OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

Powering India's Electric Future: The Rise of EV Charging Infrastructure and Servotech's Strategic Play

K. Aravind Raj[1]

Introduction

Electric mobility in India has progressed from being a niche aspiration to a rapidly expanding market reality. Since early governmental impulses, such as the introduction of the Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme in 2015, the country's EV sector has pivoted from limited consumer interest to a more robust market ecosystem in less than a decade. By September 2024, electric vehicles (EVs) had grown to represent around 5 percent of overall vehicle sales, led overwhelmingly by two- and three-wheelers[2]. Though that figure may seem modest in absolute terms, growth trajectories and policy commitments forecast a far larger penetration in the next five years. Against this backdrop, the availability of EV charging infrastructure has emerged as a linchpin: without widespread, reliable points to recharge batteries, mass adoption and sustained enthusiasm for e-mobility remain impossible.

The Indian government envisions that by 2030, the share of EVs in new vehicle sales could top 40 percent overall—a target that translates to tens of millions of additional electric two-, three-, and four-wheelers on roads already strained by traffic and pollution[3]. FAME-II, launched in 2019, has offered further impetus by funding both vehicle subsidies and the development of public charging stations across major cities. India's Ministry of Power additionally introduced guidelines for charging infrastructure in 2022 (amended further in April 2023) to standardize tariffs and connection procedures, removing certain operational grey areas. Despite these measures, experts warn that India might need anywhere from 400,000 to over a million public charging stations by 2030—far beyond the 16,000 or so installed as of March 2024[4].

Against this policy-driven and increasingly competitive backdrop, a range of companies—from energy conglomerates like Tata Power to rising specialized players such as Servotech Renewable Power System Limited —have been attempting to meet the urgent need for more charging options across highways, petrol pumps, city centres, and even remote townships. This paper explores a panoramic assessment of India's EV charging sector, tracing the interplay of

[1] K. Aravind Raj, Postgraduate Student of Power Electronics and Drives at Department of Electrical & Electronics Engineering, PSG College of Technology, Coimbatore

[2] Bain & Company
[3] Forvis Mazars
[4] ET EnergyWorld

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

national regulation, market demand, and strategic company moves. Particular emphasis is placed on emerging players such as Servotech in contrast with established players such as Tata Power, whose evolution in the Indian charging arena neatly illustrates both the immense potential and the continuing operational hurdles that characterize the field.

National Policy shaping the EV charging landscape

India's central government has made repeated public commitments to accelerate EV adoption. FAME-II, operational since 2019, earmarked INR 10,000 crore for EV incentives and infrastructure. This has partly subsidized the cost of building public charging stations; it has also subsidized electrified two- and three-wheelers, as well as buses, thereby indirectly spurring the need for convenient recharging infrastructure in high-utilization segments[5]. Yet the actual supply of chargers, whether in terms of capacity or coverage, lags. As of early 2024, the Ministry of Power reported just over 12,000 publicly accessible charging stations across India, a ninefold increase from 1,800 stations in early 2022, but still nowhere near the scale needed to address the surging EV population[6].

Central guidelines place further requirements on discoms (distribution companies) to expedite new connections or expansions of load capacity for charging infrastructure. The Ministry of Power's updated regulations now prescribe single-part EV tariffs that should not exceed the average cost of supply (ACoS) until March 2025[7]. While well-intentioned, many prospective charging point operators complain that local or state-level rules remain uneven in practice, with real estate constraints, delayed permitting, or unclear demand charges inflating initial set-up costs. For example, the cost of a 60-kW DC charger can escalate to INR 700,000 (around USD 8,300) or more in tier-1 metro areas once property lease rates and grid-upgrade fees are included[8].

Despite those difficulties, analysts anticipate that at least 400,000 chargers must be installed annually to approach the 1.32 million chargers needed by 2030 in a mid-range scenario[9]. Consequently, the policy environment has become more supportive, with national directives on revenue-sharing models for government land usage and lowered taxes on equipment. Various states—including Maharashtra, Gujarat, Uttar Pradesh, and Karnataka—complement

[5] PIB India
[6] The Economic Times
[7] PIB India
[8] S&P Global Mobility
[9] CII-Edelman Global Advisory

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

these central efforts through dedicated EV policies that provide land or capital subsidies for charging infrastructure.

Market growth dynamics: Between demand and infrastructure

Consumer demand for EVs is rising at both the budget and premium ends of the spectrum. For two-wheelers, many city dwellers see EV scooters as an economical alternative to conventional motorbikes, given sharp rises in fuel prices. Meanwhile, large e-commerce and last-mile delivery operators are also electrifying their fleets, spurring demand for quick-charge solutions across urban distribution hubs. The data reflect these shifts: by late 2023, two-wheelers and three-wheelers accounted for the lion's share of EV sales at over 85 percent[10]. In four-wheelers, adoption is more gradual but accelerating: from a baseline of about 1 percent market share in 2018, EV cars in India topped 1.5 percent in 2023–24, with some states like Maharashtra surpassing the national average[11].

The tempo of this EV adoption cycle is partially determined by charging coverage. A large portion of prospective EV owners list "range anxiety" and "lack of accessible charging" as top deterrents, sometimes even placing these concerns above the high upfront price of an electric car[12]. Although the number of public charging stations soared from 1,800 in February 2022 to more than 16,300 by March 2024, more than 75 percent of those chargers are located in a handful of cities[13]. This underscores a deep geographic mismatch: tier-2 and tier-3 cities, and rural areas, still suffer from extremely limited coverage, stalling adoption beyond urban hubs.

Private sector partnerships have emerged as a strategic response. Tata Power has installed over 5,600 public and semi-public chargers nationwide, along with 100,000 home chargers, thanks to tie-ups with oil retailers and municipal bodies[14]. Ather Energy, historically focused on two-wheelers, has expanded its Ather Grid and collaborated with other OEMs to create an interoperable fast-charging backbone[15]. Hero MotoCorp and Ather Energy even announced an interoperable fast-charging network covering 100 cities, pointing to a possible standardization wave[16]. These market-led initiatives complement official efforts, but the vastness of India's geographies and the cost-intensive nature of charging infrastructure require sustained multi-actor cooperation.

[10] Bain & Company
[11] McKinsey
[12] ICICI Lombard Survey
[13] ET Online
[14] Deccan Chronicle
[15] YourStory
[16] ETAuto

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

Servotech's emergence and strategy

Within this dynamic, Servotech Renewable Power System Limited occupies a fascinating position. Although widely known for its solar products, the company has diversified considerably in recent years, developing both AC and DC chargers targeted at a range of settings—homes, commercial complexes, and public charging stations[17]. As of 2024, the company prided itself on having installed over 7,000 EV chargers, frequently in partnership with prominent organizations such as Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), Indian Oil Corporation Limited (IOCL) and NAYARA. The strategic thrust reveals how an emerging provider can leverage strong distribution networks and alignment with government programs to carve out a niche in an increasingly competitive field.

One facet of Servotech's business model has been forging new alliances with state-run agencies and utilities across multiple states. For instance, in September 2024, it secured a contract from Bangalore Electricity Supply Company Limited (BESCOM) to install eleven DC fast-charging stations across designated Regional Transport Office (RTO) premises in Karnataka[18]. Prior to that, it partnered with Kerala's Agency for New and Renewable Energy Research and Technology (ANERT) to set up 30-kW fast chargers for the state's motor vehicle department[19]. These deals typically involve Servotech managing everything from design and planning to post-installation maintenance and warranty support. A major motivation behind these expansions is the recognition that subnational governments want to minimize capital expenditure but are eager to showcase improved EV infrastructure to local constituents.

Servotech has also pursued synergy between solar power and EV charging, consistent with its original identity as a solar solutions provider. In July 2024, in partnership with the National Solar Energy Federation of India (NSEFI), the company inaugurated what it called "Delhi's first grid-connected Solar-Powered EV Charging Carport" at Hauz Khas Village[20]. This installation, with solar panels integrated on a carport structure, aims to demonstrate how renewable sources can feed charging infrastructure, thus lowering the carbon footprint and mitigating the load on the central grid. Such demonstration projects serve dual purposes: commercial users see a potential reduction in energy bills, while local authorities find themselves closer to achieving renewable energy mandates.

[17] Servotech official website
[18] ET EnergyWorld
[19] News18
[20] ET Manufacturing

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

Another pattern that characterizes Servotech's expansion has been consistently winning contracts from oil marketing companies. In mid-2024, it bagged an additional order worth INR 20 crore (approximately USD 2.4 million) from BPCL and other original equipment manufacturers to deploy 400 new DC fast chargers nationwide[21]. This supplements an earlier 1,800-charger contract from BPCL, effectively bringing the total potential to 2,200+ chargers under the umbrella of the "E-drive Project." By aligning with major oil retailers who already operate thousands of fuel stations across strategic routes, Servotech can leverage existing real estate while ensuring reliable power connections. It also exemplifies how conventional fuel vendors, facing a shift in consumer preference, are hedging their bets by installing EV chargers on their premises.

Servotech's approach is marked by a willingness to partner not only with large public and private sector giants but also with real estate developers. Its subsidiary, Servotech EV Infra Pvt Ltd, operates under the brand name "Incharz," which focuses exclusively on EV charging infrastructure development. Incharz has strategically tied up with real estate companies, hotels & resorts, fleet operators, and highway restaurants to expand charging accessibility across diverse locations. For example, one arrangement with Prateek Group, a real estate entity in Delhi-NCR, aims to develop e-charging stations at residential and commercial complexes[22]. This neighbourhood-level strategy could help meet the need for smaller-scale AC chargers or mid-speed DC chargers, addressing local demand from daily commuters while enhancing urban EV adoption.

Key success factors and obstacles

Servotech's unfolding story spotlights both the opportunities and hurdles that EV charging companies grapple with across India. The first major driver is synergy with public programs, which can drastically reduce overhead costs and accelerate project timelines by clearing regulatory red tape. Indeed, the "Make in India" orientation has provided impetus for local manufacturing of chargers and related equipment. Servotech's domestic design and production of hardware apparently aligns well with the government's preference for indigenous manufacturing under phased manufacturing programs[23].

A second strategic determinant is the ability to diversify revenue streams. Companies that focus solely on public fast chargers in major cities run the risk of low utilization in early phases, given that EV penetration rates, although rising, are not yet universal. Meanwhile, a parallel emphasis on captive or private charging solutions—such as those for residential societies,

[21] News18
[22] Moneycontrol
[23] Servotech official website

offices, and factories—provides a cushion. By targeting customers who find it convenient to charge overnight at home or during work hours at office complexes, charger manufacturers can lock in stable demand. Servotech's comprehensive product portfolio, which spans smaller AC chargers to advanced 60-kW or higher DC chargers, signals a deliberate attempt to address multiple consumer segments.

However, cost remains a stubborn barrier to rapid expansion. As described earlier, DC chargers might cost anywhere from INR 300,000 to INR 30,00,000 (USD 3,600 to USD 36,000), excluding land and associated infrastructure upgrades[24]. While subsidies and strategic partnerships help, many charging locations only achieve single-digit utilization rates initially, which slows the payback period and can deter further investment. As a partial remedy, some operators, including Servotech, have begun forging "as-a-service" models, where revenue is collected per unit of electricity or through subscription-based approaches.

A critical challenge, not unique to Servotech, concerns interoperability. India's automotive market features a variety of charging standards. Although the Bureau of Indian Standards approved the Light Electric Combined Charging System (LECCS) as an official Indian connector standard in late 2023, not all OEMs have migrated to a single protocol[25]. Some four-wheelers rely on CCS2, while smaller commercial three-wheelers may prefer swap-based solutions. Servotech's ability to accommodate multiple connector formats can be an advantage, but it also raises complexity in terms of software integration and hardware costs. The government's push toward standardization might eventually reduce these complexities, but the timeline remains uncertain.

Comparing strategies with other major players

While Servotech exemplifies how a medium-sized enterprise can grow by aligning with public agencies and tapping major corporate anchors, other players illustrate different strategic emphases. Tata Power, for instance, has leveraged its synergy with the Tata Group's automotive and power distribution arms to install a network of over 5,600 public/semi-public chargers. Their approach involves setting up charging hubs along key highways and offering distinct solutions for e-buses and commercial fleets[26]. By contrast, companies like Ather Energy have developed proprietary fast-charging for their two-wheelers but have also opened the network to other OEMs, driving a concept of "interoperability-first" from a lighter vehicle perspective[27].

[24] S&P Global Mobility
[25] ETAuto
[26] Deccan Chronicle
[27] YourStory

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

Servotech's positioning sits somewhere in the middle. It focuses heavily on forging institutional tie-ups, notably with government organizations like BESCOM and ANERT, as well as corporate heavyweights including BPCL, while also addressing smaller scale solutions for residential and commercial building complexes. The synergy of solar expertise and EV hardware manufacturing further differentiates it, giving it an environmental credibility in project bids and among sustainability-minded clients. Yet it faces stiff competition from established conglomerates with far deeper pockets.

Controversies and debates

Like every segment in India's energy transition, the EV charging domain is not without controversies or criticisms. One persistent debate centre on the mismatch between policy rhetoric and actual on-ground activity. For example, certain states proclaim ambitious EV policies that promise numerous chargers, but local level delays and inadequate coordination between municipal authorities, discoms, and real estate owners can slow real execution. Companies such as Servotech have sometimes faced protracted wait times for land usage permissions or grid load approvals, which can hamper scale-up.

There is also an ongoing discussion about the environmental impact of EVs if the electricity used for charging predominantly originates from coal-fired generation. Some critics argue that the net carbon reduction is less dramatic if a large share of the power grid remains non-renewable. Servotech's partial pivot to solar–EV integrated systems attempts to mitigate this criticism by enabling direct usage of cleaner energy[28]. The broader question, however, is whether these solar-based models can be feasibly replicated in cost-conscious smaller towns or for large-scale fast chargers that require high power loads.

A final area of dispute stems from economic competitiveness in a price-sensitive market. Some charging operators charge a premium for DC fast charging, while most new EV users prefer the convenience of plugging in at home overnight. Surveys report that a significant portion of EV owners remain reluctant to pay more than 10–20 percent above their home electricity rates for the convenience of public fast charging[29]. This dynamic may constrain profitability for providers, especially if usage volume is not high enough to offset operating costs.

---

[28] ET Manufacturing
[29] McKinsey

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

Future outlook: Building a robust ecosystem

Despite obstacles, the ongoing flurry of activity points to a rapidly expanding yet still nascent industry. Over the next five years, the number of EV charging stations in India is expected to climb markedly, anchored by both government-led and private sector initiatives. From an infrastructural standpoint, the synergy of solar power and EV charging could proliferate, particularly in commercial complexes and retail spaces. The pilot in Delhi's Hauz Khas Village exemplifies how solar panels can feed chargers on a local microgrid, reducing operational costs while cutting carbon emissions. Such integrated solutions may become more mainstream if capital expenditures can be brought down or if policy support continues to emphasize renewable–EV linkages[30].

Although battery swapping has emerged as a potential domain to reshape infrastructural planning, Servotech's published announcements do not highlight a battery-swapping strategy, focusing instead on charging hardware. For instance, while large passenger cars may continue to rely on fixed batteries with fast chargers, certain commercial segments—particularly two- and three-wheelers used for deliveries or short commutes—could benefit from swapping solutions. This approach sidesteps extended charging times and lowers vehicle purchase costs by decoupling battery ownership, though standardization remains a hurdle as battery form factors vary widely across OEMs.

Increasing consumer education and awareness is another potential tailwind. Surveys consistently show that once prospective owners understand the total cost of ownership advantages, or find adequate public chargers in their daily commuting radius, they become less apprehensive and more likely to switch. This phenomenon was already evident in major cities—Bengaluru, Delhi, Mumbai—where 2W EV adoption soared in 2023–24 after more visible charging points appeared in apartment blocks and shopping centres[31]. If states bolster public outreach, companies like Servotech may see heightened demand for not only hardware but also after-sales services and integrated solutions.

Lessons from Servotech's journey

Servotech's trajectory over the last few years underscores several lessons that are germane to India's broader EV transition:

[30] ET Manufacturing
[31] ICICI Lombard Survey

First, early and continuous collaboration with government bodies can unlock valuable contracts and build trust. By aligning with schemes such as PM Surya Ghar Muft Bijli Yojana and regional DISCOM partnerships, Servotech demonstrates how smaller players can secure a foothold in a market that otherwise seems dominated by large conglomerates[32].

Second, synergy with complementary areas—in Servotech's case, solar energy solutions—can be a key differentiator. Tying together solar power generation, battery storage, and EV charging yields an ecosystem approach, attracting clients eager to reduce carbon emissions and manage their own captive clean power.

Third, multi-segment coverage from home-based AC chargers to high-capacity DC units for commercial sites spreads risk and fosters brand visibility. By delivering chargers for private residences, malls, highways, or even fleet depots, a company can scale up while responding to each unique usage pattern.

Fourth, forging relationships with established oil marketing companies or real estate developers can accelerate expansions. Servotech's partnerships with BPCL, HPCL, IOCL, and others show how an otherwise smaller brand can swiftly reach new geographies and customer bases.

At the same time, challenges remain unresolved. The capital-intensive nature of DC fast chargers, slow or uneven policy execution, local-level bureaucratic approvals, and the delicate question of achieving profitability in the early adoption stage all demand ongoing strategic adaptation. Servotech's success hinges on how effectively it continues to manage these constraints, along with the broader industry's progress toward standardizing charging technologies and tariff structures.

Conclusion

India's EV charging landscape, once heavily overshadowed by questions of feasibility, is now transforming into a rapidly evolving field where policy impetus and market demand collide. The next five to six years will likely be decisive. Should national and state governments tighten their commitments and expedite local-level approvals, the number of chargers could feasibly meet the 1.32 million figure that analysts see as necessary by 2030. Yet merely installing more chargers will not suffice: operators must ensure interoperability, keep usage costs down, and manage site viability for a wide range of vehicle types.

In this environment, Servotech stands out as both a beneficiary and a contributor to the emerging EV infrastructure ecosystem. Its ability to secure state-backed projects, form alliances with major oil marketing companies, and integrate solar solutions situates it among

[32] ET Now News

the more flexible players in the field. The company's efforts in states like Karnataka and Kerala, along with ongoing deals to supply fast chargers nationwide, showcase the strategic advantage of leveraging government-driven "green corridors" while partnering with private real estate. These tactics, however, must be sustained through robust business models that ensure decent utilization and cost recovery.

Ultimately, India's EV future hinges on a confluence of supportive regulations, cost declines in charging hardware, the expansion of local manufacturing, and sustained corporate innovation. Servotech's activities reflect how a relatively mid-sized firm can carve a space in an industry that demands scale, but they also highlight the sector's complexities—from real estate constraints to evolving technological standards. As 2024 draws to a close, the successes and struggles of Servotech and its peers illustrate the broader tension between aspirational national goals and the practical realities on the ground. Whether India can become a leader in e-mobility will depend substantially on how the country's EV charging ecosystem matures in the remainder of the decade.

References

12,146 public EV charging stations operational across the country. (n.d.). https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2003003

Auto, E. (2023, December 6). Hero MotoCorp and Ather Energy join for inter-operable EV charging network. *ETAuto.com*. https://auto.economictimes.indiatimes.com/news/two-wheelers/hero-motocorp-and-ather-energy-join-for-inter-operable-ev-charging-network/105788680

Chadha, S. (2024, June 5). 61% of EV owners find battery charging time as primary concern: survey. *www.business-standard.com*. https://www.business-standard.com/finance/personal-finance/61-of-ev-owners-find-battery-charging-time-as-primary-concern-survey-124060500557_1.html

Desk, E., & Manufacturing, E. (2024, July 4). Servotech Power Systems inaugurates grid-connected solar-powered EV Charging Carport. *ETManufacturing.in*. https://manufacturing.economictimes.indiatimes.com/news/energy/servotech-power-systems-inaugurates-grid-connected-solar-powered-ev-charging-carport/111488363

ET EnergyWorld & www.ETEnergyworld.com. (2024, September 11). Servotech bags contract to install 11 DC Fast EV charging stations across Karnataka. *ETEnergyworld.com*. https://energy.economictimes.indiatimes.com/news/power/servotech-bags-contract-to-install-11-dc-fast-ev-charging-stations-across-karnataka/113243292

OPEN ACCESS CASES

Vol 1. Issue 3, Q3 2024 (July-September)
Section: Cases
Category: Strategy and General Management / Public Administration, Policy, and Governance

Gonsalves, M., Gonsalves, M., & Chronicle, D. (2024, September 6). *Deccan Chronicle*. Deccan Chronicle. https://www.deccanchronicle.com/business/autos/tata-power-installs-over-1-lakh-home-and-1100-e-bus-chargers-1821919

Goswamy, T., Grausam, A., Mittal, B., Möller, T., Rupalla, F., & Thapar, P. (2023, September 14). *Consumers are driving the transition to electric cars in India*. McKinsey & Company. https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/consumers-are-driving-the-transition-to-electric-cars-in-india

India Electric Vehicle Report 2023. (2024, March 15). Bain. https://www.bain.com/insights/india-electric-vehicle-report-2023/

Lakshmi, A. (2022, October 14). Ather Energy installs 500+ fast charging points across India. *YourStory*. https://yourstory.com/2022/10/ather-energy-public-ev-fast-charging-points-grid-electric-vehicle

Markit, I. (2024, September 11). BriefCASE: India's EV infrastructure growth is nearly fully charged. *IHS Markit*. https://www.spglobal.com/mobility/en/research-analysis/briefcase-india-ev-infrastructure-growth-nearly-fully-charged.html

Pall, S. (2024, August 21). *Servotech wins major deal to install 12 new EV charging stations in Kerala*. News18. https://www.news18.com/auto/servotech-wins-major-deal-to-install-12-new-ev-charging-stations-in-kerala-9022442.html

Ranjan, A. (2024, August 27). UPPER CIRCUIT: Servotech Power shares zoom 10% on joining PM Surya Ghar Muft Bijli Yojana. *ET Now*. https://www.etnownews.com/markets/upper-circuit-servotech-power-shares-zoom-10-pc-on-joining-pm-surya-ghar-muft-bijli-yojana-article-112834314

Disclaimer: *This case study has been independently researched and written without external influence or bias. The content presented is based solely on objective analysis, facts, and available data. No conflict of interest exists between the author(s) and the subject or company featured in this case study. Furthermore, this study has not been commissioned, sponsored, or compensated by the subject, the company, or any related party. All views and conclusions expressed in this case study are those of the author(s) and are not influenced by external stakeholders. The purpose of this case study is to provide informative and unbiased insights for educational and research purposes.*