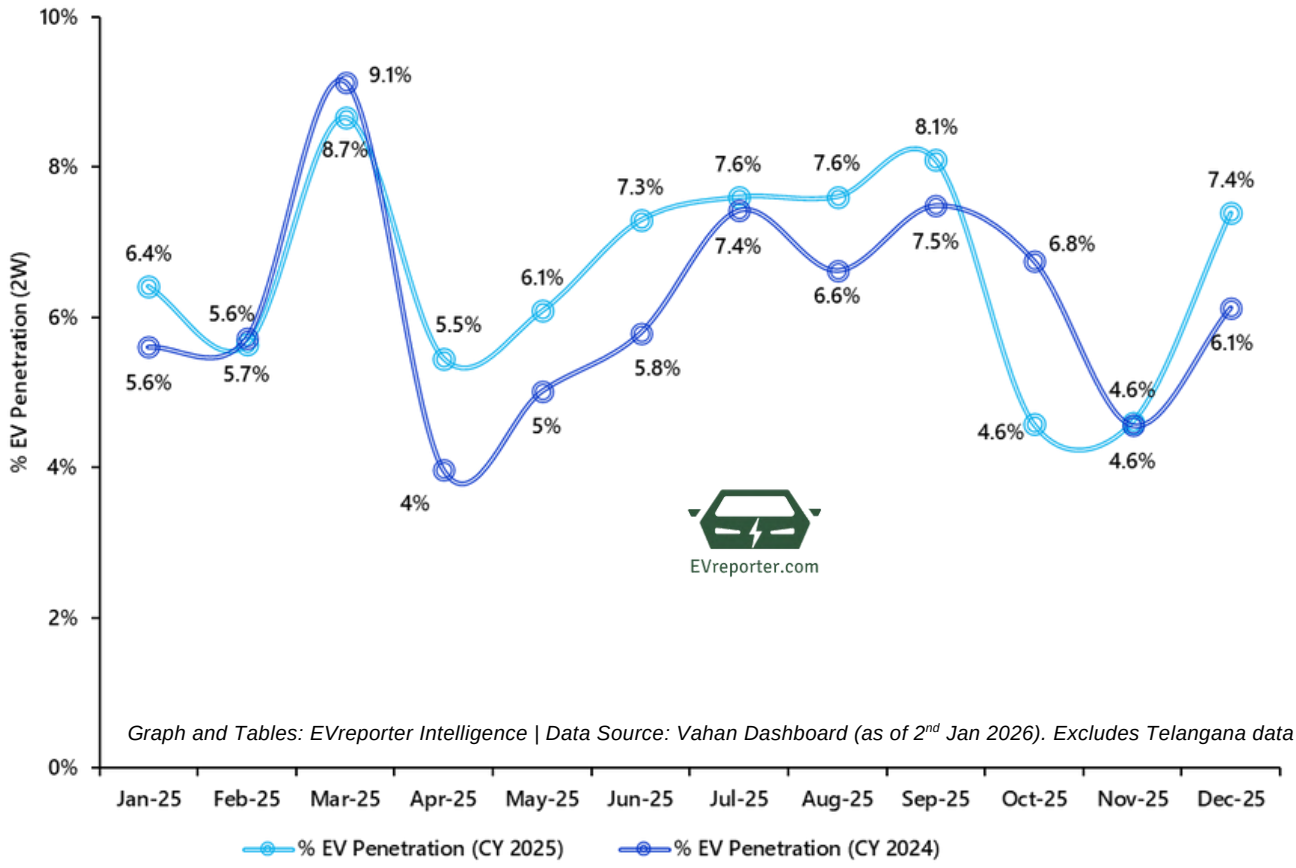
| FUEL | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 | Nov-25 | Dec-25 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PETROL | 1,370,778 | 1,232,915 | 1,323,005 | 1,430,814 | 1,222,777 | 973,443 | 872,369 | 864,351 | 754,730 | 1,955,830 | 1,333,551 | 423,650 | 13,758,213 |
| ELECTRIC(BOV) | 98,426 | 76,720 | 131,458 | 92,535 | 101,061 | 106,056 | 103,604 | 105,118 | 105,032 | 144,894 | 117,648 | 97,399 | 1,279,951 |
| PETROL/ETHANOL | 58,599 | 46,371 | 57,855 | 168,560 | 332,698 | 370,543 | 381,808 | 407,943 | 434,133 | 1,061,500 | 1,101,005 | 794,337 | 5,215,352 |
| CNG ONLY | 5,744 | 4,128 | 3,800 | 3,695 | 3,645 | 3,190 | 3,808 | 3,491 | 2,484 | 3,887 | 2,755 | 1,505 | 42,132 |

*Graph and Tables: EVreporter Intelligence | Data Source: Vahan Dashboard (as of 2nd Jan 2026). Excludes Telangana data*

- Electric 2Ws account for 6.3% of all 2Ws (~1.27 million units) sold in the country in 2025.
- Most months in CY 2025 recorded better EV penetration in 2W sales than corresponding months in CY 2024.

# Electric Vehicle Sales Trend in CY 2025 | India

## E-2W Sales Penetration in CY 2025 vs CY 2024




*Graph and Tables: EVreporter Intelligence | Data Source: Vahan Dashboard (as of 2nd Jan 2026). Excludes Telangana data*

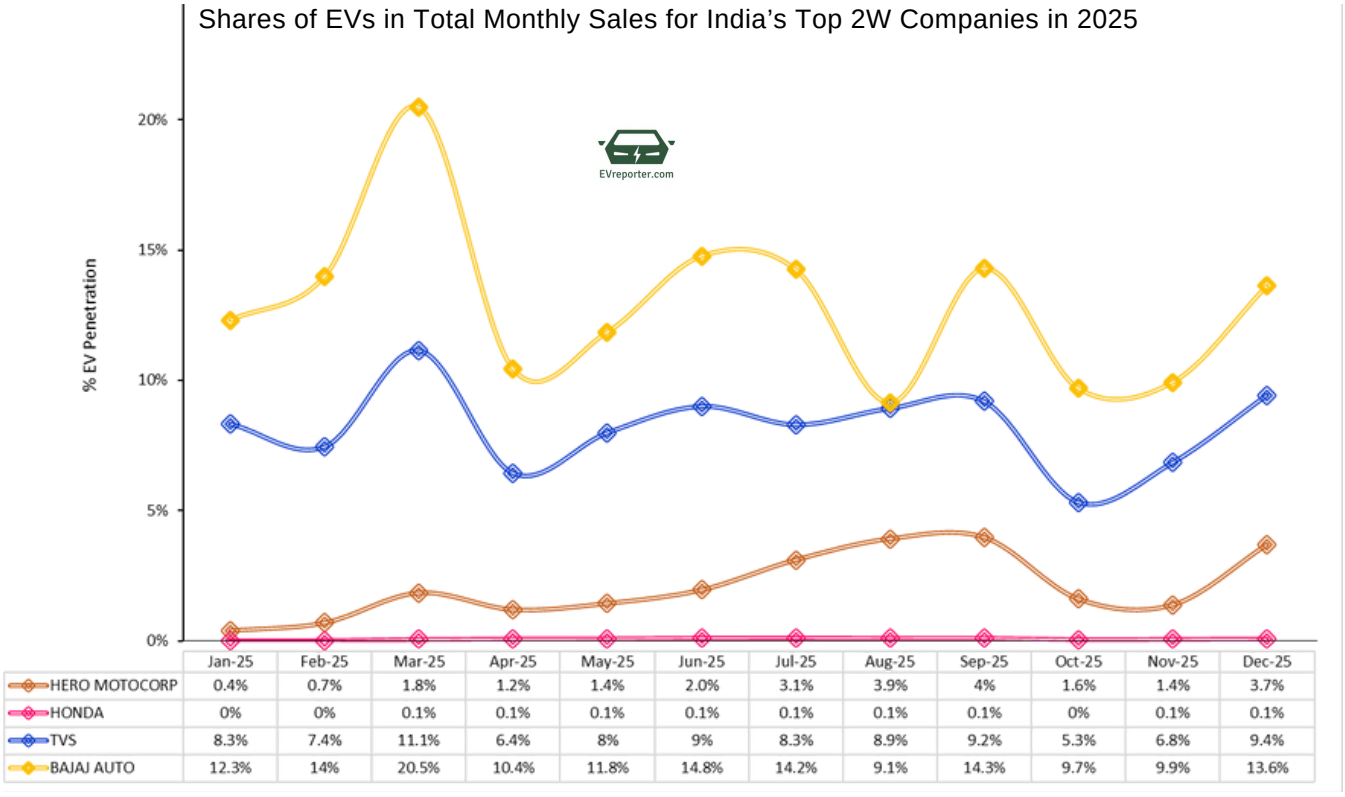
## Top OEMs | e-2W sales in CY 2025

| MAKERS | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 | Nov-25 | Dec-25 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TVS MOTOR | 24,027 | 18,955 | 30,772 | 19,976 | 24,783 | 25,502 | 22,436 | 24,315 | 22,726 | 29,763 | 30,589 | 25,037 | 298,881 |
| BAJAJ AUTO | 21,471 | 21,571 | 35,214 | 19,163 | 21,970 | 23,173 | 19,787 | 11,831 | 19,717 | 31,445 | 25,707 | 18,798 | 269,847 |
| ATHER ENERGY | 13,097 | 11,977 | 15,649 | 13,332 | 13,044 | 14,707 | 16,434 | 18,121 | 18,410 | 28,477 | 20,491 | 17,058 | 200,797 |
| OLA ELECTRIC | 24,412 | 8,675 | 23,631 | 19,822 | 18,582 | 20,281 | 17,910 | 19,057 | 13,435 | 16,056 | 8,436 | 9,021 | 199,318 |
| HERO MOTOCORP | 1,626 | 2,696 | 8,040 | 6,150 | 7,191 | 7,702 | 10,548 | 13,380 | 12,832 | 16,027 | 12,273 | 10,703 | 109,168 |
| AMPERE VEHICLES | 3,638 | 3,730 | 5,670 | 4,021 | 4,188 | 4,231 | 4,205 | 4,510 | 4,280 | 7,641 | 5,771 | 4,753 | 56,638 |
| BGAUSS AUTO | 1,451 | 1,219 | 2,591 | 1,313 | 1,068 | 1,956 | 1,596 | 1,722 | 2,273 | 2,937 | 2,569 | 2,188 | 22,883 |
| PUR ENERGY | 1,651 | 1,566 | 1,805 | 1,449 | 1,272 | 1,429 | 1,688 | 1,780 | 1,763 | 1,707 | 1,072 | 665 | 17,847 |

*Graph and Tables: EVreporter Intelligence | Data Source: Vahan Dashboard (as of 2nd Jan 2026). Excludes Telangana data*

- **The top 8 OEMs** accounted for **91.8%** of e-2W sales in India in 2025.
- **TVS Motor, Bajaj Auto, and Ather Energy** claim the top three slots respectively.
- **Ola Electric** recorded a **51% YoY decline** in its annual sales, placing it in the 4th spot.
- **Hero MotoCorp** records the highest YoY growth (150%), selling 1,09,168 units in 2025, up from 43,712 units in 2024. In Nov and Dec 2025 sales, Hero MotoCorp ranked 4th, ahead of Ola Electric.

# Top OEM 2W sales in 2025 | EV vs ICE




| | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 | Nov-25 | Dec-25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HERO MOTOCORP | 0.4% | 0.7% | 1.8% | 1.2% | 1.4% | 2.0% | 3.1% | 3.9% | 4% | 1.6% | 1.4% | 3.7% |
| HONDA | 0% | 0% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0% | 0.1% | 0.1% |
| TVS | 8.3% | 7.4% | 11.1% | 6.4% | 8% | 9% | 8.3% | 8.9% | 9.2% | 5.3% | 6.8% | 9.4% |
| BAJAJ AUTO | 12.3% | 14% | 20.5% | 10.4% | 11.8% | 14.8% | 14.2% | 9.1% | 14.3% | 9.7% | 9.9% | 13.6% |

*Graph and Tables: EVreporter Intelligence | Data Source: Vahan Dashboard (as of 2nd Jan 2026). Excludes Telangana data*

- Over the year, **Hero MotoCorp has seen a significant growth in the EV composition of its monthly sales.** Starting the year at a negligible 0.4% in Jan 2025, the company recorded an EV sales share of 3.7% in Dec 2025.

- Over the year, EV sales composition in Bajaj Auto's 2W sales varied considerably from 9.1% in Aug 2025 to 20.5% in March 2025. For TVS Motor, the highest EV sales share of 11.1% was recorded in March 2025, and the lowest 5.3% was recorded in Oct 2025. The high EV sales shares in March can be partially attributed to the completion of the ongoing central government EV incentive scheme at the time.

***A similar CY 2025 EV sales analysis for all vehicle segments and their leading OEMs is currently underway at EVreporter. The complete analysis will be available on the EVreporter data portal by Jan 15, 2026. The analysis will include Telangana data as well to present a more comprehensive picture of the Indian EV market.***

# Is Megawatt Charging Systems (MCS) the Future of Heavy-Duty EV Charging?

Megawatt Charging System (MCS) is an ultra-high-power charging standard designed for heavy-duty electric vehicles like trucks, buses, and other commercial vehicles. The MCS standard is being developed by CharIN (Charging Interface Initiative), the same organisation behind the CCS protocol. MCS systems are now being deployed in Europe.

Italy-based Alpitronic is a major manufacturer of high-power electric vehicle charging systems. The company has developed a distributed, flexible Megawatt Charging System, HYC1000.

We approached **Clemens Pizzinni at Alpitronic** to understand more about the Megawatt Charging System.

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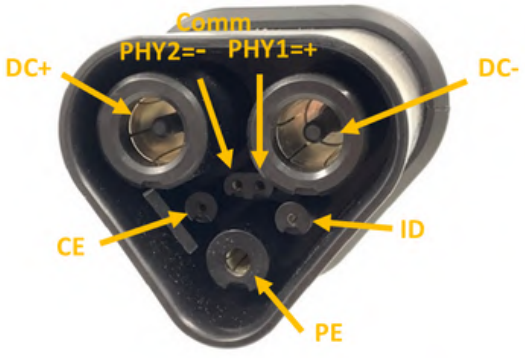
## Why does the industry need to develop this new MCS standard beyond existing DC fast charging solutions?

MCS is a new charging standard for heavy vehicles, such as buses and trucks. The development was necessary **to keep up with increasing battery sizes in these segments**. In certain use cases (on-route charging for long-haul trucks), the vehicles need a substantial recharge during the regulatory 45-minute driver's break.

## What power levels is MCS expected to support? What would be the voltage and current specifications for MCS?

MCS would support **power levels up to 3.75 MW;** Voltage: up to 1,250 V DC, and Current: up to 3,000 A.

Liquid-cooled connector and cable are mandatory for this high-power charging system.




MCS Pin Assignment (Connector side)
Image Source: CharIN Global

| Feature / Parameter | CCS (Combined Charging System) | MCS (Megawatt Charging System) |
|---|---|---|
| Max Charging Power | Up to 500 kW | Up to 3.75 MW |
| Target Application | Passenger cars, light-duty EVs | Heavy-duty trucks, buses, aviation, maritime |
| Connector Type | Combo Type 1 / Type 2 | Dedicated MCS connector |
| Communication Protocol | ISO 15118-2/-20 (limited) | ISO 15118-20 (full) |
| Cooling | Liquid (optional) | Mandatory liquid cooling |
| Physical Layer | PLC | 10BASE-T1S mandatory |
| Cybersecurity | TLS 1.2 | TLS 1.3, multi-PKI supported |
| Vehicle-to-Grid (V2G) | Pilot stage | Supported via ISO 15118-20 |

Comparison of CCS and MCS Specifications | Source: CharIN Global

### Can vehicles with CCS or other legacy connectors use the MCS charging infrastructure? Do you reckon we would have adapters to bridge these standards?

Current vehicles have **MCS only as an additional connector**. I don't expect to see MCS-only vehicles soon, as compatibility with existing CCS2 infra is key. The onset of MCS means a lot of upcoming HDVs in EU/US can be expected to come with 1 MCS and 1 CCS2 port.

Adapters are a long-discussed topic for NACS/CSS2, but technical liability is an issue. At such high power ratings, I don't think that such adapters are a thing - at least not in EU/US.

### Will MCS be the breakthrough that enables large-scale electrification of heavy-duty transportation?

Currently, we don't see MCS as THE breakthrough, as **electrification of HDVs is already on the way in EU markets with CCS2.** But, for the second and third generations of these electric trucks, it might support adoption.

### When should we expect to see the first operational MCS charging stations?

As Alpitronic, we have started deploying **MCS stations across Europe**. Politics aim for EU-spanning long-haul truck corridors to support the shift towards electric trucks. Also, **US** customers are preparing for the **first truck-only highway charging sites with MCS**.

Personally, I expect **Europe** to lead the way as their truck OEMs have already launched suitable vehicles. Additionally, in particular, **Germany** has a dense network of highways and a lot of European truck freight goes through it. In Germany, we also see some energy storage projects popping up with MCS stations due to limited or delayed grid capacity.

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### Editor's note

*China uses a high-power charging standard, ChaoJi, jointly developed by the CHAdeMO Association and the China Electricity Council. It supports charging powers up to 1.2 MW (1,500 volts at 800 amperes). ChaoJi uses a distinctive infinity-shaped (∞) connector.*

***Ultra-ChaoJi, the next evolution under development, targets 1.5-3 MW with currents up to 1,700-2,400 Amp for heavy-duty trucks, buses, aircraft, and ships.***


# Chinese Battery Swapping Market for Passenger Vehicles is Projected to Reach $1.4 Billion in 2027

*Excerpts from the market intelligence report [China Battery Swap Station Report Industry Market Report 2023-2027] published by the Global Automotive Community Organization (GACO).*

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The industry report predicts that the **number of battery swap stations in China for electric passenger vehicles will reach 11,570 in 2027**, a 70% increase from 6,730 in 2025. The Chinese battery swapping market is projected to reach $1.426 billion in 2027, an 85% increase from $769 million in 2025.

- NIO is expected to have around 5,500 stations in 2027, representing a 47.54% market share.
- CATL will rank second, with an estimated 3,000 stations and a 25.93% market share.

The report shows that the number of **battery swaps for passenger vehicles in China reached 87 million in 2025** and is projected to reach 159 million by 2027**. NIO** is expected to have performed 70 million battery swaps, accounting for **44.03% of the market.**

- NIO Energy's revenue is expected to reach $770 million in 2027, nearly doubling from $385 million in 2025. Aulton ranks second with projected revenue of $208 million, and YiYi ranks third with $168 million in 2027.

***Aulton and YiYi's main customers are ride-hailing and taxi companies, while NIO Energy's main customers are NIO car owners.***

The cost of battery swapping stations includes not only equipment investment but also battery investment, electricity, rental, and labour costs, all of which require long-term investment. With **CATL's entry into the Chinese battery swapping station market**, the industry landscape will undergo significant changes.

A Nio Battery Swapping Station in China.

Image for representation. Source

## Major battery swapping station companies' future plans

- **CATL**, in cooperation with **Sinopec**, plans to build more than 5,000 new battery-swapping stations over the next five years.
- NIO has already built over 60 battery-swapping stations in Europe and plans to further expand its network across Europe and other international markets.
- The chairman of GAC Group stated that battery swapping is one of the main ways to replenish energy for new energy vehicles, and it is currently in its early stages. GAC will increase the number of its battery swapping models in the future.

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*China Battery Swap Station Industry Market Report 2023-2027 is a professional and in-depth market report on the Chinese Battery Swap Station industry. This report provides a comprehensive overview of the Battery Swap Station industry, with data comprising 50% of the content.*

*This report provides basic information on China's Battery Swap Station industry, including classification, applications, and an industry chain overview. It also delves into the production status, financing situation, detailed data, and business cooperation of Battery Swap Station companies in China. Finally, the report discusses the future development of China's Battery Swap Station industry.*

*The report consists of three parts: Part One provides an overview of the industry; Part Two details the key players; and Part Three outlines future development trends and provides a summary.*

To obtain the complete "**China Battery Swap Station Report Industry Market Report 2023-2027**" please drop us a line at info@evreporter.com.

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# Rare-earth-free Reluctance Motors for Electric Vehicles | Chara Technologies

*90% of the rare-earth magnet supply is controlled by one country; they are expensive, and extraction is environmentally damaging.* ***Chara Technologies has developed synchronous reluctance motors that eliminate reliance on rare-earth magnets.*** *This 200-year-old technology was previously impractical due to control difficulties, but modern algorithms have overcome the challenges posed by nonlinearity, says* ***Bhaktha Keshavachar, Co-Founder & CEO at Chara Technologies.*** *The excerpts from the interaction are shared in this Q&A.*

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## What are the possible paths away from EV motors' heavy rare-earth dependency?

There are three possible paths to address the dependency on imported rare-earth magnets:

- **Building our own rare-earth capabilities:** One approach is for countries like India to invest in mining, extraction, and magnet manufacturing. The Government of India has already announced a billion-dollar scheme to support these areas. Rare earths aren't just for EV motors—they're also needed in medical electronics, defence, semiconductor processing, and many other applications. So this investment is essential, though it will take several years to show results.

- **Developing non–rare-earth magnets:** Another approach is to create powerful magnets without rare earths. For example, Niron Magnetics in Minnesota, USA is working on iron-nitride magnets, while Europe is developing potassium / strontium magnets. These could eventually match the strength of current rare-earth magnets, but material science breakthroughs typically take about a decade to reach production, so this will take time.

- **Adopting motor technologies that don't use rare-earth magnets:** We believe every problem has a technical solution. There are motor architectures, such as reluctance motors and externally excited synchronous motors, that do not require rare-earth magnets**. We believe this technology-driven approach will be viable for at least the next decade and a half,** given how hard it is to predict what comes after that.

**You are working on the third pathway, which eliminates magnets altogether. Tell us about your motor technology.**

Yes, we use reluctance motor technology. This is a well-known concept. The original work dates back almost 200 years, around 1835, when electricity and magnetism were first being explored. These were among the earliest motor concepts proposed, but they were never widely adopted due to several challenges: high nonlinearity, difficult control, lower power density, and torque ripple.

Now, with the need for sustainable and efficient motors at scale due to the energy transition, many companies, including us, are revisiting these alternative technologies. We started CHARA — which means "motion" in Sanskrit — about six years ago, during COVID. From day one, we were focused on solving three problems:

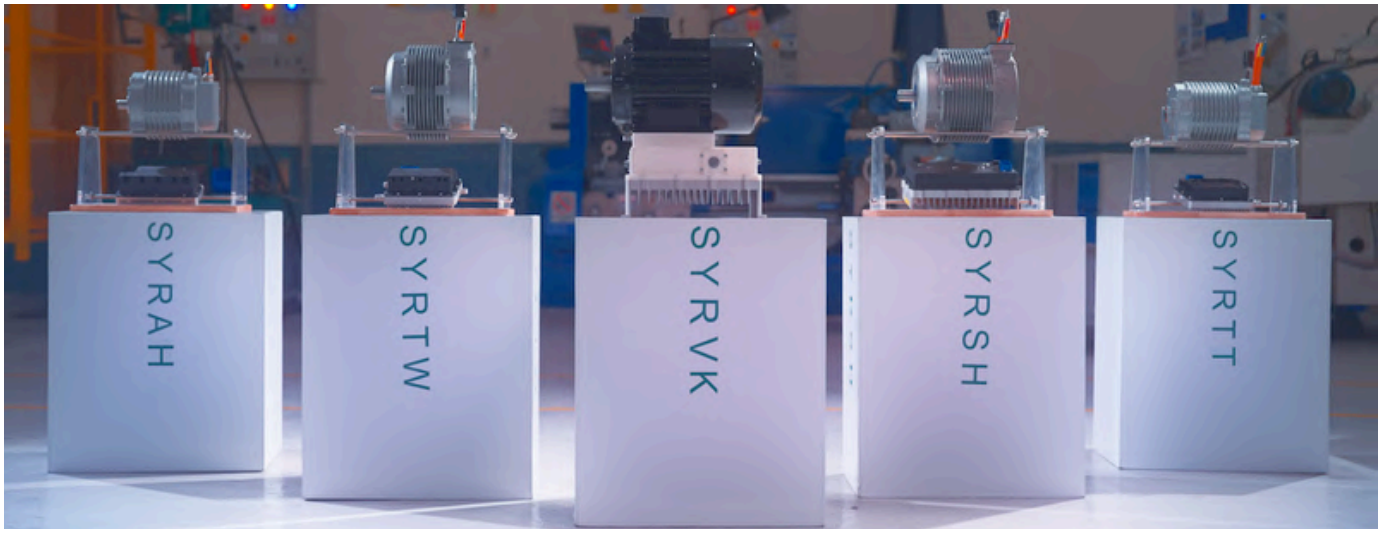
- Develop a sustainable motor without dirty chemical processes.
- Eliminate dependence on critical minerals controlled by foreign countries.
- Build motors and controllers designed in India from first principles, rather than relying on imports or large MNCs. We wanted to create a true "Bharat motor."

Over the past six years, that's what we've been doing, and now we are entering the production and deployment phase of our rare-earth-free motors.

**If we compare your technology as it stands today, how does it perform against PMSMs in terms of performance, efficiency, and cost?**

Almost all traction motors used today—from the smallest e-bikes to vehicles from companies like Ather and even Tesla—use PMSMs with the same type of magnets. They work extremely well and are among the best motors available today.

Our motors, which we are now offering in the 6 kW to 30 kW range, **match PMSMs in performance.** In terms of efficiency, they are as efficient as, and in some cases slightly better, especially when you look at duty-cycle efficiency. Torque and power performance are also on par with PMSMs. On cost, about 40% of a PMSM motor's cost comes from magnets. Since we eliminate magnets and instead use a bit more steel and copper, our motors are approximately **15% cheaper,** +/- 5%, depending on the motor size—compared to PMSM motors.



### Are there any trade-offs that don't work in your favour—such as size or weight?

Yes, this comes down to physics. We've removed very powerful magnets and added more steel and copper to compensate for the magnetic flux. That extra steel and copper add weight and size. As a result, our motors are typically about **10–15% heavier** than comparable PMSM motors. This is a known and accepted trade-off.

For example, for e-3Ws, we offer a 6 kW-rated, 10 kW-peak motor operating at 48–96 volts. A comparable PMSM motor from a well-known supplier weighs around 15 kg, while our motor weighs about 18 kg, a roughly 15% difference. The GVW of a three-wheeler is nearly 750 kg. An extra 3 kg on the motor is a very small fraction of that. With current geopolitical considerations, **customers are increasingly willing to accept this trade-off.** Several companies are already using our motors; some are homologated and moving into production.

We are at the early stage of this technology transition to reluctance motors. We are already working on version 1.5, which should reduce the weight gap from 15% to about 10%, and eventually to around 5%. At this point, it will make no material difference to the end application.

The added weight does translate into a slight increase in size. In a two-wheeler application, we took a standard Ather vehicle, removed the existing motor, and fitted our motor in its place. There's no noticeable difference in performance. We've demonstrated this to the Ather team as well. In this case, our motor was only about **6 mm longer compared to roughly 140 mm overall length.** Otherwise, it fits well. In most applications, our motors are effectively drop-in replacements. **We haven't encountered any case where we were rejected due to size or weight constraints.**

### Established OEMs already have manufacturing lines, processes, and specifications in place. Does that become a roadblock for a new company like Chara?

Yes, absolutely. We currently have around 75 customers who have signed up with us. Initially, most of them place small orders of three to five motors for testing and homologation. Some customers have already moved into serious production, placing orders for 500 to 1,000 motors. Our customer list includes companies such as **VST, Greaves,** and **Sonalika.**

However, when it comes to **large OEMs like TVS, Mahindra, or Bajaj, there is still some reluctance** to adopt reluctance motors because this is a new technology. The motor and controller are the heart of the vehicle, and any failure can have serious consequences. That naturally makes OEMs cautious. The second challenge is startup risk. Large OEMs are hesitant to rely on a critical component from a startup. The third factor is the lack of long-term reliability and safety data, which takes time to build. That said, this is largely a matter of time. We believe that within the next six months, we will onboard at least one large OEM, which would be a significant milestone for us.

### Most of your current customers are from agricultural or industrial applications. Is that a fair assessment?

About 50% of our revenue comes from non-highway or off-highway applications—such as agricultural, industrial, and on-campus vehicles. The remaining 50% comes from on-highway vehicles. One of our 3W customers has already completed homologation and is now moving into production. Two other large 3W customers are scheduled to complete homologation this month (Dec 2025). 2W homologation will likely happen in 2026.

### How soon can we expect to see a Chara-powered 3W on Indian roads?

One of our customers based in Jalandhar has already completed homologation and is ready to move into production. Typically, the transition from homologation to on-road deployment takes about a quarter, covering manufacturing and sales. **Moonrider** (e-tractors) has been homologated, and **VST** has also completed homologation. **Bullwork Mobility** has deployed our motors in its loaders, and some are already operating in customer fields. They've also showcased their large tractor.

I think starting next quarter—or shortly after, depending on customer timelines—you'll see a flurry of vehicle launches with our motors on public roads.

### How does controller integration impact overall motor performance?

**The most critical aspect of a reluctance motor is its controllability due to its inherent nonlinearity.** We've addressed this using advanced algorithms that reside in our controller. That's why our motor and controller are designed to work together and **must be supplied as a combined system.** Our core IP sits in the controller—specifically in the software algorithms. Today, we can't sell just the reluctance motor on its own because there isn't a standalone reluctance motor controller available in the market yet. **The motor and controller have to be purchased together.**

Many customers actually prefer this integrated approach because there's a single point of responsibility. In the current industry model, OEMs often source motors from one supplier and controllers from another—whether it's SEG, Dana, or other motor suppliers, paired with controllers from companies like Curtis, Sterling Gtake or others—and then integrate them. We believe that this kind of integration is rarely optimal. With our tightly integrated motor–controller system, the pairing is engineered to be optimal from the start. That said, there has been one large customer we're speaking with who prefers to continue using their in-house controller, as they've invested heavily in it. In such cases, we've been clear that we can't support this. Fortunately, more than 90% of our customers value and prefer receiving the motor and controller as a complete, integrated solution.

### You recently announced raising ₹52 crore in your Series A round. What are your plans for deploying this capital?

We've spent the last six years developing the core technology and products, setting up and tooling our factory, and getting ready for manufacturing—we're now in production. Going forward, most of our focus will be on **business development, sales, and deployment.** We've invested significant time and effort in R&D, and now it's important to demonstrate revenue and, eventually, profitability. That said, we will continue to invest in R&D. We are actively developing new products. Today, our largest motor is a 30 kW unit operating at 400 volts, and we're already planning a 45 kW motor.

### Please tell us about your current manufacturing setup.

We're a Bangalore-based company. Our R&D and testing centre is in HSR, and our manufacturing facility is located in Peenya. Currently, it has the capacity to manufacture around 2,000 motors per month, or roughly **25,000 motors annually.**

Within the next 12 to 18 months, we plan to scale up to our next facility, which will support production of about 100,000 motors per year.

### Looking five to ten years ahead, do you see rare-earth-free motors remaining a niche solution for specific applications, or do you see a real path to displacing PMSMs as the dominant motor technology across the EV industry?

t's hard to predict, but I don't see this as a complete displacement. No single motor technology can solve every application. For applications requiring very high speed, performance, and power density, PMSMs will be difficult to beat. However, most applications simply need a reliable, efficient, and good-quality motor. That's where technologies like reluctance motors and externally excited synchronous motors come in, and I believe they will co-exist alongside PMSMs.

This represents a significantly large global opportunity. Today, the overall motor market across all applications is around USD 160 billion, with traction motors accounting for a substantial share (around USD 45 billion). In India, the motor market is roughly USD 1 billion. **By the end of the decade, the global market could reach around USD 75 billion, of which we believe USD 20–30 billion could be for rare-earth-free motors.**

There is also growing research into hybrid approaches, such as using light rare-earth magnets instead of heavy rare earths, rather than eliminating magnets altogether. So, I expect a plurality of approaches, with different technologies serving different applications.

### Are there other companies worldwide working on similar magnet-free motors? If so, how does their approach compare with Chara?

Yes, there are several well-funded companies globally working on magnet-free or rare-earth-reduced motor technologies. In the US, there are a few players. **Turntide**, for example, was working on switched reluctance motors earlier, but they've since pivoted away from that. Among startups, there's **Conifer**, which is doing something somewhat similar to us, though I don't have full details. There's also **Olektra**, which I believe is working on externally excited synchronous motors. In Europe, there's **Advanced Electric Machines,** whose approach we believe is quite similar to ours.

Broadly, the industry seems to be converging on synchronous reluctance motors with some form of magnet assistance. This architecture will be relevant for at least the next decade. In India as well, large companies are beginning to engage. Players like **Sona Comstar** have announced initiatives in this space, and increased competition is actually positive for us.

Earlier, people used to ask why we were the only company in India doing this, which can be a concern for customers who prefer multiple vendors. With more players entering the space, reluctance motors are increasingly seen as a viable technology. A more distributed vendor and customer base is healthier for the industry as a whole.

### Could you give us a sense of your current revenue and production scale?

Last year, we shipped a couple of hundred motors and generated ~₹2.7 crore in revenue. This year, with the factory fully tooled and operational, we're producing a few hundred motors per month and ramping up toward our capacity of 2,000 motors per month. **For this year, we're projecting booked revenue—based on confirmed purchase orders—of around ₹45 crore**. We expect to realise a significant portion of that, with shipped revenue of about ₹20 crore. In volume terms, that translates to roughly 2,000 motors shipped and around 5,000 motors on order.


# QUCEV Expands Electric Commercial Vehicle Manufacturing with Focus on Heavy-Duty Applications

Hyderabad-based manufacturer QUCEV has a technology partnership with the world's leading EV maker BYD. The company targets diverse industrial segments with its expanding EV portfolio. QUCEV has recently raised **₹131.25 crore in its Series B** round; the funds will be used for plant capex, new product development, and working capital. **Anil Bhan**, COO - Technology Electric Vehicles and HV Battery, shares more about the company's focus areas.

## What kinds of electric vehicles is QUCEV currently manufacturing?

Qucev's product range includes fully electric trucks starting from **3.5T eLCV** to **55T Electric Tractor,** including 28T Haulage and Electric Transit Concrete Mixer. Qucev plant is located at Hyderabad with eLCV capacity of 4,800 per annum, while eHCVs capacity shall be 2,400 per annum initially.

## Who are the main stakeholders you are currently working with?

Qucev is working with end users of these vehicles to shift from ICE to electric vehicles, which are then **deployed through Logistic Service Providers.** The end users for e-HCVs include large cement, Aluminium and steel companies. **e-HCVs are being deployed for the transportation of clinkers, ore, coal, cement, aluminium coils, etc.**

End users of e-LCVs include companies in **dairy products, fresh food, furniture, pharma, and general logistics.**

## QUCEV unveiled an electric transit mixer at EXCON 2025. In terms of purchase cost, how does the electric transit mixer compare with the conventional mixers?

Traditional ICE Transit Mixers guzzle diesel and emit high levels of pollution, predominantly in urban areas. The electric Transit Mixer eliminates tailpipe emissions. Like other EVs, the upfront cost of electric transit mixers is higher than that of diesel transit mixers. Still, operating costs are significantly lower, making the total cost of ownership comparable to diesel Transit mixers.

## What are QUCEV's areas of focus in 2026?

Qucev's focus area shall be to ramp up **deliveries of eLCVs and 55T tractors, start deliveries of 28T and transit Mixers** and expand in more applications across industries and geography.

Qucev has team of over 100 plus the plant work-force and is growing to meet our plans.

# Liquid-cooled Energy Storage Systems for Commercial and Industrial Use

**Rahul Bollini, Bollini Energy**

*Rahul is an R&D expert in Lithium-ion cells with 10 years of experience. He founded Bollini Energy to assist in deep understanding of the characteristics of Lithium-ion cells to EV, BESS, BMS and battery data analytics companies across the globe. Contact | +91-7204957389; bollinienergy@gmail.com.*

Lithium-ion-based Energy Storage Systems (ESS) have been on the rise for commercial and industrial (C&I) applications. Liquid-cooled ESS have gained popularity and are quickly replacing the traditionally used air-cooled ESS, which was preferred for many years. Liquid-cooled ESSs are widely produced in China and shipped globally, and Indian companies have also begun manufacturing them.

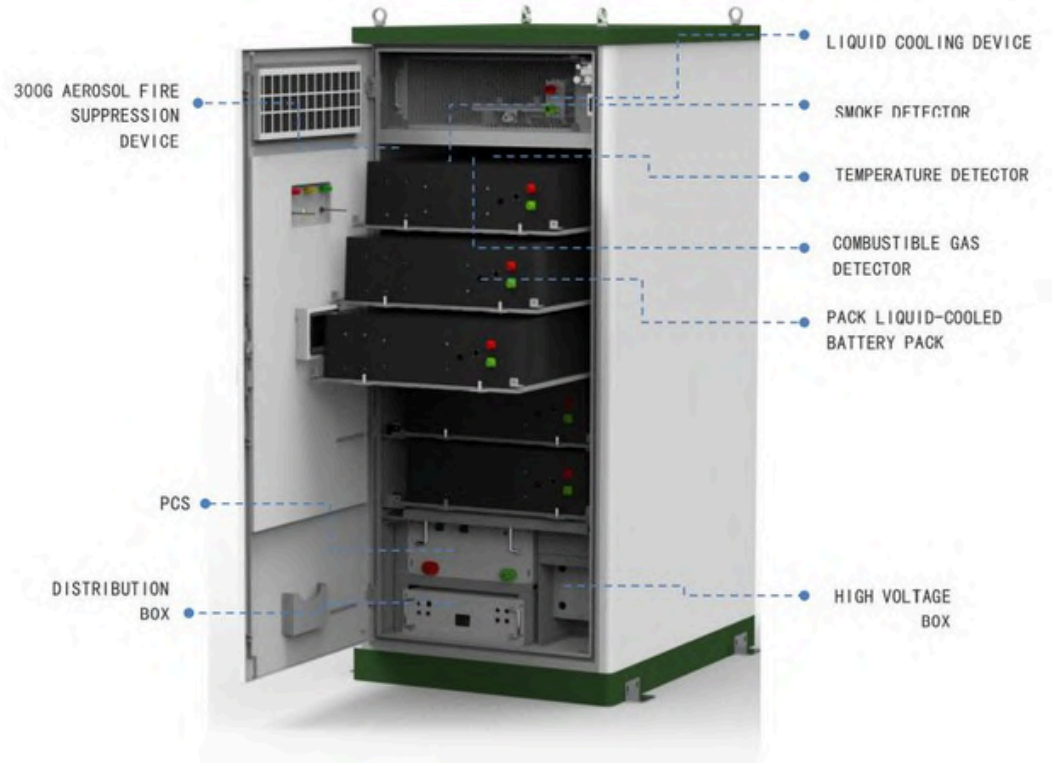



*Image: Breakdown view of 125kW/261kWh Liquid-cooled ESS*

## Advantages of Liquid-cooled ESS

- **Low system footprint** due to the use of 52S1P battery packs. An all-in-one 261kWh battery system requires only 1.4 m² of floor space.

- **Higher precision of cooling control** across the whole system. Faster cooling with lower power consumption, enabled by contact-based cooling.

- Battery packs have an IP67 rating, making them more robust. Battery packs used in air-cooled systems have only an IP20 rating to allow air to pass inside, and they use fans as exhaust to remove hot air. The hot air coming out of the exhaust needs to be channelled so it does not recirculate back into the container.

## Uses of Energy Storage Systems for C&I Applications include:

- Charge during low-cost off-peak power and discharge during high-cost peak power every day.
- Used for low-cost access to rooftop Solar PV or open access Solar PV energy for on-grid projects.
- For off-grid applications, it is paired with Solar PV. This is popular in remote locations without grid access.
- During a power outage. It can also integrate with a diesel generator (DG), with the ESS operating for the first few hours until it reaches a low battery state, and then the DG can take over. If the power-cut pattern is well known, ESS can even replace the DG entirely.
- During peak power demand, when the grid connection power is insufficient. It comes in handy when the enterprise is running some extra loads for a short period.

## Points of Consideration while Using ESS:

- Perform a preventive health check of the battery as per the manufacturer's recommendations.
- Do not let the ESS remain at a very low SoC (state-of-charge) level for a long time.
- Keep a note of the expiry date of the fire suppression system tank and get it refilled timely.
- Most of these C&I systems have an IP54-rated outer enclosure and can be installed outdoors. But it is better to have a top cover to prevent rain and direct sunlight.
- If using ESS for a power outage application, it is important to note that both PCS (power conversion system) and EMS (energy management system) must support off-grid mode, and the installer must confirm the switchover time requirement for the project. A static transfer switch (STS) can be used when a very low switchover time is required, such as a few milliseconds.
- If integrating ESS and DG, an automatic transfer switch (ATS) would be required.
- Auxiliary power consumption for this system requires 230VAC single-phase power.
- If one project has multiple locations where the battery can be connected, it is important to match the power capability at the connecting point at the LT panel. If the load exceeds the inverter's capacity, it can cause the power from the ESS to trip.
- In a project, if there are not enough connection points available at the LT main panel to connect multiple ESS, it is recommended to use an AC combiner box to combine all the AC outputs from multiple ESS, with a single output from the AC combiner box connected to the LT main panel.

## About 125kW/261kWh ESS:

It is the most popularly produced liquid-cooled model for C&I applications. It uses 314Ah LFP cells. This is an upgrade of the previously produced 100kW/233kWh model that used 280Ah LFP cells.

- 314Ah LFP cells have minimum 8,000 cycles at 0.5C/0.5C at 25°C operation. At the system level, these cells can achieve at least 6,000 cycles or 15 years (whichever comes first) when active cooling is enabled (air or liquid).
- There are 314Ah LFP cells with a minimum of 10,000 cycles at 0.5C/0.5C at 25°C operation, and they can achieve at least 8,000 cycles or 20 years (whichever is earlier) at the system level when active cooling is enabled.

- It uses 5 battery packs in a 52S1P configuration. System nominal voltage is 832V (5×52×3.2V). The battery operates between 650V (5×52×2.5V) and 949V (5×52×3.65V) on the DC side.
- The battery pack has aluminium plates at the bottom where the liquid coolant (a mix of deionised water and glycol) flows to control the cells' temperature. There is inlet and outlet piping for each battery pack, which leads to the liquid-cooling unit.
- The PCS used in the system has the ability to operate between 650V and 950V and provides 380V/400V/415V AC 3-phase output, and also has a neutral wiring for single-phase loads.
- The 125kW PCS can continuously operate at up to 137.5kW (110% power).
- This product is modular. Multiple units of these systems can be paralleled to increase a project's capacity. EMS can communicate with each other, with one acting as the master EMS. Sometimes, an industrial computer is used to control all the EMS for a project with multiple ESS.
- EMS used in the ESS has online connectivity and can be remotely controlled.
- The system can also include a UPS to power critical loads, such as a fire suppression system and BMS, for a while.
- These systems come with 5 5-year standard warranty for the whole system, and an extended warranty may be available from the manufacturer at an additional cost. An extended warranty may not always cover the entire system.
- A 125kW/261kWh system weighs around 2500 kg.

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**Tamil Nadu exempts all electric vehicles from motor vehicle tax till 31 December 2027.** The exemption applies to both transport and non-transport electric vehicles across the state. The decision was confirmed by a government order issued on December 29, 2025.

The Bureau of Indian Standards has notified a **new testing standard for electric agricultural tractors,** titled IS 19262:2025, aimed at standardising evaluation methods for these vehicles. The standard outlines test procedures to assess safety, performance and reliability, including parameters such as PTO power, drawbar performance, vibration levels and component checks.

**PM E-DRIVE update -** The targets set by the Ministry of Heavy Industries for L5 e-3Ws have been met. The scheme has supported target 2.88 lakh units, and further **incentives for the L5 segment under the scheme have been closed** with effect from 26 Dec 2025.

The PM E-DRIVE scheme was notified on 29.09.2024 with an outlay of INR 10,900 crore. As of 30 Dec 2025, 21.24 lakh EVs have been sold under the scheme. e-2Ws have sold 18,40,007 units against a target of nearly 24.79 lakh units. The incentive for e-2Ws and e-rickshaws/e-carts under the Scheme shall continue up to 31 Mar 2026.

**MoRTH has issued draft guidelines for implementing a Battery Pack Aadhaar System.** The guidelines are intended for EV batteries (L, M & N category vehicles) and Industrial batteries with capacity >2kWh. The system will assign each battery a unique **21-character Battery Pack Aadhaar Number (BPAN)** with three access levels:

- Alphanumeric Code (Public): Manufacturer id, capacity, chemistry, voltage, manufacturing date
- QR Code (Authorized): Material composition, construction type, recyclability, carbon footprint data
- Server-Based Data (Private): State of Health, battery status, lifecycle events, disassembly records

Key parameters to be tracked include battery specifications and origin, material composition, lifecycle carbon footprint, performance metrics (SOH, usage history), and end-of-life and recycling outcomes.


**Vingroup,** Vietnam's largest private multi-sector corporation, signs an MoU with the Government of **Telangana for a proposed investment of USD 3 billion.** Vingroup proposes introducing a **large-scale electric taxi fleet** using Vinfast vehicles and may explore EV manufacturing initiatives.

Additionally, through VinEnergo, Vingroup proposes to invest in a 500 MW solar farm spanning 500 hectares.

Electric bus operator **EveyTrans Private Limited,** in collaboration with the TGSRTC (Telangana State Road Transport Corporation), flagged off **65 new electric buses** from the Ranigunj Depot under the TGSRTC 500 Low-Floor City Bus Project. These 65 buses are part of the 100-bus allocation planned for the Ranigunj Depot. The TGSRTC 500-bus initiative comprises 450 non-AC and 50 AC low-floor electric city buses.


Hyderabad-based **Blackbuck EV** has signed an MoU with the Government of Telangana to develop an **electric bus manufacturing facility in Telangana Future City.** The new facility will be planned with an investment of ~USD 30 million over the next five years, and an annual production capacity of up to 2,000 electric buses.

Passenger bus mobility service provider **Chartered Speed has deployed 11 electric buses** dedicated to staff transportation for DCM Shriram LTD at Jhagadia GIDC, Bharuch, Gujarat. Chartered Speed Limited operates a fleet of over 2,000 buses (including ICE & EV) across 6 states, serving more than 3.5 lakh passengers daily.


EV financing and asset-management platform **Astranova Mobility** partners with **zingbus to deploy electric buses on the Delhi-Dehradun (275+ km) route.** Over the next 12 months, Astranova plans to lease electric buses worth more than INR 200 crores across select routes, operated by various operators, including Zingbus.


**ElectriGo** launches an **electric bus leasing platform.** The company also announced a partnership with **Green Energy Mobility Solutions** and **Ziel Mobility with an MoU of 50 electric buses over the next 12-15 months,** of which the first lot of 10 electric buses has been delivered.

These vehicles will be powered by charging infrastructure created by Mana Energy Solutions and ThunderPlus.

Electric motorcycle manufacturer **Oben Electric raises INR 85 Crores in its Pre-Series B round.** The round saw participation from multiple Indian American Family Offices, including Raj K Soin, Musa Dakri, Ramesh Bhutada and other existing investors. With this infusion, **Oben's total funding to date rises to INR 285 Crores.** The company is set to achieve INR 100 Crores in revenue in FY26 and COGS break-even by March 2026, according to an official statement. Oben Electric currently operates 85+ showrooms across 70+ cities in 18+ states. The manufacturing facility is located in Bengaluru.

**Naxatra Labs raises $3 Million in Pre-Series A round** led by Rainmatter by Zerodha to scale its indigenous EV and industrial motor technology. This funding will enable the company to accelerate the development of new product lines and grow monthly production capacity to 50,000 motors. Mohit Tandon (Delhivery), Himanshu Aggarwal (Aspiring Minds), Vijay Shekhar Sharma (Paytm), Aloke Bajpai (Ixigo), Anupam Jalote (CEO, iCEM), Narayan (Ather Energy), Soumitra (Operators Studio), Hemant Daga (CEO, Neo Assets), and others participated in the round.

Gurugram-headquartered **Blinq Mobility raises ₹4.3 Cr in a pre-seed round led by 8i Ventures,** with participation from IIMA Ventures, AIC Banasthali Vidyapith, and a group of angel investors. Blinq is working on introducing **battery swapping for the 4-wheeler passenger vehicle segment.** The capital will be used for product development, vehicle prototyping, swapping infrastructure, and pilot deployments.

**Brand Capital** has invested in **Vayve Mobility,** an electric mobility startup based in Pune. Founded by Nilesh Bajaj, Saurabh Mehta, Vilas Deshpande and Ankita Jain, Vayve working on personal city cars.

Electric commercial vehicle startup **Qucev has raised nearly USD 15 million in a Series B funding round led by existing investor Singularity AMC,** with participation from Lotus Family Trust, Volrado Venture Partners, Anchorage Capital and others.

**Exide Industries Limited** announces a **further investment of ₹180 crore in its EV Battery Subsidiary Exide Energy Solutions Ltd (EESL), bringing the total investment to ₹4,202 crore.** Following Mandar Deo's resignation, Pravin Saraf has been appointed as the new MD & CEO of EESL.

**Pulse Energy** is set to integrate **HPe Charge**, HPCL's network of 5,000+ EV chargers into Pulse Energy's charging platform. The integration enables EV drivers to discover, access, and pay for charging across HPCL's stations through a single interface. With this, HPCL joins the ecosystem of charging operators accessible through Pulse Energy, including Shell, ChargeZone, BESCOM, Thunderplus, and others.

**Statiq** serves as the **EPC (Engineering, Procurement, and Construction) provider for Tesla Supercharging Stations** at DLF One Horizon in Gurugram and Worldmark Aercity in New Delhi. The charging hardware is manufactured and owned by Tesla. Statiq managed the engineering, construction, and commissioning of the stations, supporting the expansion of charging networks in India.

**Esyasoft e-Mobility** has entered into a partnership with **Park+** to deploy electric vehicle charging infrastructure across India over the next three years. The collaboration plans to install up to **10,000 chargers, supported by an investment of about USD 11 million,** with a focus on residential and commercial locations in major cities. The initiative aims to expand access to EV charging by integrating Park+'s property network with Esyasoft's charging technology.

**V-GREEN** and **Hindustan Petroleum Corporation Limited** partner. V-GREEN will utilise HPCL's network of over 24,400 fuel stations to support the expansion of EV charging infrastructure. HPCL currently operates more than 5,300 EV charging points under its HP e-Charge brand. **V-GREEN, founded by VinFast founder Pham Nhat Vuong,** focuses on developing charging infrastructure for VinFast's global operations and manages approximately 150,000 charging ports in Vietnam.


EV charging and energy-management platform **Kazam closed FY25 with revenue of ₹40 crore.** The company has onboarded around 120,000 chargers and enabled over 7 million charging sessions, while currently managing more than 9,000 MWh of energy transactions each month.

Kazam works with over 14 OEMs and multiple ecosystem partners, including Maruti Suzuki, ONGC, quick-commerce firms, residential communities, and public transport operators. To date, the **Bengaluru-based company has raised USD 19.2 million** across five funding rounds, with its Series B completed in June 2025.

Battery-swapping solutions provider **Indofast Energy launches a franchise program, offering potential annual returns of up to 30%.** Indofast Energy is a 50:50 JV between Indian Oil Corporation and SUN Mobility.

- Minimal space requirement - 250 square feet
- Investment - ₹10 lakhs to ₹40 lakhs
- Formats – Swap Point, Swap Hub, Swap Junction



**Battery Smart completes 100 million battery swaps for e-2Ws and e-3Ws.** The company claims to operate ~70% of India's battery swapping infrastructure. Battery Smart was co-founded by Pulkit Khurana and Siddharth Sikka in 2019 and has set up 1600+ swap stations across 50+ cities.

**Indofast Energy** has partnered with **Quantum Energy to introduce the Bziness XS electric scooter in India.**

The model is being offered under a battery-swapping framework, with an introductory ex-showroom price of ₹57,750.

**YOUDHA launches the Trevo L5 electric L5 cargo 3W** priced between ₹4.35 lakh and ₹4.75 lakh. The EV comes with a 11.8 kWh fixed battery and optional 7.6 kWh swappable battery, and a range of up to 150 km. Trevo is powered by a 10-kW electric motor and offers a top speed of 48 km/h.

**TVS Motor Company** has signed an MoU with **Manba Finance to offer retail financing solutions.** Manba Finance will provide EMI-based financing for **ICE and Electric TVS commercial 3Ws,** both passenger and cargo segments.


**Kinetic Watts And Volts Limited** (KWV) partners with **JioThings.** KWV plans to introduce a suite of digital capabilities into its upcoming electric 2Ws, including voice-assisted vehicle interaction, digital instrument clusters, connected mobility features, enhanced infotainment, & telematics and cloud-based analytics for fleet operators.

**Ather Energy** has announced plans to enter the **auto insurance distribution segment** through a wholly owned subsidiary that will operate as a Corporate Agent. The subsidiary will offer auto insurance policies to Ather customers in partnership with multiple insurers.

**Ola Electric** receives CMVR certification from ICAT for its **Roadster X+ (9.1 kWh) electric motorcycle,** powered by the company's in-house developed **4680 Bharat Cell battery pack.** Roadster X+ becomes the first electric motorcycle in India to be certified with a fully indigenously developed 4680-cell battery pack.


The company has received **a PLI-Auto incentive of ₹366.78 crore for FY25.**

**Electric cab company Evera** (Prakriti E-mobility Pvt. Ltd.) **plans to expand its fleet.** At present, Evera operates 500 EVs. It plans to add 2,500 EVs by the end of Mar 2026 and expand its total fleet to 4,500 EVs by Jun 2026. Earlier in 2025, Signodrive Technologies leased 4,000 vehicles from Gensol Engineering Limited IRP, which will run on Evera platform. Evera has received **$2M in funding from Signodrive Technologies for expansion.**

Sahil Jindal, MD - Jindal Group, along with Mishu Ahluwalia, Arjun Shetty and Rishi Kochhar, launches an **EV cab-hailing service called Trevel in Gurugram.** The company aims to deploy 500 EVs in 2026. Trevel follows a self-managed fleet model, with **drivers onboarded on a monthly payroll.**


Hyderabad-based LFP Cathode Active Materials manufacturer **Altmin** signs an MoU with Singareni Collieries Company Ltd (SCCL) to set up a **Lithium Refinery in Telangana** to produce 30,000 TPA of battery-grade Lithium Carbonate. The companies will collaborate with a Brazilian integrated Lithium Mine-Refinery to establish this facility by 2027.


**Mindra New Energy has entered into a collaboration with REPT BATTERO Energy Co., Ltd.** Mindra will distribute 150 MWh of battery pack solutions in India and source 850 MWh of lithium-ion cells from REPT BATTERO for EV and energy storage applications. The collaboration also includes the installation and operation of a 1 GWh cell assembly line.

**Waaree Energy Storage Solutions** has raised **INR 1,003 crores,** as part of a larger INR 10,000 crores investment plan to establish a 20 GWh lithium-ion cell and battery pack plant in Gujarat.

Lithium-ion battery pack maker **Maxvolt Energy Industries Limited plans to expand its manufacturing capacity with a new 55,000 sqft. plant in Duhai, Ghaziabad.** The new facility is expected to be operational by Feb 2026, scaling annual production capacity from 72,000 to 2.25 lakh units.

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