

A close-up photograph of an electric vehicle (EV) charging cable and its connector. The cable is dark grey with a blue handle. The connector is metallic and has a blue protective cap. The background is blurred, showing other parts of the charging station. The image is overlaid with several large, semi-transparent circles in red and yellow. The title text is in white, bold, sans-serif font, with the word 'EV' in a larger font size than the rest of the title.

EV LANDSCAPE
Industry Snapshot
India 2025

SUMMARY



The roots of India's electric vehicle (EV) industry can be traced back to the late 19th century when electric vehicles emerged as viable alternatives to traditional internal combustion engine (ICE) vehicles. However, the real momentum for the EV revolution began in the 21st century, driven by sustainability concerns in the transportation sector.

India has become a major global carbon emitter, with road transportation accounting for over 92% of the sector's 10% contribution to national greenhouse gas emissions.

The government has responded with key initiatives like Faster Adoption and Manufacturing of Electric Vehicles (FAME) and the Production Linked Incentive (PLI) schemes to accelerate electric mobility adoption.

These policies have spurred significant investments from major automobile companies and startups in India's EV ecosystem.

However, the adoption of EVs remains skewed towards 2-wheelers (2W), 3-wheelers (3W), and public transportation.

There has been a concerted effort to expand the support of infrastructure required to support EV adoption. Higher adoption in urban India has propelled authorities—state government, real estate developers, and power distribution companies—to work in cooperation and cohesion to enhance charging infrastructure in urban centers. The government has compensated private players for revenue shortfalls to encourage investments in underserved areas.

As a result,

Electric Vehicles (EVs) are expected to account for

40% of

India's automotive market by 2030.¹

EVs accounted for
5% of the total
vehicle sales between
October 2022 to
September 2023.²

EV registrations in
India surged from
125,000 units in 2020
to **1.3 million**
in 2023.³

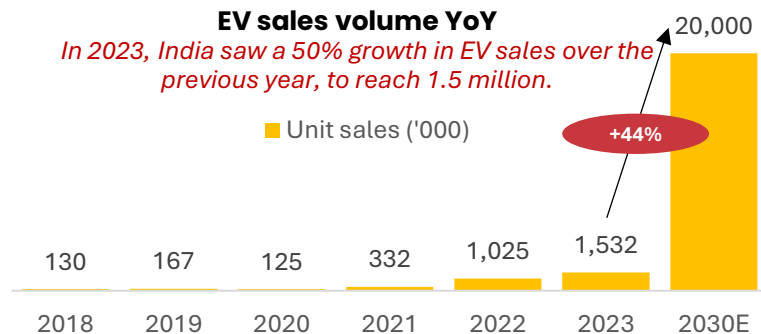
However, EV
penetration
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public
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1. Mahadevan Seetharaman, Mihir Sampat, Prabhav Kashyap, Prithviraj Sagi, Arpit Agarwal, and Venkatesh Modi, *India Electric Vehicle Report, 2023*, Bain and Company (December 7th, 2023)
2. Ministry of Road Transport and Highways' Vahan Dashboard, Government of India
3. Vivek Srivastava, *Understanding why India is witnessing a rapid EV adoption*, *Economic Times*, (November 10th, 2023)



KEY HIGHLIGHTS

The upswing in EV sales and adoption—across the country—is not confined to individual consumers. Business-to-business (B2B) acquisitions of EVs by large fleet operators such as Ola, Uber, and BluSmart, amongst others, have been a primary contributor.

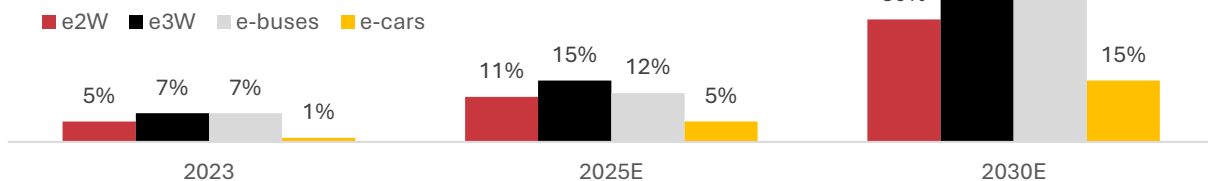


Source: Society of Manufacturers of Electric Vehicles, The Hindu

Lower maintenance costs (compared to ICE vehicles) and reduced fuel costs have fueled the demand among fleet operators. Besides, advanced features like advanced driver assistance systems, real-time traffic information, and digital cockpits have contributed to the appeal of EVs to consumers. Furthermore, in 2023, there was a ~20% price decline in lithium iron phosphate (LFP) and nickel manganese cobalt (NMC) - critical chemicals used in manufacturing batteries – resulting in declining battery prices.

2W EVs account for a significant share of EV sales in India, while 3W and 4W EVs dominate the commercial and passenger vehicle segment

Penetration across segments



Source: Mahadevan Seetharaman, Mihir Sampat, Prabhav Kashyap, Prithviraj Sagi, Arpit Agarwal, and Venkatesh Modi, India Electric Vehicle Report, 2023, Bain and Company (December 7th, 2023)



Ride-sharing platforms (Uber, Ola), last-mile delivery service providers (Blue Dart, DHL), food delivery platforms (Zomato, Swiggy), and hyperlocal grocery delivery platforms (Zepto, Big Basket) are increasingly transitioning towards electrification of their fleet.



3W EV sales witnessed a 62% growth in 2023 compared to 2022.⁴ 3W EVs are a popular option for last-mile logistics and intra-city cargo. The growth in 3W penetration is partly attributed to government bans and the consequent phase-out of traditional petrol/diesel 3W vehicles.



The 4W EV passenger vehicle witnessed a 112% surge in annual sales in 2023 compared to 2022.⁵ The 4W EV market is dominated by electric passenger cars, which constitute over 90% of 4W EV sales.⁶ Focus on affordability, exemplified by new models like the MG Comet EV and Tiago EV, has boosted penetration in the sub-USD 14,500 automobile market.⁷

4. Ministry of Road Transport and Highways' Vahan Dashboard, Government of India

5. Ministry of Road Transport and Highways' Vahan Dashboard, Government of India

6. Mahadevan Seetharaman, Mihir Sampat, Prabhav Kashyap, Prithviraj Sagi, Arpit Agarwal, and Venkatesh Modi, India Electric Vehicle Report, 2023, Bain and Company (December 7th, 2023)



Policy support for EVs

- In 2013, the government launched the National Electric Mobility Mission Plan (NEMMP) to promote electric mobility and reduce India's fuel imports. Soon after the launch, Toyota India launched India's first locally manufactured hybrid car. As a result of the policy, hybrid and electric passenger vehicles comprised ~1.3% of all passenger vehicle sales in India in FY 2015-16 (up from essentially zero in FY 2012-13).⁷
- As part of the NEMMP, the government also formulated the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme in 2015. The scheme primarily involved offering EVs at subsidised prices and developing a robust EV charging infrastructure in the country.
- The FAME I scheme (2015-2019) incentivised the sale of more than 278,000 EVs through subsidies worth CHF 37 Million.⁸ Besides, ~1.2 million EVs have been subsidised under the FAME II scheme (as of December 2023).⁹



Compelling need to improve charging infrastructure

India will need ~1.3 million charging stations by 2030 to accommodate the surging demand for EVs.¹⁰ Projections suggest ~ that 20 million EVs will be sold annually by 2030, so the country ideally requires one charger for every 40 EVs.¹¹



Higher adoption in urban India has propelled authorities—state government, real estate developers, and power distribution companies—to work in cooperation and cohesion under PPP to enhance charging infrastructure in urban centres.



India has also witnessed notable investments from foreign OEMs in EV charging. For example, Delta Electronics and ABB have established manufacturing facilities in India to manufacture EV chargers. Meanwhile, companies like Chargebyte have partnered with Indian companies to develop advanced charging technologies in the country.



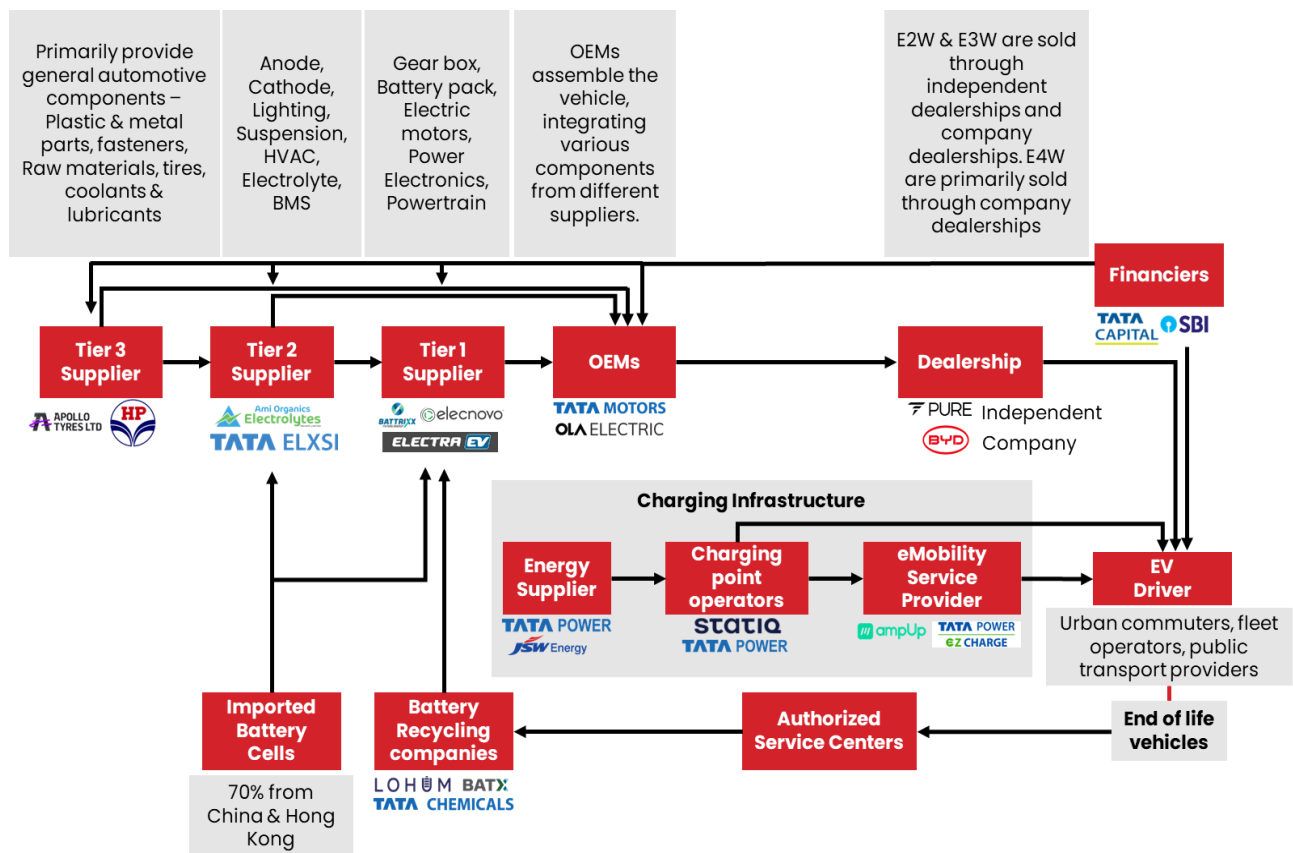
Battery Swapping, while still nascent, has also gained popularity in India as an alternative to EV charging. The solution has proven especially beneficial for fleet operators in the 2W and 3W EV segments, significantly reducing TCO (by allowing the sale of EVs without batteries) and eliminating extended wait times at EV charging stations.

India has ~**16,350**
operational public
charging stations.¹²

7. International Council on Clean Transportation, Hybrid and electric vehicles in India, (December 27th, 2016)
8. Centre for energy finance, FAME Policy for Electric Vehicles, (September 12th, 2023)
9. Centre for energy finance, FAME Policy for Electric Vehicles, (September 12th, 2023)
10. Economic Times, Time for India to move into top gear with an eye on 2030 EV public infra goal, (January 7th, 2024)
11. India's annual EV sales expected to reach close to 20 million by 2030
12. Press Information Bureau



VALUE CHAIN



- ▲ India's EV value chain involves many players, such as automobile companies, OEMs, Tier 1, 2, and 3 recyclers, and battery recycling companies.
- ▲ Automobile companies—like TATA Motors and Mahindra and Mahindra—who primarily design and market automobiles through their proprietary dealership networks or via independent dealerships.
- ▲ Tier 1 suppliers manufacture and assemble the original components (battery packs, electric motors, gearbox). They supply these components to OEMs.
- ▲ Tier 1 suppliers procure subcomponents from suppliers across Tier 2 and Tier 3, each specializing in distinct components.
 - Tier 2 suppliers furnish subcomponents such as anodes, cathodes, lighting, and HVAC systems to Tier 1 suppliers and OEMs.
 - Tier 3 suppliers specialize in generalized components like tyres, coolants, and fasteners. Batter recycling companies are responsible for recycling at the end of a vehicle's life and supplying them back to OEMs and Tier 1 suppliers.

At present, India's EV value chain is heavily reliant on imports. Most EV components are assembled in India by OEMs using imported components from countries like China and Taiwan. The import reliance results from the lack of mature domestic supply chains and capital-intensive research & development (R&D) across the EV value chain. This presents avenues for Swiss component manufacturers within the EV industry to access India's import market.

For more information on the Indian EV landscape and the opportunities it holds for business expansion, contact us.



ABOUT T&A

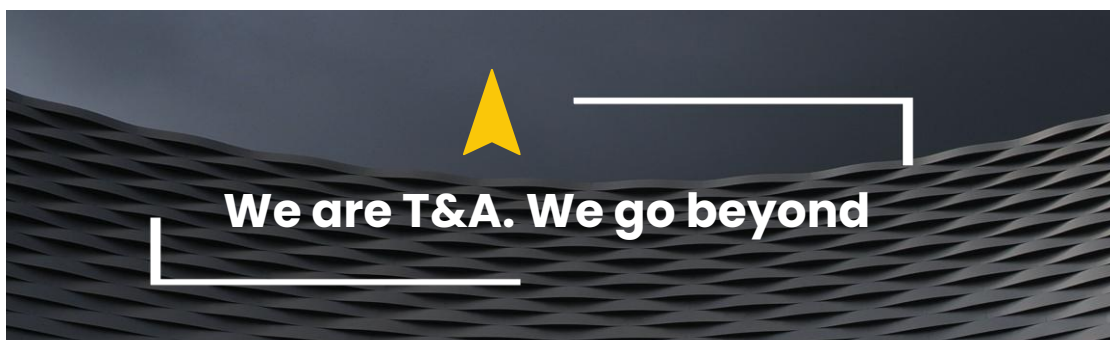
T&A Consulting (T&A) is a multi-disciplined strategic advisory and consulting firm with economic development expertise that ranges from acting as representatives of foreign governments and states for trade and investment across all of our key markets, helping universities to develop and implement strategies for students and talent recruitment in South Asia, to promoting global exciting tourist destinations to growing Indian customer base, and hundreds of international businesses and clients that we've engaged with and helped with market entry into India and, more recently, into the United States of America, Canada and the Middle East.

Established in 2006 in India, we have rapidly gained a strong reputation as a trusted advisor to government economic development agencies, businesses, and academic institutions worldwide.

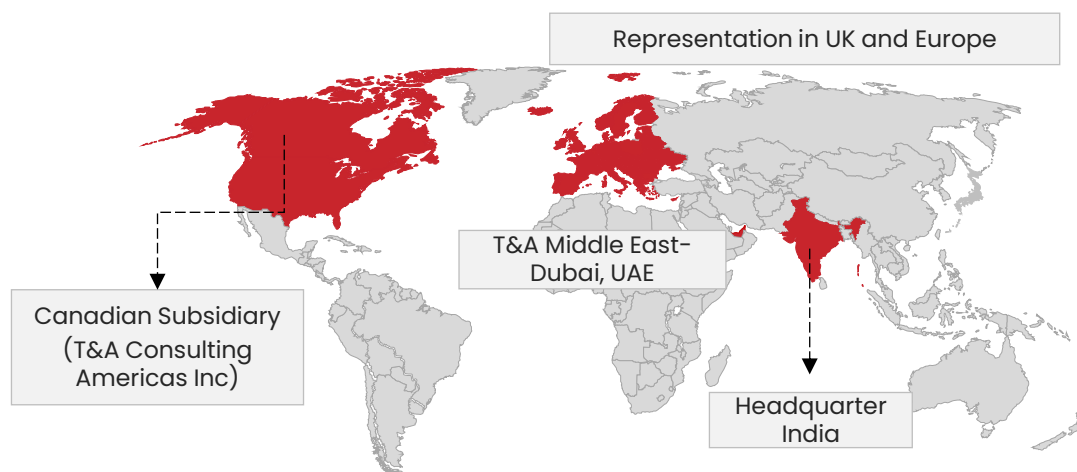
Our expertise lies in leveraging our extensive sector knowledge to help clients seize trade and investment opportunities. With over 60 full-time professionals, our team is based in our Global HQ in Gurugram near New Delhi, serving clients across Europe, Africa, Asia, and the Americas. Additionally, we have offices in Canada for the Americas market and representatives in London and Dubai for clients focused on the European and Middle East markets.

T&A was formed and has grown around the challenges of doing business in India, one of the world's most complex markets for international businesses; our EDO clients have valued our professionalism, perseverance, and adaptability. We now represent some of them in Europe and the Americas. Competing against renowned consulting and economic development organisations (EDOs), we have built a strong network of industry connections and cooperative relationships, enabling us to provide valuable insights and support in identifying and evaluating potential clients, partners, and investment targets.

At T&A, our client retention is a source of great pride. From the very outset, we always take the time to understand the needs of our clients fully, but of equal importance; it's the expertise and experience that we share with clients that leads to the development of a strategic plan and a real and successful partnership.



Our Global Network



The organization is broadly structured into the following five main verticals:

Inward Investment: Inward investment expertise ranges from developing and implementing strategic plans for IPAs to providing ongoing in-market representation, opportunity tracking, lead generation, digital marketing support, and event management, including for visiting delegations/roadshows.

Research, market-entry, and development: Our research and intelligence capabilities augment the limited resources of many Economic Development Organisations (EDOs) globally, enabling them to offer comprehensive sector studies and dedicated market entry and development services to their exporters, either individually or through group activities, such as trade delegations and exhibitions. Much of our work with private businesses comes from direct referrals through our trusted EDO partnerships across the world.

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Tourism: At T&A consulting, we have long-term relationships with some of Asia's and Oceania's premier tourism brands, guiding their growth strategies in India to help attract more tourism and business events to their destinations, working closely with operators and specialist tour businesses.

Digital Engagement: In partnership with our experienced research and intelligence team, the new T&A Digitally Engaged (DE) team shares market knowledge and trends through T&A's digital sector publications and magazines and on social media channels. Our team also worked with clients across all of our economic development verticals and with private businesses, offering them marketing support for campaigns, events, and high-level market visits.

EDO Clientele



Education



Tourism



**T&A Consulting
India**

Mr. Tarun Gupta

Global Managing Partner

tgupta@taglobalgroup.com

(+91) 124 4314960

**T&A Consulting
Americas Inc**

Mr. Saurabh Khanna

Managing Partner

skhanna@taglobalgroup.com

(+1) 437 9838483

**T&A Consulting
UK Representative Office**

Mr. Barry Clarke

Consulting Partner –
International Markets

bclarke@taglobalgroup.com

(+44) 77727 26449

**T&A Consulting GLOBAL
FZ-LLC – UAE**

Ms. Pooja Dayal

Engagement Manager –
MENA Region

pdayal@taglobalgroup.com

(+971) 50 6190351

T&A Consulting – India: Global Headquarters

416, Tower A, Emaar Digital Greens, Golf Course Extn. Road
Sector 61, Gurugram 122001 | **India**

T&A Consulting – India: Bengaluru Office

Workafella Business Centre, 150/1, Infantry Rd,
Vasanth Nagar, Bengaluru, Karnataka 560001 | **India**

T&A Consulting – Americas Inc

Suite No 501, 77 City Centre Drive
Mississauga ON L5B1M5 | **Canada**

T&A Consulting – UK Representative Office

124 City Road, London
EC1V 2NX | **United Kingdom**

T&A Consulting GLOBAL FZ-LLC – UAE

VUNE0822, Compass building – Al Hulaila, AL Hulaila Industrial Zone-FZ,
Ras Al Khaimah | **United Arab Emirates**

www.taglobalgroup.com

contact@taglobalgroup.com

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