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Automotive and Manufacturing



Brand visibility



Opportunity

Auto Track

Q1 2019

(April to June 2019)



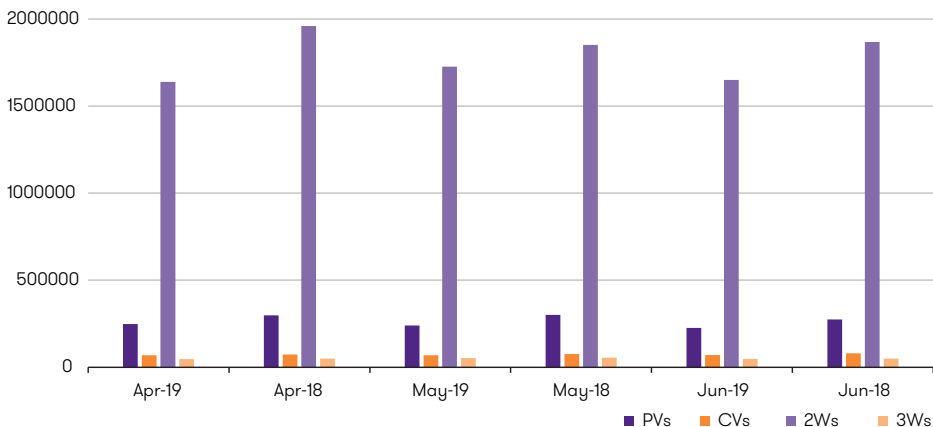
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Quarterly snapshot

Quarterly sales trend (y-o-y comparison)



Towards a USD 5 trillion economy

Key Budget 2019 provisions

Major expenditure allocation by the government

- USD 1.5 trillion in infrastructure over the next five years
- USD 27.63 billion, USD 11.99 billion and USD 5.62 billion for food, fertiliser and petroleum subsidies respectively
- USD 750 billion for railways infrastructure between 2018 and 2030
- USD 12.03 billion under Pradhan Mantri Gram Sadak Yojana-III (PMGSY), to upgrade 125,000 km of roads over the next five years
- Investments permitted by Foreign Institutional Investors (FIIs)/Foreign Portfolio Investments (FPIs) in debt securities issued by Infrastructure Debt Funds

Boost to Electric Vehicles (EVs)

- Approved outlay of INR 10,000 crore for three years - Phase II of Faster Adoption and Manufacturing of (Hybrid & Electric Vehicles (FAME) scheme
- Upfront incentive on purchase and charging infrastructure
- Additional income tax deduction of INR 1.5 lakh on interest paid on EV loans
- Customs duty exempted on certain parts of EVs

Massive push given to all forms of physical connectivity through

- Bharatmala and Sagarmala projects, Jal Marg Vikas and UDAN schemes
- India's first indigenous payment ecosystem for transport consisting of National Common Mobility Card (NCMC)

Funds raised by start-ups: No scrutiny from Income Tax Department, e-verification mechanism

The Government e-Marketplace (GeM): Extended to all Central Public Sector Enterprises (CPSEs)

Payment platform for Micro Small and Medium Enterprises (MSMEs)

Public-Private-Partnership (PPP)

‘One Nation, One Grid’

Maintenance, Repair and Overhaul (MRO), for self-reliance in the aviation segment

Skill development facts

India to prepare youth for new age skills, artificial intelligence (AI), Internet of Things (IoT), big data, 3D printing, virtual reality, etc.

National Research Foundation to be established to fund, coordinate and promote R&D

USD 60 million provided for ‘World Class Institutions’ for FY20

Stories

Auto dealerships moving towards a digital era

Automotive dealerships are getting disrupted, and the experience to buy a vehicle is evolving. Consumers have started focusing on taking advantage of the latest technologies of digital marketing and making purchases online, enabling OEMs and dealers to offer proactive and improved services.

Companies and start-ups: Pouring capital into developing self-driving vehicles

Start-ups are making bankable investments and developing systems and software that work in the most trying circumstances of the automotive market. They expect to attract deep-pocketed entities and private equity firms in order to expand into new regions and capitalise on a future of self-driving vehicles.

Rising demand for skilled professionals in the EV sector

The Ministry of Skill Development and Entrepreneurship (MSDE) and the Ministry of Human Resources & Development (MHRD) aim to provide the youth with advanced knowledge and hands-on experience in EV manufacturing and replace the key mechanical components with electronic components.

Major challenges faced by NHAI Build-Operate-Transfer (BOT) projects

Banks are reluctant to give large loans for capital investments to firms due to risks of bankruptcy and payback concerns. This has had a major impact on investors' confidence in road development under the government's PPP model. The government plans to reboot the BOT move and revive the entire framework.

Regulatory updates

No commercial vehicle without an RFID tag - The Environment Pollution (Prevention and Control) Authority (EPCA)

A Supreme Court order states that from 10 July 2019, no CV would be allowed to enter Delhi without a Radio Frequency Identification (RFID) tag. It aims to tackle various environmental issues and provide smooth regulation of traffic to be compatible with the proposed nationwide NHAI system. The Supreme Court-mandated EPCA has thus directed South Delhi Municipal Corporation and other authorities to expedite the process of making the RFID-enabled border crossings operational by 15 August 2019.

Proposals to electrify country's popular 3W auto rickshaws

Electric 3Ws and e-rickshaws can help the country adapt to EVs faster due to their growing popularity. Current proposals have recommended a complete switch to electric 3Ws and 2Ws in a phased manner, starting from 31 March 2023. As of 2018, 3W vehicles had a USD 1.5 billion market and as many as 11,000 new e-rickshaws hit the streets every month, with annual sales expected to increase about 9% by 2021.



Performance of the auto industry

A quarter characterised by sales slowdown and moderate exports with new emission norms and transition towards e-mobility

India's automotive industry is one of the most competitive in the world and contributes 49% to India's manufacturing GDP and 7.5% to the national GDP. The market size of auto components is USD 51.20 billion, representing 2.3% of GDP. The industry accounted for about 18% of the total FDI India received between April 2000 and March 2019. However, it is currently going through a massive transition with the upcoming implementation of stringent emission and crash test regulations.

The industry, which is the world's fourth largest, has embraced a slowdown after nearly a decade of high growth. The demand has remained subdued in the last couple of months due to the dilemma of the results of the General Elections. The liquidity crunch with restricted cash availability from Non-Banking Financial Companies (NBFCs), piled on inventories with low working capital and the transition to green vehicles with the upcoming BS VI applicability have restricted buyer spend. The market needs to correct itself and create positive consumer sentiments with new vehicle penetration to return to high volume levels.

The sale of Passenger Vehicles (PVs) grew by 2.7% in April-June 2019 compared to the same period last year. During April

2018-January 2019, the highest year-on-year (y-o-y) growth in domestic sales among all the categories was recorded in Commercial Vehicles (CVs) at 22.79% followed by 14.79% y-o-y growth in the sales of three-wheelers (3Ws). In addition, several initiatives by the Government of India (GoI) and the major automobile players in the market are expected to make India a leader in the two-wheeler (2W) and four-wheeler (4W) market in the world by 2020.

With prominence in auto exports, the industry has strong export growth expectations for the near future. In April-June 2019, Indian automakers exported a total of 4,595,000 units, a 14.50% increase in exports, with the largest contribution coming from 2Ws at 3,258,883 units. The 3W segment grew the

fastest at 55%. While PV exports declined by (-) 9.64%, CVs, 3Ws and 2Ws registered a growth of 3.17%, 49% and 16.55% respectively in April-June 2019 over the same period last year.

The relatively rigid automotive industry is witnessing a charged environment with the Union Budget 2019 providing angel tax relief and exemptions to the consumer to resort to EVs and creating demand for greener options. The recent decision of the Goods and Services Tax (GST) Council to slash tax rates on EVs and chargers is being lauded as a strong step towards encouraging the adoption of eco-friendly mobility solutions. The government's thrust is clearly on encouraging the adoption of EVs. In order to keep up with the demand, several auto

makers have started investing heavily in this disruptive phase for EV launches, which is also an outcome of the high registration charges of new vehicles.

By April 2020, all vehicles would meet the BS VI emission regulations, leading to the enhancement of petrol as well as diesel engines with the required hardware, or the development of altogether new engines in order to comply with the set norms.

With these scenarios in mind, the GoI needs to set out and build a perspective on the trends shaping the automobile market, including the value proposition and imperatives for winning in the market.

Export analysis

Overall increase: 14.50%



(-) 9.64%



49%



3.17%



16.55%

A photograph of two men in a professional setting, likely a trading floor or office. They are looking at a large digital screen that displays multiple financial charts. The man on the right, wearing glasses and a light blue shirt, is pointing at the screen with a black pen. The man on the left, wearing a white shirt, is holding a tablet. The screen shows a candlestick chart at the top and a bar chart at the bottom, both with green lines and bars. The background is dark, and the lighting is focused on the screen and the men's faces.

Quarterly sales trend - April to June 2019

Sales decline amidst changing market dynamics and weak consumer sentiments

The Indian auto industry is witnessing a slowdown in sales. There is a noticeable slowdown in the economy, with low sales numbers attributed to market dynamics and weak consumer sentiments.

The sales numbers have been affected by the new emission and safety regulations. By October 2019, all new vehicles in the country would have to meet stringent crash test regulations, including compliance with full-frontal impact, front-offset and side-impact and pedestrian-protection norms. As part of the new safety regulations, vehicles would need to have rear parking sensors, driver-side airbag, Anti-lock Braking System (ABS) with Electronic Brake-force Distribution System (EBD), driver and passenger seat belt warning along with the high-speed alert system.

Quarterly y-o-y total sales comparison for April to June 2019

Particulars	Volume	Volume	Y-o-Y change	% change
Category	April-June 2019	April-June 2018	y-o-y	
PV	712,620	873,501	-160,881	-18.42
CV	208,298	230,095	-21,797	-9.47
2W	5,014,071	5,677,343	-663,272	-11.68
3W	149,518	161,673	-12,155	-7.52
Total	6,084,732	6,942,612	-857,880	-12.36

Quarterly decline

Production, domestic sales and exports of vehicles declined during April 2019 in all the four segments: PVs, CVs, 3Ws and 2Ws.

PV sales declined by 18.42% between April and June 2019 with net factory wholesales of 712,620 units (April-June 2018: 873,501). Within this segment, passenger car sales declined 23.32% to 447,453 units (583,547), Utility Vehicle (UV) sales dropped 4.53% to 224,224 units (2018: 234,865 units) and sales for vans decreased by 25.66% to 40,943 units (2018: 55,078 units).

The CV segment suffered a 9.47% (-21,797 units) decline to 208,298 units sold during April-June 2018.

The 3W segment suffered a 7.52% slump in domestic quarterly sales to 149,518 units

during April-June 2019. For 2Ws, there was a decline of 11.68% to 5,014,071 units in the quarter under consideration as compared to 5,677,343 units (-663,272 units) in April-June 2018.

The dismal performance of all the segments is clearly a consequence of the low auto finance availability, drop in rural demand and increased insurance cost. These key factors along with poor consumer sentiment are affecting the automobile market players, with automakers deciding on inventory correction taking support from RBI and NBFCs for source funding as well as liberal finance regulations.

Y-o-Y sales comparison for the quarter April-June 2019

Category	April 2019	April 2018	Y-o-Y % change	May 2019	May 2018	Y-o-Y % change	June 2019	June 2018	Y-o-Y % change
PVs	247,541	298,504	-17.07	239,347	301,238	-20.55	225,732	273,748	-17.54
CVs	68,680	73,049	-5.98	68,847	76,517	-10.02	70,771	80,670	-12.27
2Ws	1,638,388	1,958,761	-16.36	1,726,206	1,850,698	-6.73	1,649,477	1,867,884	-11.69
3Ws	46,262	49,980	-7.44	51,650	54,809	-5.76	48,447	49,837	-2.79
Total	2,001,096	2,380,294	-15.93	2,086,358	2,283,262	-8.62	1,994,427	2,272,139	-12.22

April 2019

In the first month of FY 2020, the overall PV sales declined by 17% y-o-y to 245,599 units as compared to 296,369 units in the same month last year. The consumer sentiments were weak, and this trend was expected to continue till the start of the monsoons. Further, the political uncertainty and cynical contours of tightened liquidity and higher insurance cost had dragged new vehicle sales down in all the four segments in April 2019.

The sales for the CV segment fell by 5.98% to 68,680 units as compared to 73,049 units in the same month last year. Medium and Heavy Commercial Vehicle (M&HCV) sales declined by 13.56% to 24,725 units, and Light Commercial Vehicle (LCV) sales declined by 1.10% to 43,955 units over the same month last year.

2W sales registered an overall de-growth of 16.36%, and within the segment, sales of scooters, motorcycles and mopeds declined

by 25.89%, 11.81% and 5.88% respectively compared to April 2018. The declining sales of scooters clearly reflected the uncertainty in urban markets.

Vehicle sales across segments registered a decline of 15.93% to 2,001,096 units from 2,380,294 units in April 2018, according to the data released by the Society of Indian Automobile Manufacturers (SIAM).

Total automobile production also reduced by 10.60% as compared to the same month a year ago. The highest production cut of 11.50% was for 2W makers, with a 9.50% production cut in the CV category.

It is expected that the stability in the elected government and persistent ease in norms by RBI would help put the auto retails back on the sustained growth trajectory.

May 2019

PV sales continued to decline and even tougher times loomed ahead as the segment saw a dip of nearly -21% in May 2019 in comparison to May 2018. In order to moderate inventories and not push stocks to dealers, OEMs checked both scheduled and unscheduled Non-Production Days (NPDs).

For the month, total 3W domestic sales declined by 5.76% from 54,809 units the same month last year to 51,650 units. CV sales declined by 10.02% to 68,847 units (May 2018: 76,517 units) and 2W sales declined by 6.73% to 1,726,206 units (May 2018: 1,850,698 units) – a trend seen in the segments in the last few months. New regulatory rules, softer freight rates and a liquidity crunch at non-bank lenders were among the factors impacting CV sales. Further, the high inventory levels at dealerships are a consistent concern, and all OEMs are trying on their part to lower the dealer stock, which is hampering the monthly off-take volumes even more.

An average of two vehicle dealerships shut down every week over the past two years. The Indian automotive retail sector incurred losses of more than INR 2,000 crore in this period and over 200 dealers wound up operations, shutting down nearly 300 outlets. Businesses turned unviable and an estimated 3,000 employees in the industry lost their jobs this quarter.

Overall sales in the auto industry in May 2019 fell 8.62% with cumulative wholesale numbers of 2,086,358 units (May 2018: 2,283,262). In comparison to April 2019, the month-on-month figures show a steep decline in PVs and CVs. The rate of decline moderated for 2Ws and 3Ws. However, the extent of de-growth increased every month, putting a question mark on the viability of many dealer establishments.

With high base numbers, NBFC trouble and liquidity constraints, automobile sales remained subdued in May 2019. Persistently low consumer sentiments and the recently concluded general elections also played a major part in sales slowdown.

June 2019

Overall sales in the month showed a persistent decline, which is now impacting the survival of businesses at the ground level. Total sales stood at 1,997,952 units (June 2018: 2,279,186 – a decline of 12.34%).

PVs continued to decline this month by 17.54% to 225,732 units (June 2018: 273,748), witnessing a continuous red streak across all segments. The fall is alarming as it comes even before the possible increase in prices of vehicles with the shift to BS VI as well as the introduction of crash test norms and safety features. CV sales plunged 12.27% to

70,771 units, whereas a drop of 8.79% was seen in 3W sales to 51,885 units and 11.69% in 2W sales to 1,649,477 units.

There was a 12.98% decline in overall production to 2,336,138 units in June 2019. In comparison, the figure stood at 2,684,725 units during the same month last year.

The long-term outlook for the auto industry and the auto dealership community continues to be strong and positive, despite the prolonged slowdown.

A man in a grey suit is looking down at some papers on a table. He has a serious expression. Another person, wearing glasses and a blue shirt, is leaning over him, pointing at the papers with a pen. The background is a plain, light-colored wall.

Union Budget 2019 and the auto industry

Key highlights and impact of Union Budget 2019 on the automotive industry

The Union Budget 2019 was a missed opportunity to revive the much ailing automotive industry. The environment of political stability with the re-elected government and enhanced infrastructure projects in the future provide hope to the industry. PVs are linked to the GDP performance of the country, which is persistently showing a declining trend in domestic sales and is an area of concern for the industry. The rural demand, on the other hand, is going down more than the rate of de-growth in urban areas over the last two quarters, which provides an opportunity to boost the lending scenario for NBFCs.

In FY2019, the automobile industry substantially contributed INR 1,20,000 crore in GST collections, which is over 10% of the total revenue generated by the government in the fiscal year. Even though the sector exemplified the dedication towards government notifications, the GST base rates for the industry were not moved in the Budget allocation, which would have strongly helped to revive automotive demand in the market. While many industry players and nodal agencies had proposed a GST reduction to resurrect demand on an immediate basis, the government contrarily hit the industry by increasing cess on petrol and diesel fuel by INR 2 each per litre in an attempt to push e-mobility. The Budget also did not talk about the much sought after scrappage policy to help the auto firms understand its intricacies and also throw light on End-of-Life Vehicles (ELVs) to further push the demand in the industry. Now, in July 2019,

the Ministry of Road, Transport and Highways (MoRTH) proposed a Draft Scrappage Policy introducing the presentation of an authentic scrappage certificate by buyers for registration fee waiver in the purchase of new vehicles.

Various sops including a reduced GST from 12% to 5% for EVs were proposed in the Budget and also notified by the GST Council, but there was no relief given to OEMs to transition smoothly to new technologies and turn green with good margins. A major push was given to EVs by the GST Council recently with the notification of reduced GST on EVs. This was after the Union Budget 2019 had provided an additional income tax deduction of INR 150,000 on interest paid on loans taken to purchase EVs. Import duties on EV parts were also reduced and there were changes in customs duties to promote Make in India.

The Budget pronounced new-age skills for Indian youth with respect to Artificial Intelligence (AI), Internet of Things (IoT), big data, 3D printing, Virtual Reality (VR), etc. Also, the allocation of INR 350 crore with 2% interest subvention for all GST-registered Micro, Small and Medium Enterprises (MSMEs) on new or incremental loans with a renewed payment platform to cut down time for bill filing for MSMEs is a great move to localise production and boost manufacturing capabilities in the industry. The step towards facilitation of easy access to loans of up to INR 1 crore to MSMEs would help infuse funds in the sector to further provide momentum.

Much welcome were the announcements to promote start-ups with the introduction of liberal scrutiny norms of e-verification for establishing investor identity and source of funds to resolve tax issues relating to fund raising. In February 2019, the government also gave impetus to Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) II, an improvement over its predecessor, with a total outlay of INR 10,000 crore for a three-year time period. A core objective of the scheme was to enhance the international competitiveness of the Indian automotive industry.

“The auto and manufacturing industry has been facing immense challenges in the past months. The push through the National Highways Development Project, dedicated freight corridors, and alternative infrastructure will induce demand for commercial vehicles in the mid to long term. Proposals to streamline NBFCs will act as key enablers to enhance credit and liquidity for the much-needed auto sector growth.

Impetus to start-ups facilitates linkages with auto OEMs and tier I component suppliers, which will encourage technology absorption and catalyse mobility transformation. Reduction of GST to 5% for EVs and tax exemptions on buying EVs along with setting up of plants for lithium storage batteries will push India towards recognition as a global manufacturing hub.”

Saket Mehra,
Partner, Grant Thornton India LLP



Story of the quarter



Auto dealerships: Moving towards a digital era

Digital dealerships with online sales are the next area of disruption within the automobile industry. Automotive companies have started piloting new online business models in response to an ever-growing demand to shop online for vehicles and other products and services. Many OEMs have piloted online multi-channel sales initiatives in their own direct channels. Recently in the Italian market, Fiat Chrysler partnered with Amazon to offer customers price incentives for buying online. OEMs have developed augmented reality features for smartphones and VR goggles, allowing consumers to examine vehicles remotely.

The complete transaction would involve pitching finance and insurance products and getting e-signatures on key documents. Online leasing apps are also available with portals adding new functionalities to the websites - making it easier for consumers to make online purchase of vehicles and choose the right vehicle, be it new or used. Thus, online sales with a digital marketplace for dealerships are one approach among many to selling vehicles, clearly reflecting the customers' varied preferences. With the current automotive scenario of exorbitant real estate cost and ballooning salaries, the industry is expected to enhance the popularity of digital marketplace for auto companies. The internet revolution has already attracted buyers and sellers to adopt the digital marketplace.

Opening a conventional dealership or automobile showroom in a metropolitan area

requires an investment of over INR 30 crore. Setting up a workshop, showcasing demo cars, getting the interiors designed, holding inventory, placing furniture and getting the overall branding done are some of the other fixed expenses. Contemporarily, with declining sales trends and high inventories, it is difficult for dealers to incur high cost with low-margins, making their business unviable. Moreover, the weak market sentiments have resulted in the closure of approximately 300 showrooms in the past two years.

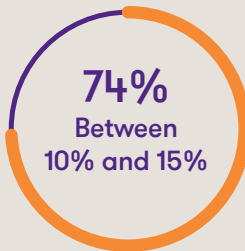
On the other hand, many start-ups are bringing new-car dealerships to keep pace with the digital realm. Data security and bank cooperation, price transparency, and a reduction in paperwork are some of the factors resulting in an increase in the enthusiasm of customers to purchase vehicles online.

What part of the research/shop/transaction process do you make available online before consumers arrive at the dealership?



- 80% Vehicle research/build
- 84% Appointment setting
- 71% Inventory availability
- 73% Credit pre-qualification
- 67% Trade-in valuation
- 58% Credit application
- 53% Vehicle price quotes

How many of your customers want a complete deal consummated online before they get to the dealership?



- 15% Between 5% and 10%
- 12% Less than 5%
- 0% More than 20% of customers
- 0% Between 15% and 20%

Source: Equifax

Contrarily, not everyone agrees that a digital marketplace for dealerships is the future. According to some dealers, making a complete online vehicle transaction is years away due to trade-in valuation, finance arrangements and complying with statutory regulations. Dealers also worry about losing on Finance and Insurance (F&I) profits without a face-to-face pitch and also warn that online deals would open the possibility of increased cybercrimes and fraudulent transactions.

Digital channels would not be fully successful in replacing the physical experience of seeing a car in real life and performing test drives. In e-dealerships, the payment security standards may not be found sufficient considering the high value of purchases. In order to build trust in the online platform, customers should be able to virtually complete the paperwork such as signing contracts and confirming direct debit authorisation. Video identification and voice recognition technologies are needed to assist in the implementation of online sales.

However, for certain groups of customers evincing strong interest in making online vehicle purchases, new technologies come very close to providing a similar experience. Such customers value the ability to speak with online agents along with augmented or virtual reality solutions. Thus, dealers are still needed to steer the vehicle to a dealership. While selection and payment may take place online, deliveries would still be made through the existing dealer network.

There are plenty of opportunities for dealers that leverage social media to understand how consumers purchase vehicles today. It would be difficult for an app to replace auto dealers. Even though purchasing trends may have changed, car dealers would still be relevant as key elements in the auto sales and delivery processes.



Coverage

Companies and start-ups: Pouring capital into developing self-driving vehicles

Even though the future for the automobile industry is contemporarily unknowable, planning for the impending conditions and needs is a requirement. A fully autonomous vehicle or driverless vehicles is one such technological innovation that promises to be both disruptive and revolutionary for the industry in terms of its impact on human autonomy and shaping the societies of tomorrow.

Largest autonomous vehicle related M&A deals

Acquired company	Location	Business	Status (prior to acquisition)	Acquirer	Purchase price
Mobile Eye	Jerusalem	Computer vision technology	Publicly traded	Intel	USD 15,300 billion
Cruise Automation	San Francisco	Self-driving technology	Private, Series A funded	General Motors	USD 1 billion
Otto	San Francisco	Self-driving trucks	Private, early-stage funding	Uber	USD 680 million
nuTonomy	Boston	Autonomous driving software	Private, Series A funded	Delphi Automotive	USD 450 million

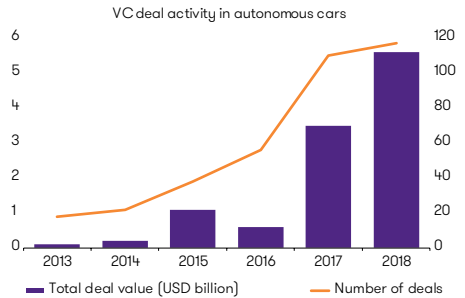
Globally, potential investors view the autonomous vehicle industry as one that can provide not only a meaningful return on investment but also a lucrative opportunity for strategic alliances between established companies in this domain. With an expected market size of USD 54 billion by the end of this year and USD 556 billion by 2026, investments in autonomous vehicle companies are positioned to continue at a rapid pace as the exponentially growing trends were prominently visible in the first

half of 2019. Major automaker companies and technology giants like Uber, Honda, Google and Intel and also specialist start-ups have invested more than USD 50 billion over the past five years in order to develop autonomous vehicle technology, with 70% of the diverse funding infused by other verticals.

This technology has been able to achieve massive investments from companies across the globe because of the various benefits it can provide on its success. Looking to profit from the emerging software space of

driverless cars, Blackberry has announced plans to invest around USD 76 million and establish a hub in Ottawa, Canada, under its QNX platform. It will develop software which could supplement the functioning of driverless vehicles. Apple being a technological giant has also invested USD 1 billion in Didi Chuxing Technology Co. to help in advancing its self-driving technology. It aims to create an autonomous driving system through which it will be able to partner with existing automakers or create its own vehicle-development project in the future which would manufacture products that are able to deeply integrate themselves with its iOS devices. Companies like Intel, Microsoft, Nvidia and Baidu have made substantial investments in developing autonomous vehicular transport systems. Intel, which is a prominent chipmaker, joined forces with Mobileye as well as Waymo to provide the computing power needed to automate a driverless car. It created Automated Driving Group (ADG) in 2016 and invested USD 250 million in autonomous technology. Further, in 2017, Intel invested USD 15.3 billion for joining forces with Mobileye.

Investment pours into autonomous tech



Source: FT

The start-ups investing in this technology, such as Flux Auto, Fisheyebox, ATImotors, etc., are able to raise significant capital investments from venture capital firms and large companies to work on autonomous driving technology. Many of these start-ups have tied knots with already existing giant automobile makers.

With self-driving vehicles being considered the future of transportation systems and introduced into transport systems globally, they would be gradually allowed on the roads under controlled conditions, focusing on the practical technological solutions and their social consequences. The implications would depend on public policies stating provisions for traffic problems with non-driver vehicles, facilitating vehicle sharing and allowing households to reduce not only vehicle ownership but total driving on an overall basis.

With enough funding available and adequate spend on R&D, a future with this revolutionary innovation in action is not far anymore.

Rising demand for skilled professionals in the EV sector

With the second phase of the FAME II scheme, increasing efforts are being made to increase EV sales. A part of this effort includes an outlay of INR 10,000 crore earmarked for incentivising OEMs to showcase successful outcomes. Moreover, the increased use of EVs would not only cut the hefty oil import bill but also help in curbing the rampant pollution in major cities.

Thus, an electric revolution is coming to the automobile industry in India. However, the industry is facing a shortage of talented and aptly skilled engineers who are needed for the transition to EVs. The Union Budget 2019 pronounced plans for educating and training youth on AI, ML, VR, etc. It also gave a major boost to the EV sector with GST reduction to 5% for EVs and tax exemptions on buying EVs and setting up plants for lithium storage batteries, making EVs easier to manufacture and purchase.

This encouragement to EVs by the government is expected to bring about a sharp rise in demand for skilled professionals in the EV industry. The Ministry of Skill Development and Entrepreneurship (MSDE) and the Ministry of Human Resources & Development (MHRD) plan to fill the employee gap by providing the youth advanced knowledge and hands-on experience in design, analysis, control, calibration, and operating characteristics

of EVs. There will be a major shift in the manufacturing of EVs from a components standpoint, with the key mechanical components being replaced by electronic components. Thus, there should be necessary skills required to handle such a steep pivot.

However, the Indian auto industry faces a talent crunch as it gears up for the EV revolution. As of September 2018, there was demand for more than 5,000 engineers – mostly in the electric, electronic and mechanical disciplines. This demand is likely to touch 15,000 over the next two years or so. Further, only about 1,000 engineers are employed in the EV space in India, depicting a huge demand-supply gap to be addressed.

The government seems to be bracing up for e-mobility and has planned to assign a special workforce, which is expected to introduce 10 million jobs in the e-mobility industry. The MSDE is formulating a programme focused on design, battery,

testing, manufacturing and management, and services and infrastructure skills.

Even though Gol has taken steps like these, a lot more needs to be done considering the rising popularity of EVs, which may not slow

down because of increasing consciousness towards the environment. This growing industry will need professionals with the necessary skills if all the ambitious targets of the government related to EVs are to be achieved.

Talent hunt



EVs are going to drive demand for engineers in the auto industry

Currently, the industry demand for such engineers is about 5,000 against 1,000 employed



In a year or so, the demand for EV engineers is likely to touch 15,000



Companies are already facing a paucity of EV engineers



Some auto firms are also building talent internally to cater to the growing demand.

Major challenges faced by NHAI Build-Operate-Transfer (BOT) projects

India boasts of one of the largest road networks in the world, spanning over 5.5 million km. The road network transports 64.5% of all goods and 90% of total passenger traffic in the country. Construction of highways has always been the focus of GoI, reaching 9,829 km during FY19 at an average of 26.93 km per day. GoI has targeted to complete 10,000 km of construction on national highways in FY20. With public funding constraints, PPP is expected to play a major role in the development of national highways. As a result, the National Highways Act, 1956 was amended in 1995, enabling private investment in development, maintenance and operation of highways. Measures to facilitate borrowing on easy terms and reduction in custom duties on construction equipment have also been introduced for this purpose.

The BOT model was started to smoothen the availability of funds and attract private investment in the sector under the PPP model. However, over the years, it has faced criticism as attracting investors has become a major concern due to the lack of profits. Some of the other repercussions of the model are liquidity tightening in the banking system, incorrect forecasting of the traffic on various routes and difficulty in achieving timely land acquisitions among others, making it hard for large infrastructure companies to raise capital to fund the projects. Conversely, banks have become reluctant to give large loans for capital investments with risks of bankruptcy and inability of big firms to pay back. This has increased the reluctance of

investors in road development under the PPP model of the government.

Delays in land acquisitions are yet another obstacle in the timely completion of such projects as land acquisition is time consuming and thus results in leakages of profits. Further, project completion gets delayed due to which firms are unable to recover their expenses. As a result, investors are unwilling to partake such risky projects. Under-pricing of the projects is another challenge that needs rectification. At times, the Total Project Cost (TPC) is 30% lower than the actual cost. This complicates matters if the project is terminated since the termination payments of the National

Highways Authority of India (NHAI) are linked to the TPC and not the actual cost. Another challenge is the sudden Change of Scope (COS). Any additional work while the project is being executed would result in additional contractual letters, resource planning, cost estimation and man days, which further delays project completion .

The government endeavours to make the model attractive to the private investors and thus has initiated consultations with

the industry to bring meaningful changes in the framework. High-traffic-density projects have been identified by NHAI – to be offered on immediate basis. The government has identified 3,000 km with traffic density of 17,000 pcu (passenger car unit) that can be completed under the BOT model. Efficient resolution of the issues will attract private investments in large numbers and ensure profits to the existing and potential investors on completion.

A man with dark hair and a light blue button-down shirt is looking down at a tablet computer he is holding. He is in an office environment, with a large computer monitor visible in the background. The lighting is warm and indoor. A purple rectangular box is overlaid on the lower left side of the image, containing the text 'Regulatory updates' in white.

Regulatory updates

No commercial vehicle without an RFID tag - The Environment Pollution (Prevention and Control) Authority (EPCA)

Growth in economy and trade has expeditiously increased road-based freight traffic on national highways. A sizeable urban and rural population is exposed to toxic fumes due to the criss-cross of national highways. As a result, regulatory bodies are increasingly working towards improving public health by reducing truck pollution in cities, especially Delhi.

To offset the growing trends in air pollution and traffic congestions, the Supreme Court of India passed an order on 01 November 2018 and made it mandatory for any CV entering Delhi to have installed Radio Frequency Identification (RFID) tags. The state of Uttar Pradesh made these RFID tags mandatory wherein EPCA, a Supreme Court appointed body to take decisions to curb pollution in Delhi, passed an order for mandating the use of RFID in Delhi as well.

CVs entering Delhi have to pay Environment Compensation Cess (ECC) at the tolls, while there is a full exemption for CNG vehicles with the required registration certificates. CVs carrying essential goods and partial to empty CVs entering Delhi pay half of the total required ECC.

According to a rule by the South Delhi Municipal Corporation (SDMC), the nodal agency for collecting toll tax in the state, these CVs may not continue to enjoy the

exemptions if they fail to install the tags. As per EPCA, this amount collected from ECC shall be used to install RFID tag readers in all the 13 toll entries, accounting for 80% of the commercial traffic in Delhi.

The order states that from 10 July 2019, no CV would be allowed to enter Delhi without an RFID tag. It aims to tackle various environmental issues and provide smooth regulation of traffic to be compatible with the proposed nationwide NHAI system. With the RFID system coming into existence, the agenda of cashless and digital economy would also get a major boost. According to the new orders, all the CVs that enter Delhi should not be older than 10 years, helping authorities to monitor the condition of the vehicles.

This move may not only save a lot of time with fewer queues at the tolls but also make the environment in the capital more congenial.

Proposals to electrify country's popular 3W auto rickshaws

3W, the second fastest growing segment after 2W in the Indian automotive industry, has been one of the major sources of last mile connectivity in both urban and rural India. Over the last few years, the immense sales growth in the segment, domestic (61%) and export markets (46%), is visible through the chart. However, 2019 was not so positive for the segment as it witnessed a major slump in growth in domestic (-) 7.35% and exports (-) 12.97% (during April to June 2019 [y-o-y comparison]).

Quarterly sales trend (y-o-y comparison)



Source: SIAM

The move to transition the popular 3W auto rickshaws from Internal Combustion Engine (ICE) to alternate fuels was not so successful except in NCR and a few tier I cities; therefore, the rollout of BS VI and the electrification roadmap was imperative sooner or later.

The policymakers have now laid down a steep path for the segment by proposing 100% transition from ICE to EVs by 1 April 2023. Recent policy announcements under FAME II have proposed a subsidy amount of up to INR 50,000 for registering electric 3Ws, including e-rickshaws with an approximate battery size of 5 KWH, to ease the pressure of transition. Further, the state governments are encouraged to expand incentives on road tax waivers/concessions, permit costs, toll cost, parking costs and registration costs. The Delhi Government made a formidable move in this space by introducing a Draft Delhi EV Policy 2018. The Policy proposes incentives for converting ICE and CNG autos to e-autos with an open permit system, waiver of road tax and registration cost, one-time parking fee, and assistance through hire purchase and hypothecation schemes/subsidies for e-autos through financial institutions.

The foundation for the e-3W transition is also being laid down through a comprehensive scrapping policy - aiming at the scrapping of ~ 9 million vehicles by 2020. Considering the industry capacity, the policy is the need of the hour - to handle the low scrap volumes (only 10%) so far. Further, a policy on Voluntary Vehicle Fleet Modernisation Programme (V-VMP) is under discussion at the Centre to introduce a structured

market for recycling units and incentives for consumers for recycling their existing vehicles. The incentives would include reduced GST rates and discounts on purchase of new vehicles/3Ws. To assist the Central Government reforms, the Delhi Government has taken a leap by including an incentive of up to INR 15,000 per vehicle to existing permit holders for scrapping their existing 3W aged seven years or more as part of the draft EV policy.

The government think tank is also discussing the introduction of the 'pollution payer' concept as part of its transition initiative to EVs. This concept emphasises that the pollution producers bear the burden of the extra cost of managing the environment and human health. The concept is still under discussion, but it is anticipated that guidelines are being explored to impose green tax on ICE engines.

The transition to e-3Ws, auto rickshaws, will address the increasing pollution and reduce dependency on fossil fuel. It will boost the 'Make in India' project by introducing India as a global hub for EV manufacturing capabilities with lower operating costs, lower requirement of parking infrastructure and the government's incentive schemes. However, the transition is bound to bring some challenges considering the lack of charging infrastructure to meet such large demand of EVs, reliance on technology import and non-availability of a sustainable after-service network among other reasons.

A close-up photograph of a person wearing a white lab coat, holding a black and white charging cable and plugging it into the charging port of a dark-colored electric vehicle. The car's surface is highly reflective, showing a clear reflection of the person and the charging process. The background is slightly blurred, suggesting an outdoor setting. A purple rectangular box is overlaid on the left side of the image, containing the text 'Key headlines' in white.

Key headlines

MoRTH issues draft notification to exempt battery-operated vehicles from paying registration fees

Press Information Bureau: 20 June 2019

In order to give a boost to battery-operated or EVs in the country, MoRTH has initiated steps for providing for differential registration fees under the Central Motor Vehicles Rules 1989. For this, the Ministry has issued a draft notification dated 18 June 2019 vide GSR 430 (E) to amend Rule 81 of CMVR. The amendment proposes to exempt battery-operated vehicles from payment of fees for the purpose of issue or renewal of registration certificate and assignment of new registration mark. This means that EVs would be exempted from such registration charges. The draft has been issued for receiving comments and suggestions from stakeholders.

India set to order Uber, Ola and other taxi aggregators to go electric

Livemint: 06 June 2019

India plans to order taxi aggregators such as Uber and Ola to convert 40% of their fleet of cars to electric by April 2026. The government is looking to push the new policy to boost the adoption of EVs as it tries to bring down its oil imports and curb pollution as part of the 2015 Paris climate change treaty.

Indian think-tank NITI Aayog, chaired by Prime Minister Narendra Modi, plays a crucial role in policymaking and is working with several ministries on the new policy.

India to frame indigenous EV charging station norms

Livemint: 17 May 2019

India plans to come up with its own standards for charging stations for its emerging EV ecosystem. To start with, the Bureau of Indian Standards (BIS) and the Department of Science and Technology (DST) are working on an indigenous charging standard that will also help reduce the cost of establishing charging stations for EVs in the country. There are currently three acceptable global standards: Japanese, Chinese and European. A pan-India EV charging grid holds the key to the success story of EVs in the country as lack of charging stations is proving to be the biggest hurdle to the adoption of electric mobility.

India's EV industry likely to see higher interest from PE, VC investors

Business Standard: 29 April 2019

The country's EV industry is expected to see higher interest from Private Equity (PE) and Venture Capital (VC) investors. Venture Intelligence, which tracks these developments, says PE and VC investment in the EV space was USD 23 million (~INR 160 crore) in 2018, in two deals, compared to USD 3 million (~INR 21 crore) from three deals in 2017. The 2018 values were led by Alpha Capital and others investing around USD 22 million in Hero Electric last December.

However, in the recent past, the government's support and incumbents' active interest in the EV eco-system have bolstered consumer interest. Firm business plans, the long-term outlook for electrification of mobility and increased investment in the industry have reinforced PE and VC faith in the growth potential in the country.

Royal Enfield enters South Korean market

PTI: 22 April 2019

Niche bike maker Royal Enfield Friday said it has forayed into the South Korean market.

The company, part of Eicher Motors, has entered the country by opening its first flagship store in Seoul with Vintage Motors (Kiheung International) as its official distributor partner.



Conclusion

The Indian automobile industry has witnessed a steep slowdown, posting the lowest sales figures in nearly eight years. This has pushed the government, nodal agencies and the automotive companies at large, including the dealers and OEMs, towards developing solutions to increase consumer demand and uplift their sentiments. Before the BS VI norms come into effect, the industry needs a phase of strong pre-buying driven by a combination of improved liquidity and high disposable incomes. Moreover, new vehicles meeting the BS VI emission norms and green vehicles need to be aligned with the current states of technology and consumer preferences for OEMs and dealers to sustain revenue and profit.

The strong government focus towards the auto industry after the general elections is a positive sign for the industry. EVs have become an important driving force considering the stringent environmental regulations on pollution and carbon emissions. With the emergence of the new ecosystem around EVs, component

manufacturers will have to adapt to such dynamics and disrupt themselves strategically to be a part of the new dimensions ushered in the market.

Emergence of new norms and a major shift in technology have necessitated heavy investments by start-ups and venture capitalists. The relief provided to start-ups and MSMEs in the Union Budget 2019 has also provided a stimulus to liquidity in the market. RBI's measures aimed at NBFCs should induce money in the rural areas, which is expected to bring normalcy back to the sector and allow banks to generate a positive structural shift in the economy.

However, the country has shown immense courage and potential to place itself as a key pillar in the global automotive landscape, especially with its policy resets, GDP growth, FDI trends and resonance with the global economic shift.



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