

# Industry Situation in India Future Potential & Growth Trends

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## Abstract

The Indian automotive industry is seeing significant transformation with respect to its sustainable growth and profitability. The industry is crucial for the economy as it accounts for 7.1% of the country's Gross Domestic Product (GDP). As per Automotive Mission Plan (AMP) 2016–26, its contribution is projected to increase to 12%. India is thus expected to emerge as the **world's third-largest passenger vehicle market by 2021**.

The fundamentals for growth drivers in the automotive industry remain intact and the sector is likely to see an increased upward trend in demand in the coming years as the economic environment improves and investments increase. **The Government's 'Make in India' initiative** has played an important role in elevating the country's position and it has improved on nine out of ten parameters for ease of doing business in the last three to four years. Today, India is looked upon as a favourable destination for low-cost manufacturing. The World Economic Forum has ranked it 30th on the Global Manufacturing Index, which assesses the manufacturing capabilities of countries. The industry attracted Foreign Direct Investment (FDI) worth US\$20.85 billion during the period April 2000 to December 2018, according to data released by the Government's Department of Industrial Policy and Promotion (DIPP). In this scenario, India's automotive industry (including

component manufacturing) is expected to reach US \$51.4–282.8 billion by 2026.

There are a number of **key trends** that are shaping the industry today, which are expected to have a significant bearing on its ability to realize the objectives set forth. In addition to automation of various processes to meet these goals, the sector is also expected to generate additional direct and indirect jobs.

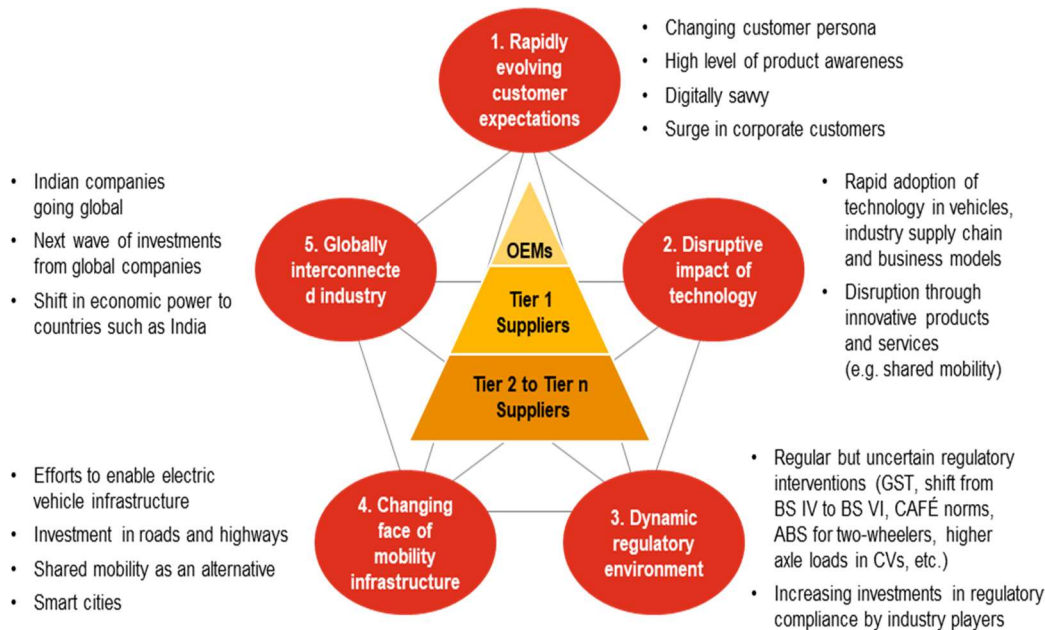
## Changing paradigm in the industry

Currently, India's automotive industry is at an inflexion point and is witnessing five megatrends that are expected to transform the industry in a big way:

- Rapidly evolving customer needs
- Disruptive impact of technology
- Dynamic regulatory environment
- Changing mobility patterns and
- Global interconnectedness

These trends are all impacting the way auto companies are doing business today globally and in India. The industry has never witnessed this magnitude of multi-dimensional change till now.

## Five MEGA TRENDS impacting the Indian automotive industry



### 1. Rapidly evolving customer expectations

In view of the increasing disparity and gap between middle class population growth versus middleclass average income growth, customers' purchase patterns are bifurcating between **luxury and economical vehicles**. And with disparate and varying spend capacity, high levels of awareness of products, rapidly evolving expectations and the demand for personalized products and services, customers are taking the centre stage in the automotive ecosystem in the country today. In this scenario, development of organizational capabilities that are aligned to business lines and/or segments and are dynamic will help the industry understand changing customer needs and deliver accordingly to meet these needs.

### 2. Disruptive impact of technology

The car of the future will be **electrified, automated, shared, connected and updated yearly** to make driving easier, safer, cheaper and more comfortable. In addition, with increasing acceptance of digital solutions, a new wave of emerging technologies are on the cusp of affecting the industry at three levels:

- Vehicles (electric, driverless and connected; with smart sensors, real time vehicle tracking, geofencing, driver analysis and remote diagnostics)
- Supply chain and operations (digitized trucking, upcoming logistics hubs, automated warehouses, robotics, augmented reality and IoT)
- Business models (mobility as a service and vehicle sharing)

The Indian Government has the ambitious

target of ensuring that only electric vehicles are sold in the country within the next few years. The Ministry of Heavy Industries has shortlisted 11 cities in the country for introduction of electric vehicles (EVs) in their public transport systems under the Faster Adoption and Manufacturing of (Hybrid) and Electric Vehicles in India (FAME) scheme<sup>6</sup>. In February 2019, the Government approved the FAME-II scheme with a fund requirement of INR 10,000 crore (US\$1.39 billion) for FY20-22.

Going forward, with new technologies coming in, organizations' technology capital will be the key differentiator. Digital transformation and speed of execution will be the key requirements for the survival of most automotive organizations.

### 3. Dynamic regulatory environment

India, an emerging economy, has been traditionally looked upon as a favourable destination for low-cost manufacturing. However, regulatory pressure and the benefit of industry enablers are expected to have a disruptive effect on the portfolios of vehicles and the automotive supply chain.

Major regulatory interventions such as the following are planned:

- Adoption of BSVI norms in Delhi/NCR and pan India by 2022 for all new four-wheeler vehicles sold
- Change in tax structure—GST and resultant costs
- Government investment on the automotive sector and its plans for infrastructure

- development (Pradhan Mantri Gram Parivahan Yojana, Bharatmala Pariyojana, etc.)
- d. Adoption of safety standards in line with international norms
  - e. Formulation of end-of-life or scrappage policies
  - f. Implementation of Corporate Average Fuel Efficiency norms under which manufacturers need to improve their fuel efficiency by 10% between 2017 and 2021 and 30% or more by 2022
  - g. Adoption of EVs and alternative fuels through FAME-2

Stringent vehicle-related standards are leading to a shift in vehicular technology. Automotive organizations therefore need to invest in developing various technical skills that are relevant in this era of changing vehicular technologies.

#### 4. Changing face of mobility in frastructure

Self-driving vehicles, ride-hailing services and other technologies are transforming mobility. The development of alternative modes of mobility (e.g. autonomous vehicles and electric vehicles) alongside that of smart infrastructure (e.g. smart cities, optimization of parking space, artificial intelligence (AI)-driven traffic lights and the focus on enablement of EV-charging infrastructure) is projected to transform mobility infrastructure. In this environment, India's efforts to support EVs are likely to focus on two-wheelers, public transport and fleet operations such as taxis and three-wheelers. According to the report by Bloomberg New Energy Finance (BNEF), India will see much progress on electric two-wheelers, rickshaws and electric buses over the next 10 years and by 2040, EVs will constitute 40% of the total passenger vehicle fleet in the country. However, while transportation infrastructure continues to be augmented, EV-charging infrastructure (with less than 1000 charging stations in India) is yet to take off. In this scenario, the industry is expected to face unique challenges with changing mobility infrastructure, the specifications of fast-charging standards and exploration of enhanced technology options.

#### 5. Globally interconnected industry

Global and local markets offer a sustained growth potential for the Indian automotive industry. An increase of FDI in India and the emergence and adoption of globally emerging megatrends and technologies in the country are expected to result in the country's increased dependence on other countries at every step of the automotive value

chain, e.g. R&D, purchase of raw material, power electronics, manufacturing support and sales. Therefore, automotive organizations' ability to put in place and implement effective global and local strategies to manage risks and build their capability to drive their strategies will be of paramount importance.

#### Summary

These megatrends are already affecting the industry, and as we look ahead, we realize that thriving in this changing environment will require automotive organizations (across the value chain) to make several fundamental changes in their way of working in order to drive profitable growth and remain relevant in the market. This will also mean a shift in the way the industry thinks about talent and capability requirements in the future. These changes will also offer an opportunity to automotive industry participants to use **digitalization as an enabler** to create a unique competitive advantage across the value chain. The industry will therefore need to gear itself for a cultural shift, structural changes, job disruptions and major skill and capability building to compete with global players, maintain and create a competitive edge, and cater according to global requirements and standards.

Achieving success in the digital world will require new ways of thinking, especially in the area of talent. The need for transformation of the workforce in the digital age will require much more than simple automation of routine processes<sup>8</sup>. It will be about collaboration between technology and talent to unleash organizations' full potential. This will mean finding people with the right skills and capabilities or providing the workforce with the required skills, while protecting employees' experience and helping them build a trust in relationship with society.

This may pose major challenges for industries, workers and policy makers as they grapple with shifts in the structure of employment and jobs, which will bring about significant changes in business models, downstream services and organizations. It is to meet this need that this report sets out to predict the fundamental impact of these megatrends, the development paradigm required by the automotive industry in terms of timescale, volume and complexity, and the role of HR and leadership.

#### Growth of different Segments Overview

Compact and mid-size SUV segments registered

**massive growth** in sales last month, while **luxury and premium sedan segments became the least-popular segments.**

The world of automobiles has been **long inclined towards SUVs.** India too is no different, as the country's car buyers have been showing keen interest in the utility vehicles such as compact SUVs, crossovers, and large SUVs as well. As it appears, in the last five years, SUVs and MPVs have been **controlling over 45% of the industry now.**

The medium and high-income group customers prefer the **utility vehicles** most, as compared to the other segments. The growth in this segment has been fuelled by several factors such as the higher income than in the past, the launch of new products in the domestic market, etc.

The models like Maruti Suzuki Vitara Brezza, Hyundai Creta, Kia Seltos, Mahindra Thar, Tata Nexon, Tata Harrier have witnessed high demand in the UV segment in the last few years. A host of new models are being planned to be launched in the segment in FY2022, which is also likely to boost the demand further for utility vehicles.

In the last five financial years, the **SUV segment has witnessed a growth** of 35%, 49%, 3%, 15%,

20% respectively between FY17 and FY21. Other segments like hatchbacks, sedans, and MPVs were way much behind than the SUVs. This was much higher than the overall passenger vehicle segment growth rates, as the PV segment as combined witnessed growth rates of 8%, 9%, 3%, -17%, -2% respectively between FY17 and FY21.

Hatchbacks are still the largest chunk holder in the industry, contributing to around 50% of the overall passenger vehicle sales. On the other hand, the sedans are contributing around 18-19% of the total PV population in the country. However, the hatchbacks and sedans are declining at a rapid pace than the overall industry, and a major chunk of the buyers are shifting towards the utility vehicles.

**Trends over past decade**

The picture (refer table below) that emerges can be summarized as below:

1. The SUV market has increased from a measly 4% in 2011 to a whopping 32% in 2020
2. This has happened at the cost of both the Sedans and the Hatchback segments. The MUV market has maintained its share pretty well
3. In terms of volumes, the SUV Segment has contributed to most of the growth (30% CAGR 2011-20)



**2021 Trends**

The Indian automobile market has drastically grown in the past few years, with almost all manufacturers introducing a range of new products and exploring different segments. Almost all segments in the country have recorded a positive

YoY growth in February 2021, as compared to the same month last year. That said, a few of them also recorded de-growth in sales.

Refer table below for segment-wise car sales in February 2021:

Segment	Feb 2021	Feb 2020
1. Compact Hatchback	67,879 (+3%)	65,657
2. Compact SUV	54,850 (+95%)	28,169
3. Premium Hatchback	42,724 (+33%)	32,015
4. Mid-size SUV	36,917 (+83%)	20,197
5. Entry-level Hatchback	28,775 (-11%)	32,199
6. MPV	27,834 (-14%)	32,261
7. Compact Sedan	23,478 (+18%)	19,831
8. Vans	11,891 (+6%)	11,227
9. Executive Sedan	7,538 (+30%)	5,787
10. Premium SUV	3,569 (+53%)	2,331
11. Lifestyle Off-roader	2,842 (+3,960%)	70
12. Luxury Sedan	250 (-6%)	266
13. Premium Sedan	42 (-91%)	446

### Compact hatchback segment

Hatchbacks retained their position as the **best-selling car segment** in the country last month, proving how important hatchbacks are in the Indian market. Hatchbacks are affordable, compact and have relatively lower maintenance costs. A total of 67,879 compact hatchbacks were sold in February 2021, 3 per cent more than 65,657 units sold in the same month last year. This segment consists of cars like Maruti Suzuki Swift, Wagon R, Celerio, Ignis, Hyundai Grand i10, Santro, Tata Tiago, Ford Figo and even Datsun Go.

### Compact SUV segment

This segment recorded one of the highest YoY growth in sales, and emerged as the second best-selling car segment in the country in February 2021 with 54,850 units sold. This segment currently consists of a total of 10 offerings, namely Maruti Suzuki Vitara Brezza, Hyundai Venue, Kia Sonet, Tata Nexon, Renault Kiger, Nissan Magnite, Mahindra XUV300, Ford EcoSport, Toyota Urban Cruiser and the Honda WR-V.

### Premium hatchbacks

Premium hatchbacks came third in terms of volume, with 42,724 combined units sold of cars like Hyundai i20, Volkswagen Polo, Tata Altroz, Maruti Suzuki Baleno, Toyota Glanza, Ford Freestyle and Honda Jazz.

### Mid size SUV segment

The mid-size SUV segment recorded a positive growth of 83 per cent last month, and finished fourth with 36,917 units sold. The mid-size SUV segment is currently the largest segment in India, with a total of 15 offerings, including the best-selling Hyundai Creta, its cousin Kia Seltos, MG

Hector & Hector Plus, Mahindra Scorpio, Maruti Suzuki S-Cross, Tata Harrier & its three-row version Safari, Jeep Compass, Mahindra XUV500, Renault Duster, Nissan Kicks, MG ZS EV, Hyundai Kona and the recently re-launched Volkswagen T-Roc.

### Entry Level Hatchback

The entry-level hatchback (-11 per cent) as well as the MPV (-14 per cent) segments both registered a decline in sales last month, and finished the month with 28,775 and 27,834 units to their names respectively. The former consists of cars like Maruti Alto, S-Presso, Renault Kwid and Datsun Redi-GO, while the latter includes Maruti Ertiga& XL6, Toyota Innova Crysta, Mahindra Bolero, Renault Triber, Kia Carnival, Mahindra Marazzo, Datsun GO+ and Toyota Vellfire.

### B & C segment Sedan

The B- and C-segment sedan segments recorded a year-on-year growth in sales by 18 and 30 per cent respectively. But while 23,478 units of the former were sold last month, the latter registered a sale of 7,538 cars only. The Maruti Suzuki Dzire was the best-selling B-segment sedan last month with a sale of 11,901 units, while Honda City led the executive sedan sales with 2,524 units sold.

### Premium SUV segment

Premium SUVs also recorded a growth in sales last month, with 3,569 units sold, 53 per cent more than the 2,331 units shipped in the same month last year. This segment currently includes the likes of Toyota Fortuner, the best-selling full-size premium SUV in the country, Ford Endeavour, MG Gloster, Hyundai Tucson, Volkswagen Tiguan AllSpace and the Mahindra Alturas G4. The Mahindra Thar is

currently the only lifestyle off-roader currently sold in the Indian market, and thanks to the enormous demand of the new-gen model launched late last year, the lifestyle off-roader segment recorded the greatest YoY increase in sales, i.e. 3,960 per cent. Only 70 units of the Thar were sold in February 2020, as against the 2,842 units sold in February this year.

### Luxury sedan

The luxury sedan segment now only consists of two offerings, namely Skoda Superb and Toyota Camry, 235 and 15 units of which were sold last month respectively. On the other hand, the premium sedan space is now left with only car, i.e. Hyundai Elantra, since the Octavia was not upgraded to comply with the BS6 emission norms, and the Honda Civic was discontinued due to the closure of Honda's Greater Noida plant.

### Premium sedan

The premium sedan segment recorded a YoY de-growth in sales by 91 per cent in February 2021.

### Car buying behaviour by price

1. The 5-10 Lakhs market today comprises of hatches some of which are doing very well like

the sub-4-meter hatches like the Baleno, the Swift, and the i20. The Baleno, Swift, WagonR, Dzire, Grand i10, and i20 are the top-selling models in this segment. The Baleno/Glanza has shown maximum growth in this segment growing by 24% YoY from 2016 to 2019. Other models mentioned grew in single digits or degree.

2. A massive 58% of the 10-15 lakh segment today is ruled by SUVs, almost all of them in the 4-meter variety like the Maruti Vitara Brezza, Hyundai Venue, Tata Nexon, Nissan Magnite, Renault Kwid, and the Kia Sonet. The Renault Duster and the Nissan Kicks too feature in this price bracket. The SUV segment has grown here at a CAGR of 25% in volume terms.
3. This had been the domain of the Innova for a long time till we saw the advent of the SUVs like the Jeep Compass and the Tata Harrier recently.

### Car Form Factor Heatmap

If we look at the Heatmap for last 5 years, there are clear conclusions that can be made:

The HOTTEST Form Factors (Sales from 2011-2020) Heatmap based on last 5 Year CAGR

Body Style	Segment	Year									
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Hatch	4 Meter	214,907	203,330	145,538	118,308	229,478	301,144	373,000	481,408	574,000	318,754
	Medium+	286,446	316,506	345,427	346,101	386,528	318,437	335,507	373,000	300,337	252,495
	Micro	362,854	399,186	376,495	357,968	351,891	333,817	353,729	267,478	222,172	160,653
	Small	335,417	301,468	270,577	306,579	295,867	344,425	347,932	347,540	351,841	283,982
MPV	Large & Expensive D2	51,930	75,911	63,184	59,450	60,529	65,375	85,851	87,894	64,660	5,210
	Press										34,276
	Utility	244,118	295,688	271,780	311,152	322,578	311,666	243,911	255,455	338,349	300,709
Sedan	4 Meter C1	99,515	154,273	257,778	344,414	392,246	340,479	381,379	429,208	313,933	233,409
	Large & Expensive D2	4,376	3,012	1,768	2,166	2,004	2,837	2,573	1,859	2,081	1,943
	Large D1	24,235	16,757	12,504	14,222	14,291	8,134	9,187	7,429	9,548	2,740
SUV	Mid Sized C2	225,503	228,969	164,896	190,751	218,518	192,726	195,651	192,652	123,272	10,045
	4 Meter C1			33,792	51,068	42,403	130,878	239,777	296,763	344,952	336,783
	Electric E										292
	Large & Expensive D2	15,725	17,959	19,511	19,830	18,112	17,224	32,662	32,380	27,977	17,634
Micro	Large D1	7,780	44,584	31,090	35,241	37,222	27,371	41,399	45,454	60,264	52,865
	Mid						105,745	92,440	64,815	83,002	105,517
	Mid Sized C2		23,731	58,801	61,093	92,748	138,940	151,407	178,033	177,588	233,631
	Small						40,161	74,191	62,026	25,247	27,629
Utility		55,993	54,932	58,048	59,080	72,655	77,954	86,389	80,359	64,248	38,561
		1,928,999	2,135,486	2,113,107	2,297,503	2,537,106	2,764,375	3,047,885	3,125,931	2,888,571	2,423,354

1. The SUV is "the" form factor that is driving big time demand across all the price segments. Whether we like it or not, any car that has a raised stance including the S-Presso and the Kwid are seen in the SUV sentiment by consumers and sales personnel too sell them as such.

2. Across price segments the biggest loser is the sedan segment. Car companies that are heavily dependent on this form factor for their sales like Honda need to introspect on their portfolio line-ups. Even the 4 meter sedans which showed so much promise are now getting compromised heavily because of the demand for the 4 meter SUVs and Maruti which is a leader in this segment

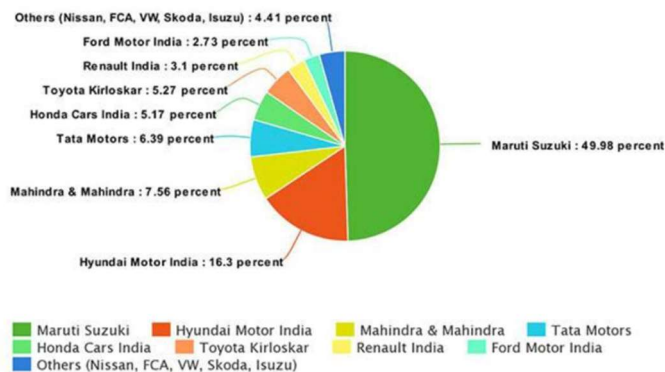
with the Dzire should beware. Its 5 year CAGR in 2020 has been an alarming -12%. The segment itself has shown a -11% CAGR in 2020. Though 2020 has been a bad year, the 4 meter SUVs have shown a 5 year CAGR of 50% including this year. This shows the resilience of this form factor in the Indian car markets. This segment breathed life back into the moribund Nissan group which has hit paydirt with the Magnite and Renault with the Kiger. Though many may see this as early days, the segment has been on fire for the last 2-3 years

3. The safest form factor is the MUV segment which has seen steady growth and a stable market share for almost the entire decade.

### Competitive Market in India

India's largest automaker Maruti Suzuki continues its strong domination on the Indian car market and sold a total of over 1.64 million vehicles in the domestic market bringing its market share very close to 50 percent. The company has not only managed to sustain its huge sales but have also increased its market share in both urban and rural buyers. New car launches like Maruti Suzuki Dzire, all-new Swift along with the constant demand of Maruti Suzuki Baleno and Vitara Brezza helped the company to achieve this huge growth. Maruti Suzuki Alto continues to remain the most sold car in India. The company also exported about 1.23 lakh units to its export markets.

Indian arm of the Korean carmaker, Hyundai Motor India has also grown by over 5 percent in India and overall managed to sell over 5.36 lakh cars and grabbing a market share of 16.30 percent in India. The launch of facelifts of Hyundai Grand i10 and Hyundai i20 along with all-new Verna backed by strong sales of Hyundai Creta has seen its manufacturing units in Chennai running full houses to cope up with the increasing demand. The company also exported over 1.53 lakh cars to various countries especially middle-east.



### Government Policies

#### Summary

- The Automobile industry in India is a significant driver of macroeconomic growth and technological development.
- India gets Asia's longest and world's fifth-longest High-Speed Track for automobiles.<sup>33</sup>
- India is projected to be the world's third-largest automotive market in terms of volume by 2026.<sup>2</sup>
- The Automobile industry manufactured 26.36 mn vehicles including passenger

Indian automakers, Mahindra & Mahindra and Tata Motors too have increased its market share in India. While for Mahindra it was a year of consolidation and despite no all-new launches by the company, it secured the number 3 spot in the Indian market by selling over 2.48 lakh cars and a market share of over 7.56 percent. Mahindra will launch a range of new vehicles this year which will further see more sales in India. Tata Motors' aggression and launching new products like Tigor and Neon has proved to be extremely successful with Tata Tiago sales reaching all-time high, Tata overtook Honda Cars India to become the fourth largest automaker in India. The company has sold 210,200 cars in the recently concluding fiscal.

Other Japanese automakers including Honda Cars India and Toyota Kirloskar has seen some decline in its sales over last few months. However, Honda Cars India finished the year at industry growth rate and sold 170,026 units and the launch of its Honda WR-V SUV played a crucial role for the company to sustain sales. The company will launch its new Honda Amaze in May 2018 and will be followed by the return of Honda Civic and Honda CR-V SUV.

vehicles, commercial vehicles, three-wheelers, two-wheelers and quadricycle in FY 2019-20.<sup>32</sup>

- The Department of Heavy Industry has helped set up India's first Machine Tool Park (TMPT) with a world-class facility that has been developed on 530 acres of land.<sup>28</sup>
- Department of Heavy Industry entails promoting engineering industry viz. machine tools, heavy electrical, industrial machinery and auto industry and

administration of 29 CPSEs and 5 autonomous organizations.<sup>32</sup>

### Reasons To Invest

- India is expected to emerge as the third-largest Automotive market in the world in terms of volume by 2026, followed by China and USA.<sup>6</sup>
- As per the AMP 2026, the Automobile industry has a target to triple the revenues to USD 300 Bn and increase exports sevenfold to USD 80 Bn.<sup>8</sup>
- India's "Make in India" initiative has played a vital role in elevating the country's position.<sup>9</sup>
- Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles and National Electric Mobility Mission Plan (NEMMP 2020) have been initiated with an aim to support hybrid/electric vehicles market development and ecosystem.

### Recent Announcements

#### Statistics

- The Automobile industry can be categorized into subsectors such as passenger vehicles, commercial vehicles, three-wheelers and two-wheelers. Two-wheelers occupy the dominant position, constituting about 80% market share and overall passenger vehicles comprise 13%.
- India is the largest manufacturer of 2W and 3W and the 4th largest manufacturers of passenger cars in the world.<sup>32</sup>
- Indian Automobile Industry today is 119 bn USD industry during 2018-19.<sup>32</sup>
- Automobile industry turnover constitutes 7.1% of GDP, 27% of Industrial GDP and 49% of Manufacturing GDP and provides about 37 mn direct and indirect jobs.<sup>32</sup>
- The current annual sale of vehicles is about 26 mn.<sup>32</sup>
- The current annual sale of vehicles of all categories is expected to reach 84.5 million by 2030.<sup>13</sup>
- Category wise production Statistics (mn units) in the year 2018-19 showing world-wise ranking in manufacturing of 2W is 1st, 3W is 1st, 4W Passenger Car is 4th and Commercial Vehicles is 7th.<sup>32</sup>
- By 2026, as per the Automotive Mission Plan 2016-26, the Automobile industry has

the potential to contribute about 12% of total GDP and create 65 mn jobs.<sup>14</sup>

### FDI Policy

- Under the automatic route, 100% Foreign Direct Investment (FDI) is permitted along with full delicensing. Hence, making it easy for investors to set up their manufacturing plant/shop in India.
- The cumulative FDI equity inflow in the Automobile industry is USD 25,848.13 mn during the period of April 2000 to March 2021. This constitutes 4.88% of the total FDI inflow received across sectors.<sup>15</sup>

### Production Linked Incentive (PLI) Scheme

- The Union Cabinet chaired by the Prime Minister, Shri Narendra Modi has given its approval to introduce the Production-Linked Incentive (PLI) Scheme in the Automobile and Auto Components sectors for Enhancing India's Manufacturing Capabilities and Enhancing Exports – Atmanirbhar Bharat.
- **Financial Outlay-** INR 57,042 cr

### Sector Policy

- Fame India Scheme II Phase<sup>32</sup>
- The Fame India Scheme II is proposed to be implemented over a period of 3 years with a financial outlay of INR 10,000 cr, for faster adoption of electric mobility and growth of electric and hybrid technology to improve the eco-system in the country.
- . The Scheme aims to create demand by way of supporting 7000 e-Buses, 5 lakh e-3 Wheelers, 55000 e-4 Wheeler Passenger Cars and 10 lakh e-2 Wheelers.<sup>32</sup>
- India to 41 is No. 2 after China in Electric Vehicles, especially Buses.<sup>32</sup>
- Department of Heavy Industries (DHI) is the nodal Department, responsible for planning, implementation and review of the scheme.<sup>16</sup>
- Under phase II of FAME India Scheme, the second tranche of incentive amounting to INR 8.74 cr was released during May 2021, with the deployment of 41 Electric buses in Navi Mumbai.

### Automotive Mission Plan 2016-26 (AMP 2026)<sup>32</sup>

- The Automotive Mission Plan 2016-26 (AMP 2026) outlines the trajectory of



growth of the automotive ecosystem in India, including the glide path of definite regulations and policies that govern research, design, technology, testing, manufacturing, import/ export, sale, use, repair, and recycling of automotive vehicles, components and services.

- The Automobile industry is projected to be the third-largest in the world, contributing 12% to GDP.<sup>32</sup>
- The industry has the potential to generate USD 300 Bn revenue and 65 mn additional jobs by 2026.<sup>21</sup>

#### **Draft National Automotive Policy 201832**

- Department of Heavy Industries formulated a draft National Automotive Policy, for the holistic development of the Automobile industry in India.
- The policy estimates to scale up exports to 35-40% of the overall output and makes India one of the major automotive export hubs in the world. Thus, the following propositions are made in the policy:
- Adopt a long-term roadmap for emission standards beyond BSVI and complement the same with the global standards by 2028.
- Rollout CAFÉ (Corporate Average Fuel Efficiency) norms till 2025.
- Adoption of a differential taxation method based on a composite criterion, including parameters such as CO<sub>2</sub> emissions and length.
- Associate AIS and BIS standards on safety-critical parts over the next 3 years.
- Fast track adoption of Bharat New Vehicle Safety Assessment Program.

#### **National Automotive Testing and R&D Infrastructure Project (NATRIP)**

- The project has been set up at a total cost of USD 573 Mn to enable the industry to adopt and implement global performance standards.
- It aims at converting India's unparalleled strengths in IT and electronics with the automotive engineering sectors.<sup>22</sup>
- The main area of focus is on providing low-cost manufacturing and product development solutions.
- Ministry of Heavy Industries & Public Enterprises has constituted NATRIP Implementation Society (NATIS), an

autonomous body, for the execution of NATRIP.<sup>23</sup>

- As a part of the program, 7 test centres have been finalized to set up the test facilities – iCAT, GARC, NATRAX, ARAI, VRDE, NIAIMT, NCVRS.<sup>24</sup>

#### **National Electric Mobility Mission Plan 2020 (NEMMP)**

- The NEMMP initiative has been taken up to encourage consistent, affordable and competent xEVs (hybrid and electric vehicles) that meet consumer performance and price expectations through government-industry collaboration.
- Promotion and development of indigenous manufacturing capabilities, required infrastructure, consumer awareness and technology are additional objectives of NEMMP 2020.
- policies aimed at gradually ensuring a vehicle population of about 6-7 mn electric/hybrid vehicles in India by the year 2020 along with a certain level of indigenisation of technology, thereby ensuring India's global leadership in some vehicle segments.<sup>32</sup>

#### **Financial Support**

- R&D Incentives for Industry and Private Sponsored Research
- A weighted tax deduction is given under section 35 (2AA) of the Income Tax Act. A weighted deduction of 200% is granted to assess for any sums paid to a national laboratory, university or technological institute. The said sum is used for scientific research within a program approved by the prescribed authority.
- Manufacturers with In-house R&D Centre
- Section 35 (2AB) of the Income Tax Act 26, 1961 provides a weighted tax deduction of 150% of the expenditure incurred by a specified company, on scientific research in the in-house R&D centers as approved by the prescribed authority. This does not include expenditure on the cost of any land or building. The weighted tax deductions of 150% are effective until 31 March 2020. Consequently, the weighted tax deductions will be 100%.
- State Incentives

- Apart from the mentioned incentives, each state in India offers additional incentives for industrial projects. Incentives are provided in the following: rebates in land cost, relaxation in stamp duty exemption on sale or lease of land, power tariff incentives, a concessional rate of interest on loans, investment subsidies/tax incentives, backward areas subsidies, special packages for mega projects.

#### Investment Opportunities

- Passenger vehicles: passenger cars, utility vehicles, multi-purpose vehicles.
- Two-wheelers: mopeds, scooters, and motorcycles.
- Three-wheelers: passenger carriers, goods carriers.
- Commercial vehicles: light commercial vehicles, medium and heavy commercial vehicles.
- Huge demands for low-cost electric vehicles that are suited for safe short-distance urban commutes (averaging 50-100 km/trip) that are rugged enough to perform reliably through India's summers and monsoon.

#### Foreign Investors

- BMW (Germany)
- Daimler India Commercial Vehicles Pvt Ltd (Germany)
- FIAT (Italy) Ford (USA)
- General Motors (USA)
- Honda (Japan)
- Hyundai (South Korea)
- Kia Motors (South Korea)
- Mercedes (Germany)
- Nissan (Japan)
- Piaggio (Italy)
- Renault (France)
- Suzuki (Japan)
- Toyota (Japan)
- Volkswagen (Germany)

#### Impact of Covid on purchase behaviour of cars

Seldom, if ever, has the Indian passenger vehicle (PV) sector faced a hardship such as the Covid-19 pandemic. It's hit during the BS4-to-BS6 switch—so it won't just extend ongoing slowdown, but might also change people's car-buying habits. Production has stopped, footfall in showrooms is zero due to the lockdown, and major events are

cancelled or being done digitally. In fact, even before the lockdown started, the Federation of Automobile Dealers Associations noted that footfalls in dealerships had gone down to 45% by mid-March.

We look at following attributes that will/may impact consumer behaviour due to the Covid pandemic:

#### Online buying

Many OEMs already have an online car-buying mechanism in place. The impact of Covid-19 on consumer behaviour will make OEMs think about the changing nature of their interaction with consumers, and the role of the dealership network and their sales teams. An integrated phygital (physical plus digital) platform with digitally-enabled salespersons will become critical success criteria to tap into select consumer segments.

However, the role of dealerships won't diminish. While most people shortlist a car before going to a showroom, a car is a product that you want to feel, touch, smell and drive. "People will still go to showrooms to make the final decision

#### Shared mobility

For some time, users who earlier preferred shared mobility may consider buying cars—used or new. There will be a switch in the short term towards 'owning' cars. The thought of social distancing is going to stay for a couple of quarters, before it disappears from the consumer's mind. We should see some usage decline in shared mobility, but it will depend on a particular section of the consumer.

Also, ride-sharing platforms such as Uber and Ola will bounce back once the fear of transmission of Covid-19 virus goes away. As they say "Old habits die hard".

#### Economic sentiment

According to the CII, about 52% firms foresee job losses, in their respective sectors, resulting from the impact of Covid-19 outbreak and the ensuing lockdown, and/or salary cuts. In addition, with the implementation of BS6, new safety norms and higher insurance, the cost of ownership of new PVs is expected to increase by 12-15%.

This dual-impact means that some PV model downgrades may happen. "In an upbeat economic environment, a buyer who could afford, say, the i10, could have upgraded to the i20 instead, or may

buy the higher variant of the i10. But now there may be a preference towards low-end variants, if new buying indeed does happen

In addition, people may start looking at cars as a service, on a subscription basis, maybe for six months or one year, or leasing options. However, as of now, it's tough to take a call how deep the impact on new-car purchase will be.

### Changing habits

India believes the pandemic will leave a lasting impact on consumer mindset. First, people above 40 years of age, who have more money in their hands, will start thinking about the concept of YOLO (you only live once), and might start spending more on things such as cars and luxury products and holidays, so more consumerism might happen. Second, more people will consider new-energy vehicles, as there is already a lot of talk about pollution getting visibly reduced during the lockdown

Covid-19 is a definitive point that will change habits. "The why-own-when-you-can-borrow movement is going to deepen. Consumers are going to think this from two perspectives. One is from the perspective of fatalism, and the other from the perspective of individualism and the variety-seeking habit. Both diametrically-opposed movements will collide to create less ownership of cars as a habit whose time has come."

### Impact on Chinese cars

Next year China's Great Wall Motor (GWM) will launch its first car in India, and the British MG Motor (it's owned by Chinese SAIC Motor) is perceived as Chinese by some customers.

Some carmakers may face more challenges than others. Today, the quality level and the cost at which China is able to provide a product, there are few alternatives around. If the product quality is good and the price is right, be it a smartphone or a car, the customer will pay for that

However, China needs brand management inputs "desperately," as does every Chinese company that aspires to grab market share and mindshare in India. "Chinese brands (in general) need to invest in image management. China itself needs to manage its image better.

### Consumer Purchase Intention for purchasing EV: Overview

Electric Vehicles (EVs) have the potential to contribute to reduction of air pollution, carbon emissions, and oil dependency in India. No wonder then, that in recent years policy makers and environmentally conscious citizens have been increasingly looking into wider EV adoption. The government's policies and targets for EV sales have also encouraged their production and adoption in India.

According to the Society of Manufacturers of Electric Vehicles (SMEV), 3,400 electric cars and 1.52 lakh electric two-wheelers were sold in India in financial year (FY) 19-20. The total sales grew by 20% compared to the previous financial year. However, current EV penetration in India is low despite the government's measures.

In order to understand consumer perception of EVs in India, there have been several surveys conducted that evaluate factors that affect vehicle purchase decisions. According to the survey findings, there exists a significant difference in the expectations of those who own an EV and those who do not.

EV owners do not assign much importance to availability of a used-car market and the vehicle's resale value, which were among the issues the survey sought to find responses on. The difference in consumer perception of the two groups is directly related to the knowledge and experience of EVs. The survey findings also reveal that household income is statistically insignificant and does not affect EV purchase decisions.

It has been observed that issues like **upfront cost, battery replacement, and range anxiety are topmost concerns** for people considering buying an EV

Consumer expectations from EVs were found to vary based on certain factors, one of which was age group of the respondent. In the survey, 41% and 71% of respondents under the age of 25 found the existence of an EV used-car market and the vehicle resale value, respectively, important. These consumers are more **likely to procure a vehicle from the used-car market** and hence the upfront cost of the first-hand EV is not a major concern for them. This is due to the income level and the desire to replace existing vehicles periodically.

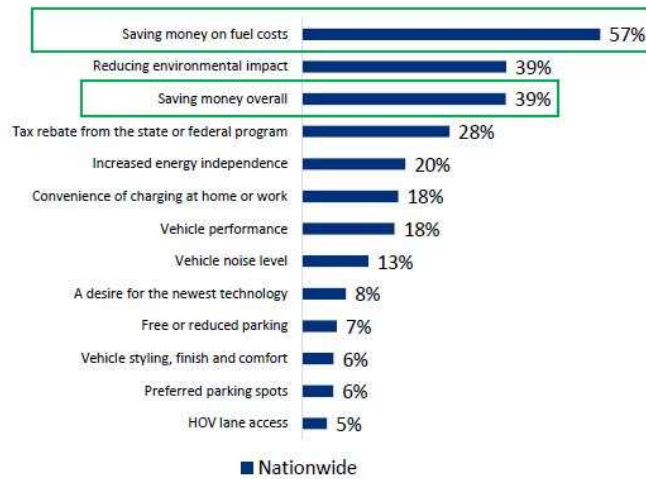
### Why do consumers want to adopt EV's?

The 3 main factors why consumers want to move towards an electric vehicle are there fold :

- Saving money on fuel cost

- Reducing environmental pollution
  - Cost saving
- It is not surprising that these factors are consistent across a wide section of population.

There are other factors too that are important and play an important role in swaying individual opinion in favour/against moving to buying an EV.



Q22: Which of the following factors would be the greatest benefit to owning an electric vehicle

### Concerns with EV

#### Range Coverage Anxiety

The survey also revealed that on an average, all respondents make a short distance trip (less than 10 km) at least five days a week but medium (up to 100 km) and long distance (up to 160 km) trips are rare. The **ability of EVs to cover a limited distance** in comparison to Internal Combustion Engine (ICE) vehicles has an impact on consumers' perception and highlights the important issue of range anxiety.

However, the EVs currently available in the market are capable of completing short and medium distance trips conveniently. Over 70% of the respondents are aware of this, and 75% are aware of how much EVs cost.

#### Experienced Drivers

Among the people who do own an EV, over 73% also said that they have more than three years of driving experience, thus suggesting that people

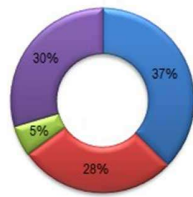
with significant driving experience are more likely to own an EV.

#### Choice of Brands

Brand awareness also impacts consumers' idea of EVs available in the market. In our survey, 47.61% of the respondents said they were likely to purchase an EV from established brands only. However, 52.39% showed willingness to buying an EV from a new entrant or a lesser-known brand if adequate customer support is provided.

This suggests that there is an opportunity for new brands to enter and compete with the established players. This market is still relatively new and those who can understand and respond to consumer needs will have an advantage over competitors.

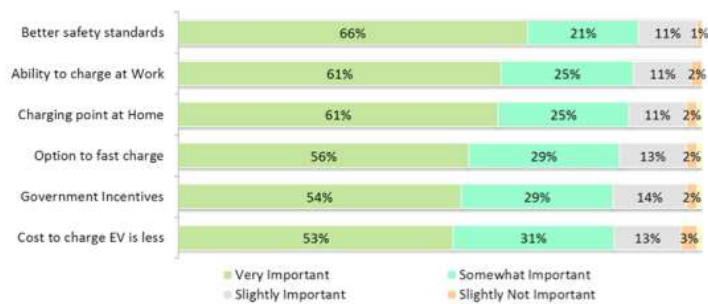
An encouraging finding was also that, around 37% of the survey respondents revealed that they are considering buying an EV in the near future while 28% are certain that they will buy one in the future



■ Considering buying an EV ■ Will definitely buy an EV ■ Will not buy an EV ■ Still unsure

Nearly 37% of respondents said they will definitely buy an EV in future.

### Key attributes for Purchasing decision



It is clear from above table consumers give equal importance to key parameters like **Safety, Ease of Chargeability, Cost and Government regulations**

### Challenges to purchasing an EV

- **High Upfront Cost**

The survey showed more than 70% of the respondents believe that the running cost of EVs is cheaper than that of the available petrol/CNG/diesel variants. However, Indian customers are very price sensitive and the high upfront costs make EVs unattractive to many. For their mass adoption, especially among middle-class consumers, the difference between the upfront cost of EVs and ICE vehicles will have to come down.

- **Range Anxiety**

The maximum distance that an EV car can go up to on a single charge is around 200 km. This number is steadily increasing with newer models. While the survey respondents cited driving range as a concern, their responses indicated that they rarely make trips long enough to exhaust their electricity supply midway as the driving range offered by current EV models can meet the needs of general, inter-city travel. However, the need for adequate charging infrastructure cannot be denied.

- **Battery Replacement Cost and Lack of Skilled Manpower**

Maintenance and battery replacement costs had a major bearing on purchase decisions among the survey respondents. As EVs in India are still relatively new, the lack of skilled local mechanics and the high battery replacement cost were found to be major factors in making people wary of buying EVs. As per the survey response and user experience, the fact that consumers need to visit the manufacturer's service centre to get EVs repaired, which costs time and money, is a deterrent to EV adoption.

### CONCLUSION

For a new technology to be adopted, the consumer should be aware of it and perceive it to have more value than the existing technology. Our perception survey found that a majority of the respondents are not well aware of EV technology as a whole.

With the driving range of EVs rising and their cost falling, driven by reduction in battery prices over the last few years, consumer perception seems to have emerged as the final barrier to their large-scale adoption.

While range anxiety appeared to be the topmost stumbling block, an interesting facet was that concerns related to high upfront costs were

accompanied by concerns around existence of a used-car market and the vehicle's resale value. The cost and frequency of battery replacement was also considered important.

The issue of choice of brands also appeared important to consumers. It is clear from the analysis that both existing and potential customers have similar concerns and that has its impact on the individual EV purchase and ownership.

The survey found that lack of awareness about EV features and charging prevents even those who can afford the high upfront costs from buying such vehicles. Among the other consumers, there can be mass adoption only when the upfront cost is competitive as compared to ICE vehicles. Overall, however, consumer sentiment is positive and it appears they would prefer electric travel as it is more environment friendly.

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