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THE FUTURE MOVES ON ELECTRIC

VOLUME 01 | ISSUE 02 | OCTOBER-NOVEMBER 2026



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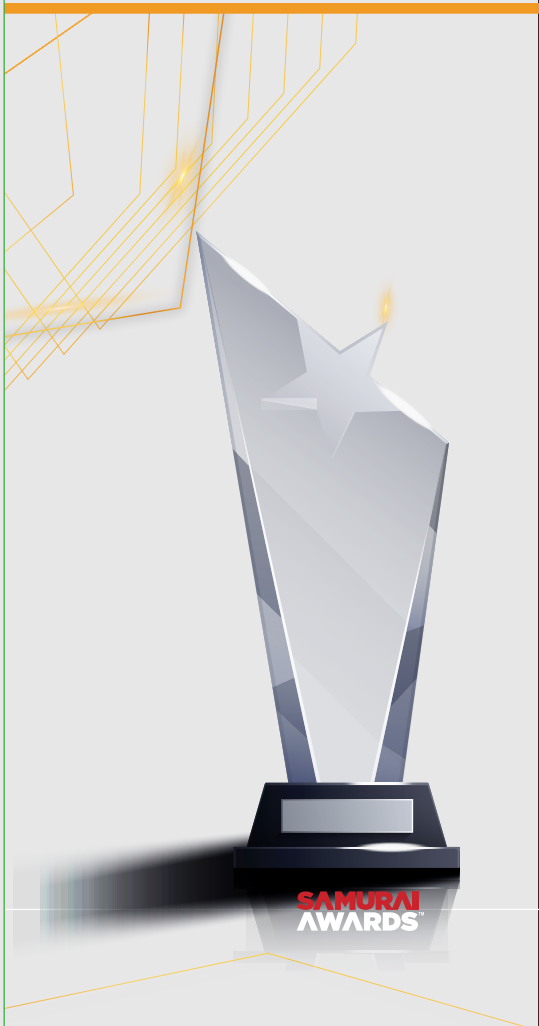
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Mobility ELECTRIFIED

PUBLISHER

Divya Thakkar
Publisher-Mobility Electrified
divya.thakkar@
meshmixmedia.com

EDITORIAL

Dr. Gunjan Sachdeva
Editor-Mobility Electrified
gunjan.sachdeva@
meshmixmedia.com

SALES & MARKETING

Preeti Mishra
Managing Director
Mobility Electrified
preeti.m@
meshmixmedia.com

Alok Kumar
Sales and Marketing
Mobility Electrified
advertise@
meshmixmedia.com

Dinesh Mishra
Joint Managing Director
Mobility Electrified
dinesh.mishra@
meshmixmedia.com

DESIGN
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PUBLISHER'S NOTE



India has the ambition, talent and potential to become a global force in electric mobility. The opportunity ahead is ours to build, together.

Divya Thakkar
Publisher, Mobility Electrified
Director, Strategy & Marketing
MeshMix Media

Beyond the Numbers, the Business of Scale

As India's electric mobility market gains momentum, the focus is shifting towards building the businesses and capabilities that will sustain its growth.

Festive sales, new launches and fresh investments have brought renewed confidence to India's electric mobility industry. What was once seen as an emerging opportunity is steadily becoming an important part of India's automotive landscape.

And the conversations within the industry are evolving too.

In my recent interactions with industry leaders, discussions have increasingly moved towards financing, the potential of a structured used-EV market and the need for stronger domestic supply chains. These are encouraging conversations because they show that the industry is thinking beyond immediate sales and preparing for long-term growth.

The opportunity now is to turn growing demand into a stronger, more competitive and commercially sustainable mobility ecosystem.

A more established secondary market, supported by reliable battery-health assessments and transparent valuations, could open new opportunities for buyers and financiers. At the same time, geopolitical developments have reinforced the importance of localisation, supply-chain resilience and building stronger manufacturing capabilities in India.

There is much to look forward to, and equally much to build.

With our second edition of Mobility Electrified, "Momentum to Scale", we aim to capture this changing industry landscape, bringing together perspectives, ideas and developments that will influence its next phase.

India has built encouraging momentum. The opportunity now is to turn it into an industry that is competitive, resilient and ready for the long run. ME

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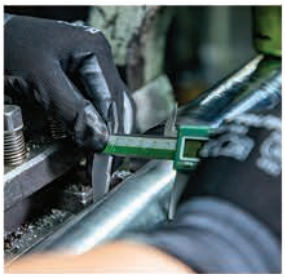
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EDITOR'S NOTE



India's electric moment has arrived. Lasting adoption now needs affordable finance, reliable charging, trusted service and resale confidence.

Dr. Gunjan Sachdeva
The Editor
Mobility Electrified

From the Fuel Pump to the Charging Plug: India's Electric Moment Has Arrived

Festive demand, supportive policy and a confident industry are making electric mobility a mainstream choice. The next task is to make it effortless.

This Navratri, showrooms gave a clear signal. Dealer data released last week showed electric passenger-vehicle sales rising 26 per cent over the same period last year. September had already delivered the country's highest-ever monthly electric retail sales. With petrol well above ₹110 a litre in several cities, buyers increasingly see electric as a way to lower running costs. Dealers also report that bookings are running ahead of supply, which is a healthy problem for a maturing market. Diwali amplifies this shift. For Indian families, a new vehicle is an aspiration, and electric now offers modern technology, savings on every kilometre and a role in cleaner cities. It also serves a national purpose, because each kilometre driven on domestic power reduces dependence on imported crude and strengthens energy security.

Electric mobility has earned its festive moment. The next milestone is making it an everyday habit through accessible finance, reliable charging, trusted service and confident resale.

The government deserves credit for building this foundation. PM E-DRIVE has supported the sale of millions of electric vehicles, and funds have been earmarked for public charging. Thousands of public chargers have been sanctioned. States such as Haryana are identifying land for free public charging networks. The scheme's emphasis on domestic manufacturing, testing and certification adds long-term strength. Industry is responding. Manufacturers now offer electric choices from affordable city cars and scooters to premium SUVs and three-wheelers. This competition is widening choice and sharpening value for first-time buyers. The next phase is turning interest into lasting adoption, and five areas will shape it. Affordability and finance come first: lenders can design products that reflect lower running costs and longer-term value, so the upfront price no longer decides the purchase. Charging comes next. Public networks, home and workplace charging and a simple unified app can make every journey predictable. Trust must also extend beyond the showroom, and trained technicians with dependable spare-part availability will build it. Resale matters just as much, because battery health certification and transparent valuation can give owners confidence in their investment. Behind all of this stands scale. Policy continuity, local manufacturing and private investment can keep the transition commercially sustainable for years to come.

India has the demand, the policy direction and the industrial capability to lead. If this festive momentum is matched by an ecosystem that makes ownership simple, India can turn a season of electric purchases into a lasting movement. ME

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COVER STORY

Charging India's Future: How Kartikey Hariyani Is Scaling India's EV Charging Infrastructure

With more than 15,000 charging points and 14% network utilisation, ChargeZone's founder is redefining how India builds EV charging, through long-term partnerships, demand contracting and strategic planning.



Dr. Gunjan Sachdeva
Editor
Mobility Electrified

Every energy transition reaches a moment when attention moves from the machine to the network that sustains it. For India's electric vehicles, that moment has arrived and Kartikey Hariyani, Founder and CEO of ChargeZone, is building the network to meet it.

The company he founded enters the final quarter of 2026 with more than 15,000 charging points across over 1,200 locations in India, a retail user base that has crossed half a million, more than $1 billion in long-term charging contracts and a plan to build 1,000 new highway superchargers. It gets there through partnerships across personal and commercial mobility, network uptime that is consistently above 98% and a target of 30% utilisation. Behind those numbers sits a conviction that has guided the company from its first charger: charging is not a gadget business but an energy business and it will be won by those who treat it as infrastructure. This is the story of how that conviction took shape and of what it will take to carry it across a country.

From Sunlight to Systems

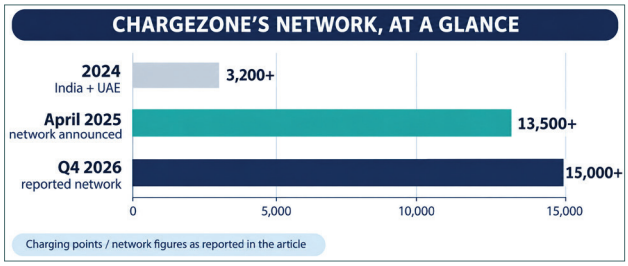
The story begins not with cars but with the sun. In 2010, Hariyani started his entrepreneurial career with TecSo Project Ltd, a company focused on solar PV plants. The work taught him to think in kilowatt-hours, in generation and storage and in the patient arithmetic of assets built to last. When electric mobility began to stir in India, charging looked like a natural extension of everything he already knew.

In 2018, he co-founded ChargeZone in Vadodara, Gujarat, with Kinnari Hariyani and Ravindra Mohan and an ambition stated from the outset: to build India's largest EV charging network. A Stanford alumnus, he chose Vadodara in part for the depth of its electrical-engineering talent. The timing favoured him. A 2018 government clarification placed EV charging outside electricity-distribution regula-



tions, allowing charging to be offered as a scalable service rather than a regulated utility. The early customers were fleets. By 2021 the company was serving about 2,000 vehicles a day and delivering roughly 30,000 units of electricity daily, a modest base by today's standards but a proving ground for the discipline that followed.

A Network Takes Shape

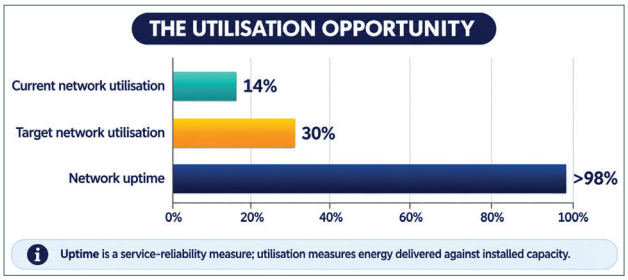


What came next was a decade of growth compressed into a few years. In 2024, the company reported more than 3,200 super-fast charging points across 400 locations in India and the UAE. By April 2025, it announced a network of 13,500 charging stations, built through its own sites and through open roaming agreements with other charging operators, which allow a driver to charge across networks with a single account. In the final quarter of 2026, the company reports more than 15,000 charging points across over 1,200 locations. The customer base has grown with it. By mid-2025, ChargeZone had served more than 200,000 retail users and over 10,000 business customers and its retail user base has since crossed half a million. Recognition arrived early, too: TecSo ChargeZone (P) Limited was named Best Smart Charging Solution Provider of the Year at the EV Charge Leadership Awards 2021.



The Discipline of Demand

ChargeZone's strategy is defined as much by what it declines to do as by what it builds. From the beginning the company stayed away from two- and three-wheeler charging, where throughput is too low to justify public infrastructure and concentrated on four-wheelers, buses and commercial fleets. Revenue today is split almost evenly between business customers and personal EV users. The logic is that of an energy company. ChargeZone works to a return-on-investment target of five to six years, reported profitability at the balance-sheet level in 2022 and has since moved into positive EBITDA. Underneath the network runs ChargeCloud, a proprietary software platform for managing charging stations, which the company also offers to others; it supplies the technology to Abu Dhabi National Oil Company in the UAE. In ChargeZone's arithmetic, the kilowatt-hour is the currency and every decision is measured against it. In 2026 that philosophy gained a sharper edge. Scale, the company now says, should be measured not by how many chargers are deployed but by how much energy is delivered through them and how consistently each asset is used.



Every site passes the same test. Before investing, the company weighs four things: how much demand it can expect, whether there is enough grid power, how long the land can be secured and what drivers can do nearby while they charge. Demand comes first. Where a bus, truck or commercial fleet has already contracted its charging, the station's energy sales are known before it is built, so it earns from the day it opens. The network is also built to be dependable. Every charger is monitored live on ChargeCloud, which flags faults and failed sessions as they happen so that field teams can respond quickly and network uptime is consistently above 98%. Utilisation, which measures the energy the network delivers against

what its installed capacity could deliver if every charger ran around the clock, stands at 14%, which the company says is already well ahead of the industry average. Reaching 30% will come from building new capacity against contracted demand from intercity buses, trucks and commercial fleets that run fixed routes and charge every day.



In the early years, our aim was to put chargers wherever EV owners might need them. Today the question is how much energy each charger delivers and how reliably it does so. A charger on its own isn't the business; the energy that flows through it is. The kilowatt-hour is our currency, and every decision we make starts with one question: will this site deliver energy, consistently, for years? We want ChargeZone to be defined by the energy we deliver.

— Kartikey Hariyani
Founder and CEO, ChargeZone

Technology at the Core

Behind the physical network sits a software layer that the company regards as a quiet advantage. ChargeCloud, its proprietary platform, manages charging stations across the network and the company's technology stack also includes AutoCharge, built for network management and interoperable charging. Because the platform can be offered as software, ChargeZone is not only an operator but also a technology provider, a model that has already carried its systems to the UAE.

That software-first thinking shows in details that matter to drivers. Dual-port charging and improvements in battery charging rates are cutting charging times and intercity electric buses can now add significant range during a pit stop of about 20 minutes, a rhythm that begins to resemble a conventional fuel stop.

Capital That Believes in Infrastructure

Infrastructure of this kind needs patient capital and ChargeZone has attracted it. In March 2023 BlueOrchard Finance led a $54 million Series A1 round. In 2024 British International Investment, the UK's development finance institution, committed $19 million, roughly ₹160 crore, to support the company's high-speed charging expansion and Macquarie Capital also took a minority stake. Bank lending has followed, including $25 million (about ₹250 crore) secured from Indian banks in 2026.

The next chapter of funding is already planned. ChargeZone intends to raise a further $100 million during 2026–27 through a considered mix of debt and equity, deployed, in the words of Chief Financial Officer Manish Madhogaria, against infrastructure with a clearer demand profile. Lenders' outlook is changing too. Charging stations take years to pay back and most capital available in India is expensive and short-term, but long-term fleet contracts now give banks predictable cash flows to lend against.

Highways, Hubs and Partnerships

The physical network now stretches across highways and cities. In July 2024 the company announced a $360 million, four-year plan for a supercharging network of 360 kW to 1.2 MW, integrated with solar and storage micro-grids. A six-month pilot delivered strong utilisation by intercity electric cars and buses, with usage exceeding the company's initial projections. A Kempower-powered hub in Gujarat followed in December 2024, superchargers on the Bangalore–Chennai and Bangalore–Hyderabad corridors in early 2025 and in June 2025 a 4 MW hub near Bengaluru airport.

Partnerships have widened the reach and carmakers have been among the first to join. Hyundai tied up with the company in 2024 to expand charging access for its customers. ChargeZone and Tata.ev opened a 720 kW mega hub at Khalapur on the Mumbai–Pune Expressway in April 2026 and Volvo Car India opened a co-branded 360 kW station



near Igatpuri in February 2026. V-Green, the charging arm of Vingroup, partnered with the company in May 2026 to build infrastructure for VinFast customers in India and a June 2026 tie-up with Bolt. Earth widened access across the country through a single app. A programme with Landmark Cars, rolling out from World EV Day on 9 September 2026, gives EV buyers charging benefits at the point of purchase.

The Khalapur hub shows why the model works. Set at a busy rest stop beside a food mall, it gives drivers something to do while they charge and its ten charging points let several vehicles charge at once, so even weekend peaks do not create queues. It confirms the approach: high-power hubs at busy rest stops on key intercity corridors.

Commercial vehicles are a growing focus. ChargeZone acquired Zerovolt's Wadala hub in Mumbai and the charging network of Fresh Bus in 2025. In the JK Cement programme announced in July 2026, BillionE runs a fleet of more than 150 heavy-duty electric trucks while ChargeZone provides the charging along its freight routes in Karnataka, Maharashtra and Goa. BillionE handles the trucks and ChargeZone handles the energy and because the routes and schedules are known in advance, every new station starts with steady demand.

These partnerships span both personal and commercial mobility and together they are what lifts utilisation. On the personal side, carmakers such as Tata.ev, Volvo Car India, Hyundai and VinFast, together with Landmark Cars dealerships and a single-app tie-up with Bolt.Earth, bring EV owners to ChargeZone's stations. On the commercial side, intercity bus, truck and commercial car fleets run fixed routes and charge every day, giving each new station steady demand from its first day. Placing capacity where demand is already secured is how ChargeZone intends to move from 14% network utilisation to its 30% target and network uptime that is consistently above 98% ensures the chargers are there when drivers need them.



Two further initiatives show the breadth of the vision. Project E-DHARA integrates solar generation and battery storage into charging sites, with a Dahej prototype combining 1 MW of solar with 5 MWh of storage. And through its DOCO franchise model, landowners, entrepreneurs and institutions can invest in highway stations from ₹1 crore while ChargeZone develops, commissions and operates them, with State Bank of India's EV Mitra scheme offering loans of ₹10 lakh to ₹10 crore over up to seven years. Even the stations carry a larger idea: under the SHWA initiative, charging sites double as public-art spaces.

A Billion-Dollar Commitment

In September 2026 the strategy found its clearest expression. ChargeZone announced long-term energy contracts worth more than $1 billion, about ₹10,500 crore, covering intercity electric buses, trucks and commercial car fleets, together with a plan to deploy 1,000 new charging stations along national highway corridors. The expansion will add 180 MW of capacity, taking the network from 120 MW to 300 MW.

The reasoning is as elegant as it is practical. Fleets run on predictable routes and charge frequently, which lets the company see where and how much capacity will be needed before a single charger is installed. The long-term contracts also give ChargeZone clearer visibility into future energy revenues, strengthening the investment case for every new asset. At full deployment, the company expects its network to deliver about 700 GWh of energy a year, support more than 15,000 charging sessions a day and operate at an average utilisation of around 30%. Solar generation and battery storage will be integrated across the infrastructure to manage peak demand and strengthen resilience.

The Policy Partnership

ChargeZone's ambitions sit within a supportive national framework. The Ministry of Heavy Industries has extended the PM E-DRIVE scheme to 31 March 2028 within its ₹10,900 crore outlay and reports from May 2025 describe ₹2,000 crore earmarked to support public charging stations. In February 2026 the Minister of State for Heavy Industries told the Lok Sabha that



over 29,000 public charging stations had been installed across the country. Demand is following: Business Standard reports that electric passenger-vehicle sales rose 75.1% year on year in April 2026, to 23,506 units, after reaching nearly 200,000 in FY26, up 83.6%.

The conversation is turning to affordability as well. On 30 October 2026, Union Minister Nitin Gadkari urged Maharashtra to bring charging tariffs down to ₹5 a unit, signalling the government's intent to make charging cheaper for drivers.

ChargeZone has set out its own framework for the next phase, built on four interdependent systems: banking, electricity tariffs, power infrastructure and land. It calls for Priority Sector Lending–style credit for charging assets; consistent tariffs and rationalised demand charges, with protection continuing beyond March 2028; charging built into DISCOM and national demand planning, with competing loads alone expected to add 26.3 GW by 2031–32; and land earmarked in city master plans and logistics corridors, including charging bays equal to 20% of parking capacity and a fast-charging station every 100 km on both sides of highways. The thread running through them is simple: dedicated credit needs bankable cash flows, bankable cash flows need predictable tariffs, reliable service needs grid capacity and grid planning needs to know where charging hubs will be.

The Road Ahead

The targets are ambitious by design. ChargeZone aims to build a 1 TWh charging network by the end of the decade, powered predominantly by clean energy, with a tenfold rise in monthly throughput over four years and its long-term mission is one million charging points. It is equally committed to accelerating the electrification of commercial mobility, so that electric buses and trucks become the most economical choice for fleet operators and the move from diesel is not only environmentally responsible but also a compelling business decision.

The market gives that ambition room. ChargeZone's CEO estimates that India could need more than a million charging stations in the best case and believes that however much the industry builds, the next five years will still call for more. The company's own momentum reflects it: after a flat year for electric passenger vehicles in 2024, it reported 50% year-on-year growth in 2025 and set its sights on 300% in the coming years, with commercial-vehicle electrification only just beginning.

Hariyani began with sunlight and in a sense he has never left it. His work is still about turning energy into something people can use, only now at the scale of highways, fleets and cities. If the first chapter of India's electric story was about the vehicles, the next will be written at the roadside, in the quiet exchange of power between a grid and a battery. ChargeZone's founder has spent sixteen years preparing for that chapter. The question is no longer whether India's roads will run on electricity, but how many of them will be wired by those who saw it coming. ME

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EDITOR'S EXCLUSIVE

From Momentum to Manufacturing: How India Is Building an EV Ecosystem That Lasts

India's electric vehicle market is setting new records, and a fast-growing ecosystem of cells, chargers, electronics and fleets is taking shape to turn that momentum into a durable, globally competitive industry.



Dr. Gunjan Sachdeva
Editor
Mobility Electrified

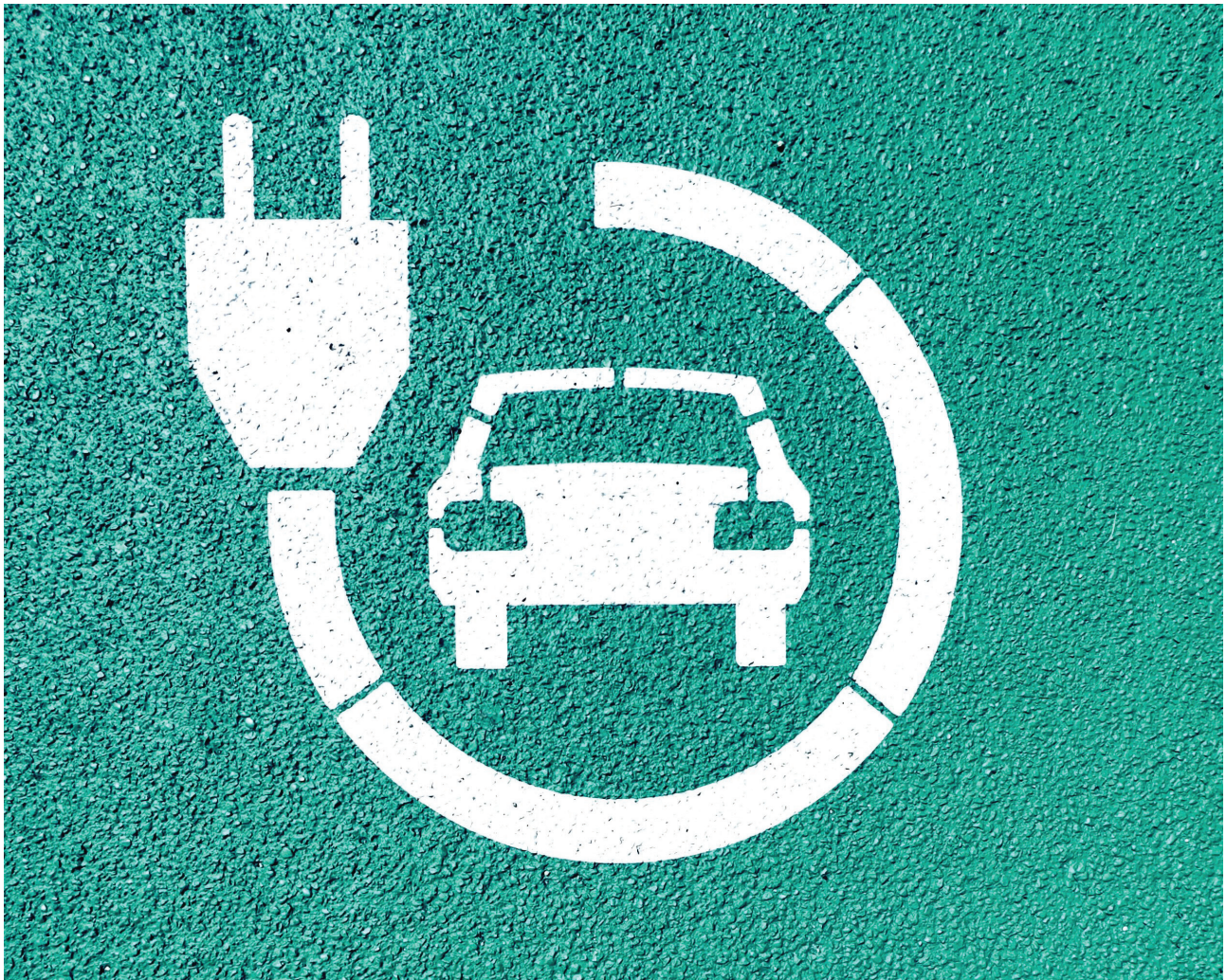


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India's electric mobility sector has entered a decisive phase of scale. Annual EV sales have grown roughly 46-fold since 2016 to 2.3 million units in 2025, and a coordinated policy framework is now channelling that demand into domestic manufacturing of cells, motors, power electronics and charging equipment (PIB, 2026c). The question for industry and policymakers is no longer whether India will adopt electric mobility, but how quickly adoption can become a deep, globally competitive manufacturing ecosystem. This cover story examines that transition through official data, independent research and the perspectives of the leaders building India's electric future.

The Momentum: Record Sales, Broadening Reach

India recorded a landmark year for electric mobility. According to the India Energy Storage Alliance (IESA, 2026), India registered 2.55 million EVs in FY2025-26, a 25% rise that lifted penetration to 8.3% of 30.84 million vehicle registrations. The Press Information Bureau (PIB, 2026c) reports that EV adoption has risen from 0.08% in FY2015-16 to 8.26% in FY2025-26, growing faster than the roughly 20-fold expansion of global EV sales between 2016 and 2024.

Growth is spreading across segments and states. IESA (2026) found that electric L5 three-wheelers have crossed 31% penetration, making them India's most electrified mainstream category, while electric four-wheelers have risen to a 7.7% share of total EV sales. PIB (2026c) adds that Uttar Pradesh was the largest EV market in 2025 with over four lakh units, followed by Maharashtra and Karnataka, and that NITI Aayog's India Electric Mobility Index names Delhi, Maharashtra and Chandigarh as frontrunners. The pace is accelerating. An International Energy Agency (IEA) analysis, reported by Greentech Lead (2026a), shows Indian electric car sales growing more than 90% in the first half of 2026 to cross 100,000 units, while the global market was about 1% lower. With the IEA (2026) expecting 23 million electric cars to be sold worldwide in 2026, close to 30% of all car sales, India's penetration has already risen from one-fifth of the global level in 2020 to over two-fifths in 2024 (PIB, 2026c).

Beyond Assembly: Deepening Local Manufacturing

India is now deepening its capabilities well beyond vehicle assembly. The IEA (2026) notes that China produced more than 80% of the world's battery cells in 2025, which makes localisation a strategic opportunity for countries building new supply chains. India has moved early on motors: PIB (2026a) notes that rare-earth permanent magnets are essential for EV motors and that the government approved a ₹7,280 crore scheme in November 2025 to build 6,000 tonnes per annum of integrated magnet capacity. The IEA's analysis, as summarised by Greentech Lead (2026a), adds that localisation will drive employment and industrial competitiveness alike. Domestic production now spans battery packs, motors, drivetrains, power electronics, wiring and charging equipment, supported by about 400 EV startups and over USD 1.4 billion of investment in FY2025, up roughly 27% (PIB, 2026c). Exports have grown from USD 1.2 million in 2020 to USD 84 million in 2024, and Suzuki's Made-in-India e VITARA is aimed at more than 100 countries (PIB, 2026c).

The Silicon Underneath

Localisation also reaches into the electronics and software that govern every drive cycle: power inverters, battery-management and motor-control chips, and secure compute that must meet automotive-grade reliability. India's semiconductor programme is building capacity at exactly this layer. PIB (2026d) reports that 10 projects worth ₹1.60 lakh crore had been approved across six states by December 2025, including silicon carbide fabs and high-power discrete device facilities, under a ₹76,000 crore framework offering up to 50% fiscal support. The Design Linked Incentive scheme supports 24 chip design startups, extending progress from fabrication into design.



India's EV momentum is real: over 2.4 million registrations in FY2026 and penetration nearing nine percent, yet the national goal is thirty percent by 2030. That leap will not be decided by batteries alone. An EV is a power-electronics and software system on wheels: SiC and GaN inverters, IGBT modules, battery-management and motor-control chips, and secure, software-defined, edge-intelligent compute that must meet automotive-grade reliability.

Localising this stack, from design to fabrication, is what turns an import-dependent transition into a resilient, sovereign supply chain. India's EV revolution will be built to last on the secure and safe silicon underneath it.

— Sanjay Gupta, Founder & CEO, INDRIS Semiconductor

The Battery Build-Out: From Plans to Plants

India's cell manufacturing story is moving from plans to plants. The Production Linked Incentive scheme for Advanced Chemistry Cells carries an outlay of ₹18,100 crore and targets 50 GWh of domestic capacity, with land acquisition completed for the 40 GWh awarded so far (pv magazine India, 2026). The Institute for Energy Economics and Financial Analysis (IEEFA, 2026a) reports that the first 1.4 GWh had been commissioned by October 2025, with another beneficiary indicating that it will commission its second-round 10 GWh award on time. PIB (2026c) notes that the scheme is now in its performance phase, running to December 2029, and that because batteries account for 35 to 40% of an EV's cost, scaling domestic cells is central to lowering vehicle prices. Interest beyond the scheme is even stronger. IEEFA (2026b) recorded around 66 GWh of initial non-PLI capacity and about 112 GWh of future additions announced by manufacturers, signalling deep private-sector confidence. Greentech Lead (2026b) notes that announced capacity, installed equipment and commercial production are distinct stages, and the sector's focus is now firmly on converting commitments into commissioned output.

Case Study: Agratas at Sanand

The Tata Group's battery business, Agratas, is the flagship project to watch. Agratas (2026) announced completion of the steel frame at its Sanand facility in Gujarat, keeping it on track for production in 2027 with a first-phase capacity of 20 GWh. Once it begins production, Sanand will stand as a landmark of India's gigawatt-scale cell manufacturing.

Powering the Journey: A Charging Network on the Rise

India's charging network is expanding rapidly. PIB (2026c) reports 52,718 public charging stations as of July 2026, of which 16,561 are equipped with fast charging. According to IANS (2026), citing Ministry of Heavy Industries data and an analysis by Rubix Data Sciences, stations grew from about 5,000 in 2022 to 29,151 by December 2025, and India had 67,657 EV chargers, including battery-swapping hubs, by August 2026; counts differ by definition. The report adds that rising adoption will lift utilisation and create a major opportunity for charge point operators. Electrical Mirror (2026) reports that 6,645 of 9,332 charging stations sanctioned under FAME-II were operational on 1 March 2026, a solid base for a sector now focused on reliability and uptime.

Policy is backing this build-out. According to the Press Information Bureau (PIB, 2026b), PM E-DRIVE has earmarked ₹2,000 crore for public charging and now runs to 31 March 2028. By 28 September 2026, ₹851 crore, just over 40% of that amount, had been approved, covering 8,147 chargers across three oil marketing companies and 10 states, a strong start to the programme's rollout.

Decentralised Charging

Charging policy is designed to widen participation. Under the Ministry of Power's 2024 guidelines, any individual or entity is free to establish EV charging infrastructure that meets the prescribed standards (Ministry of Power, 2024). With PIB (2026c) counting 52,718 public stations and IANS (2026) projecting a need for about 1.32 million charging points by 2030, a network owned and operated by many local participants offers a practical route to closing that gap.



India's EV revolution has moved past proving demand. Whether it lasts now depends on who gets to build it and who gets to benefit from it. As the economy moves, slowly and steadily, from petrol to electric, it is creating one of the largest economic opportunities of our generation, and that opportunity cannot be concentrated in a few large companies.

At Bolt.Earth, we are building products that let small and medium businesses and local entrepreneurs own chargers, earn from them, and become part of the energy network. That is how infrastructure truly scales: a decentralised grid built by millions of participants, with charging available wherever people live, work and travel. And we're doing it here, developing indigenous technology and manufacturing it locally, so that the backbone of India's electric future is designed, made and owned in India.

— Jyotiranjan Harichandan,
Founder & CBO, Bolt.Earth

Policy to Performance: Support That Builds Capability

India's policy framework now works at several levels. PM E-DRIVE had supported 22.12 lakh of its targeted 28 lakh EVs by January 2026, and the PLI scheme for automobiles had disbursed ₹2,377.56 crore, of which ₹2,319.88 crore went to EV manu-

facturers (PIB, 2026c). The electric passenger car scheme requires a minimum investment of ₹4,150 crore and domestic value addition of 25% by year three and 50% by year five, while 29 states and union territories had notified EV policies by December 2025 (PIB, 2026c). According to Evfy (2026b), the Ministry of Heavy Industries has extended the two-wheeler incentive through March 2028 at ₹2,500 per kWh, capped at ₹5,000 per vehicle, with the total outlay raised from ₹10,900 crore to ₹11,900 crore. The next chapter is the shift from adoption incentives to industrial capability. As cell plants, magnet facilities and chip design capability come online, India is positioning itself to stay competitive well beyond the incentive period. Proposed CAFE III norms for 2027 to 2032, with a super-credit mechanism, are also expected to make EV sales a more direct route to compliance for manufacturers (PIB, 2026c).

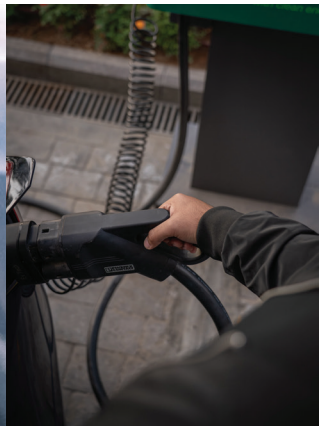
The Economics of Going Electric

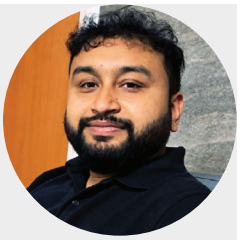
Economics ultimately decides who buys and who operates, and the trend is favourable. A concessional GST rate of 5% applies to electric cars, two-wheelers and three-wheelers (PIB, 2026c), and the IEA's Fatih Birol, quoted by Energy Digital (2026), links falling battery prices and policy responses to the global energy crisis with further market momentum. For passengers and fleets, the winning proposition is practical: affordable fares, predictable charging and dependable service.

Passenger Trust

Passenger confidence rests on safety, comfort and punctuality, and each depends on dependable charging and service support. Electrical Mirror (2026) reports that 6,645 of 9,332 charging stations sanctioned under FAME-II were operational on 1 March 2026, which is why the sector's focus is moving from installation to uptime. Long-term payment security under PM e-Bus Sewa, covering each bus for up to 12 years, gives operators the stability to plan reliable services (PIB, 2026c).







For passengers, every electric kilometre must deliver the certainty they expect from any journey: safe travel, a comfortable ride and an on-time arrival. India's EV momentum will endure when choosing electric becomes an easy everyday decision. That requires charging plans that respect passengers' time, dependable service support and fares people can afford. I see reliability as essential infrastructure for adoption. When people trust an electric journey enough to book it again, demand becomes predictable and operators gain the confidence to expand. Passenger trust is what turns early adoption into lasting demand.

— Prasant Kumar, Co-Founder & CEO, zingbus

Commercial Viability

For commercial fleets, the case rests on total cost of ownership, financing, after-sales support and uptime. CEEW, IBSA and CII (2026) find that battery swapping offers 12 to 20% lower total cost of ownership than fixed charging across major commercial vehicle segments, and that it suits high-utilisation fleets. Alongside efficient drivetrains and connected vehicles, such models are strengthening the economics of electric fleets.



India's EV ecosystem has made significant progress, particularly in electric two-wheelers and last-mile mobility. However, scaling adoption will depend on addressing challenges around affordability, charging and battery-swapping infrastructure, financing and after-sales support. For commercial users, an EV must deliver more than environmental benefits it needs to offer reliable performance, lower operating costs and minimal downtime. Technologies such as efficient drivetrains, connected vehicles and battery swapping can help improve the overall ownership experience. Collaboration between manufacturers, component suppliers and mobility partners will also be crucial. India's EV revolution has strong potential, but long-term success will depend on building reliable, commercially viable solutions that make electric mobility a practical choice for everyday users and businesses.

— Bharath Krishna Rao, CEO & Co-founder, EMOBI

Public Transport and Cities: Electrification at Scale

Public transport is where electrification delivers some of its most visible public benefit. PM E-DRIVE allocates ₹4,391 crore for 14,028 electric buses, and tenders for 10,900 buses in Phase I have been concluded (PIB, 2026c); support for buses continues until March 2028 (Evfy, 2026a). The Observer Research Foundation (ORF, 2026) reports that over 10,000 e-buses are operational in more than 50 cities through PM e-Bus Sewa, with 20,000 more in procurement, and notes that depot charging and grid readiness now shape performance, since 100 buses can generate charging demand of 4 to 5 MW. Success is therefore measured in daily kilometres, uptime and passengers served.

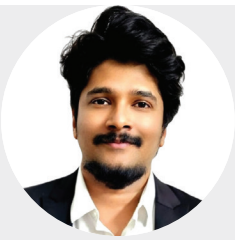


India has made remarkable progress in electric public transport, building a strong foundation. The opportunity is to build on momentum and make it more efficient, reliable and sustainable at scale. Olectra's 4,500+ buses across 55+ cities, covering 750+ million km, underline a connected ecosystem: reliable charging, grid readiness, efficient depots, financial sustainability and long-term policy support. Long-term financing with extended repayments will ease cash flows, while highway charging will enable intercity routes. Real scale is dependable everyday electric mobility, with reliable, efficient, comfortable buses creating lasting value for cities, commuters and communities, turning momentum into a sustainable future.

— Mahesh Babu, Managing Director, Olectra Greentech Limited

Cleaner Cities, Shared Responsibility

Cities are where clean mobility is felt first. Transport accounts for about 9% of India's emissions, and PIB (2026c) describes electric mobility as reimagining daily commutes in crowded cities and last-mile connectivity. With 29 states and union territories having notified EV policies, and NITI Aayog's index benchmarking states on transport electrification, charging readiness and innovation, shared light mobility such as docking-station networks fits naturally into a broader urban strategy.

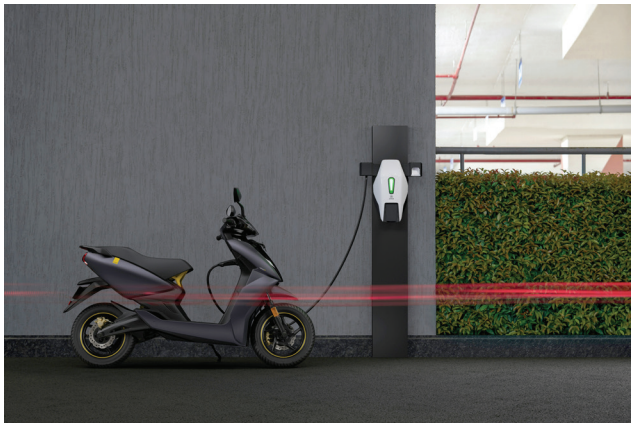


At eZpedal, our vision is simple: to make our cities cleaner, greener, more breathable, and less congested. We believe that small changes in how we travel can make a big difference in reducing our carbon footprint and improving everyday life. In just three months, we have deployed 10 docking stations and welcomed over 4,000 users to our platform. This is only the beginning. Building a sustainable mobility ecosystem is a shared responsibility. Governments, businesses, urban planners, and citizens must come together to make clean, convenient mobility a reality for everyone.

— Prathyush Sreenivasan, Co-Founder, eZpedal

Building an EV Ecosystem That Lasts

So is India building an EV industry as well as an EV market? The evidence points to both. Demand is real and broadening, policy has created scale in two- and three-wheelers, and gigawatt-scale cell plants such as Sanand are moving from steel frames towards production lines. Charging networks are growing quickly, and programmes in magnets, electronics and batteries are extending the ecosystem deeper into the value chain. With the national goal set at 30% of vehicle sales being electric by 2030 (PIB, 2026c) and about 1.32 million charging points needed by then (IANS, 2026), five milestones will mark the journey from momentum to manufacturing: commissioned cell capacity, reliable charger uptime, local value addition in motors and electronics, economics that work at scale, and operating performance measured in kilometres and uptime. With industry leaders, public programmes and private capital moving in the same direction, India's EV revolution is set to be not only large but built to last. ME



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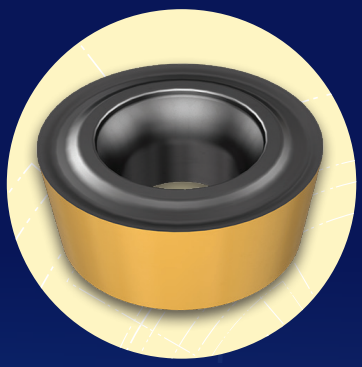


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INTERVIEW

Measuring What Matters: How Marposs India Is Building the Precision Backbone of a New Manufacturing Era

Cosimo Cereda, Managing Director of Marposs India, on moving from product seller to solution provider as India's factories race toward quality at scale.



Dr. Gunjan Sachdeva
Editor
Mobility Electrified

Cosimo Cereda, Managing Director of Marposs India, in a professional conversation with Dr. Gunjan Sachdeva, Editor of Mobility Electrified.



Some industries are built on big announcements. Others are built on the quiet certainty that every part, every gear and every battery pack is exactly what it should be. Marposs belongs firmly to the second kind. Its presence is felt in nearly every car on the road, electric or internal combustion, and in every passenger plane in the sky. In a conversation with Mobility Electrified, Cosimo Cereda, Managing Director of Marposs India, laid out how a company known for measurement is reshaping how India makes things: more precisely, more intelligently and increasingly, closer to home.

A New Way of Working: From Product Seller to Solution Provider

WAsked what is new at Marposs, Cereda smiled and said a full answer would take a long time. In India, he explained, the biggest change is the way the company works. The country is at an inflection point: industrial growth is, in his word, exploding, powered by free trade agreements, the arrival of electric motors and the impulse of aerospace. Government policy is drawing in high-level manufacturing, and Marposs intends to help on the shop floor. The company's approach rests on two phases. The first is to assure quality during production, so the right product with the right quality is made at once. The second is to verify that the quality is what was expected. Together, they deliver lower running costs and higher specifications in Indian factories.

To make this work, Marposs has reoriented itself around solutions and applications. "We are more a solution provider than a product seller," Cereda said. The company is also expanding its service presence significantly, offering care for supplied products across their entire life, so partners get the right quality and productivity not just today but over time.

Made in India: A 10,000 Sq Ft Production Hall

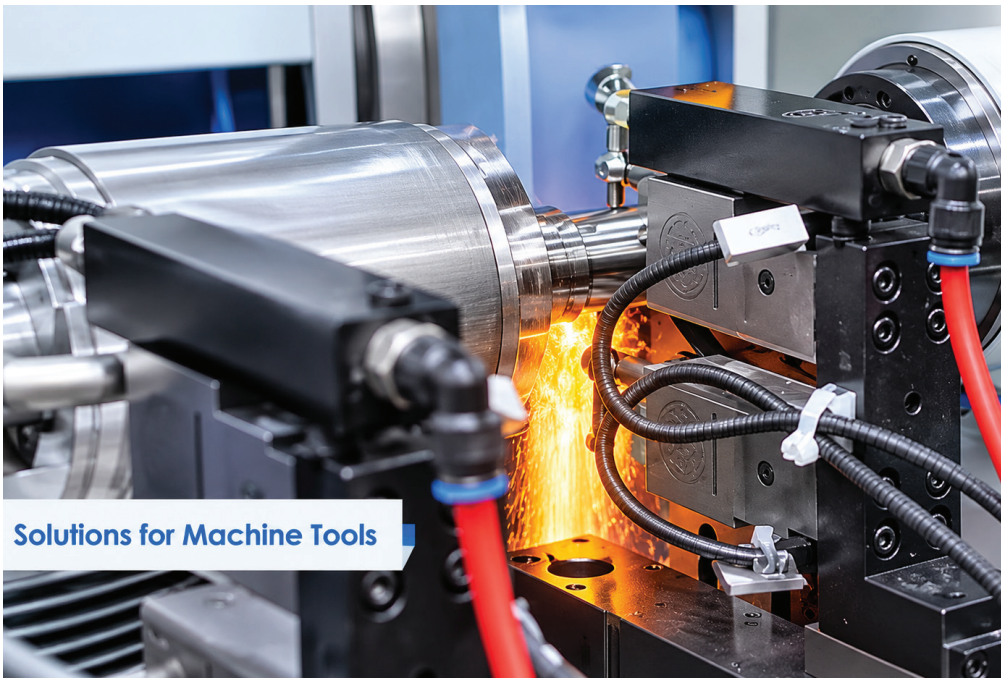
The most tangible sign of this commitment is manufacturing. Marposs India is getting a new production hall, one larger than the current office. If everything goes right, and Cereda was candid that there are "a couple of ifs" still to be confirmed, the facility will offer 10,000 square feet of production surface, giving what he called a big impulse to Made in India by Marposs.

Forty Years, Two Indias

Marposs first approached India in 1984 through an agent. In under 20 years it opened its own office, and it has now spent more than 20 years operating directly. Cereda is clear about how much the country has changed in that time: there are two Indias, that of then and that of today, and they have nothing to do with each other. Today's India is deeply industrial, with very high-quality production, and Marposs has progressed alongside it. The footprint tells the story. The company began with one office and now has six. It plans to expand to another five locations between this year and next. Offices in Gujarat and Chennai are being changed, the Bangalore office is growing, and a new hall is coming up at the home base. Resident engineers and sales teams are being placed in Punjab, Indore and more of Tamil Nadu, among other places. Growth, Cereda noted, is happening "from both sides", from the market and from Marposs itself.

Bengaluru Tech Center: Seeing Precision Live

Bengaluru is a deliberate choice. Together with the north, it is one of India's two biggest industrial hubs. It shares leadership in the aerospace industry with Hyderabad and is also a centre for machine manufacturers. The Marposs tech center there is built to show, not tell. It houses working equipment, including a machine tool to demonstrate how Marposs devices control and supervise ma-



chine tools automatically, along with measuring equipment and samples. Customers can even bring their own products for testing, provided there is time to program the measuring systems. The idea, which Cereda says is already in heavy use, is that customers see the equipment live.

The center is now becoming an events venue. The first, focused on aerospace, is scheduled for the end of October, where aerospace solutions will be demonstrated live.

A Technology Spreader with a Global Network

How does Marposs help Indian manufacturers compete globally? Cereda describes the company as a "technology spreader". Present all over the world, it studies applications, develops solutions and shares the resulting experience internally. Teams currently collaborate on a project spanning six countries, and technology centers operate in Italy, China and India.

He is careful to draw a line: this is not the transfer of one company's proprietary technology. Rather, what is learned in one application is used to deliver the next at the same or a higher level, and that experience flows into India with the latest concepts.

Automotive: The Biggest Opportunity

Which sector will grow fastest? Cereda's answer is unequivocal: automotive, the biggest sector today and likely to stay so. He sees three engines of expansion.

The first is the arrival of EVs, which demand a higher level of technology. Marposs has extensive experience here, and, as Cereda notes, all the important players in the EV market work with the company. The second is India's growing role in the international supply of parts and components, with shipments now heading to Europe, the United States and beyond. The third, and probably the most important, is the domestic market. India is getting richer, and the growth of its automotive market is impressive. India currently produces roughly three million four-wheelers a year, and with 1.4 billion people, today's four-wheeler and two-wheeler numbers will, in the long term, "seem a joke", as happened in China. The figure, he says, will be enormously larger.

From Inspection to Real-Time Process Control

As factories move toward automation and smart manufacturing, Marposs is helping them shift from traditional inspection to real-time control. The company combines different measurement and machine-control technologies and designs applications that eliminate error from the equation. Cereda's argument for automation is simple: to produce quality, you need to automate. Humans excel at thinking, developing and creating, but are not good at repetitive tasks. In the highest-precision industries, including aerospace, where Marposs is strongly present, automation will play a major role, at least in critical operations.

That qualifier matters. Marposs is not a supplier of automated production lines. It supplies automated applications for the critical parts of a factory: where the machine is controlled, where a critical measurement or production phase occurs, or where a critical test is carried out at the end of the line.

Data on the Shop Floor: Two Speeds, One Goal

Data, Cereda says, is a big challenge for India, and it comes in two levels. The first is real-time data, where "real time" means machine real time, measured in milliseconds, used to correct the machine as it works. The second is offline data, used to analyze how production is done and to optimize the process. What is commonly called Industry 4.0, he points out, tends to be offline data rather than real time. There is a third category: real-time monitoring. It already exists, is widely applied worldwide and is now entering India. By reacting in real time,



Non-contact Gauging

it raises productivity through shortened cycle times, avoidance of bad parts and elimination of waiting time when something goes wrong. Cereda is precise about language here: a broken tool is not a mistake, it is an incident in the machine. Removing the delay in noticing it, or the delay caused by checking a machine, delivers a big gain in productivity and quality while lowering running costs.

Data is then extracted from all production and measuring equipment and analysed to improve the process: which machine and which part of the process produces the most errors. If a measuring or testing nonconformity keeps recurring, teams can trace how the part was produced and find the root cause. The system does not rely on human feeling when looking at machines; it gives the person responsible for production real-time data pointing to the machine, operation and process with a problem.

The Road to Integration

Will the future belong to integrated solutions rather than individual machines? Cereda believes so. An industrial process consists of many sub-processes, and efficiency at the end is impossible without considering every step. This leads naturally to integration from design to delivery of the line and product, and that, he says, is what will give low cost, high quality and personalized products. But he is honest that "we are far away from that today." Factories are not yet fully adopting Industry 4.0, and the path is staged. First, the physical equipment must be adequate for the use. Second, people must be trained. Third comes real-time optimisation, acting on machines as they run. Only once every single operation has been optimised can a factory optimise the whole, and after that move to optimisation and automation from design to end product.

AI: A Tool, Not a Barista

On artificial intelligence, Cereda began with a disclaimer: he is not an AI expert. His view is nonetheless clear. AI is a new tool that will replace some things, not everything. With a touch of exaggeration, he said it is not as if AI is going to make your coffee. The future is a combination of classic algorithms, machine learning and AI, depending on the task. Where speed is needed, or where variability is high, algorithms win, because they react in milliseconds. Where tasks are complex, or involve patterns that are hard to define, AI is the answer. He doesn't expect AI to transform the shop floor itself, since it sits at the top of the pyramid there. Its larger impact will come before and after the shop floor: in parallel processes, in automating the back office, in extracting more from the design-to-production chain and in analysing shop-floor data for further optimisation.

The EV Challenge: Metrology-Room Precision at Production Speed

EVs and aerospace, Cereda says, pose a shared challenge: achieving in mass production the precision normally verified in a metrology room. A metrology room is where a part is brought and checked with very little time pressure. On the shop floor, the same must be done within cycle time.

Gears: Strength, Speed and Noise

EV gears face three demands. EVs deliver much higher torque, so gears must withstand it. They turn at far higher speeds than internal combustion engines. And without a noisy engine to mask it, gearbox noise becomes audible. EVs have far fewer gears and no conventional gearbox, but the gears they do have must be exceptionally precise and strong, making manufacturing more complicated. Marposs covers the full journey, from cutting to grinding to testing. For dynamic testing it uses NVH (noise, vibration, harshness) equipment, testing gears at speed to control quality.

Batteries: Where Electricity Meets Water

Batteries now serve far beyond automotive. From cell to pack to tray, testing is extensive: dimensional, electrical and leak testing. "Electricity and water are not good friends," Cereda observed, so enclosures must be perfectly airtight, verifiable only with sophisticated equipment. Marposs, he says with pride, is market leader, with every serious EV player among its customers.

His proudest line sums up the company's reach: there is almost no car on the road, electric or internal combustion, that has not gone through Marposs, and no passenger plane flying that has not either.

The Fastest Adopters

Which area will adopt advanced inspection and testing fastest, across batteries, e-motors, power electronics and other EV components? Cereda points to two: aerospace and EVs. The military market is also high-tech but, compared with these two, small. These two are the big drivers of precision in mass production. ME

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VOICES OF MOBILITY

Navigating Mass EV Mobility in India: Applying the Strategy Choice Cascade

China's rapid rise in electric mobility and the costly setbacks faced by Western automakers offer contrasting lessons for India's EV ambitions. As the country moves towards mass-market electrification, the challenge is to balance affordability, manufacturing flexibility, and long-term profitability. In this article, **Surendra Nukala, Director of Technology – Asia Pacific, The Goodyear Tire & Rubber Company,** applies Roger L. Martin's Strategy Choice Cascade to examine how Indian OEMs can learn from global successes and failures, prioritise high-utilisation vehicle segments, and build a scalable EV strategy without falling into the trap of premature capital investment.



SURENDRA NUKALA
Director of Technology – Asia Pacific,
The Goodyear Tire & Rubber Company

The global transition toward electric mobility is bifurcating into two starkly contrasting narratives: China's runaway industrial success versus the multi-billion-dollar write-downs and capital destruction experienced by Western Original Equipment Manufacturers (OEMs) in Europe and North America. As India transitions from early adoption momentum toward mass-market EV scale, domestic automakers stand at a critical inflection point. By evaluating this transition through Roger L. Martin's Strategy Choice Cascade framework, Indian automotive leaders can synthesize key lessons from China's ecosystem-first approach and leverage flexible, multi-energy manufacturing to protect operating margins while avoiding the capital-allocation traps of Western carmakers.

1. The Strategic Choice Cascade Framework

Roger L. Martin's Strategy Choice Cascade defines strategy as five logically nested choices: Winning Aspiration, Where to Play (WTP), How to Win (HTW), Must-Have Capabilities (MHC), and Enabling Management Systems (EMS). Crucially, strategy is an iterative cascade. To build a resilient path toward mass mobility, Indian OEMs must systematically align all five boxes while conducting rigorous reality checks against market constraints and quarterly financial expectations.

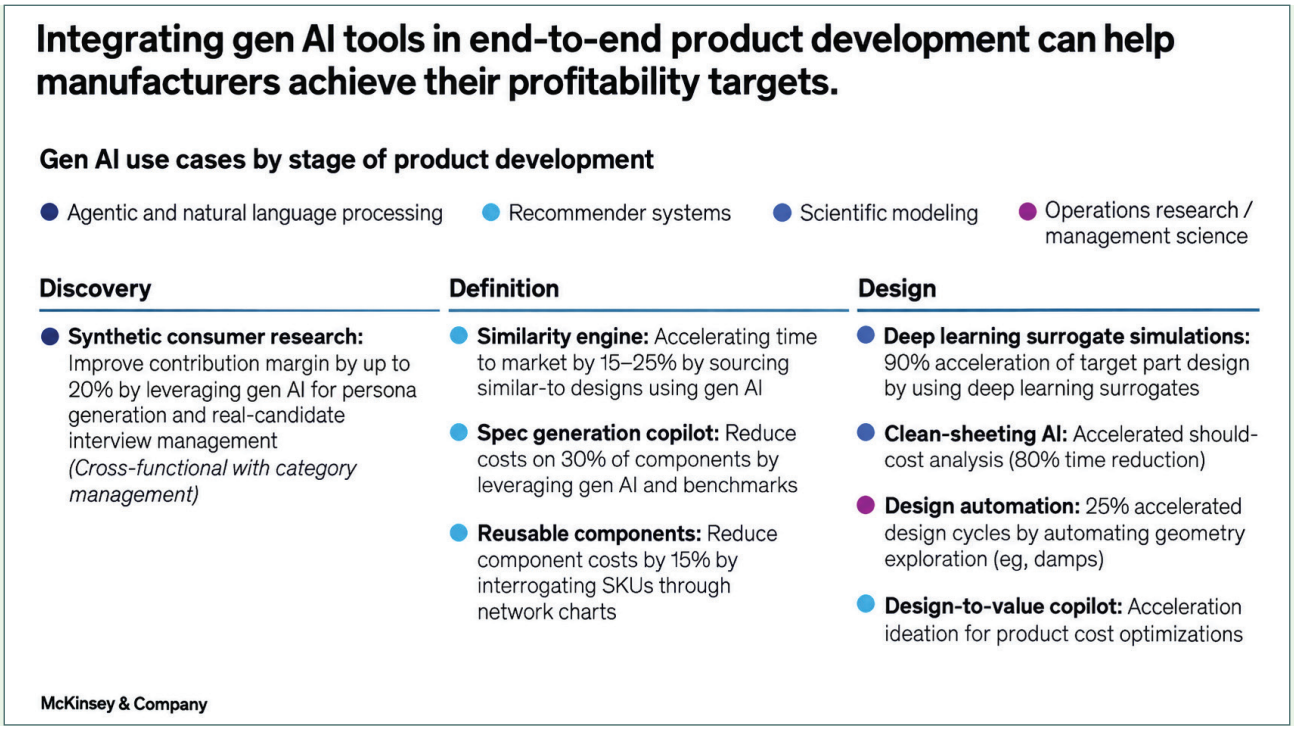
2. Global Benchmarks

Plant utilization across European OEMs sits structurally depressed at ~60% (well below the 80% healthy benchmark), driven by rigid, EV-only greenfield plants that created massive blocked-capacity risks when BEV adoption slowed. Conversely, Chinese OEMs scaled through bottom-up mass-market models, deep vertical integration (LFP chemistry), and rapid 24-month vehicle iteration cycles.

3. Applying the Cascade to Indian Mass EV Mobility

Choice 1: Winning Aspiration

Achieve sustainable, zero-sub-



sidy mass electrification across India's transportation network, targeting 30%+ total EV penetration by 2030 through affordable, climate-resilient mobility aligned with national energy security.

Choice 2: Where to Play (WTP)

Focus capital deployment primarily on Two-Wheelers (2W), Three-Wheelers (3W), and Commercial Fleets (Buses and Taxis) before expanding passenger 4W models. Target high-utilization daily commuters traveling under 100 km per day, where operating savings offset the initial battery premium within 12 to 18 months.

Choice 3: How to Win (HTW)

Deliver purchase-price parity and low total cost of ownership (TCO) per km via Battery-as-a-Service (BaaS), swapping frameworks, and thermally stable, localized Lithium Iron Phosphate (LFP) cell architectures engineered for 45°C+ heat.

Choice 4: Must-Have Capabilities (MHC)

1. In-House Battery Pack & BMS IP: Retain internal control over Battery Management Systems and thermal pack assembly [1, 2].
2. Centralized Zonal E/E Architectures: As highlighted by BCG and McKinsey (3&4), transitioning to central compute units cuts wiring harness lengths by 30% to 40% and eliminates dozens of legacy ECUs, drastically reducing BOM weight and manufacturing complexity.
3. Localized Supply Chains: Localize traction motors and power electronics under India's Auto PLI scheme to mitigate FX volatility.

Choice 5: Enabling Management Systems (EMS)

1. Multi-Energy Flexible Assembly Lines: To avoid the European trap of 60% plant utilization, Indian OEMs (e.g., Tata Motors acti.ev, Mahindra INGLO) utilize flexible lines producing ICE, Hybrid, and EV platforms on shared lines. BCG research shows multi-energy flexible manufacturing optimizes plant utilization near 90%+ and reduces fixed production costs by up to 20% .
2. Ring-Fenced Corporate Structures: Create dedicated EV subsidiaries to attract private equity capital while protecting parent company EPS.
3. Battery Residual Value Underwriting: Partner with NBFCs to establish secondary battery market standards.

4. Navigating Quarterly Margin Pressure: The Cash-Flow Bridge

Quarterly margin pressure is unavoidable, but Indian OEMs possess a far stronger financial shield than Western peers. BCG data indicates that legacy ICE vehicles generate ~10% EBITDA margins, whereas standalone BEV margins start at ~2.5% to 7%. By deploying multi-energy flexible lines, Indian automakers safely harvest legacy ICE cash flows to fund software and battery R&D . Furthermore, India's Auto PLI scheme provides a 13% to 18% incentive payout on eligible sales, lifting effective 4W EV EBITDA margins to 7% – 10% (and 2W/3W EV gross margins to 28% – 34%), creating a profitable transition bridge.

Multipowertrain platforms can be used strategically to cut capital expenditure, reduce risk exposure, and meet customer demand.

Powertrain platform analysis by scenario

Not preferable | Neutral | Preferable

		Baseline (Single platforms)				Targeted multiplatform (Multiplatforms)				All multiplatform (Multiplatform)			
		BEV[1]	Series EREV[2]	Parallel PHEV[3]	ICE[4]	BEV	Series EREV	Parallel PHEV	ICE	BEV	Series EREV	Parallel PHEV	ICE
Design	Bill of materials cost	Low				Medium				High			
	Vehicle/revenue performance	High				Medium				Low			
Manufacturing	Capital expenditure	High				Medium				Low			
	Asset utilization risk	High				Medium				Low			

Uncertain volumes and fixed capital expenditure force OEMs[5] to trade flexibility across design and manufacturing to manage risk

[1]Battery electric vehicle. [2]Extended-range electric vehicle. [3]Plug-in hybrid electric vehicle. [4]Internal-combustion engine. [5]Original equipment manufacturers.

McKinsey & Company

5. Strategic Comparison Matrix

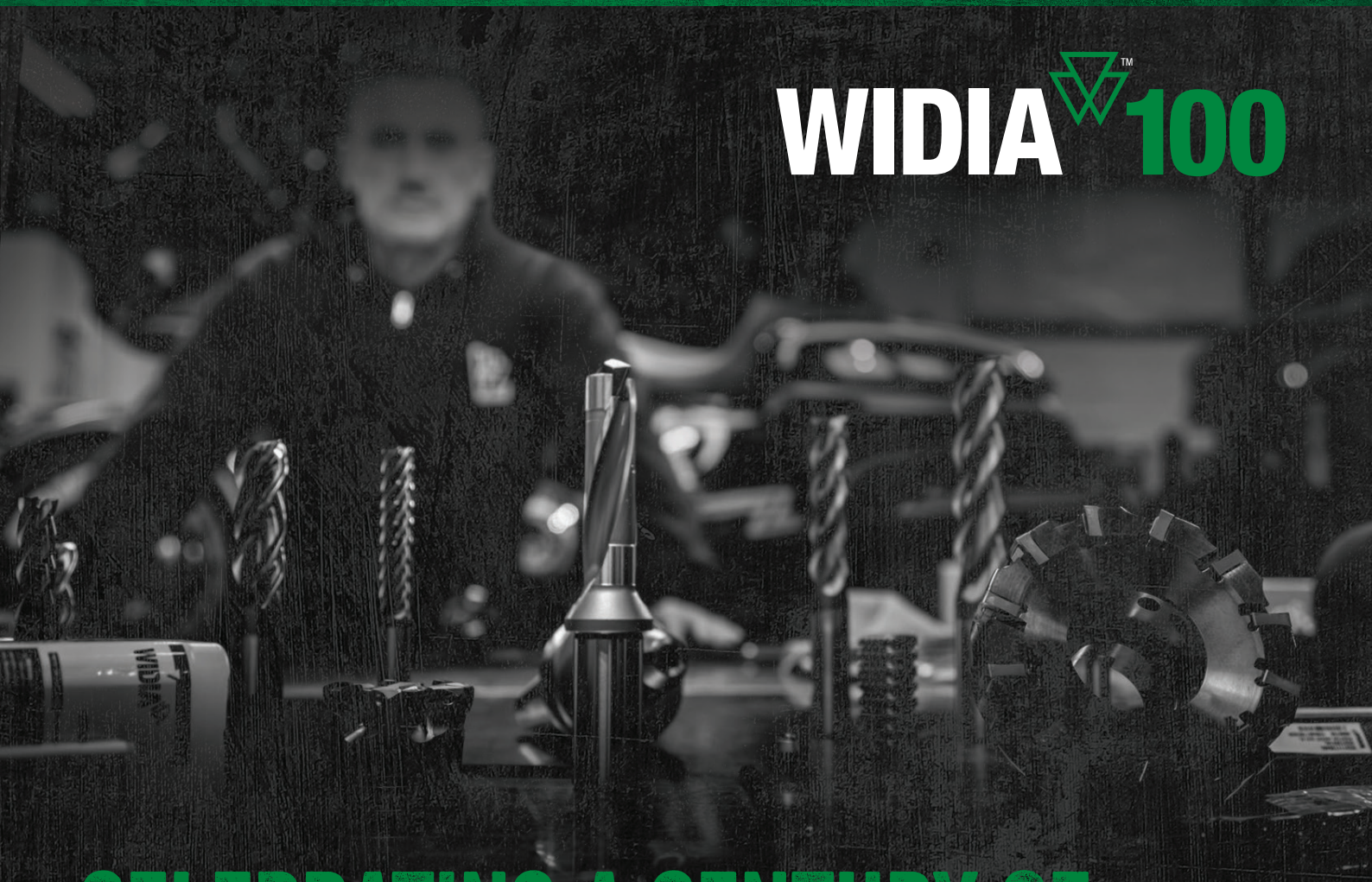
Cascade Choice	China Model	Western Failure Points	Indian Playbook
Winning Aspiration	Global industrial dominance & supply-chain control	Compliance mandates & $60k+ luxury positioning	Affordable, zero-subsidy mass transit & fleet scale
Where to Play	Urban micro-EVs, city buses, then premium segment	Luxury SUVs/trucks; saturated early adopters	2W/3W commercial fleets, e-buses, compact multi-energy 4Ws
How to Win	Low-cost LFP cells & 24-month dev cycles	High NMC costs, complex software, fragmented charging	BaaS/Swapping, TCO parity, & heat-resilient LFP design
Capabilities & Systems	Vertical integration (cells, chips, assembly)	Supplier dependency & 60% plant utilization overhang	Zonal E/E (30-40% harness cut), flex lines (90%+ utilization), PLI bridge

Conclusion

Indian automakers are demonstrating that mass electrification need not come at the expense of financial resilience. By integrating multi-energy flexible manufacturing platforms that can reduce fixed costs by up to 20%, adopting centralized zonal software architectures, and leveraging Auto PLI incentives, Indian OEMs are building a scalable, cost-efficient pathway to electrification, one that balances technological transformation with sustained double-digit financial performance. ME

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VOICES OF MOBILITY

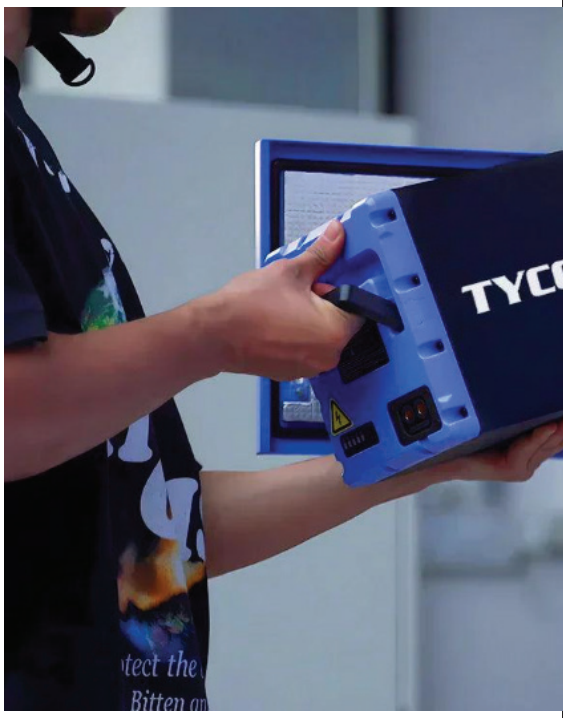
Battery Swapping Systems: The Next Step for India's EV Growth

As India's electric vehicle (EV) market expands, the need for faster, safer, and more reliable energy solutions is becoming increasingly important. Battery swapping offers a promising alternative to conventional charging, particularly for commercial vehicles and delivery fleets where downtime affects productivity and earnings. However, its success depends on more than speed. Reliability, battery safety, compatibility, and effective maintenance will be essential to building customer confidence and supporting large-scale adoption. In this article, **Mugundhan Subramani, Semiconductor Lab Equipment Engineer/Sr. Lead at Lam Research,** explores the key challenges and opportunities shaping India's battery-swapping ecosystem.



MUGUNDHAN SUBRAMANI
Semiconductor Lab Equipment Engineer/Sr. Lead
Lam Research

India's electric vehicle (EV) market is growing, and with every new electric vehicle on the road, the need for convenient and reliable energy solutions is increasing. One technology attracting attention is battery swapping, which allows drivers to replace a discharged battery with a fully charged one instead of waiting for the vehicle to charge. This approach could make a real difference, particularly for delivery riders, commercial drivers, and businesses that depend on their vehicles throughout the day. However, the success of battery swapping will depend on more than speed. Safety, reliability, compatibility, and effective maintenance will determine whether it can support India's growing EV ecosystem.





1. Speed Means Nothing Without Reliability

Imagine a delivery rider arriving at a swapping station during a busy working day, only to discover that the station cannot recognise the battery. Even if a fully charged battery is available, a communication error or mechanical fault could prevent the swap. For someone who earns a living using an electric vehicle, this delay means lost time and potentially lost income. This is why reliability matters as much as swapping speed. A system must consistently identify batteries, verify their condition, establish communication, and complete the exchange safely. Operators should monitor station performance, record failures, and resolve recurring problems quickly. Customers will trust battery swapping when they can depend on it every day, not just when everything works perfectly.

2. Safety Must Come First

Battery packs store considerable electrical energy, so safety must be built into every part of the swapping process. A poorly maintained battery or a faulty connection can create serious risks.



Important safety measures include:

- Protection against overcharging, excessive current, and short circuits.
- Continuous battery temperature monitoring.
- Proper insulation and secure electrical connectors.
- Reliable mechanical locking to prevent batteries from becoming loose.
- Communication checks between the battery, vehicle, and swapping station.
- Suitable fire detection and emergency protection systems.

A well-designed system should identify abnormal conditions before they become dangerous. If a battery fails a safety check, the station must prevent its use until the issue is resolved. Regular inspections, software updates, and trained maintenance personnel are equally important. Safety should never be compromised simply to complete a swap faster.

3. Designing for Indian Conditions

India presents a demanding operating environment. High summer temperatures, monsoon humidity, dust, heavy daily usage, and variations in electricity supply can affect equipment performance. A swapping station that works well under laboratory conditions may experience problems when exposed to real-world conditions over long periods. Equipment should therefore be tested for the environments in which it will operate. Effective thermal management, dust protection, moisture resistance, electrical protection, and durable mechanical components are essential. Maintenance planning must also reflect local conditions. Stations in busy commercial areas may need more frequent inspections because of their high usage. Designing for India's climate and operating conditions from the beginning can reduce breakdowns, improve equipment life, and make the service more dependable.

4. Reliability Is the Key to Scaling Up

A few station failures may seem manageable when a network is small. However, as the network expands to hundreds or thousands of stations, even a low failure rate can affect many customers.

To prevent this, operators need a systematic approach to maintenance and performance monitoring.

When a failure occurs, engineers should investigate three important questions:

1. What exactly failed?
2. Why did the failure happen?
3. What changes will prevent it from happening again?

This process should be supported by regular testing, fault records, preventive maintenance, and continuous improvement. Data analytics can also help identify patterns. For example, repeated temperature warnings or communication errors may indicate a developing equipment problem. Identifying these patterns early can help operators schedule maintenance before a station becomes unavailable. The goal is not simply to repair failures but to learn from them and make the entire network more reliable.



5. Standardisation and Compatibility

Another challenge is compatibility between vehicles, batteries, and swapping stations. If each manufacturer uses a different battery design and communication system, customers may have limited choices about where they can swap their batteries. Common technical standards can improve battery identification, electrical safety, communication, and data exchange. They can also help operators develop networks that serve a wider range of compatible vehicles. Standardization does not mean that every manufacturer must use identical technology. Instead, the industry should agree on essential safety and interoperability requirements while allowing companies to continue innovating. Clear standards can reduce fragmentation and make battery swapping more convenient for customers.

6. From Battery Swapping to an Intelligent Energy Ecosystem

Battery swapping has the potential to become more than a quick way to replace a discharged battery. It can form part of a wider energy ecosystem connecting vehicles, batteries, charging infrastructure, software, and electricity networks. Artificial intelligence (AI) and the Internet of Things (IoT) can support this development. Connected systems can monitor battery health, estimate remaining useful life, identify faults, and help operators plan maintenance. Charging can also be scheduled according to station demand and electricity availability. Where suitable tariffs and infrastructure exist, operators may reduce energy costs by charging batteries during lower-cost periods. Over time, information collected from swapping stations can help businesses understand usage patterns and decide where additional stations are needed. However, these benefits depend on accurate data, secure systems, and responsible battery management. Digital technologies should improve operational efficiency without compromising customer privacy or safety.

Conclusion

India's electric mobility journey is moving from early adoption towards large-scale deployment. Battery swapping can contribute to this transition, particularly for high-utilisation vehicles where downtime directly affects productivity and earnings. However, building more stations is only part of the solution. The industry must focus on reliable operations, battery safety, compatibility, suitable infrastructure, and effective maintenance. Collaboration among manufacturers, technology providers, energy companies, policymakers, and service operators will be essential to overcoming these challenges. Battery swapping is not just about changing a battery in minutes. It is about building a safe, dependable, and intelligent energy ecosystem that supports India's electric mobility future. ME





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- Twin Motor Performance makes 680 hp
- Charges 10-80% in 22 minutes at 350 kW DC
- Reaches 0-62 mph in just 4.0 seconds
- Aerodynamic lines, commanding wheels and a wildly spacious boot
- Offers a combined electric range of 432.5 miles
- All-electric saloon for model year 2027







CHARGING INFRASTRUCTURE

From Charging Points to a Connected Nation

Building a charging network that works beyond city limits

Can a driver cross India in an electric car with the confidence they have in a petrol or diesel one? India is closer than ever. Charging has grown quickly and on several corridors a prepared driver can already make the journey comfortably. The task now is to make that experience the same everywhere: fast chargers at the places drivers already stop, working reliably and easy to pay for.



Dr. Gunjan Sachdeva
Editor
Mobility Electrified

A network growing fast

On 21 July 2026, the Ministry of Heavy Industries (2026a) told the Lok Sabha that India has 52,718 public charging stations, according to the BHEL portal and that 16,561 of them, about 31% by our calculation, have fast chargers for cars. The Ministry of Heavy Industries (2025) had reported 29,151 stations in December 2025, with 8,805 fast and 20,346 slow. No reconciliation of the two counts is published, so they may not be strictly comparable, but the direction is clear.

Adoption is growing across every vehicle type. Goel (2026) reports that EV penetration rose from 0.71% in FY20 to 8.26% in FY26, with 10,023,396 registered EVs by 26 July 2026. In September 2026, two-wheelers made up about 207,000 of 333,571 EV registrations and passenger cars 36,010 (EVreporter, 2026; Finology Ticker, 2026). Policy reflects that variety: Shonak (2026) reports that PM E-DRIVE's 72,300-station target includes 22,100 fast chargers for four-wheelers, 48,400 chargers for two- and three-wheelers and chargers for buses.

Most of the network is working

The best official operating data covers stations set up by oil marketing companies (OMCs). On 1 March 2026 they reported 27,737 stations installed over five years, of which 22,753, about 82%, were operational (Ministry of Heavy Industries, 2026b). Their annual installations rose from 314 in FY2020-21 to 11,246 in FY2024-25. This is an OMC figure, not a national total.

Uptime is strong in the leading states: Uttar Pradesh has 2,893 operational of 3,284 installed, Karnataka 2,039 of 2,400 and Maharashtra 1,786 of 2,243. Smaller markets such as Mizoram (15 of 30) and Puducherry (24 of 58) show where maintenance support can be strengthened next.

Taking the network beyond the big states

Coverage is broadening. Karnataka, Maharashtra and Uttar Pradesh lead with 12,578 of the 29,151 stations in the December 2025 table (43% by our calculation)



and stations now reach even Ladakh and Lakshadweep, one each and Mizoram, 13 (Ministry of Heavy Industries, 2025). Karnataka, with the largest network at 6,096 stations, has 751 fast ones (12%), against about 30% nationally, so there is room to add DC fast charging.

The next step is to track progress where growth is happening. The Ministry of Heavy Industries (2026b) told the Rajya Sabha that data on stations in tier-2 and tier-3 cities and along national highways is not yet centrally maintained. Building that picture will help planners direct support to where drivers need it most.

Corridors that already work

India has set ambitious design standards. Swarajya (2022) reported that the Ministry of Power's 2022 guidelines called for a station in every 3 km by 3 km city grid, one every 25 km on both sides of highways and fast charging every 100 km for long-range and heavy vehicles. Goel (2026) notes that NHAI plans wayside amenities every 40 to 60 km and Newsfirst Prime (2026) reports that charging has been mandatory at new amenities since February 2021, with Karnataka operating four EV-enabled ones and per Goel (2026), Assam three.

Long journeys are already being completed. On a January 2025 Mumbai to Delhi trip, Murarka (2025) found about 173 fast charging points along 500 km of NH48 in Gujarat and about 200 across Rajasthan's highways. He covered 1,468 km on 217 kWh costing Rs 3,519, with two overnight halts. The Delhi-Mumbai Expressway, then only partly open, had 32 operational fast chargers and chargers at Dausa and Sawai Madhopur sat off it, which shows where new capacity is most useful. These counts are dated and should be re-verified.

Murarka and Garvit (2026) drove 6,000 km from Delhi to Kerala and back in September 2025, setting out to show such trips are possible, easy and cost-effective, while noting a few non-working chargers and queues. Team-BHP (2026) readers describe remaining rough edges: a dead charger at Dhanbad on a Kolkata to Varanasi drive and outages beyond Satara on the Kolhapur to Mumbai route, apparently in a power cut. These are individual accounts, not statistics, but they show drivers already making these journeys and that a second charger at each stop would make them smoother.

Charging where people already stop

Increasingly, yes. Hindustan Times (2022) reported that OMC chargers were mostly being set up at their fuel stations and NHAI's amenities pair charging with food, toilets and parking (Goel, 2026). Murarka (2025) cites industry data that about 22% of slow chargers are at hotels and about 53% have a hotel within 250 metres. Hotel and dhaba stops suit a 30 to 90 minute charge.

A few refinements would add more: overnight charging in towns such as Guna and Kota, sites closer to highway exits and stronger grid connections, since Murarka (2025) found that a nominal 60 kW charger on a low-tension connection at some Rajasthan sites delivered about 44 kW.

The next step: working as one network

Share the data. Publish corridor-level uptime and fast-charger counts, so drivers and planners can see what is working.

Turn sanctions into stations. Under PM E-DRIVE, Rs 2,000 crore is earmarked for charging, and 6,562 chargers had been sanctioned by August 2026, with installation the next milestone. The scheme sets no state or district targets, so adding them would help states plan (Business Standard, 2026).

Use the enabling rules. Goel (2026) reports that the Ministry of Power's 2024 guidelines set DISCOM connection timelines of 3 days in metros, 7 in municipal areas and 15 in rural areas and fix tariffs at 0.7 times average cost of supply in solar hours. We would add that states can speed delivery by enforcing these uniformly through one nodal agency each.

Build in redundancy. Our proposal: every highway stop should offer at least two fast chargers, ideally from different operators, so one failure does not end a journey.

Unify payment. Autocar Professional (2026) reports that Unified Bharat eCharge, launched in August 2026 by the Ministry of Heavy Industries with BHEL and NPCI, lets drivers find chargers and pay by UPI in the BHIM app and that one technology enabler alone connected over 10,000 chargers. This is a strong foundation and extending it to every highway charger would complete the picture.

The road ahead

A national network is judged by journeys, not pins on a map. India has built a strong base: tens of thousands of stations, fast-growing adoption, supportive rules and several corridors that already work. Reliability data, a backup charger at every stop and close coordination between Delhi, the states and operators can make that experience the same across the country. ME

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GOVERNMENT & POLICY

Roads Reimagined: The Policy Architecture Behind India's Electric Mobility Decade

India's EV sales grew roughly 46-fold between 2016 and 2025, the first decade since national EV policy began in 2015. The next phase will depend less on what New Delhi announces than on how well the states execute it.



Dr. Gunjan Sachdeva
Editor
Mobility Electrified

From 2016 to 2025: 46 times the sales

India sold about 50,000 electric vehicles in 2016 and 2.3 million in 2025, a 46-fold rise, according to the Press Information Bureau (2026). Global sales grew about 20-fold over 2016–2024, the latest global year the bureau cites, so the periods differ slightly. The window opens a year after the 2015 launch of the National Electric Mobility Mission Plan and FAME, which the bureau treats as the start of India's EV policy journey. The Press Information Bureau (2026) puts EVs' share of vehicle sales at 0.08% in FY2015-16, while NITI Aayog and WRI India (2026) put it at 8.25% in FY2025-26, with more than 8.7 million EVs on Indian roads.

Both sources note that the official goal is 30% of vehicle sales by 2030, more than three times today's share. That gap is the context for every policy decision that follows.

Three layers of policy

The central measures form three layers.

Demand. The Press Information Bureau (2026) traces this layer to 2015, when the National Electric Mobility Mission Plan and the first FAME scheme launched. FAME-II closed in 2024, and PM E-DRIVE, a ₹10,900 crore scheme notified in September 2024, took over (Press Information Bureau, 2025). EVs also attract a concessional 5% GST, and the PM e-Bus Sewa payment security mechanism backs 10,000 electric buses through public-private partnerships, with payment security for up to 12 years.

Supply. According to the Press Information Bureau (2026), the production-linked incentive (PLI) scheme for autos, launched in 2021, requires at least 50% domestic value addition. Of ₹2,377.56 crore disbursed by January 2026,



₹2,319.88 crore went to EV manufacturers. A separate ₹18,100 crore PLI scheme targets 50 GWh of domestic advanced-chemistry-cell capacity, a priority because batteries make up 35–40% of an EV's cost. NITI Aayog and WRI India (2026) concede, though, that domestic cell manufacturing has progressed slowly.

Regulation. The Press Information Bureau (2026) notes that the government is developing CAFE III (2027–2032) and CAFE IV (2033–2037) fuel-efficiency norms. The proposed limits are 91.7 and 70 grams of CO_2 per kilometre, alongside a super-credit mechanism that would make EV sales the easiest route to compliance.

PM E-DRIVE: reading the extension carefully

The Press Information Bureau (2025) reported that on 8 August 2025 the Ministry of Heavy Industries extended PM E-DRIVE from two years to four, to 31 March 2028. The outlay stayed at ₹10,900 crore, so this is more time, not more money, and the scheme is fund-limited: if the money runs out before the deadline, support closes. The ministry justified the extension by the needs of segments still maturing: e-trucks, where commercial production is nascent; e-buses, where ₹4,391 crore for 14,028 buses is paid against milestones over 18 months; and vehicle-testing agencies.

Mature segments were treated differently. The terminal date for e-two-wheelers stayed at 31 March 2026 (Press Information Bureau, 2025). Autocar India (2026) later reported an amendment extending it to 31 July 2026, and EVfy (2026) reports that the incentive then closed, while three-wheeler support runs to 2028.

The extension is best read as patient support for early-stage segments while subsidies taper for established ones. That is a longer horizon, though the ministry's own explanation is segment-specific rather than a declared decade-long commitment.

Why states decide the outcome

Road transport, power distribution, industrial policy and urban planning are largely state responsibilities. NITI Aayog and WRI India (2026) developed the India Electric Mobility Index (IEMI) to measure how well states use them, and report that by December 2025, 29 of 36 states and UTs had notified EV policies and 26 had active ones.

All India Radio (2026) reported that IEMI 2025 was released on 16 September 2026. It is the second edition; the inaugural index (IEMI 2024) was launched in August 2025. It scores all 36 jurisdictions on 16 indicators across three themes: transport electrification (50% weight), charging infrastructure (30%) and research and innovation (20%). Outcome indicators account for half of the total score, which makes the index a test of execution rather than intent.

NITI Aayog and WRI India (2026) rank Delhi first with 84, followed by Maharashtra (78), Karnataka (73), Chandigarh (71) and Goa (65), the only five Top Performers.

The most useful findings are the mismatches. Haryana scores 91 on charging readiness but 19 on transport electrification, the lowest among large states; Uttar Pradesh is the reverse, with 58 on electrification and 36 on charging. The Press Information Bureau (2026) reports that Uttar Pradesh was India's largest EV market in 2025, with over 4 lakh units and 18% of sales, yet NITI Aayog and WRI India (2026) rank it tenth overall. Fourteen of 36 jurisdictions remain Aspirants on electrification.

Delhi shows where policy is heading: from subsidies to mandates. ICRA (2026) and electrive (2026) describe a policy in force from 1 July 2026 to March 2030 that permits only electric autorickshaws and small goods carriers to be registered from 1 January 2027, and only electric two-wheelers from 1 April 2028.

What to watch

Charging. NITI Aayog and WRI India (2026) count about 29,000 public stations in June 2025; the Press Information Bureau (2026), citing BHEL, reports 52,718 in July 2026, of which 16,561 are fast chargers. The sources differ, so the jump is indicative. The bureau also cites a projection of 1.32 million stations by 2030, a scale that implies far faster rollout.

Batteries. The Press Information Bureau (2026) notes that the advanced-chemistry-cell PLI scheme entered its performance phase in January 2025, running to December 2029.

Execution. NITI Aayog and WRI India (2026) conclude that the focus must shift from policy formulation to implementation. The index is independent research prepared by WRI India in partnership with NITI Aayog, not a statement of NITI Aayog policy.

India's first EV decade was built on central schemes. The second will be judged state by state. ME

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VOICES OF MOBILITY

Charging, Financing and After-Sales: Enabling the Next Phase of EV Adoption in India

The next phase of India's electric mobility journey will be shaped by how effectively the industry addresses the everyday realities of vehicle ownership. **Ayush Lohia, CEO of Youdha,** explores the interconnected challenges of charging access, financing and after-sales service in the commercial EV segment. He examines why convenient infrastructure, realistic assessments of ownership costs and dependable technical support are essential to building trust among drivers and businesses. Moving beyond vehicle adoption as a standalone measure of progress, Lohia calls attention to the wider ecosystem needed to make electric mobility practical, reliable and economically viable across India's diverse markets.



AYUSH LOHIA
CEO
Youdha

India's electric mobility transition is gaining momentum, with electric three-wheelers playing an increasingly important role in last-mile passenger transportation and goods movement. However, the growth of electric vehicles cannot be measured by the number of vehicles entering the market alone. For adoption to become sustainable, electric mobility must work in the everyday realities of the people and businesses that depend on transportation for their livelihoods. For commercial vehicle drivers, fleet operators and small business owners, purchasing an electric vehicle is a decision that directly affects daily earnings, operating expenses and business continuity. While electric vehicles can offer operational cost advantages in suitable applications, concerns around charging access, upfront costs, financing availability and after-sales support can influence the decision to make the switch. These challenges are interconnected. An electric vehicle may offer favourable operating economics, but limited charging access can affect its utilisation. Financing may make the purchase possible, but unpredictable operational costs can put pressure on repayment capacity. Similarly, a vehicle's long-term value depends not only on its performance but also on the availability of timely maintenance and technical support. Addressing these barriers requires a shift in focus from vehicle adoption alone to building a dependable ecosystem that supports electric mobility throughout the ownership cycle.

Charging Infrastructure Must Reflect Real-World Demand

The availability of convenient and reliable charging infrastructure remains an important consideration for commercial EV users. Unlike private vehicle owners, commercial operators often work within demanding schedules, where time spent charging can affect the number of trips completed and the income generated in a day. Infrastructure development must therefore be guided by actual vehicle movement and operating patterns rather than infrastructure expansion alone. Logistics hubs, wholesale markets, transport terminals, fleet parking areas and high-demand commercial routes can provide practical locations for charging facilities. Planning around these locations can help integrate charging into existing transportation activities and improve infrastructure utilisation.

There is also a need to recognise that charging requirements vary across vehicle categories and applications. Vehicles with predictable parking schedules may be suited to conventional charging, while battery swapping may offer an alternative in applications where reducing turnaround time is particularly important. The suitability of each approach will depend on operational requirements, local infrastructure and overall economics. Equally important is the geographical distribution of charging facilities. If infrastructure remains concentrated in major urban centres, drivers and businesses operating in smaller towns and emerging commercial markets may continue to face adoption barriers. Expanding access beyond established EV markets will be essential to making electric mobility a practical option across a wider range of operating environments. This calls for coordinated planning among charging infrastructure providers, electricity distribution companies, fleet operators, manufacturers and policymakers. Better alignment between infrastructure investment and real-world demand can help create a charging network that supports commercial operations rather than simply increasing the number of charging points.

Making EV Financing Accessible and Sustainable

The initial cost of an electric vehicle can be a significant consideration for individual drivers and small businesses, particularly those with limited access to formal credit. Even when an EV offers potential savings over its operating life, the purchase decision depends on whether the buyer can manage the upfront expenditure and meet repayment obligations through regular earnings. Traditional financing approaches may not always reflect the income patterns of commercial vehicle users. Drivers and small entrepreneurs often need repayment structures that account for business cash flows, vehicle utilisation and the time required to establish consistent earnings. Financial institutions can help address this challenge by developing suitable financing products with transparent terms, simplified application processes and repayment schedules aligned with the requirements of commercial users. Such solutions must also maintain responsible lending practices and ensure that borrowers understand their financial commitments. A more comprehensive assessment of vehicle economics is equally necessary. Purchase price alone does not determine affordability. Energy expenses, maintenance, financing costs, expected vehicle life and daily utilisation all contribute to the total cost





of ownership. The actual economics can vary considerably depending on routes, operating conditions and the intensity of vehicle use.

For lenders, access to reliable information on vehicle performance, utilisation and maintenance costs can improve the assessment of a prospective borrower's repayment capacity. Greater collaboration between financial institutions, fleet operators and other stakeholders can help build a more informed understanding of the commercial viability of electric vehicles. At the same time, buyers need realistic information about projected savings and ownership costs. Financing decisions based on overly optimistic assumptions can create financial pressure, whereas transparent assessments can help prospective owners make informed choices and support more sustainable adoption.

After-Sales Support Is Central to Building Trust

For commercial vehicle operators, vehicle downtime is not merely an inconvenience; it can mean lost earnings, delayed deliveries and disruption to business operations. This makes after-sales support a critical part of the EV ownership experience. Electric vehicles require specialised expertise in areas such as battery systems, electrical components, diagnostics and software. As the market expands, service networks must develop the technical capabilities required to maintain these vehicles efficiently and address issues in a timely manner.

Strengthening the service ecosystem will require investment in technician training, accessible service facilities, spare-parts availability and consistent maintenance practices. Clear warranty terms and responsive customer support can also help buyers better understand their ownership responsibilities and available assistance. The challenge becomes more pronounced as electric mobility expands into smaller cities and regional markets. A vehicle that is accessible to purchase but difficult to service may not deliver the reliability that commercial users require. Bringing service capabilities closer to customers through local partnerships and technical training can help address this gap while creating opportunities for skilled employment.

Preventive maintenance and early identification of technical issues are also important. A more structured approach to servicing can support vehicle reliability and help operators plan maintenance with less disruption to their daily schedules. Ultimately, after-sales support should not be viewed as a function that begins only after a vehicle is sold. It is an essential part of the broader ecosystem that influences buyer confidence, ownership experience and the willingness of users to adopt electric mobility.

Why These Challenges Must Be Addressed Together

Charging infrastructure, financing and after-sales support are often discussed as separate aspects of the EV ecosystem. In practice, however, they influence one another. Reliable charging access can improve vehicle utilisation and help operators maintain regular earnings. Predictable operating economics can support more informed financing decisions. Accessible service networks can reduce the uncertainty associated with maintenance and downtime. Together, these factors can make electric vehicles a more practical proposition for commercial users. This also highlights the importance of collaboration across the ecosystem. Vehicle manufacturers, charging providers, financial institutions, service partners and policymakers must work towards solutions that reflect the needs of actual users. Infrastructure planning must account for operating patterns, financial products must reflect realistic ownership economics, and service networks must develop alongside vehicle adoption.

A one-size-fits-all approach is unlikely to address the requirements of India's diverse transportation landscape. The needs of a passenger three-wheeler operator in a smaller town may differ from those of a goods carrier. ME

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Mercedes-Benz GLC Electric

DRIVE THE NEXT ERA

VEHICLE LAUNCH



KEY HIGHLIGHTS

- 162 stars and SKY CONTROL shape light, privacy and ambience across 9 zones.
- Iconic grille glows with 942 pixels.
- 39.1-inch Hyperscreen spans three 8K displays.
- Burmester 3D sound delivers 670 watts through 15 speakers.
- 360 kW power rockets 0-100 km/h in 4.3 seconds.
- 711 km range, 330 kW charging, 22-minute top-up.





MERCEDES-BENZ GLC ELECTRIC

LUXURY • INNOVATION • SUSTAINABILITY

Mercedes-Benz
The best or nothing.

VOICES OF MOBILITY

Driving India's EV Future: Affordability, Infrastructure and Industrial Growth

India's electric mobility journey is no longer simply about getting more vehicles onto the road. The real test lies in making the transition commercially viable for consumers, dependable for businesses and sustainable for the wider automotive ecosystem. Financing, charging infrastructure, battery manufacturing and public transport will all influence how far the country can go. Turning early momentum into lasting progress will require coordinated investment and consistent execution. **Amit Alphy, Sales Head – Lynk & Co | New Business Development, Towell Auto Group,** writes about the priorities that will determine whether India's EV ambitions translate into durable, economy-wide change.



AMIT ALPHY
Sales Head – Lynk & Co
New Business Development, Towell Auto Group

India's EV story will not be decided by a flashy launch. It will be decided by a delivery rider's daily earnings, a city bus that runs on schedule and a battery plant that delivers at scale. The test is whether electric mobility stays affordable once the excitement fades. Stand at any busy junction in an Indian city and the electric shift hardly announces itself. A delivery rider waits for the signal to change. A quiet electric scooter slips between an auto-rickshaw and a city bus. Office goers hurry home. Nobody makes a speech, and that is exactly the point.

Scenes like this say more about where the country is heading than a showroom of premium electric cars ever could. Foreign commentators keep asking when India will have its "Tesla moment". I think the question misses the story. For a very large number of Indians, a vehicle is not a badge of status; it is a tool for earning a living. The more useful question is whether today's momentum can mature into lasting economic and industrial change.

It starts on two wheels

Think of a rider working for one of the many food and grocery delivery platforms. Every day involves a careful tally of fuel, repairs and take-home pay. For that rider, an electric two-wheeler is attractive because it costs less to run, not because of any environmental conviction. It is a business decision. Yet the savings are not automatic. They hinge on the purchase price,

the terms of the loan, the life of the battery and how easily the vehicle can be charged. A scooter that is cheap to run but loses hours at a charging point is a poor bargain for someone paid per delivery.

This is where the transition gets real. These customers cannot absorb unreliable equipment or costly surprises. Fair financing, dependable batteries and servicing close to home matter as much as the vehicle itself. The same logic applies to daily commuters, small traders and shared-transport operators. India's mass-market EV story is likely to be written by millions of practical, unglamorous journeys rather than by a few high-priced cars.

Public transport gives the shift its backbone

Private buyers are only part of the picture. Electric buses and municipal fleets create steadier, more predictable demand for vehicles, charging equipment and maintenance services, and they give manufacturers and suppliers something firm to plan around. Government programs, including the PM E-DRIVE scheme, are encouraging wider adoption. But buying buses is the easy part. A city also needs suitable depots, enough electrical capacity, trained technicians and charging schedules that keep vehicles on the road during peak hours.

A good electric bus program should not be judged by how many buses were bought. It should be judged by whether they arrive on time, what they cost to operate and whether fares remain within reach of those who ride every day.

Making the battery, not just the vehicle

Assembling vehicles in India has real value. But a country that depends on imported battery cells and key components remains exposed to supply disruptions and swings in global prices. Anyone who has run a manufacturing business knows how quickly an outside shock can reach the factory floor. Public policy has begun to address this, with incentive schemes aimed at building domestic cell manufacturing. Yet an announced plan and a working factory are very different things. The distance between sanctioned capacity and actual output is the work that still lies ahead. India needs deeper cell technology, manufacturing expertise, tight quality control and a credible recycling industry. The aim is not to make every component at home overnight. It is to build enough local capability to reduce risk, strengthen suppliers and create skilled employment along the way.

A natural partnership with the Gulf

India's ambitions also intersect with the diversification plans of the Gulf. Saudi Arabia and the United Arab Emirates are investing in advanced manufacturing and clean technology as they broaden their economies beyond oil. Saudi Arabia's Public Investment Fund, for example, launched Ceer in 2022 as the kingdom's first home-grown electric vehicle brand, in partnership with Foxconn. There is a sensible fit here. Indian companies







understand how to serve large, price-sensitive markets and bring strengths in engineering, components and software. Gulf investors bring patient capital and a growing industrial base. Together, the two sides could move from trading technology to building it jointly. I feel that is an opportunity, not a certainty. It will require commercially sound projects, stable policy and commitments that outlast a news cycle. Business leaders on both sides would do well to treat it as a long-term industrial partnership rather than a one-off deal.

The everyday barriers

Three practical hurdles keep coming up: charging, finance and the grid. Charging comes first. Many city residents live in apartment blocks without dedicated parking, so plugging in at home is not straightforward. Public charging has to become easier to find and use, particularly for residents and for riders who depend on their vehicles all day. Battery swapping may suit some commercial fleets, while fixed chargers make more sense for vehicles that stay parked for long stretches. No single answer will work everywhere; the right model will differ by city, neighborhood and business. Finance is equally important. Lenders and buyers must weigh battery ageing, repair costs and resale value over several years. Affordable loans, dependable warranties and transparent battery-health checks would make an electric vehicle a less risky purchase for a family or a small business. Finally, the grid. More electric vehicles mean more demand on local transformers and distribution lines. Without timely investment and smarter charging arrangements, adoption could run ahead of the infrastructure meant to support it.

From momentum to something lasting

None of this will be smooth. Incentives will change, technologies will evolve and some business models will fail. The real measure of success is whether electric mobility stays economically attractive as the market matures and support measures taper off. For me, the questions that matter are small and practical. Does a delivery rider come out ahead after switching? Does an electric bus finish its route reliably, day after day? Can a family charge its scooter without a struggle? Can Indian factories turn out competitive batteries in volume? These answers will count for more than any launch event or investment headline.

India need not follow anyone else's script. Its advantage lies in making electric mobility work for a vast, varied and price-conscious population. The transition will prove durable when vehicles are affordable and charging is dependable. And when Indian industry can take a shock from outside without flinching. For now, the story is neither assured nor a passing fashion. It is taking shape gradually, with every vehicle sold, every charger installed and every factory commissioned. ME

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MG WINDSOR
INDULGE EDITION

Indulge in a Smarter, Bolder Drive

VEHICLE LAUNCH



KEY HIGHLIGHTS

- MG Windsor INDULGE Edition launched at INR 17.88,900 (ex-showroom)
- Dual-tone Shadow Gold body with a Black roof
- Black ORVMs, R-18 alloys and INDULGE badging
- Urban Tan and Black cabin with embroidered headrests
- Standard PRIVE Screen for rear passengers
- INDULGE-themed pillows and neck cushions
- 38 kWh battery, 136 PS and 332 km certified range

Luxury. Innovation.
Indulgence.



MG WINDSOR INDULGE EDITION
DRIVE THE EXTRAORDINARY

VOICES OF MOBILITY

India's Electric Mobility Challenge: Making the Ecosystem Work at Scale

The next chapter of India's electric mobility journey will be defined by technology as much as by vehicle adoption. From dependable charging networks and interoperable platforms to smart grids, connected vehicles and battery lifecycle management, the ecosystem must evolve into an integrated and intelligent system. **Srinivasa Prasad M N, Associate Director - Software Defined Vehicle of Accenture,** explores how digital infrastructure, predictive maintenance, data sharing and software-led innovation can address emerging challenges and prepare India's EV industry for its next phase of growth, making reliability and operational efficiency central to achieving mass-market electrification.



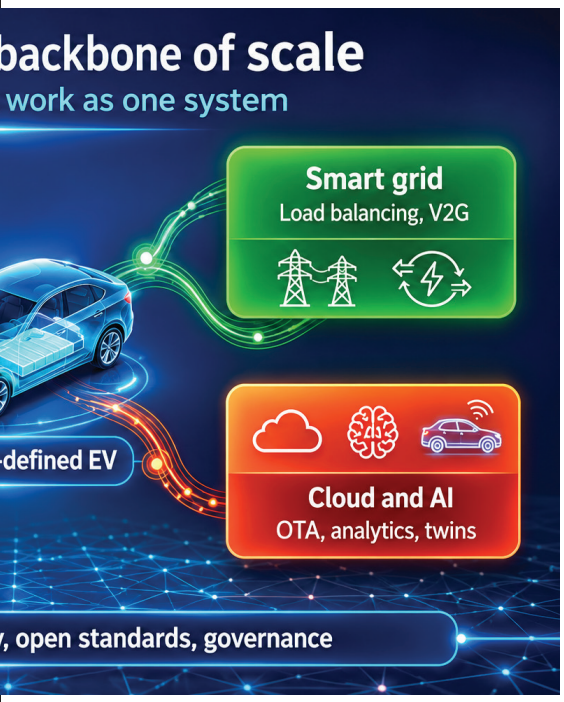
SRINIVASA PRASAD M N
Associate Director - Software Defined Vehicle of Accenture

India's EV story has crossed a threshold. Registered EVs passed 10 million as of July 2026 and penetration rose from 0.71% in FY20 to 8.26% in FY26. In June 2026, monthly retail EV sales hit an all-time high of over 306,000 units, with overall penetration crossing 12% for the first time. [Reference: outlookbusinessmeraev] Momentum is no longer the question. Scale is. Getting from 8% to the 30% by 2030 that India has targeted is not the same problem as getting from 1% to 8%. The early phase was won on incentives, product launches and urban early adopters. The next phase will be won or lost on technology: how well the ecosystem is engineered, connected and operated.



The First Test: Charging is a Reliability problem, not a count problem

The headline number is the number of chargers and even that is murky. Published counts range from roughly 27,737 public stations as of March 2026 to 52,718 in other datasets, depending on how stations, connectors and operational status are counted. That ambiguity is itself a finding. An ecosystem that cannot agree on how many chargers it has cannot plan, price or optimise them well. [Reference: vahanbazaaroutlookbusiness] The bigger issue is what "installed" means. In one analysis, only about 82% of installed public chargers were confirmed operational. Drivers don't experience averages. They experience the one charger that is down on the highway at 9 pm. Utilisation data also shows sharp state-level disparities, with facilities concentrated in major urban centres. Scaling charging therefore means moving from a hardware-deployment mindset to a service-reliability mindset. That requires remote diagnostics, predictive maintenance, uptime SLAs that are actually enforced and real-time availability data that drivers can trust. Range anxiety is, at heart, an information and reliability problem. Hardware helps, but software closes the gap.



The Second Test: Interoperability and the Data Layer

Today's charging experience is fragmented across operators, apps, payment methods and authentication flows. Open protocols such as OCPP for charger-to-backend communication and OCPI for roaming between networks are the baseline, but adoption and implementation quality are uneven. Without true interoperability, every new operator adds friction rather than capacity. The same logic applies to data. A scaled EV ecosystem generates enormous volumes of telemetry: battery health, charge curves, thermal behavior, driving patterns, charger performance. Today that data mostly sits in silos. The value is in connecting it: using fleet-level battery data to improve warranty models and residual value forecasts, feeding charger data back into network planning and giving grid operators visibility into charging load. Ecosystems that standardise data sharing, with clear governance and privacy under India's data protection framework, will move faster than those that treat data as a proprietary moat.

The Third Test: The Grid

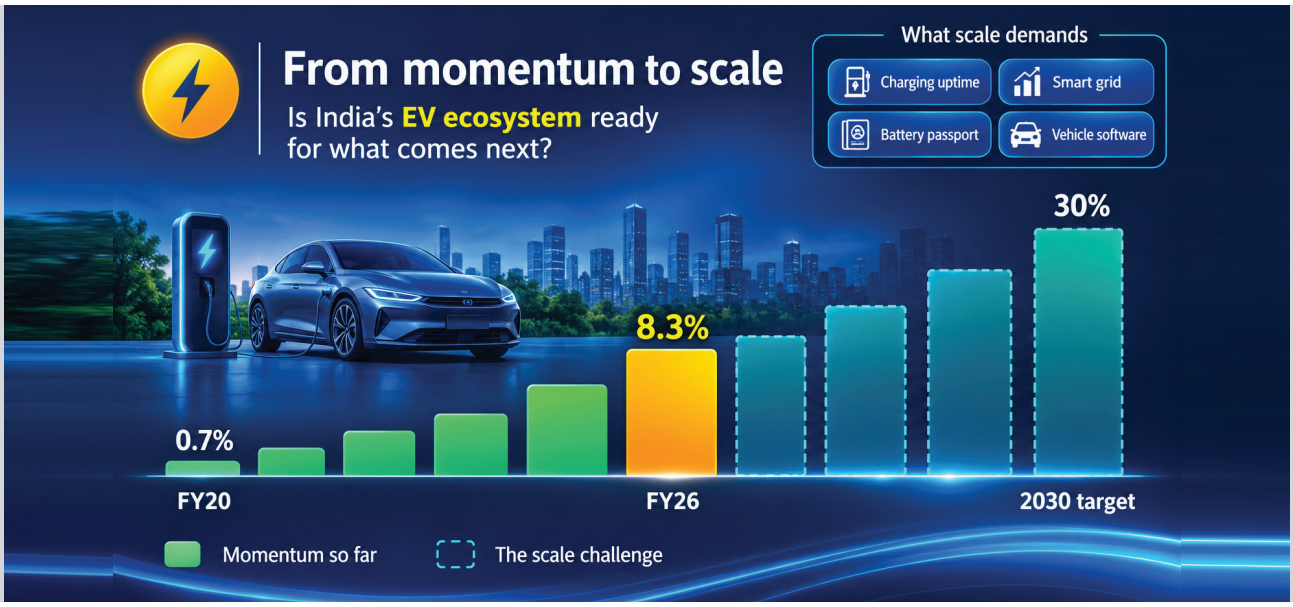
Millions of EVs charging in the evening peak is a grid-management challenge, not just a demand number. Distribution utilities in many cities already operate with limited headroom at the transformer and feeder level. Scaling EVs without intelligence in the system risks local overloads and pushes up the cost of every kilowatt-hour delivered. The technology answer is smart charging: time-of-use tariffs, load balancing at the site level, demand response and eventually vehicle-to-grid for fleets and buses. Combined with rooftop solar and stationary storage at charging hubs, EVs can become a flexible grid asset rather than a burden. That requires utilities, charge point operators and OEMs to share signals in near real time. It is as much an integration challenge as an engineering one.

The Fourth Test: Batteries, Localisation and Lifecycle

Batteries remain the largest cost and supply-chain exposure in the vehicle. India's cell manufacturing ambitions are real, but the ecosystem needs more than gigafactories. It needs a full lifecycle architecture: pack design for serviceability, battery management systems that report state of health reliably, standardised diagnostics and clear pathways for second-life use and recycling. A battery passport, a digital record of a pack's composition, history and health, is the enabling layer. It builds trust in the used-EV market, supports financing and insurance, enables second-life applications and makes recycling traceable. Without it, residual value uncertainty will keep total cost of ownership higher than it should be, which is one of the quieter brakes on mass-market adoption.

The Fifth Test: The Vehicle itself is becoming software

Product competition is shifting from motors and batteries to software. Over-the-air updates, centralised compute architectures, advanced driver assistance, personalised in-cabin experiences and energy-optimisation features are becoming core to the value proposition. The global lesson is that the software-defined vehicle is as much an organisational transformation as a technical one. It demands new development



processes, continuous integration and validation at scale, cybersecurity by design and talent that blends embedded, cloud and data skills. India is well placed here. It has deep engineering capability, a large software talent base and growing global engineering hubs serving the world's major OEMs. The opportunity is to move from being the place where vehicle software is built for others to being a place where it is architected, validated and owned. That shift will matter for domestic OEMs competing on features and cost and for the broader ecosystem of suppliers who need to keep pace.

Beyond Cities: The long tail of Readiness

Much of the current growth is led by two- and three-wheelers and by metro-centred passenger car buyers. The next 20 percentage points of penetration must come from smaller cities, multi-unit housing, commercial fleets and intercity travel. Each has a different technology answer. Apartment dwellers need shared and managed home charging. Fleets need depot energy management and route-aware charging. Highway travel needs dense, high-power, reliable corridors. Battery swapping, standardised or not, will have a role in high-utilisation segments. One architecture will not serve all of them.

What Scale Demands

If I had to distil the shift from momentum to scale into four priorities, they would be these:

1. Treat uptime as the product. Measure, publish and enforce charger reliability. Invest in remote operations and predictive maintenance as seriously as in deployment.
2. Standardise the connective tissue. Open protocols, shared data models and interoperable payments should be treated as shared infrastructure, not competitive differentiators.
3. Make the grid a partner. Embed smart charging and demand flexibility from the start, instead of retrofitting after congestion appears.
4. Build for the lifecycle. Battery passports, serviceable designs and second-life pathways will define total cost of ownership as much as the sticker price.

The real question

Is India's EV ecosystem ready for what comes next? In parts, yes: demand is strong, policy intent is clear and engineering talent is abundant. But readiness at 8% penetration is not readiness at 30%. The systems that were good enough for early adopters will strain under mainstream expectations of reliability, convenience and trust.

The encouraging news is that the gaps are largely technological and organisational, which means they are solvable. The next phase will reward the players who stop thinking in terms of vehicles sold and chargers installed and start thinking in terms of integrated, data-driven, reliable systems.

"Momentum got India here. Engineering discipline will get it to scale" ME

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VEHICLE LAUNCH

e-SPRINTO G1



KEY HIGHLIGHTS

- e-SPRINTO G1 starts at 89,999 (ex-showroom Delhi)
- Three battery options with claimed ranges of 80, 100 and 130 km
- Eco, City and Sport riding modes, up to 50 km/h
- 150 kg carrying capacity and IP67-rated battery
- Combi braking system and digital display
- Deliveries begin 1 January 2027







STARTUP STORY

Powering the Last Mile and Beyond: The Green Drive Mobility Story

How a Bengaluru fleet of one hundred electric vehicles grew into an integrated EV ecosystem serving some of India's most demanding enterprises.

In 2020, in the busy city of Bengaluru, Hari Krishna began building a company on a simple but demanding premise: that business growth and sustainability should go hand in hand. His venture, Green Drive Mobility, started with just 100 electric two-wheelers and three-wheelers, primarily supporting last-mile deliveries. India's mobility and logistics sector was expanding fast and the shift to electric vehicles needed more than just vehicles. Businesses needed reliable, cost-effective solutions to make the transition easier. As Founder and CEO, Hari Krishna set out to provide them, guided by a mission of creating a carbon-free India. From that insight, Green Drive Mobility was born, a company built on the belief that business growth and sustainability should travel together. Six years on, it counts some of the country's best-known e-commerce, quick-commerce and logistics names among its clients. This is the story of how it got there.

A Conviction Worth Building a Company Around

The India of 2020 offered a paradox. Demand for deliveries was climbing and the case for cleaner transport was widely accepted, yet the practical path from diesel and petrol to electric remained uncertain for the businesses that actually move goods and people. Buying vehicles was only the first step. Operating them reliably, at scale and at a sensible cost, was an entirely different challenge. Hari Krishna saw this gap not as an obstacle but as an opening. His thesis was that electrification needed more than hardware. It needed operational support, fleet management capability and technology-driven solutions that would allow businesses to adopt electric mobility with confidence. The ambition, as he frames it, was to build an integrated EV ecosystem that addressed genuine commercial needs while advancing a larger mission: a carbon-free India. "We believe that business growth and sustainability should go hand in hand," he says and the line has served as the company's compass. It gave Green Drive its mission of building a carbon-free India through an integrated EV ecosystem and it explains why the founder recognised from the outset that operational support, fleet management capabilities and technology-driven solutions mattered as much as the vehicles themselves. It is a modest-sounding premise with far-reaching consequences. Rather than selling a single product, Green Drive set out to simplify the entire journey of EV adoption, making sustainable transport a practical and economically viable choice rather than a symbolic one.

Bengaluru and the First Hundred Vehicles

Every ecosystem has a seed. For Green Drive, it was a fleet of 100 electric two-wheelers and three-wheelers deployed in Bengaluru, primarily to support last-mile deliveries. The scale was deliberately humble, but the city was an apt proving ground: dense, demanding and home to the delivery-driven businesses that most needed reliable, low-cost mobility. What happened next is a pattern familiar to the best startups. The market began teaching the company what it really needed to be. Working with clients across e-commerce, logistics and other sectors, the team recognised a growing appetite for solutions that went well beyond simply placing vehicles on the road. Clients wanted partners who could keep those vehicles running, managed and productive.

From Vehicles to an Ecosystem

The result is a business that today operates under three connected service lines: EV-as-a-Service, Fleet-as-a-Service and Delivery-as-a-Service. In practice, this has made Green Drive proficient across a wide range of activities: renting electric vehicles, managing fleets, moving goods across the first, middle and last mile, providing third-party logistics, transporting people, maintaining vehicles and setting up charging stations. The convergence was less a master plan fixed on day one than a disciplined response to demand. Services evolved as the market revealed its requirements, yet the underlying strategy nev-



HARI KRISHNA, Founder and CEO, Green Drive Mobility

er wavered. As Hari Krishna describes it, the constant has been a commitment to making electric mobility accessible, operationally efficient and cost-effective for businesses through one integrated ecosystem. Technology has been central to this approach from the beginning. It enables real-time monitoring, planned maintenance and higher fleet uptime, allowing Green Drive to serve clients across e-commerce, logistics and other sectors with greater consistency than vehicle deployment alone could offer. That consistency now supports expansion across multiple Indian cities, as the company translates its original vision into a scalable model.

The Intelligence Layer: Green Drive Connect

If the vehicles are the body of Green Drive, then Green Drive Connect is its nervous system. The platform draws on IoT devices, battery management systems and vehicle sensors to monitor battery health, charging activity, location and driver behaviour. This visibility enables real-time monitoring, predictive maintenance and higher fleet uptime. In an industry where many players remain preoccupied with vehicle acquisition, this layer of intelligence has quietly altered the nature of client conversations. Discussions with enterprise customers no longer revolve solely around how many vehicles are available. They turn to operational reliability, utilisation and efficiency, the metrics that determine whether a delivery network performs or falters. For Green Drive, technology is not an accessory to commercial EV adoption. It is what makes adoption practical at scale. Because Green Drive Connect sits at the centre of the company's operations, it gives Green Drive and its clients a continuous view of everything from battery health and charging activity to location and driver behaviour. For a business that depends on the delivery promise it makes to its own customers, that visibility is a form of assurance.

Beyond the Diesel-Era Mindset

Asked what separates a mature EV fleet operator from one merely running electric vehicles, Hari Krishna is unequivocal: swapping an internal combustion vehicle for an electric one does not, by itself, deliver efficiency. Electrification demands a fundamentally different approach to managing mobility. Battery health, charging requirements, vehicle utilisation, maintenance and driver behaviour are not separate concerns. In a mature operation, they function together within a technology-enabled operating model. This is the philosophy that shapes Green Drive's fleet management and it reflects a broader truth about the sector. The operators that will endure are those that treat electrification as a redesign of the system rather than a straightforward vehicle replacement exercise. The objective, simply put, is dependable, cost-effective and scalable electric mobility.

Earning the Trust of Giants

Green Drive's client roster reads like a directory of Indian digital commerce: Amazon, Flipkart, Zepto, Swiggy and Delhivery, among others. Winning the confidence of enterprises at this scale is no small feat and it raises a natural question: what do such organisations actually look for in a mobility partner entrusted with a business-critical function?

The answer, according to Hari Krishna, begins with consistency and the flexibility to grow alongside the client. Fleet availability, service reliability, cost-effectiveness, maintenance and operating visibility are the central considerations. Technology matters just as much, because enterprises want closer oversight of their vehicles, their drivers and the overall performance of their fleets. Working with leading e-commerce, transportation and food delivery platforms has, in his words, only deepened the company's conviction that mobility solutions must

pair professional fleet management with technology and an uncompromising commitment to service reliability.

The Intercity Frontier

Short urban loops are one thing; long-distance electric operations are another. Intercity travel sharpens every difficulty the sector faces: range anxiety, uneven charging access and the operational coordination required to keep vehicles moving over longer distances. Green Drive's response is to build a support ecosystem around its vehicles, combining charging solutions, fleet repair services and tech-enabled monitoring. The move into electric buses signals how far the company has travelled from its last-mile origins, opening a path into new segments of passenger and intercity transport. As the model is replicated elsewhere, the emphasis remains on creating an operating framework that is both sustainable and trustworthy. The difficulties are well understood across the sector: range anxiety, gaps in charging infrastructure and driver fatigue over longer distances. Hari Krishna's point is that vehicle range, charging access and operational coordination become especially important as distances grow, which is why careful planning and a support system built alongside the vehicles matter so much.

The Charging Question

No conversation about commercial EVs in India can avoid charging infrastructure and Hari Krishna does not try to. Green Drive's approach is guided by fleet utilisation, route requirements and operating costs and as it expands beyond Bengaluru, the company intends to balance partnerships with charging providers against dedicated infrastructure, depending on local demand. The national backdrop is encouraging. According to the Ministry of Heavy Industries, India had 52,718 public EV charging stations as of July 2026. Yet for a commercial fleet, the headline number matters less than access to chargers in the right places at the right times. Green Drive's priorities are therefore pragmatic: minimise vehicle downtime, maintain dependable operations and keep charging costs commercially viable in every new market it enters.

Policy: Between Ambition and Reality

Assessing India's policy environment, Hari Krishna adopts a constructive tone. The country's transition to electric vehicles has opened considerable opportunity for business mobility, he notes, but corporate willingness to adopt depends on more than vehicle availability. Companies need dependable charging networks, favourable operating conditions and solutions that make the switch financially viable. His view is that the next phase of progress will require policy goals and the practical realities faced by fleet operators to move into closer alignment. Continued support for charging networks, ecosystem development and scalable commercial applications, he suggests, would help businesses adopt EVs with far greater confidence. Having operated fleets across multiple states and client verticals, Green Drive speaks from experience rather than theory. Whether policy is genuinely enabling growth or still catching up with enterprise demand, his answer is measured: opportunity is real, but alignment between policy and the day-to-day needs of operators is the next step.

A Company That Defies Easy Labels

Is Green Drive a logistics company, a Mobility-as-a-Service platform, or something yet to be named? Its founder leans towards the last. The company's work already spans electric commercial fleets, EV-based logistics, rentals, passenger cabs, intercity electric buses, servicing and charging solutions, all connected by a shared purpose: making sustainable mobility accessible through an integrated operating model. With expansion into premium passenger mobility and corporate transport on the horizon, that identity will broaden further. What Green Drive is building, in Hari Krishna's description, is a technology-driven EV mobility ecosystem that serves diverse business and transportation needs, one that has outgrown the boundaries of a conventional logistics company.

The Road Ahead

Looking to the next five years, the vision is clear and disciplined. Green Drive aims to become a trusted and reliable partner in India's shift to electric mobility, expanding across markets and scaling its integrated solutions across first-mile, mid-mile and last-mile logistics, passenger transportation and intercity mobility. Fleet management technology, operational expertise and strategic partnerships form the foundation of that plan. But the ambition runs deeper than fleet size or service count. Hari Krishna wants Green Drive to demonstrate that a business can be sustainable, operate efficiently and grow, all at once. By offering reliable and affordable mobility, the company hopes to accelerate the transition from internal combustion engines to electric vehicles and in doing so, help make India's transportation system cleaner and more sustainable. From one hundred vehicles on Bengaluru's streets to an ecosystem spanning cities, segments and technologies, Green Drive Mobility has followed a simple principle: electric mobility succeeds when it is dependable. If its founder's vision holds, the road to a carbon-free India may well be paved by companies that understood this first. ME

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VOLVO

EX90

VEHICLE LAUNCH



KEY HIGHLIGHTS

Fully electric six-seat SUV, 2027 model year

All-wheel drive with 800V electrical system

Up to 625 km electric range

NEDC-rated consumption of 19.4 kWh/100 km

377-litre boot plus 46-litre frunk for cables

Tows up to 2,200 kg; 100 kg roof load



NEWS



Flying Flea Enters Pune With 10 Sales and Service Centres

Flying Flea, Royal Enfield's electric motorcycle brand, has expanded its presence into Pune, marking its third Indian market after Bengaluru and Hyderabad. The brand has established 10 sales and service touchpoints to support the availability of its FF.C6 electric motorcycle, offering customers convenient access to enquiries, purchases, routine maintenance and repairs. Beyond sales, these centres will provide dedicated technical assistance and after-sales support. The FF.C6 is priced at ₹2.79 lakh (ex-showroom), while the Battery-as-a-Service (BaaS) option reduces the upfront cost to ₹1.99 lakh. The expansion underscores Flying Flea's commitment to strengthening retail infrastructure, service accessibility and customer confidence as it grows its electric motorcycle business across India.

Montra SUPER AUTO FX Gets 15-Minute Rapid Charging



Montra Electric, in partnership with Exponent Energy, has introduced a 15-minute rapid-charging option for its SUPER AUTO FX electric passenger three-wheeler, initially available across Bengaluru, Chennai and Delhi-NCR, with access to over 200 compatible chargers. The initiative aims to minimise downtime and boost productivity for drivers engaged in high-utilisation passenger operations. The SUPER AUTO FX offers an on-road range of over 150 km, 60 Nm of torque and a warranty of five years or 2.25 lakh km. The announcement follows the October launch of ONE Pass, a pay-per-use Energy-as-a-Service model by Montra Electric, Exponent Energy and Exponent ONE, aligning energy costs with vehicle usage and improving EV operating economics.



Yulu Launches Electric Delivery Fleet in Nashik With 100 DeX EVs

Yulu launches 100 DeX electric two-wheelers for Nashik delivery partners with Approach Auto Mobility under YBP, operating from Rajiv Nagar. Bundled battery swapping via Yuma Energy, maintenance and insurance will expand across Nashik.



Bajaj Auto Reshuffles Leadership, Names New CPO

Bajaj Auto has announced a series of senior leadership changes across its operations, product management and board governance. Kailash Zanzari, previously Chief Product Officer, has been elevated to Chief Operating Officer, taking on a broader operational mandate. Madhusudan Gopalan, former senior executive at Procter & Gamble, has been appointed as the new Chief Product Officer, effective 16 November 2026, marking a transition in the company's product leadership. Additionally, the board has approved Pallavi Joshi Bakhru's appointment as a Non-Executive Independent Director for a five-year term commencing January 2027, subject to shareholder approval. These changes reflect a strategic reshaping of Bajaj Auto's senior leadership structure.

River Mobility Crosses 100 Showrooms, Targets 200 by March 2027

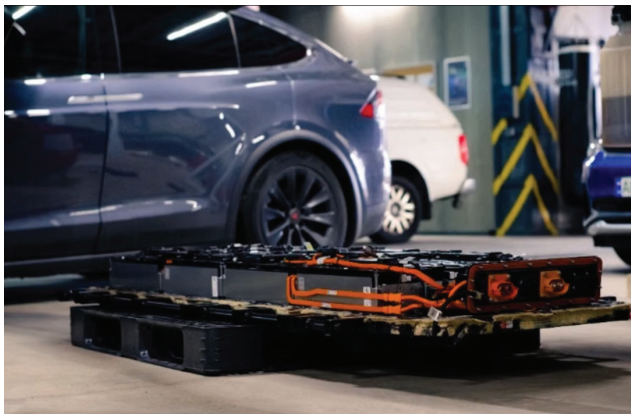


River Mobility has surpassed the 100-showroom milestone in India within three years of commencing operations, extending its retail presence across 65 cities in 12 states. The achievement follows the simultaneous inauguration of 10 outlets in Lucknow, Agra, Udaipur, Ajmer, Chennai, Puducherry, Navi Mumbai, Pune, Visakhapatnam and Delhi. The company aims to expand its network to 150 stores by December 2026 and over 200 by March 2027, supported by funding from its $120 million Series C round. The expansion seeks to strengthen access to River's electric two-wheelers while enhancing sales and after-sales support. However, maintaining consistent service quality and customer experience across its growing nationwide network remains a key priority.

BikeWo Targets 5,000 Electric Trucks With ₹150 Crore Plan

BikeWo Green Tech plans to invest up to ₹150 crore in Green Drive Mobility to support the deployment of at least 5,000 electric trucks across last-mile, mid-mile and long-haul logistics. The partnership combines fleet financing, vehicle deployment and logistics operations, with the investment expected to be phased towards vehicle acquisition, infrastructure development and technology integration. Green Drive Mobility already operates over 350 electric trucks and approximately 8,000 electric two-wheelers, providing an established operational base for expansion. The initiative aims to address the capital and operational challenges of electrifying freight transport. However, achieving the 5,000-truck target will depend on financing, vehicle availability, charging infrastructure and customer demand.

NEWS



India's EV Skills Gap Could Slow the Transition

India's electric-vehicle transition requires more than manufacturing capacity and charging infrastructure; it also needs a skilled workforce to build, maintain and service EVs safely. A shortage of trained technicians and repair professionals could slow adoption as the EV fleet expands. Retraining independent workshop technicians is becoming critical as vehicle architectures, high-voltage systems, batteries, power electronics and diagnostics evolve. Automotive Skills Development Council chair Vinkesh Gulati has reportedly highlighted overseas demand for Indian EV technicians, presenting an opportunity to develop a globally competitive workforce. Industry stakeholders must prioritise practical job readiness over course-completion numbers, aligning training with the requirements of manufacturers, service networks, fleet operators and independent repair businesses.

JSW Greentech Wins First Order for 100 Electric Trucks



JSW Greentech's AMPSTAR bags its first order: 100 heavy-duty 4x2, 55-tonne electric tractor-trucks for JSW Cement, hauling clinker and slag on the 330 km Nandyal-Vijayanagar route, supported by four JSW Eco-Mobility battery-swapping stations.

Blue Energy Motors, HPCL Open Truck Battery-Swapping Station



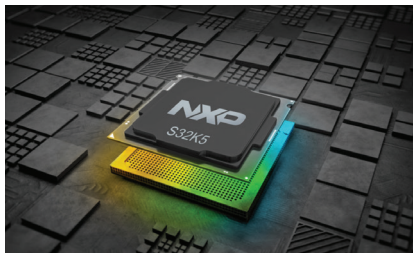
BEM and HPCL commissioned a Bhiwandi battery-swapping station for electric heavy-duty trucks, offering swaps under five minutes, extending the Mumbai–Pune corridor, plus public EV charging; compatibility, queues and battery inventory affect turnaround.

LANXESS, HINCOL to Test Road Construction Technologies



LANXESS and HINCOL are partnering to test Addipave CR 36 and Addipave WM 23 under Indian road conditions, evaluating durability, production efficiency, emissions and workplace conditions via laboratory and commercial-scale trials.

Volkswagen Partners With NXP for Future Vehicle Chips



Volkswagen and NXP Semiconductors announced on 26 October 2026 that NXP's S32K5 microcontrollers will anchor VW's zonal architecture, developed with Rivian's joint venture, powering software-defined vehicles across brands, with the first model in 2027.



PARIVARTAN Scheme and Blue Energy Motors: Battery Swapping Must Reach the NCR

Blue Energy Motors has signed an MoU with the Ministry of Road Transport and Highways to participate in the PARIVARTAN scheme, aimed at replacing older commercial vehicles with electric trucks across Delhi-NCR. The move raises questions about the region's readiness to support the company's battery-swapping technology. While its Mumbai–Pune electric freight corridor demonstrates existing infrastructure, equivalent NCR coverage remains unclear. The development also brings renewed attention to its earlier electric heavy-truck programme, vehicle capability claims, manufacturing expansion plans and proposed deployments, which must be distinguished from confirmed orders. For fleet operators, station locations, battery availability, swapping costs, operating hours and service reliability will be critical to adoption.



Youdha ePod G Cargo Three-Wheeler: Specs Are Only Half the Case

Youdha's ePod G electric cargo three-wheeler packs an 11.8 kWh LFP battery, 6 kW motor, 545 kg payload, 1,000 kg GVW and 170–180 km claimed range in half-deck or four-box variants; reports differ, so verify real-world range, uptime and costs.

Sona Comstar Q2 FY27 Revenue Rises 35%, BEV Sales Jump 129%



Sona Comstar's Q2 FY27 revenue rose 35% to ₹1,547 crore, profit 29% to ₹223 crore. BEV components surged 129%, 51% of automotive revenue; new orders hit ₹3,600 crore, with EV differential, radar launches.

NEWS

Ursaa Hybrid Puts Battery Data Inside Fleet Software. Access Is the Constraint

Noida-based deep-tech company Ursaa Energyworx has launched Ursaa Hybrid, an integrated platform combining fleet tracking with battery telemetry, charging analytics, trip reports and route-compliance tools. Designed for mixed fleets, the solution enables operators to monitor vehicle movement and utilisation alongside battery health and charging behaviour through a unified dashboard. Where compatible battery management systems (BMS) provide data access, the platform displays key parameters, including state of charge, voltage, temperature, cycle count and state of health. Building on tracking deployments across more than 10,000 electric scooters, the launch highlights the growing integration of vehicle and battery intelligence. However, its effectiveness depends on manufacturers enabling access to relevant battery data, making interoperability crucial.



Tsuyo and LvKON's Electric Drivetrain Pact Tests India's CV Localisation

Tsuyo Manufacturing partners with China's Suzhou LvKON for commercial-vehicle electric drives, covering engineering, validation, manufacturing, testing and service. It plans a 24-acre Indian facility, stressing localisation; financial terms and timeline undisclosed.

Shakti EV Mobility: Can Capital Keep Pace With ₹24 Crore Revenue?



Shakti Pumps infuses another ₹12 crore into subsidiary Shakti EV Mobility, lifting total funding to ₹92 crore, while FY26 turnover stands near ₹24.25 crore; profitability, customers, orders and scalability remain undisclosed.

NEWS

Tata Passenger Electric Mobility Charging Network: Testing the 1,000 Claim



TPEM crosses 1,000 fast-charging connectors across 200 cities, 180 highway corridors; 40 MW, 32 million e-km. Connectors, sites, capacity differ; Tata Power EZ Charge roles unclear; uptime, speed, access matter.

Ultraviolette X-47 Venom: A New Platform Tested at ₹3 Lakh



Ultraviolette Automotive has launched the X-47 Venom, an electric crossover motorcycle built on its new 100-volt VX100 platform. Priced at an introductory ₹2.65 lakh for the first 5,000 customers, it will carry a regular starting price of ₹3 lakh. Available with battery options of up to 11 kWh, the motorcycle offers a claimed IDC range of up to 343 km and supports 12 kW DC fast charging. Bookings opened on 22 October 2026 through the company website and UV Space Stations, with deliveries scheduled to begin in November 2026. Beyond pricing and range, the new architecture aims to accelerate future product development. Booking numbers remain undisclosed, with market performance yet to be assessed through actual deliveries.

ECMA ECT 2026 Puts BS-VII Emission Norms in Focus



The Emission Controls Manufacturers Association (ECMA) hosted its 17th International Conference on Emission Control Technologies on 22–23 October 2026 at Hotel Taj Vivanta, Dwarka, New Delhi. Themed "Engineering Clean Mobility Advancements for BS-VII," the conference brought together industry stakeholders to explore emerging emission-control technologies, regulatory developments and engineering challenges ahead of the next generation of vehicle-emission standards. Building on the 2025 edition, which attracted over 360 delegates and featured nine keynote addresses and 29 technical papers across 10 sessions, this year's discussions highlighted BS-VII's implications for vehicle and powertrain choices, technology costs and cleaner mobility, while balancing lower emissions, affordability and real-world performance.

NEWS

Tata Motors Delivers 50,000+ Vehicles During Navratri 2026



Tata Motors Passenger Vehicles delivered over 50,000 vehicles during Navratri 2026, including 10,000-plus on Dussehra, citing higher footfall and bookings; production and logistics were boosted ahead of Dhanteras and Diwali. No model-wise breakdown given.

N.A.N. Silox GreenMet Appoints Vijay Pasupathy as CEO

N.A.N. GreenMet Pvt. Ltd.

N.A.N. Silox GreenMet has appointed Vijay Pasupathy as Chief Executive Officer as it advances plans for a ₹1,400-crore lithium-ion battery recycling and critical-metals facility at Naidupeta, Andhra Pradesh. The project, a 50:50 joint venture between N.A.N. GreenMet and Belgium's Silox Group, has received Consent to Establish approval, with construction now underway. Pasupathy will oversee construction, commissioning and the company's expansion into battery-material processing. The facility will be developed in phases, with an annual capacity of 40,000 tonnes for battery shredding and 20,000 tonnes for hydrometallurgical processing. Longer-term plans include precursor cathode and cathode active materials, strengthening India's domestic battery-recycling ecosystem and critical-material supply chain.



Bondada Group Enters EV Market With T1 Electric Two-Wheeler

Bondada Group has entered the electric mobility market through its subsidiary Atpole Technologies, under Bondada Engineering, in partnership with Hyderabad-based Thuraga Motors. The partners previewed the T1 electric two-wheeler and opened pre-bookings through a dedicated website. Priced at ₹59,999 (including GST), the T1 features a 600W motor and a 51.1V lithium-iron-phosphate (LFP) battery. Targeting individual consumers, businesses, fleet operators and institutional buyers, the vehicle is designed for retail, delivery and commercial fleet applications. The partners announced a planned November 2026 rollout across Telangana, Andhra Pradesh and Tamil Nadu. The move marks Bondada Group's expansion into electric two-wheelers, with distribution, servicing and customer support crucial to its market entry.

MG Windsor INDULGE Edition Launched at ₹17.88 Lakh



JSW MG Motor India has introduced the MG Windsor INDULGE Edition at an ex-showroom price of ₹17,88,900, offering a more premium take on its popular electric vehicle. The special edition features a distinctive Shadow Gold and black exterior finish, revised Urban Tan and Black interior upholstery, a second-row PRIVE screen, cushions and neck pillows, enhancing rear-seat comfort. It retains the existing 38 kWh battery pack, delivering 100 kW (136 PS) power, 200 Nm torque and a certified range of 332 km. Positioned as a styling and equipment upgrade, the launch builds on the Windsor's popularity, with over 80,000 families adopting the model in 24 months.

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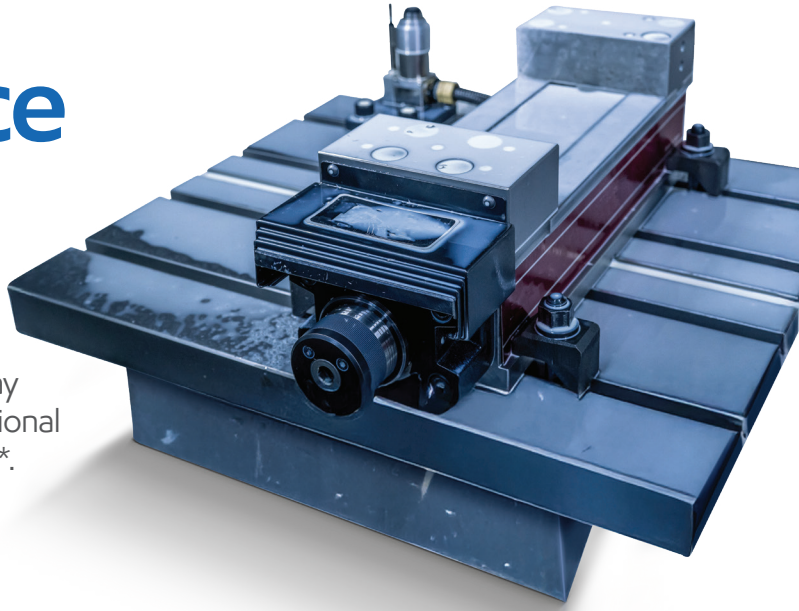
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