



**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY
SCHOOL OF MANAGEMENT**

AUTONOMOUS INSTITUTE

AUTOMOTIVE ODYSSEY

IN THIS ISSUE:

AUTO BUZZ

**MOTORING
MAVEN**

WHERE INNOVATION MEETS ASPHALT

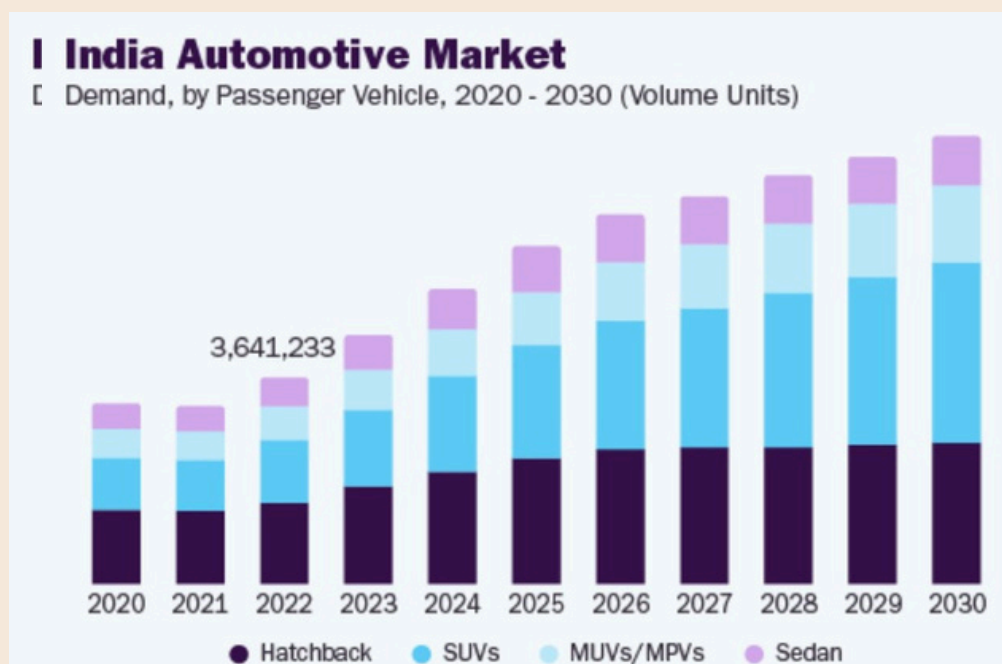
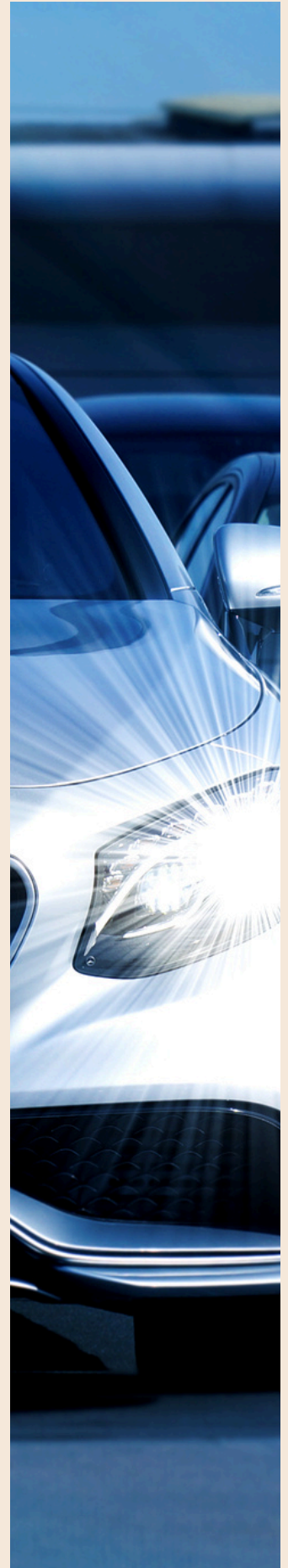
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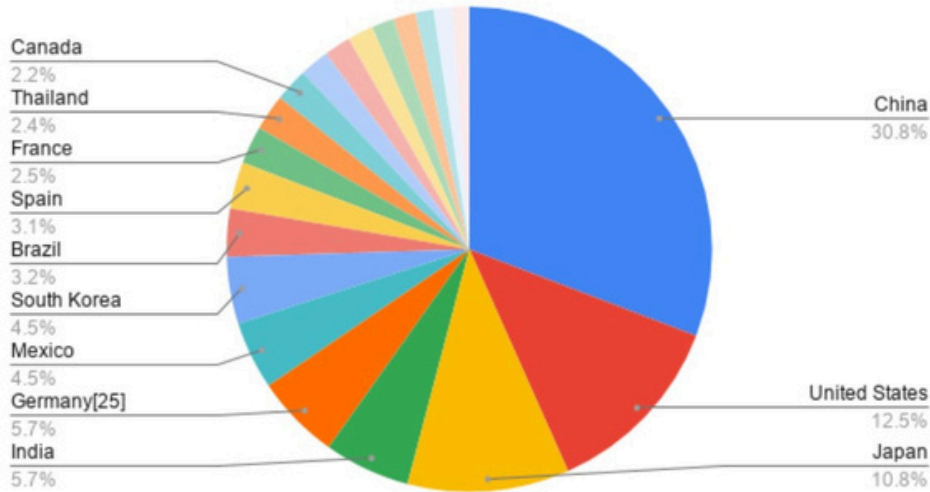
"ENTERING WITH STYLE IN MY POSH AUTOMOBILE"

INDUSTRY OVERVIEW

The automobile industry in India is a vital sector, contributing significantly to the country's economic and industrial growth. With one of the world's largest markets, India hosts a diverse range of vehicles catering to both domestic and international consumers. Key players like Maruti Suzuki, Hyundai, Tata Motors, and Mahindra & Mahindra compete for market share. India's emergence as a global manufacturing hub further demonstrates its automotive prowess, with state-of-the-art facilities attracting investments from multinational corporations. Government initiatives like the Automotive Mission Plan and the National Electric Mobility Mission Plan are instrumental in propelling the industry forward, fostering innovation, and incentivizing sustainable practices. However, challenges, including infrastructure limitations, regulatory complexities, and the need to navigate volatile raw material prices persist.



Automobile Production by Country



Source: Organisation Internationale des Constructeurs d'Automobiles (OICA)

The international automotive stage offers a rich tapestry of market dynamics and technological innovation, with technological breakthroughs in electric vehicles, autonomous driving, and connectivity driving a paradigm shift towards sustainability and efficiency. Trade agreements, tariffs, and geopolitical considerations interplay within global supply chains, underscoring the industry's interconnected nature. The rise of mobility services, including ride-sharing and subscription-based models, challenges the traditional ownership models.

Collaboration is emerging as a cornerstone for industry innovation, with automotive companies forging partnerships with technology firms and startups to leverage expertise and accelerate development.



NEWS HIGHLIGHTS

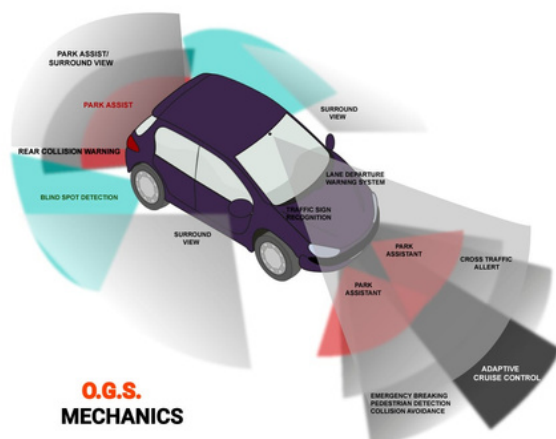
- * US imposes tariffs on Chinese electric vehicles, batteries, and solar cells.
- * Maruti Suzuki Plug in Hybrid EV could bridge gaps in EVs and ICEs
- * Tesla plans to invest 500 million USD in Supercharger.
- * Bajaj plans to launch the world's first CNG bike on June 18, 2024
- * Honda focuses on innovating existing car facilities and smart connectivity.
- * Hydrogen Combustion Engine of Toyota could be a threat to EV industry
- * The government encourages private companies to process lithium through incentives.

RECENT TRENDS

1. ADAS

Indian automakers have begun to equip their cars with advanced driver assistance systems (ADAS) in recent years. Though it was only available on a small number of vehicles until recently, it has been added to vehicles in the past month, including the Tata Harrier, Safari Red Dark Edition, and the updated Honda City.

ADVANCED DRIVER ASSISTANCE SYSTEMS



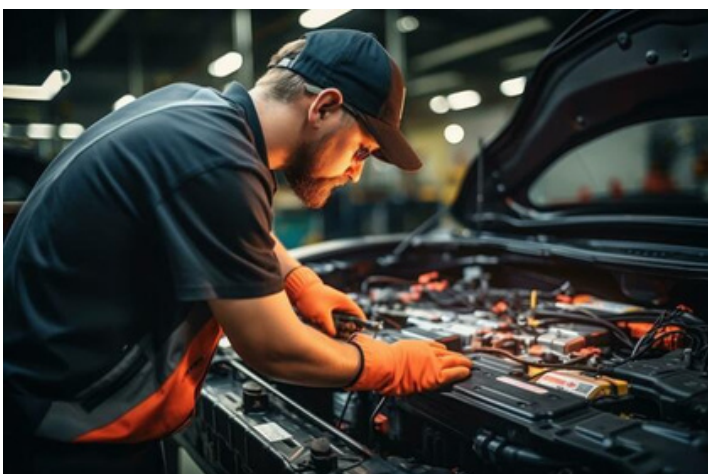
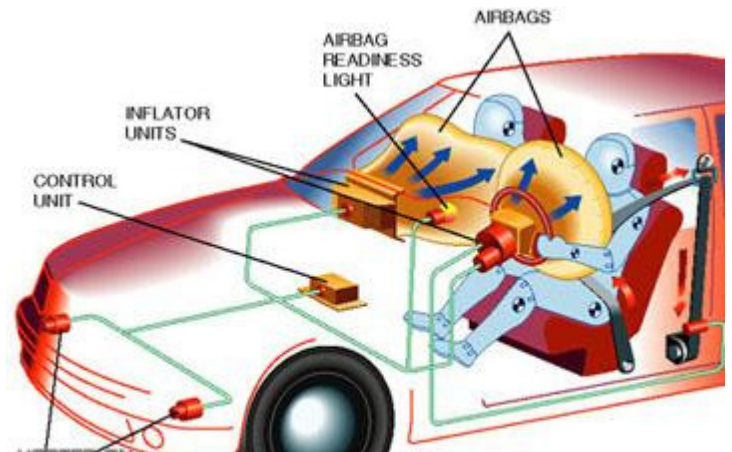


2. IoT

Vehicles can now be connected to the internet and share data with other devices all thanks to Internet of Things (IoT) technology. This opens up a number of features, including real-time traffic updates, predictive maintenance, and remote vehicle monitoring.

3. Safety

India launched Bharat NCAP on April 01, 2023 (New Car Assessment Program). Airbags, anti-lock brake systems, and electronic stability control are among the safety features that manufacturers prioritize as Indian consumers are becoming more conscious of the value of safety and are demanding safer cars. In order to appeal to Indian car buyers who are concerned about safety, Indian automakers are therefore placing a greater emphasis on safety and raising their NCAP (New Car Assessment Program) ratings.

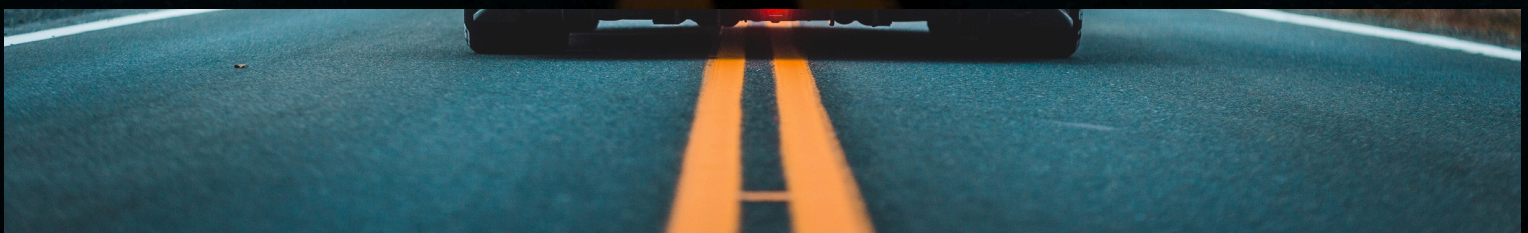


4. Electrification

With the Indian government aiming to achieve a 30% EV penetration rate by 2030, automakers are now investing in EV technology. The development and manufacture of electric vehicles in India has also been aided by the availability of government incentives like and subsidies for EVs.

5. Alternative Fuels

This is one of the newest trends in the car industry that goes against electrification in certain ways. But even with the shift toward the production of electric vehicles, there are still a lot of gasoline-powered cars on the road. Epicflow, EVO India is the source.



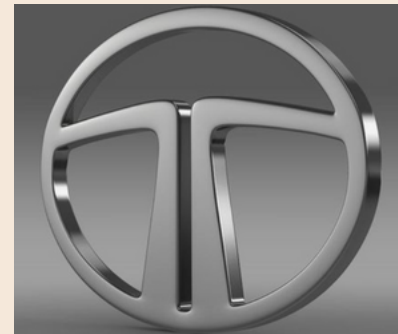
MAJOR PLAYERS (NATIONAL)

Maruti Suzuki India Limited, established in 1981, holds 41.3% of India's passenger car market, selling 1,37,952 units in April 2024.



Bajaj Auto, a leading Indian two-wheeler manufacturer, sells 3,88,256 units, with a 35.4% market share in April 2024, offering performance-oriented bikes and affordable commuter options.

Tata Motors Limited, an Indian automobile manufacturer, dominates the market with 13.6% market share, producing compact, midsize, and utility vehicles like Punch, Ace, Tiago, and Signa.



Mahindra, an Indian multinational automaker, has captured a 11% market share with 13% growth in sales in April 2024, selling 70,471 units.

TVS Motor, known for its sporty Apache, Jupiter motorcycles and scooters, holds a significant market share in the 2-wheeler segment, with a 29% growth in April 2024.



MAJOR PLAYERS (INTERNATIONAL)

Toyota Motor Corporation, a Japanese multinational automaker, operates in over 160 countries, selling 11.2 million vehicles in 2023, with 89% shares held by the Kirloskar group.



General Motors, an American multinational automotive company, is known for manufacturing four brands: Chevrolet, GMC, Cadillac, and Buick, and sold 6.19 million vehicles globally in 2023.

Volkswagen Group, a German automaker, produced 10.9 million vehicles and sold 4.87 million worldwide in 2023, including popular models like Tiguan, Passat, and Constellation.



Ford, the second-largest US automaker and sixth-largest globally, boasts 90 plants and facilities worldwide, producing iconic models like Mustang and Ranger, with 1.9 million unit wholesale sales in 2023.

Honda Motors Co. Ltd., a leading Japanese automobile and motorcycle manufacturer, has opened a new R&D facility in Bengaluru to accelerate electrification in India.



PRODUCT/SERVICE LAUNCH

BharatBenz- The BharatBenz 4828RT Tipper, priced between Rs. 66.49 Lakh - 70.50 Lakh, features a 281 HP engine, ADAS, and driver monitoring systems at Truck Junction.



Ampere Nexus, an electric scooter with a 3300 W motor, comes in two variants and four colors, with a top speed of 93km/h and a range of 136 km.

The Force Gurkha 5 door, priced at 18 lakh, has been updated with a 140 bhp and 320 nm engine, along with features like a reverse parking camera and 9-inch touch screen.





Mahindra launched 3XO with price range of 7.49 lakh to 15.49 lakh.

They also offered ADAS safety feature in the top variant. There are 6 variants offered by the company MX1, MX2, MX2 PRO, AX3, AX7, AX7 L. It comes in both petrol and diesel variants.

Maruti Suzuki launches next generation swift with sportier design, increased mileage, 6 airbags, 1.2 liter 3 cylinder petrol engine, 5 variants, and pricing from 6.24 to 9.14 lakh.



Aprilia has launched the Tuono 660, a street bike with a 659cc BS6 engine, available in India as a CBU product, weighing 183 kg and featuring a 15-sp fuel tank.



IMPACT ON TYRE INDUSTRY

The tyre industry is evolving rapidly in response to technological advancements, environmental considerations, and changing market dynamics. Companies that can innovate, adapt to regulatory changes, and meet shifting consumer demands will be better positioned to thrive in this competitive landscape. They have to maintain emissions standards, recycling initiatives, raw material prices, safety and performance, safety standards and many more.



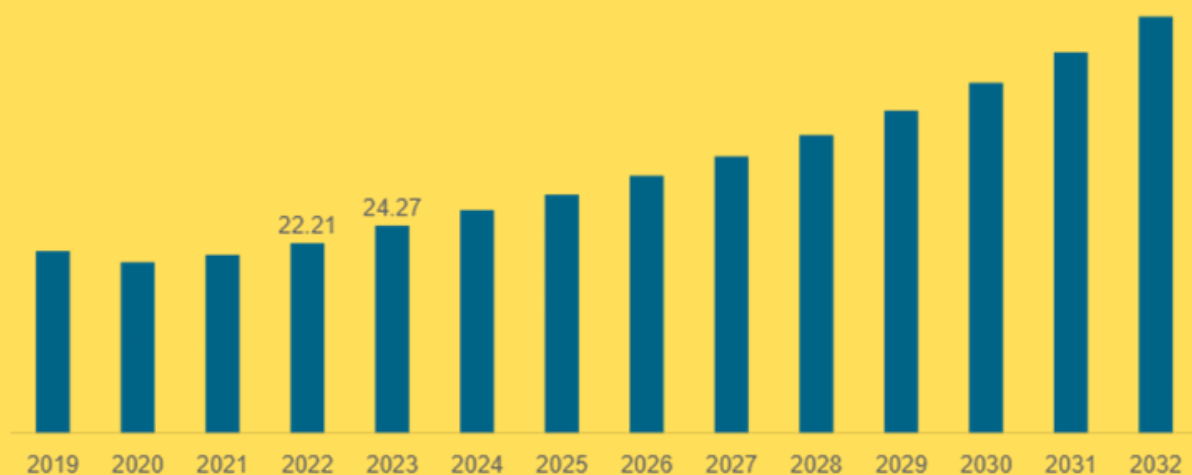
Who is the Largest Manufacturer of Automotive Tyre Market Worldwide?

Bridgestone, MRF, Yokohama, GoodYear, Continental, Michelin, Apollo Tyres, and many more.

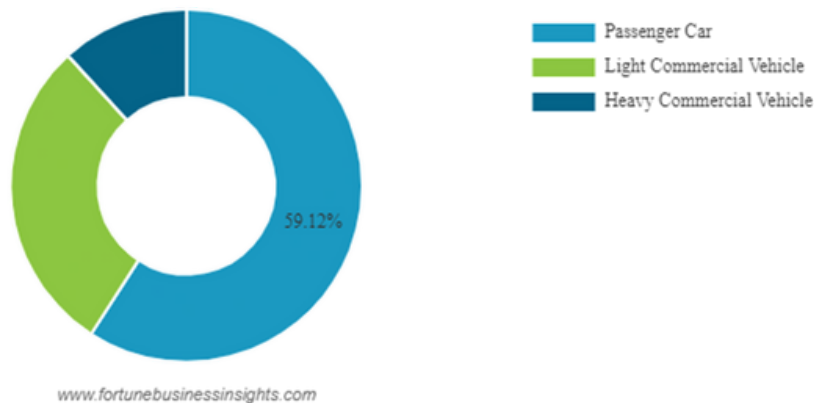
• Automotive Tyre Forecast Report [2032]

The global Automotive Tyre market size was valued at USD 298610.32 million in 2022 and is expected to expand at a CAGR of 7.4% of 7.4% during the forecast period, reaching USD 458290.08 million by 2032.

Asia Pacific Automotive Tire OEM Market Size, 2019-2032 (USD Billion)



Global Automotive Tire OEM Market Share, By Vehicle Type, 2023



RECENT TRENDS IN TYRE INDUSTRY

April 2024

Pirelli and Lamborghini collaborated to develop bespoke P Zero and Scorpion Winter 2 tyres for the new Urus SE, Lamborghini's first plug-in hybrid SUV variant. These tyres improve torque handling, weight support, reduced road noise, and extended battery life in EVs.

March 2024

Bridgestone announced the development of a new lunar rover tyre, featuring a fundamentally reevaluated skeletal structure and "Air Free" tyre technology with thin metal spokes to withstand extreme lunar conditions.

Rising demand for replacement tyres

Demand for replacement tyres is growing due to the increasing number of vehicles on the road, the need for regular tyre replacements, and the growing preference for high-quality aftermarket tyres. This trend is particularly evident in countries with large vehicle fleets.

• Impact on EV tyre industry:-

People are now considering electric vehicles as a better option to save costs on fuel.

These are some of the aspects of how electric cars have changed tyre companies:

- Electric cars are heavier
- Environmental cause
- Increased work and efficiency
- Noise reduction
- Restorative braking

EXPORT TRENDS/FORECAST

1) Indian Automobile Sector attracting many global firms for Exports. India's car sector attracts global firms such as Honda and Suzuki for exports, through quality assurance and cost effectiveness. Due to a rising number of excellent suppliers in the local market, firms are able to achieve better economies of scale.

2) Chinese EVs may hit Indian markets on a larger scale. The US has increased taxes on Chinese goods, including lithium-ion batteries and electric cars as they are concerned about the affordability and efficiency of Chinese electric vehicles and predict that they will dominate every major player in the market. Thus, the Indian automobiles expects a surge in Chinese EVs in the market.

3) A shortage of 5.5% in FY 2024 for Indian automobile exports. Vinod Aggarwal, President of SIAM, claims Indian automobile exports facing a decline in FY 2024 due to the monetary crisis in various overseas markets. Passenger vehicle exports increased by 1.4% as compared to last year, but two-wheelers fell by 5.3%. Based on the January–March trend, the exports are expected to rise in the upcoming months.

4) International sales of sedan and small automobiles has outperformed the Indian Market. India's shift to SUVs has hampered sales of sedan, but these vehicles are necessary for exports. Maruti Suzuki dominates exports, while Hyundai's Verna, Aura, and Grand i10Nios are sold globally. However, a return for small cars is expected by 2026-2027.

5) Maruti Suzuki expects 3 lakh exports in FY25, 8 lakhs by 2030. In line with India's export strategy, Maruti intends to launch more models in other countries with the goal of exporting 3 lakh units in FY25 and 8 lakh units by 2030. Providing after-sales services and financial accessibility have the potential to increase global sales.



HR MOVEMENTS

- Ashok Leyland plans to build a diverse workforce by delegating a full-engine production line to women employees.

Raja Radhakrishnan, HR Head of Ashok Leyland, sees the decision as a transformative one, encouraging women empowerment in the automobile industry, bringing innovation, collaboration, and networking to the organization. He also adds that work is not restricted to workstations, but extends beyond an organization's walls.



- Tata Group Announces Sitaram Kandi as the new chief human resource officer (CHRO) of TATA Motors on April 1, 2024.

Tata Motors had a huge leadership transition when Kandi was appointed as the new CHRO. Kandi will also join the organization's executive committee and bring 30 years of HR experience from numerous companies, such as Bosch, Monsanto, and General Electric. One of his primary responsibilities is active involvement in the Tata Motors executive committee.



- Adrian Hallmark, formerly of Bentley, has been named the next CEO of Aston Martin.

Lawrence Strolls, Chairman of Aston Martin, has long admired Adrian's work at Bentley and believes that only he can deliver the ultimate luxury experience, knowing that there is a need for luxury electric vehicles. His extensive knowledge of buyers should help Aston seize the chance.



- Human Resources Head, Allie Arebalo and Senior Vice President, Drew Baligno has left Tesla in the midst of layoffs.

Elon Musk, CEO of Tesla, Inc. is cutting 10% of its global workforce due to ongoing competition and slow sales, which have been going on for weeks. Allie Arebalo has been working with Tesla for six years, and has exited the company right after the resignation of Senior Vice President Drew Baligno, who was one of the four members of Tesla's leadership team, and it's still unclear whether she resigned or was also a part of the layoffs.



MAJOR PLAYERS MARKET ANALYSIS

The Indian Automotive Sector is a key growth driver for the Indian economy and is responsible for contributing 49% to India's manufacturing GDP and 7.5% to the nation's overall GDP. Industry In India Market size is estimated at USD 126.67 billion in 2024, and is expected to reach USD 187.85 billion by 2029, growing at a CAGR of 8.20% during the forecast period (2024-2029).

According to SIAM, the sales of passenger vehicles achieved an all-time high, exhibiting a remarkable growth rate of 9.40% in Q1, 2023- 24 compared to the previous year.

In the first Quarter of Financial Year 2023-24, Automobile Industry in India registered a total sales of passenger vehicles, commercial vehicles, three-wheelers and two-wheelers to be 54,98,459 units. Despite achieving a new height after the pandemic, there is a deficit of 5,85,399 units when compared to the sales number of 60,83,858 units in the Financial year 2018-19.

In 2022-23, ₹2,402.51 crore was spent under the (PLI) scheme.

But, the government has increased the budget allocation for the production-linked incentive (PLI) scheme to support the domestic production of futuristic vehicle technologies. It has been raised to ₹3,500 crore for 2024-25 from ₹483.77 crore in 2023-24.



2023 Market share category	Brand	Volume				Market share			Cumulative share		Rank		
		2022	2023	Change	Change %	2022	2023	Change	2022	2023	2022	2023	Change
10%+	Maruti	15,76,026	17,07,668	1,31,642	8.4%	41.6%	41.6%	0.0%	42%	42%	1	1	-
	Hyundai	5,52,511	6,02,111	49,600	9.0%	14.6%	14.7%	0.1%	56%	56%	2	2	-
	Tata	5,26,821	5,50,871	24,050	4.6%	13.9%	13.4%	-0.5%	70%	70%	3	3	-
	Mahindra	3,33,054	4,32,876	99,822	30.0%	8.8%	10.6%	1.8%	79%	80%	4	4	-
5% - 10%	Kia	2,54,556	2,55,000	444	0.2%	6.7%	6.2%	-0.5%	86%	87%	5	5	-
	Toyota	1,60,375	2,21,356	60,981	38.0%	4.2%	5.4%	1.2%	90%	92%	6	6	-
Under 5%	Honda	95,022	84,286	-10,736	-11.3%	2.5%	2.1%	-0.5%	92%	94%	7	7	-
	MG	48,063	56,902	8,839	18.4%	1.3%	1.4%	0.1%	94%	95%	10	8	+2
	Skoda	53,721	48,755	-4,966	-9.2%	1.4%	1.2%	-0.2%	95%	97%	9	9	-
	Renault	87,118	48,321	-38,797	-44.5%	2.3%	1.2%	-1.1%	97%	98%	8	10	-2
	Volkswagen	42,452	43,481	1,029	2.4%	1.1%	1.1%	-0.1%	99%	99%	11	11	-
	Nissan	34,565	30,375	-4,190	-12.1%	0.9%	0.7%	-0.2%	99%	100%	12	12	-
	Citroen	6,066	9,488	3,422	56.4%	0.2%	0.2%	0.1%	100%	100%	14	13	+1
	Jeep	13,499	6,690	-6,809	-50.4%	0.4%	0.2%	-0.2%	100%	100%	13	14	-1
	BYD	-	2,078	-Auto Purindaz	-	-	0.1%	-	-	100%	-	-	15
Datsun	512	-	-	-	0.0%	-	-	-	-	15	-	-	
		37,84,361	41,00,258	3,15,897	8.3%	-	-	-	-	-	-	-	-

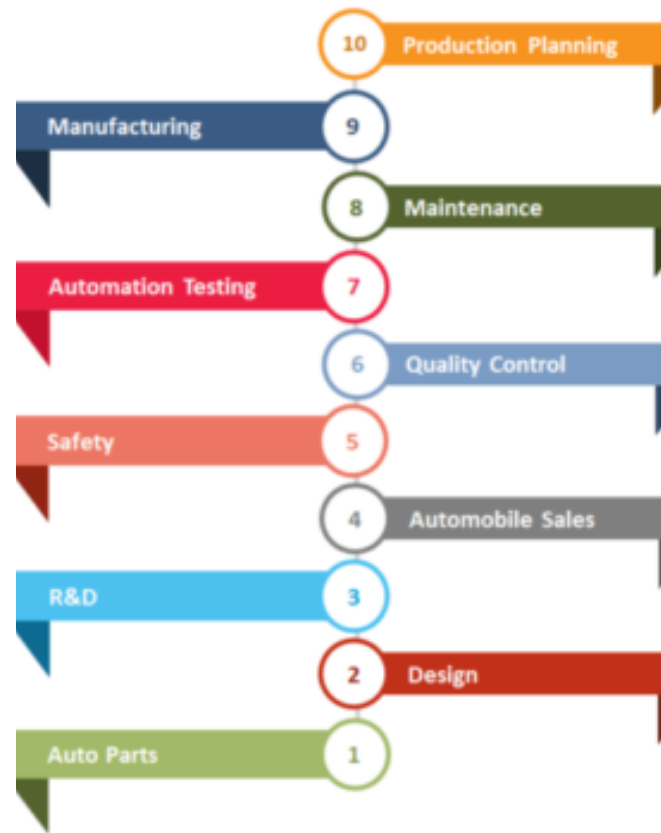
JOB PROSPECTS IN THE AUTOMOBILE INDUSTRY

Government laws, environmental concerns, and battery technology advancements are driving the shift to electric vehicles, increasing demand for professionals in electric powertrains, battery technology, and infrastructure, leading to a rise in new job roles.

The rise of autonomous vehicles (AVs) is boosting the demand for AI, machine learning, sensor technology, and data analysis, while also expanding positions in cybersecurity, safety testing, and regulatory compliance.

Green manufacturing and alternative fuels are boosting employment opportunities in sustainable supply chain management and environmental engineering.

The increasing prevalence of connected vehicles is transforming the role of telematics, IoT technology, network security, software integration, and telematics in automobiles.



PERSON IN FOCUS

Images of India's first electric flying taxi prototype have been revealed by Anand Mahindra, Chairman of the Mahindra Group, signaling a major step forward in the nation's transition to electric air mobility. By next year, the prototype—which was created by the ePlane Company, an initiative at the esteemed Indian Institute of Technology (IIT) Madras—will be operational, demonstrating the country's advancements in cutting-edge transportation technology.

Mahindra's Letter of Thanks to IIT Madras "IIT Madras has become one of the world's most exciting and active incubators," Mahindra said, praising the university for its role as a vibrant hub for innovation. They have helped to change the perception of India as a nation devoid of true innovators, as has the swift expansion of aspirational incubators across the nation." His words highlight India's evolution.



Under his leadership, the Group has entered a number of significant industrial sectors, including aerospace, IT, and agriculture, in addition to expanding both domestically and internationally. Through acquisitions like Swaraj Tractors, Reva Electric Car Company, Satyam Computer Services, Peugeot Motorcycles, Holiday Club Resorts, and Pininfarina S.p.A., the Group has also expanded inorganically.

He has held positions on a number of significant committees, such as the World Bank Group's Advisory Board for Doing Business, the Reserve Bank of India Board, the UN Global Compact Board, and the Global Board of Advisors of the Council on Foreign Relations. The third-highest civilian honor in India, the Padma Bhushan Award (2020), has been given to Mr. Mahindra in recognition of his contributions.



A prominent personality in the automotive sector, R.C. Bhargava is best known for his position as Chairman of Maruti Suzuki, one of the top automakers in India. In an interview with CNBC-TV18 on April 30, Maruti Suzuki's chairman, RC Bhargava, stated that the company expects the strong trend of SUV sales to continue as it has in the previous few years and that there doesn't appear to be any change in the buying pattern in the Indian automotive market.

According to Bhargava, sedans have been losing market share to utility vehicles, while Maruti Suzuki has benefited from the trend in the SUV segment. Maruti Suzuki reported a 48% year-over-year increase in net profit to Rs 3,878 crore in the fourth quarter of its fiscal year, on revenue of Rs 38,235 crore.

According to him, Maruti Suzuki's much-discussed electric vehicle offerings are unlikely to go on sale until the very end of FY25.

His multi-decade journey in shaping the Indian automotive landscape is characterized by his strategic vision, leadership, and unwavering dedication to excellence.

Bhargava was born in Lahore, British India (now Pakistan), on May 30, 1934. The turbulent events of the partition influenced his early years. He persevered in his studies in spite of the obstacles of the day, eventually graduating from the esteemed Indian Institute of Technology (IIT) Delhi with a degree in mechanical engineering. His educational background provided a strong basis for his future automotive endeavors. Bhargava first became involved with Maruti Suzuki in the early 1980s.



FACULTY COORDINATORS

Dr. Meenu Chaudhary

Dr. Richa Shukla

STUDENT COORDINATORS

Akshay Pratap Singh

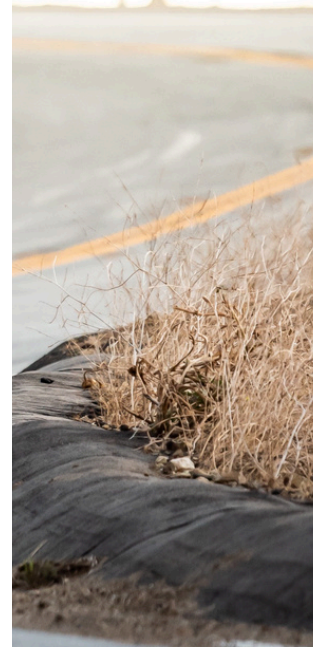
Vikansh Vashist

Geetanjali Chawla

Ayush Seth

Umang Tyagi

Akhil PM



"CARS ARE NOT JUST MACHINES, THEY ARE DREAMS ON WHEELS, TAKING US ON INCREDIBLE JOURNEYS."