

# Electric Vehicles



## Redefining the EV space for the Indian consumer

Tata Motors entry into the EV segment was driven by a desire to provide no-compromise solutions to the customer and to create deeper segmentation through fully-loaded portfolio diversity. Since then, we have been at the forefront of India's push towards green mobility.

### Revenue mix



Every 4<sup>th</sup>  
Tigor sold is an EV



Every 6<sup>th</sup>  
Nexon sold is an EV

### Operational highlights

#### Sales volume (in units)

▲ 353 y-o-y growth%

|             |               |
|-------------|---------------|
| <b>FY22</b> | <b>19,105</b> |
| FY21        | 4,218         |
| FY20        | 1,325         |

#### Market share (%)

▲ 1600 Bps Growth

|             |           |
|-------------|-----------|
| <b>FY22</b> | <b>87</b> |
| FY21        | 71        |
| FY20        | 47        |

#### Public charging

|             |              |
|-------------|--------------|
| <b>FY22</b> | <b>2,000</b> |
| FY21        | 450          |
| FY20        | 170          |

#### EV penetration (%)

|             |          |
|-------------|----------|
| <b>FY22</b> | <b>5</b> |
| FY21        | 2        |
| FY20        | 1        |

#### Cities present

|             |           |
|-------------|-----------|
| <b>FY22</b> | <b>75</b> |
| FY21        | 51        |
| FY20        | 22        |

#### No. of dealerships

|             |            |
|-------------|------------|
| <b>FY22</b> | <b>143</b> |
| FY21        | 97         |
| FY20        | 43         |

### Reviewing FY22

Tata Motors has been the front runner in the EV segment in India. During FY22, we strengthened our position in the EV segment, driven by new product launches, strong acceptance and positive word-of-mouth from existing customers, offering exciting fleet-mobility solutions, strengthening sales and service network, delivering comprehensive home and public charging solutions and enhancing supplies expeditiously.

EV sales continued to witness a rapid growth in demand on the back of strong acceptance of Nexon EV and Tigor EV. Our annual EV sales touched 19,105 units, a growth of 353% vs FY21. Quarterly sales of EV were highest at 9,095 units, a growth of 432% vs Q4FY21 and EV sales for March 2022 was also the highest at 3,357 units, a growth of 377% vs March 2021.

### Tata UniEVerse

Through Tata UniEVerse, we have synchronised efforts to develop a holistic e-mobility ecosystem to accelerate the adoption of EVs in India. Powered by Tata UniEVerse, consumers have access to a suite of e-mobility offerings including charging solutions, innovative retail experiences and easy financing options.

#### TATA POWER

- India's leading player in the EV charging space
- Home charging installation support in all cities to support Tata Motors EV customers
- ~ 2000 public chargers established, providing charging solutions based on solar power

#### TATA CHEMICALS LIMITED

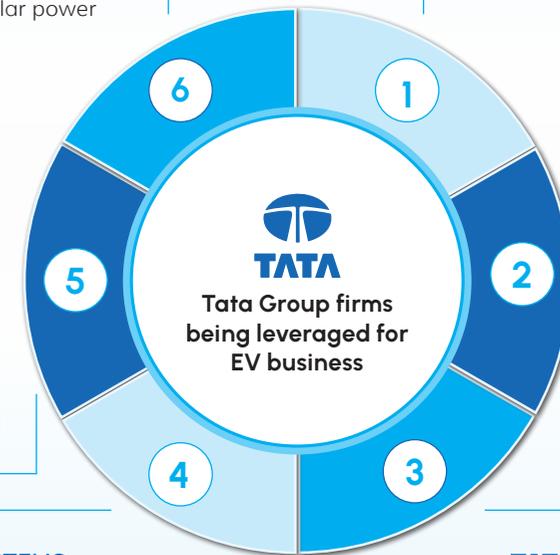
- Cell development and local manufacturing
- Technical partner for evaluating establishment of Lithium-ion cell manufacturing plan
- Operation for pilot plant for Li-ion battery recycling

#### TATA MOTOR FINANCE

- Structured solutions for fleet buyers to drive EV adoption including subscription and leasing
- Support in designing innovative financing solutions at attractive pricing by incorporating residual value financing

#### TATA CONSULTANCY SERVICES

- Partners for driving advanced research and product design especially with respect to ADAS systems and connected car tech
- EVs are expected to get more sophisticated in future, requiring dedicated design teams



#### TATA AUTOCOMP SYSTEMS

- Collaborated and completed localising EV powertrain components in-line with phased manufacturing plan
- In addition, all our models have also qualified for 50% domestic value addition requirement specified by the government in order to avail incentives going forward
- Operation of battery assembly plant for Nexon & Tigor

#### TATA DIGITAL

- Tata Digital as partner for building integrated digital platform across Tata companies to drive user experience and enable cross-selling of Tata Motors EV products

# Operating context

## Challenges faced

### Addressing customer apprehension

One of the key challenges in addition to and an extension of ecosystem limitation has been the customer anxiety over limitation of drive range of EVs and myths related to safety.

### Response

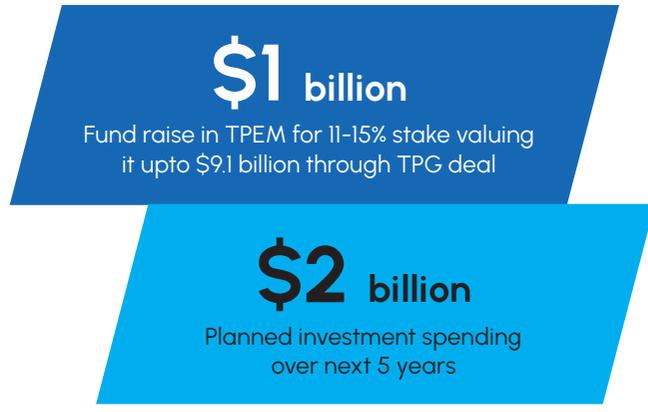
Created strong awareness campaign to bust myths related to safety, durability, charging and range anxiety.

Tata Motors introduced its state-of-art technology brand – ZIPTRON, which has been designed in-house while utilising our global engineering network. This technology delivers a thrilling driving experience to our customers aspiring to go-green. Rigorously tested across 1 million kms, ZIPTRON technology is well-proven advanced and reliable. It embodies distinctive characteristics: efficient high voltage system, zippy performance, long range, fast charging capability, battery with warranty of 8 years, and adherence to IP67 standard.

#TheUltimateElectricDrive campaign, showcased the drive Nexon EV from Manali to Leh, which is one the toughest terrains in India, covering six high-altitude Himalayan passes, with unpaved roads and steep gradients, with limited charging infrastructure and under extreme weather conditions. This showcased that the Nexon EV is capable of high performance and is able to charge effortlessly.

This was followed by a series of product testing videos named #TheUltimateElectricTest, subjecting the Nexon EV to extreme weather, gradient, water immersion and performance conditions to bust all myths about the robustness of EVs.

The increase in demand and positive word-of-mouth from existing customers is strong testimony to this.



## Challenges faced

### Product competitiveness and quality

The auto industry is characterised by new technologies, distribution models, methods of transportation and disruptive technologies. The customer is becoming increasingly aware and wants vehicles which meet the latest trends and has the most advanced technologies.

### Response

The Nexon EV was launched with ARAI certified range of 312 kms on a single charge, an efficient high voltage system, fast charging capability, extended battery life and class-leading safety features. It also comes with Z Connect – which offers 35 advanced connected car features that will electrify the drive experience with seamless connection. We continued to increase our competitiveness by launching new products in FY22 with the launch of New Tigor EV sedan with a range of 306 kms and Nexon EV Max with an extended range of 437 kms.

We will step up the investments in EV business. The recently launched CURVV and AVINYA concepts are a testimony of the future. We are gearing up to build on early mover advantage and being future-ready.

### Operational Risk

Capitals Impacted:



### Strategic Risk

Capitals Impacted:



### Capitals



## Stepping up the game—with new investments

Tata Motors entered into a binding agreement with TPG Rise Climate whereby TPG Rise Climate along with co-investors shall invest ₹7,500 crore in compulsory convertible instruments to secure between 11%-15% stake translating to an equity valuation of up to \$9.1 bn.

Accordingly, a separate subsidiary Tata Passenger Electric Mobility Limited (TPEM) was incorporated.

TPEM shall leverage all existing investments and capabilities of Tata Motors Ltd and will channelise the future investments into electric vehicles, dedicated BEV platforms, advanced automotive technologies

and catalyse investments in charging infrastructure and battery technologies. Over the next 5 years, this Company will create a portfolio of 10 EVs and in association with Tata Power Ltd, catalyse the creation of a widespread charging infrastructure to facilitate rapid EV adoption in India. The first round of infusion for a sum of ₹3,750 crore was completed in March 2022.

TPEM shall invest in excess of \$2 bn over the next 5 years in products, platforms, drivetrains dedicated EV manufacturing, charging infrastructure and advanced technologies.



# Strategic Review

## Win Proactively in EV

### Product

In FY22, we launched exciting products to cater to consumer demand in the form of Tigor EV and Nexon EV with extended range and Xpres-T EV for fleet segment.

We will continue to leverage product success and expand portfolio, providing India specific offerings with different body styles and driving ranges.

We also endeavour to complete phased transition from conversion to multi-energy modular platform to a pure EV platform in next few years.

### Sales and marketing

We scaled up our market coverage and increased our presence to 75 cities and 143 dealerships in FY22.

The existing micro-market strategy has worked well to drive the penetration and created pan India demand. As we scale up, we will start to expand beyond the existing micro-markets for a wider presence. We will continue to focus on states where there is high demand, driven by aggressive EV policies and benefits. Through innovative campaigns, digital tools, experience centres and service network, we will continue brand building for creating awareness, driving aspirations and enhancing customer experience.

### Capacity Building

We will enhance our capacities to meet increasing demand and accelerate EV penetration and drive deeper localisation of Tier 1 and Tier 2 components.

We will strive to constantly evolve and build a centre of competence in new technology areas.

### Ecosystem Solutions

Over the last two years, through Tata UniEVerse, we have progressed well in establishing public charging network and home charging solution for our customers. In addition, we have fulfilled localisation requirements laid down in the Phased Manufacturing plan notified by Government.

We will further expand Tata uniEVerse to offer holistic ecosystem solutions to customers. Efforts are underway to operationalise plan for battery reuse, recycle and repurpose. We will further expand our footprint of public charging solutions to drive mass adoption. Through Tata Motors Finance, we will continue to offer innovative financing solutions for retail and fleet customers.

### Case study

#### CURVV

Defining a new era of SUV design, Tata Motors recently showcased its Electric SUV Concept – CURVV. Conceptualised to offer practicality and elegance, all whilst exuding dynamism and unmatched road presence, the Concept CURVV is Tata Motors' rendition of the modern SUV typology. Expected to storm the market within the next two years, this concept will introduce India to a unique, edgy and sporty coupe body style which in the past has only been prevalent in the high end luxury segment. The Concept CURVV in its production ready avatar will first enter the market as an extension of the Company's ever-evolving Electric Vehicle (EV) portfolio which will subsequently be followed by its Internal Combustion Engine (ICE) counterpart.

With a robust SUV DNA at its core, and a plethora of new age materials, features and interfaces, we are confident that this Coupe Concept will redefine mainstream SUV design. Furthermore, with CURVV, we now enter the Generation 2 EV architecture which will further enhance the adoption of EVs in India by overcoming the current barriers. With this new architecture, we will strengthen the key pillars of Range, Performance and Technology, while retaining Safety and Reliability as hygiene offerings.

### Outlook

Tata Passenger Electric Mobility (TPEM) will be investing proactively to step-up EV penetration with several exciting new launches on the anvil. Accelerating adoption with the creation of a strong EV ecosystem that drives deeper localisation, remains our priority. Government of India has placed an ambitious target of 30% EV penetration by FY30 and is supporting the transition in several ways. TPEM aspires to leapfrog ahead on the strength of its superior product portfolio, greater operational economies, affordable price-value propositions and supportive sales and charging infrastructure.

### Case study

#### AVINYA

Taking a giant stride towards the next generation of electric vehicles, TPEM, recently made a smashing debut with the global unveil of the AVINYA Concept – an expression of the Company's vision of a pure electric vehicle, based on its GEN 3 architecture. The AVINYA Concept introduces a new typology of mobility that offers or exudes enormous roominess and comfort, not restricted by traditional segmentation. It comes packed with new age technology, software and Artificial Intelligence that work in the background to deliver wellness and tranquillity during transit. Providing an extremely premium yet simple and calming customer experience, this concept will be fairly accessible to a majority of customers of fast growing, high volume segments of today. With this, TPEM is all set to unleash a new breed of EVs that will redefine the automobile space. This path breaking EV will be introduced to the market by 2025.

The AVINYA Concept focuses on a human-centric design and promises a sensory journey of its own. From the skydome that enhances the overall sense of space and natural light to the functional console-inspired steering wheel, to the voice activated systems for a deeper interface for all its passengers, to the sustainable materials being used, that communicate the ethos of the product and finally the finishing touch of the aroma diffuser – that envelops you in an ambience that is serene and soothing.

Battery used will support an ultra-fast charge capability, in line with the infrastructure evolution, pumping a minimum 500 kms range in under 30 minutes. The overall philosophy for enhanced range would be 'Minimise-Maximise-Optimise'.

