The Indian Tire Industry: Market Dynamics, Strategic Landscape, and Future Outlook

1. Executive Summary

The Indian tire industry is a pivotal sector, demonstrating robust growth driven by a burgeoning automotive market, extensive government-led infrastructure development, and the rapid expansion of logistics and e-commerce. Valued at approximately USD 12-16 billion in 2024, the market is projected to reach USD 21-58 billion by 2030-2035, with varying growth rates reflecting diverse market scopes and methodologies across reports.[1] This variability underscores the need for flexible strategic planning.

The market is segmented by vehicle type, demand category (OEM vs. replacement), and tire construction (radial vs. bias). The replacement market constitutes the largest revenue segment, providing a stable demand base insulated from new vehicle sales cycles.[2] A significant trend is the increasing radialization across all vehicle types, offering superior performance and fuel efficiency.[2]

The competitive landscape is dominated by key domestic players like MRF, Apollo Tyres, CEAT, JK Tyre, and Balkrishna Industries, alongside a growing presence of international manufacturers.[1] Strategic shifts by international players, such as Continental's focus on passenger car tires and Yokohama's expansion in premium segments, are intensifying competition in high-value niches.[18]

Raw material dynamics present a complex challenge. India's heavy reliance on imported natural rubber and synthetic rubber, despite domestic production efforts, exposes the industry to global price volatility and supply chain disruptions.[2] While domestic production of carbon black and steel reinforcement is increasing, ensuring a stable and cost-effective supply across all inputs remains critical.[26]

Government policies, including import restrictions and the Production Linked Incentive (PLI) scheme, aim to foster domestic manufacturing.[7] However, these protectionist measures may inadvertently limit quality improvement due to reduced competition and negatively impact niche markets.[33] Environmental regulations, particularly the Extended Producer Responsibility (EPR) for waste tires, are ambitious, but their effectiveness is challenged by a surge in unregulated waste tire imports and non-compliant pyrolysis operations.[34]

Indian tire exports are experiencing significant value growth, particularly in motorcycle, passenger car radial, and truck & bus radial segments, with the USA as the largest destination.[7] This growth, driven by investments in R&D and manufacturing

capabilities, indicates an improving global perception of Indian tire quality.[40] Innovation efforts focus on eco-friendly materials, performance enhancement, lightweighting, smart tires, and EV-specific solutions.[2] However, India's overall R&D expenditure as a percentage of GDP lags global averages, potentially limiting the pace of disruptive innovation.[46]

2. Market Overview and Size

Current Market Valuation and Growth Projections

The Indian tire industry is a dynamic and rapidly expanding sector, closely mirroring the country's robust automotive industry and overall economic development. Various market research reports offer differing valuations and growth projections for this sector, highlighting the complexity and diverse scopes considered within the market.

For instance, the India Off-Highway Vehicle (OHV) Tire Market alone was valued at USD 14.78 Billion in 2024. Projections indicate a substantial increase to USD 27.74 Billion by 2033, demonstrating a Compound Annual Growth Rate (CAGR) of 7.25% during the period of 2025-2033.[43] Expanding this scope, the overall India Tyre market was estimated at USD 16.29 Billion in 2024 by Credence Research, with an anticipated rise to USD 25.84 Billion by 2032, growing at a CAGR of 5.93% from 2024 to 2032.[2]

Other assessments provide slightly different figures, with one report valuing the total Indian tire market at approximately USD 12.84 Billion in 2024, expecting it to reach USD 29.16 Billion by 2030, at a higher CAGR of 8.21%.[1] MarkNtel Advisors presented a 2024 market size of USD 11.98 Billion, with a forecast to USD 21.27 Billion by 2030, and a CAGR of 12.17% for 2025-2030.[4] Market Research Future (MRFR) offered a broader long-term outlook, estimating the India Automotive Tire Market at USD 16.42 Billion in 2023, growing to USD 18.13 Billion in 2024, and projected to reach USD 58.65 Billion by 2035, with a robust CAGR of 11.263% from 2025 to 2035.[3]

In terms of physical units, the market reached 196.3 Million Units in 2023 and is projected to grow to 253.9 Million Units by 2032, representing a CAGR of 2.9% during this period.[8] The specialized Off-the-Road (OTR) tire market alone, a crucial segment for infrastructure and mining, was valued at USD 524.90 Million in 2023, anticipated to expand to USD 928.42 Million by 2032, at a CAGR of 6.53%.[20]

The varying market projections for the Indian tire industry, with 2024 market size estimates ranging from USD 11.98 Billion to USD 16.29 Billion and CAGRs from 2.9% to 12.17%, are not merely statistical discrepancies. These differences stem from variations in report scope (e.g., overall market vs. specific segments like OHV or

automotive), diverse methodologies, and different base and forecast years. This variability in forecasting suggests that the Indian tire market, while undeniably on a growth trajectory, carries inherent uncertainty in its future scale. For decision-makers, this implies that relying on a single projection could be misleading. Instead, a strategic approach that considers a range of plausible scenarios is necessary, built upon robust sensitivity analyses to account for different growth rates and market sizes. This also highlights the importance of continuous market intelligence to refine projections as new data becomes available, enabling more agile and informed strategic planning.

The following table consolidates the diverse market size and growth projections from various sources, offering a comparative overview for comprehensive understanding:

Table: India Tire Market Size and Forecast (2024-2035)

Report Source	Base Year	Market Size (USD Billion/Million Units) in Base Year	Forecast Year	Market Size (USD Billion/Million Units) in Forecast Year	CAGR (%)	Specific Market Scope
IMARC Group	2024	USD 14.78 Billion	2033	USD 27.74 Billion	7.25% (2025-2033)	Off-Highway Vehicle (OHV) Tire Market
Credence Research	2024	USD 16.29 Billion	2032	USD 25.84 Billion	5.93% (2024-2032)	Overall India Tyre Market
GlobalNewswire	2024	USD 12.84 Billion	2030	USD 29.16 Billion	8.21%	Overall India Tyre Market
MarkNtel Advisors	2024	USD 11.98 Billion	2030	USD 21.27 Billion	12.17% (2025-2030)	India Tire Market
Market Research Future	2023	USD 16.42 Billion	2035	USD 58.65 Billion	11.263% (2025-2035)	India Automotive Tire

(MRFR)						Market
ResearchAndMarkets.com	2023	196.3 Million Units	2032	253.9 Million Units	2.9% (2023-2032)	India Tyre Market (Units)
Credence Research (OTR)	2023	USD 524.90 Million	2032	USD 928.42 Million	6.53% (2023-2032)	Off-the-Road (OTR) Tire Market

Market Segmentation Analysis

The Indian tire market is intricately segmented by various critical factors, reflecting the diverse needs of its vast and evolving automotive landscape. Understanding these segments is crucial for comprehending market dynamics and strategic positioning.

By Vehicle Type: The market is broadly segmented into Passenger Cars, Two-Wheelers, Light Commercial Vehicles (LCV), Medium & Heavy Commercial Vehicles (M&HCV), Three-Wheelers, and Off-the-Road (OTR) vehicles.[2] The **Two-Wheelers segment** held the dominant position in 2023, primarily driven by the affordability and convenience of motorcycles and scooters, which are widely used across urban and rural areas. Tires in this category are designed with a strong emphasis on durability and performance to withstand diverse Indian road conditions.[6] **Passenger Cars** are experiencing robust growth, a trend fueled by rising disposable incomes and the increasing availability of a wide range of car models catering to varied consumer preferences. For these vehicles, tire manufacturers are increasingly focusing on features that enhance fuel efficiency and safety.[2] The **Commercial Vehicle segment**, encompassing both LCVs and M&HCVs, is vital due to the expanding logistics and transportation sectors. Tires for this category require exceptional durability and the capacity to handle heavy loads over long distances, supporting the backbone of India's freight movement.[2] The **OTR segment** is experiencing significant growth, primarily propelled by substantial government investments in infrastructure projects, including the ambitious National Infrastructure Pipeline (NIP) which aims for a $1.4 trillion investment by 2025. This, alongside booming mining activities and the increasing mechanization of the agricultural sector, drives demand for robust and durable tires specifically designed for heavy-duty construction and mining machinery.[20]

By Demand Category: The market is fundamentally divided into **OEM (Original**

Equipment Manufacturer) sales and **Replacement/Aftermarket sales**.[6] The **Replacement/Aftermarket segment** consistently holds the largest market share, contributing approximately 60-70% of the total industry revenues.[2] This dominance is a direct consequence of India's expanding vehicle parc and the prolonged lifecycles of vehicles, which necessitate more frequent tire replacements due to wear and tear. This creates a continuous and predictable demand cycle, providing a crucial stable revenue stream for tire manufacturers, irrespective of fluctuations in new vehicle sales. Unlike the OEM segment, which is directly tied to the cyclical nature of new vehicle production, the replacement market offers a resilient demand base, acting as a significant buffer against economic downturns or shifts in new vehicle purchasing trends. For tire manufacturers, this highlights the paramount importance of robust aftermarket distribution networks, competitive pricing in the replacement segment, and effective customer retention strategies for long-term profitability and stability. **OEM sales**, while smaller in share, are strategically crucial for tire manufacturers as they establish partnerships with automakers to supply tires for new vehicles. These partnerships are vital for brand visibility and recognition, as consumers often become familiar with a tire brand if it is factory-fitted on well-known vehicle models.[7]

By Tire Construction Type: The market is segmented into **Radial, Bias, and Tubeless tires**.[2] **Radial tires** currently dominate the market and are projected to maintain the largest share due to their superior performance characteristics, including improved fuel efficiency, longer tread life, enhanced safety, and greater durability compared to bias-ply tires. The passenger car segment has achieved nearly 98% radialization, indicating a widespread adoption of this technology. The commercial vehicle sector, particularly trucks and buses, is also rapidly catching up in radial tire adoption, driven by the compelling benefits of cost savings and improved operational efficiency.[2] **Tubeless tires** are also gaining significant traction due to their self-sealing characteristic, which makes them less prone to sudden deflation, offering an added layer of safety and convenience for vehicle owners.[13]

Regional Demand Distribution: The Indian tire market exhibits strong geographical diversity, with significant demand emerging from all four major regions: North, West, South, and East.[2] **West and Central India** emerged as the largest market for tires in 2023/2024, a position attributed to a thriving automotive industry, dense vehicle populations, strong industrial activity, and wide distribution channels in these regions.[2] **South India**, particularly states like Kerala, Karnataka, and Tamil Nadu, holds a dominant position in natural rubber production, which directly supports the tire manufacturing base in the region.[48] Regional demand patterns are influenced by varying levels of urbanization, infrastructure development, and specific automotive

activities. For instance, northern states such as Punjab and Haryana show substantial OTR tire demand due to their strong agricultural base and increasing mechanization, while western states like Gujarat and Maharashtra are driven by booming construction and mining activities, requiring robust tires for heavy-duty machinery.[2]

3. Key Market Drivers and Emerging Trends

The Indian tire industry's trajectory of growth is propelled by a confluence of macroeconomic factors, strategic government initiatives, and continuous technological advancements. These drivers collectively shape the market's current dynamics and future outlook.

Robust Automotive Sector Growth and Vehicle Ownership

India's expanding automotive sector stands as the primary catalyst for tire demand. The nation has solidified its position as the world's fourth-largest automobile producer [44], with consistent increases in the production and sales of two-wheelers, passenger vehicles, and commercial vehicles.[2] This growth is further fueled by rising disposable incomes, rapid urbanization, and significant improvements in road infrastructure across the country, all of which directly contribute to increased vehicle ownership and, consequently, a heightened demand for tires.[2]

Government-led Infrastructure Development

The Indian government's commitment to infrastructure development is a crucial factor fueling the tire market's expansion. The ambitious National Infrastructure Pipeline (NIP) aims for an investment of approximately $1.4 trillion by 2025 across various projects, including the construction and upgrading of roads, highways, and ports.[3] This massive investment directly translates into a surging demand for heavy-duty construction and mining equipment, which in turn significantly boosts the Off-the-Road (OTR) tire market. Projections indicate that sales of construction equipment in India are expected to reach 122,000 units by 2025, a notable increase from 85,000 units in 2023.[43] Furthermore, improved road conditions and the development of large freight-speed corridors across the country enhance vehicle usage and necessitate the demand for more durable and high-performance tires.[2]

Expansion of Logistics and E-commerce Sectors

The rapid proliferation of India's e-commerce sector, which is projected to reach an impressive USD 99 billion by 2024, is significantly driving the demand for commercial vehicle tires. This growth is intrinsically linked to the increased freight movement and the burgeoning need for efficient last-mile delivery solutions across urban and rural

landscapes.[2] The expansion of these sectors directly correlates with higher utilization of commercial vehicles, thereby bolstering the demand for durable and reliable tires capable of handling extensive logistics operations.

Technological Advancements in Tire Manufacturing

Technological innovation plays a pivotal role in shaping the evolution of the Indian tire market, leading to enhanced product performance and efficiency.

Radialization: A prominent and transformative trend is the widespread shift from bias-ply tires to radial tires across nearly all vehicle segments. Radial tires offer superior performance characteristics, including improved fuel efficiency, longer tread life, enhanced safety, and greater durability. While the passenger car segment has achieved almost complete radialization (approximately 98%), the commercial vehicle sector, particularly trucks and buses, is rapidly adopting radial tires. This shift in commercial vehicles is driven by the compelling benefits of cost savings and improved operational efficiency over their lifespan.[2]

Smart Tires and IoT Integration: The integration of Tire Pressure Monitoring Systems (TPMS) and Internet of Things (IoT) sensors in Off-Highway Vehicle (OHV) tires is an emerging trend, with an expected annual growth of 20% from 2023 to 2025. These smart tires provide real-time data on critical conditions such as pressure, temperature, and tread depth, significantly enhancing operational safety and efficiency for vehicle operators.[3]

Shift Towards Sustainable Solutions

A growing emphasis on environmental sustainability is driving significant changes in tire manufacturing and disposal practices.

Eco-friendly Materials: Tire companies are increasingly investing in the development and incorporation of bio-based rubber and recycled materials. By 2025, it is anticipated that 30% of off-highway tires in India will contain sustainable raw materials.[43] Leading manufacturers like Apollo Tyres are actively exploring innovative solutions, such as using nano cellulose as a sustainable substitute for carbon black and implementing advanced devulcanization techniques to enhance the quality of recycled rubber.[2]

Retreading: The escalating focus on tire retreading is gaining traction as a cost-effective and environmentally friendly solution. Retreading extends the lifespan of tires, thereby reducing waste generation and conserving raw materials.[43]

EV-Specific Tires: The burgeoning electric vehicle (EV) market in India, which saw over 1 million units sold in FY2023, presents a distinct and growing demand segment for specialized tires.[12] EVs exert higher torque and carry increased weight due to their batteries, necessitating tires with greater durability, reduced rolling resistance (to optimize range efficiency), and lower noise emissions. Manufacturers are responding by developing tailored solutions, such as ultra-low rolling resistance tires and integrating technologies like FOAM to reduce cavity noise specifically for EVs.[45]

The Indian tire industry is currently navigating two distinct yet equally impactful innovation pathways, driven by divergent market demands. On one hand, extensive government-led infrastructure development, coupled with growth in mining and construction, is creating a substantial demand for robust, heavy-duty, and durable Off-the-Road (OTR) and commercial vehicle tires.[20] These applications prioritize ruggedness, high load-bearing capacity, and resistance to harsh operating conditions. Concurrently, the rapid adoption of Electric Vehicles (EVs) is generating a significant need for specialized tires that address unique performance requirements. These include accommodating higher torque, managing increased vehicle weight due to batteries, and crucially, delivering reduced rolling resistance for extended range efficiency, along with lower noise emissions.[12] The performance characteristics prioritized for OTR and commercial tires (e.g., durability, load capacity) are fundamentally different from those for EV tires (e.g., lightweighting, low rolling resistance, noise reduction, enhanced grip for instant torque). This divergence in market drivers imposes distinct technical requirements on tire design and manufacturing. This situation necessitates that tire manufacturers pursue parallel and potentially distinct research and development (R&D) pathways. Instead of a singular focus, companies must strategically allocate resources to develop specialized product lines tailored for both heavy-duty industrial applications and the evolving EV segment. This dual focus will likely lead to increased overall R&D investment across the industry, potentially fostering specialization among manufacturers (where some may excel in OTR solutions, while others lead in EV tire technology), and ultimately result in a more complex and diversified product portfolio designed to cater to India's varied and rapidly evolving automotive landscape. This also highlights the ongoing need for advanced material science to balance these often-conflicting performance demands effectively.

4. Competitive Landscape

The Indian tire industry is characterized by a dynamic competitive environment, shaped by the strong presence of established domestic players and the strategic

maneuvers of international manufacturers.

Analysis of Major Domestic and International Players

The market is predominantly influenced by major Indian companies. These include industry stalwarts such as MRF Ltd., Apollo Tyres Ltd., CEAT Ltd., JK Tyre & Industries Ltd., and Balkrishna Industries (BKT).[1] Among these, Balkrishna Industries holds the leading position in terms of market capitalization, recorded at ₹49,979.26 Crore. Following closely is MRF Ltd., with a market capitalization of ₹44,646.51 Crore, which also stands as India's largest tire manufacturer by revenue.[1] Other significant domestic players include Apollo Tyres (₹24,594.28 Crore), Ceat (₹9,732.29 Crore), and JK Tyre & Industries (₹6,946.41 Crore).[1] In the two-wheeler segment, TVS Srichakra, operating under the TVS Eurogrip brand, holds a dominant position, commanding over 40% of the market share.[2]

Beyond the domestic giants, global players have established a notable presence in the Indian market. These include Bridgestone India, Goodyear India, Continental India, Michelin India, and Yokohama India.[12] Recent strategic shifts by these international entities indicate a re-evaluation of their market focus. For instance, Continental Tyres announced in June 2025 its decision to cease truck and bus radial (TBR) tire manufacturing at its Modipuram plant in India. This move is part of a broader strategy to exclusively concentrate on passenger car and light truck (PLT) tire production in the country, aiming to strengthen its market position in these specific segments.[19] Concurrently, Yokohama India expanded its local production capabilities in February 2025 by commencing the manufacturing of 20-inch tires at its Indian facility. This initiative is designed to reduce reliance on imports and cater to the increasing demand for high-end, high-performance tires, particularly for the burgeoning SUV and luxury automobile segments in India.[18]

The strategic re-orientation by international players like Continental and Yokohama towards specific high-value segments, such as Passenger and Light Truck (PLT) and premium passenger car tires, is a significant development. These moves are not arbitrary; they are driven by a careful assessment of market profitability, competitive intensity in different segments, and leveraging their global expertise and technological advantages. Continental's exit from the Truck and Bus Radial (TBR) segment, where domestic players are particularly strong, suggests a strategic retreat from a highly competitive or lower-margin area, to pivot towards a potentially more profitable or less saturated niche like PLT. Similarly, Yokohama's investment directly targets the growing affluent consumer base and the rising demand for luxury vehicles in India. This implies that while domestic players may continue to dominate the mass-market

and commercial segments due to their established networks and cost efficiencies, competition in the premium and passenger vehicle segments is set to intensify significantly. Indian manufacturers operating in these segments will face heightened pressure to innovate, enhance product quality, and strengthen their brand positioning to compete effectively with technologically advanced global brands. This dynamic could lead to a more segmented market where different players specialize, or it might compel comprehensive players to invest heavily across all segments to maintain their broad market presence.

Market Share and Strategic Positioning of Leading Companies

While precise market share percentages by company for 2023/2024 are not explicitly provided in the available information, the market capitalization figures and qualitative descriptions of "dominance" offer clear indicators of a concentrated market structure.[1] MRF, Apollo, and JK Tyre are frequently referred to as the "holy trinity" that collectively dominates overall sales in the Indian market.[14] Historically, some of their products in the affordable car segment have faced criticism regarding quality, based on 2017 data.[14] However, companies across the board are actively strengthening their market positions through continuous product innovation, strategic capacity expansion, and focused brand positioning.[2] Leading manufacturers such as CEAT and JK Tyre are notably investing in Research and Development (R&D) and actively filing patents for advanced technologies, which is deemed vital for maintaining a competitive edge in this evolving industry.[3]

Competitive Strategies and Market Dynamics

The Indian tire market is characterized by its high price sensitivity, which often leads to fierce competition and frequent price wars among manufacturers vying for market share.[17] A significant strategic imperative for manufacturers is the widespread shift towards radial tires. This trend profoundly influences companies' product portfolios, prompting increasing investments in advanced equipment and R&D to develop high-performance radial tires specifically tailored for diverse local road conditions.[2] Furthermore, OEM sales represent a crucial channel for tire manufacturers, not just for volume but also for brand visibility and recognition. Tires supplied through OEM channels must adhere to stringent quality standards and specifications set by both the tire manufacturer and the automaker, thereby bolstering brand perception and market acceptance.[7]

The following table provides a snapshot of the financial standing and market valuation of the major Indian tire manufacturers, based on market capitalization data from December 2024. This data is essential for assessing the relative scale and market

presence of the industry's leading players.

Table: Key Indian Tire Manufacturers by Market Capitalization (December 2024)

Company Name	Market Cap (₹ Cr)	Last Price (₹)	% Change (Day/Recent)	52-Week High (₹)	52-Week Low (₹)
Balkrishna Industries	49,979.26	2,585.35	-1.27	3,377.95	2,193.85
MRF	44,646.51	105,270.00	-0.16	147,000.00	103,816.85
Apollo Tyres	24,594.28	387.25	3.45	584.65	370.90
Ceat	9,732.29	2,406.00	-4.56	3,581.45	2,211.00
JK Tyre & Industries	6,946.41	253.25	-4.49	525.00	243.35

Source: MoneyControl [1]

5. Raw Material Dynamics and Supply Chain Challenges

The Indian tire industry's operational efficiency and profitability are profoundly influenced by the availability and price volatility of key raw materials. Managing these inputs poses significant supply chain challenges.

Natural Rubber (NR): Production, Consumption, and Import Reliance

Natural rubber is the most critical raw material for tire manufacturing, accounting for a substantial 72% of the total production cost.[7] India holds a dual position as the world's second-largest consumer of natural rubber and its fifth-largest producer.[23]

Domestic production of natural rubber has shown growth, increasing by 8.6% from 7.89 lakh tons in FY21-22 to 8.57 lakh tons in FY23-24. The industry forecasts production to reach 8.82 lakh tons in FY24-25.[24] Specifically, during April-September 2024, 361,000 tonnes were produced.[24]

However, India's annual natural rubber consumption is significantly higher, estimated at approximately 14.16 lakh tonnes, with a projected increase of 5% to around 14.86 lakh tonnes by FY24-25.[24] The automotive tire sector alone consumes nearly 70% of

the country's natural rubber.[21] This creates a considerable and persistent gap between domestic demand and supply, which is primarily fulfilled through imports. India imported 318,042 tonnes of natural rubber during April-September 2024, a notable increase compared to 254,487 tonnes in the same period of the previous year.[24] Major import sources for India include Malaysia, Thailand, Indonesia, and Vietnam.[23]

The market is currently experiencing an unprecedented surge in natural rubber prices. For instance, RSS 3 sheet rubber has seen a nearly 50% increase since January 2024, reaching ₹225 per kg.[21] This price surge is primarily driven by global shortages, production disruptions in key producing nations (often due to adverse weather conditions), and a global shift away from rubber cultivation.[21] Domestically, natural rubber prices in India have consistently been higher than international prices, and the persistent supply gap further contributes to elevated price levels.[21]

India's position as the second-largest consumer but only the fifth-largest producer of natural rubber creates a fundamental structural import dependency. This reliance on external sources makes the Indian tire industry highly susceptible to global supply chain disruptions, adverse weather conditions in major producing nations, and international price fluctuations. The situation is further exacerbated by internal factors such as a decline in domestic rubber tapping and rising labor costs, which hinder local production efforts. This combination of factors directly impacts the profit margins of tire manufacturers, as natural rubber constitutes a significant portion of their production costs. The situation necessitates not only robust supply chain management, including exploring long-term import contracts and hedging strategies, but also a renewed focus on boosting domestic rubber cultivation through government incentives and technological advancements in yield. Furthermore, it prompts a consideration of greater substitution with synthetic rubber or recycled materials where technically and economically feasible. This inherent vulnerability to external natural rubber dynamics could also affect the competitiveness of Indian tires in export markets if domestic input costs remain disproportionately high compared to international benchmarks.

The following table provides a detailed quantitative overview of India's natural rubber production, consumption, and trade dynamics, illustrating the critical demand-supply gap and import reliance:

Table: India's Natural Rubber Production, Consumption, and Trade (FY2023-2025)

Metric	FY2023-24 (Actual)	FY2024-25 (Projected)	April-September 2024 (Actual)	September 2024 (Actual)	October 2024 (Preliminary Estimate)
Production (Lakh Tonnes)	8.57	8.82	3.61	0.78	0.87
Consumption (Lakh Tonnes)	14.16	14.86	7.05	1.14	1.12
Imports (Tonnes)	N/A	N/A	318,042	74,341	N/A
Exports (Tonnes)	N/A	N/A	1,701	206	N/A

Source: IMARC Group, Rubber Board of India 24
Note: Lakh Tonnes are converted to Tonnes for consistency in April-September/monthly data where available.

Synthetic Rubber, Carbon Black, Steel Reinforcement, and Textile Reinforcements: Sourcing and Supply Chain

Beyond natural rubber, the Indian tire industry relies on a range of other critical raw materials, each with its own sourcing dynamics and supply chain considerations.

Synthetic Rubber (SR): India is a significant player in the global synthetic rubber market, ranking as the world's fourth-largest importer of this material.[50] Domestic production of synthetic rubber is considerably lower than consumption, leading to a substantial shortfall that is primarily met through imports. For instance, in FY23, domestic production stood at 3.45 lakh metric tonnes against a consumption of 7.6 lakh metric tonnes.[23] Consumption of synthetic rubber increased by 10.5% during April-September 2024.[24] Indian Synthetic Rubber Private Limited (ISRPL), a joint venture between Indian Oil Corporation Limited (IOCL) and TSRC Corporation, operates India's first e-SBR plant with a production capacity of 120,000 tonnes per annum (TPA).[25] ISRPL primarily procures butadiene (which constitutes 69% of its raw material cost) from IOCL and imports styrene (23% of raw material cost).[25] The prices of synthetic rubber are inherently sensitive to crude oil trends and currency

fluctuations, adding another layer of volatility to production costs.[17]

Carbon Black: This vital raw material is indispensable for imparting strength, durability, and UV protection to tires.[30] Notably, India underwent a significant transformation in its carbon black trade, shifting from being a net importer to a net exporter in 2022. This change was driven by a surge in domestic supply and the implementation of stricter import regulations.[29] India's current annual carbon black production capacity exceeds 1,850 kilo tons, with PCBL (formerly Phillips Carbon Black Ltd) leading the domestic market with 770 kilo tons across five locations. PCBL commissioned a 147 kilo tons plant in Tamil Nadu in 2023 and aims to reach a total production capacity of 1 million tonnes per annum within three years with new facilities.[28] Despite its net exporter status, India remains the world's second-largest importer of carbon black, having imported 11,631 shipments from October 2023 to September 2024, primarily from the United States, China, and South Korea.[26] India is also the leading global importer of carbon black feedstock.[52] Carbon black prices are influenced by shifting trade policies, raw material costs (such as coal tar), and global demand patterns.[51]

Steel Reinforcement (Steel Cord): Steel is a crucial component for strengthening tires, enhancing rigidity, and maintaining the range efficiency of electric vehicles by reducing tire deformation.[18] India's domestic steel production has shown positive growth, increasing by 9.3% in FY2024, which has contributed to a 14% reduction in import dependency for tire manufacturers.[27] However, Indian tire makers who rely on imported steel cords experienced a 9-11% rise in procurement costs in early 2024. This increase was partly due to factors such as the EU's Carbon Border Adjustment Mechanism (CBAM), which impacts Asian-sourced high-carbon steel used in tire cords.[27] Steel accounts for approximately 60-70% of steel cord production costs, making its price fluctuations highly impactful on overall tire manufacturing expenses.[27] Domestic companies like Bekaert Industries Private Limited and Posco Maharashtra Steel Private Limited are involved in the production of steel cord in India.[53]

Textile Reinforcements: Tires are also strengthened with textile reinforcements, commonly referred to as cloth.[18] Polyester reinforcement is sometimes favored in entry-level vehicles due to its cost efficiency compared to steel cord.[27] While specific detailed data on domestic production versus import reliance for tire-specific textile reinforcements is not readily available, India has recently tightened apparel import rules from Bangladesh. This broader policy move aims to boost domestic manufacturing and reflects a wider governmental push for self-reliance in the textile sector, which could indirectly influence the availability and cost of textile inputs for the

tire industry.[54]

The supply chain for tire raw materials in India presents a complex and uneven picture of resilience. For natural rubber and synthetic rubber, there is a clear and significant reliance on imports due to domestic production deficits. This makes the industry vulnerable to global supply chain disruptions, geopolitical tensions, and international price volatility for these critical inputs. Conversely, for carbon black, India has transitioned to a net exporter, indicating growing domestic production capacity, yet it remains a major global importer, suggesting a need for specific grades or types of carbon black that are still sourced externally. Similarly, while domestic steel production is increasing and reducing overall import dependency, the costs of imported steel cords are rising due to global trade policies. This indicates that the Indian tire industry does not face a uniform supply chain challenge across all raw materials; rather, its resilience varies significantly by material. This necessitates a highly granular and diversified sourcing strategy for tire manufacturers. They cannot apply a single procurement model across all inputs. For natural rubber and synthetic rubber, the focus must be on mitigating import risks through strategies such as long-term contracts, hedging against currency fluctuations, exploring new trade partners, and actively supporting domestic cultivation initiatives. For carbon black and steel, while leveraging growing domestic sources is encouraged, continuous monitoring of global prices and trade policies remains crucial, especially for specialized grades or when domestic supply cannot meet specific quality or cost requirements. This inherent complexity adds to operational challenges, demanding sophisticated supply chain management, robust risk assessment capabilities, and potentially strategic investments in upstream production or partnerships to secure critical inputs. The ability to navigate this uneven resilience effectively will be a key determinant of competitive advantage and cost stability for players in the Indian tire industry.

6. Government Policies and Regulatory Environment

The Indian government actively shapes the tire industry through a multifaceted approach that includes trade protection, manufacturing incentives, and environmental regulations.

Import Regulations, Tariffs, and Anti-Dumping Duties

In a significant policy shift in June 2020, the Directorate General of Foreign Trade (DGFT) reclassified the import authorization for new pneumatic tires, moving them into the "Restricted Category." This change mandates that importers must now obtain specific licenses to bring these tires into the country.[32] This measure is part of the

government's broader strategy to actively support the domestic tire industry. It involves imposing tariffs on imported tires and providing financial incentives to local manufacturers, aligning with the national "Make in India" and "Atmanirbhar Bharat" (Self-Reliant India) initiatives.[7] Furthermore, India has imposed anti-dumping duties on various automotive components, including steel wheels and tires, imported from countries like China. The stated purpose of these duties is to protect domestic industries from unfair competition and to foster local manufacturing.[31]

Conversely, the Indian tire industry also faces international trade barriers. The U.S. has maintained antidumping duty (AD) and countervailing duty (CVD) orders on certain new pneumatic off-the-road (OTR) tires from India, indicating ongoing international trade tensions and scrutiny.[55]

While these import restrictions and duties are explicitly intended to boost local production and protect domestic manufacturers, their implementation has drawn criticism. Some observers argue that such measures may inadvertently disincentivize local manufacturers from investing in continuous product quality improvement, as the reduced competition from imports lessens the pressure to innovate.[33] Moreover, these policies create significant challenges for niche segments of the market, such as high-end performance cars and premium motorcycles, which often rely on specialized imported tires that are not manufactured domestically. This can lead to supply shortages or higher costs for consumers in these segments.[33]

The Indian government's implementation of strong protectionist measures, including reclassifying tire imports as "Restricted," imposing tariffs, and applying anti-dumping duties, is a clear attempt to shield domestic manufacturers and promote self-reliance. While these policies achieve the immediate goal of protecting local production, they present a critical policy dilemma. By reducing external competitive pressure, these very restrictions might inadvertently diminish the incentive for local manufacturers to continuously improve product quality and innovate. This is particularly evident in niche segments where specialized tires are not domestically produced, leading to supply concerns and potentially hindering the growth of certain automotive categories. This scenario suggests that while import protection provides a short-term shield, it risks hindering the long-term competitiveness and quality evolution of the Indian tire industry. For the industry, this means that while domestic market share might be secured, the drive for world-class innovation and product excellence, especially when compared to global leaders, could be dampened. A more nuanced policy approach might involve targeted protection for nascent segments, coupled with strong incentives for research and development (R&D) and quality benchmarks that are independent of import competition, or specific exemptions for tire types not

produced domestically.

"Make in India" Initiative and Production Linked Incentive (PLI) Scheme

The "Make in India" initiative, a cornerstone of the government's industrial policy, is actively supported by schemes such as the Production Linked Incentive (PLI) Scheme for Automobile and Auto Components. This PLI scheme has been extended by one year, with incentives now applicable for five consecutive financial years, commencing from FY2023-24.[32] This strategic extension is part of the broader "Automotive Mission Plan 2016-26 (AMP 2026)," which aims to transform the Indian automotive industry into the "Engine of the Make in India Programme." The plan sets ambitious goals, including increasing the automotive sector's contribution to national GDP, creating millions of new jobs, and significantly boosting exports by 2026.[32]

Environmental Regulations: Extended Producer Responsibility (EPR) for Waste Tires, Emissions, Waste Disposal

Environmental sustainability is an increasingly critical aspect of the regulatory landscape for the Indian tire industry.

Extended Producer Responsibility (EPR) for Waste Tires: In a significant move towards sustainable waste management, the Ministry of Environment, Forests and Climate Change (MoEFCC) introduced Extended Producer Responsibility (EPR) for waste tires in July 2022. This regulation mandates that tire producers and importers are responsible for the safe disposal of End-of-Life Tyres (ELTs).[35] Compliance is achieved by purchasing EPR certificates from authorized recyclers, who are then responsible for converting waste tires into environmentally safe products.[36] The EPR obligation targets are ambitious and progressive: 35% in 2022-23, rising to 70% in 2023-24, and reaching 100% from 2024-25 onwards.[36]

Waste Tire Imports & Pyrolysis: Despite these ambitious EPR targets, India faces a substantial environmental challenge from a surge in waste tire imports, which have increased five-fold from FY21 to FY24.[35] These imported waste tires are predominantly used for pyrolysis, a thermochemical process that breaks down rubber into pyrolysis oil, combustible gas, and carbon black.[34] The Automotive Tyre Manufacturers' Association (ATMA) has voiced significant concerns that these unregulated imports undermine the objectives of the EPR scheme and place an undue burden on India's waste management infrastructure.[34] Furthermore, importing waste tires specifically for pyrolysis is a breach of existing Indian regulations.[39]

Pyrolysis Plant Scrutiny: The Central Pollution Control Board (CPCB) has intensified

its scrutiny of pyrolysis plants, leading to the closure of many non-compliant units.[34] The CPCB now mandates stricter enforcement of new guidelines, favoring the 'Advanced Batch Automated Process' to minimize toxic emissions and fire hazards.[39] Tyre Pyrolysis Oil (TPO) production has been designated an "Orange category" industry due to its potential for air pollution from combustion and fugitive emissions.[36] Standard Operating Procedures (SOPs) have been issued by the CPCB for TPO units to ensure environmental compliance.[57]

Broader Environmental Focus: Beyond waste tires, the industry is increasingly focusing on sustainable waste management practices. This includes promoting the production of crumb rubber and pyrolysis oil from waste tires for use in construction and fuel, which helps reduce landfill waste and lower greenhouse gas emissions.[37] Eco-friendly manufacturing practices are also being emphasized, involving the adoption of energy-efficient machinery, optimized material movement to minimize waste generation, and the implementation of closed-loop systems to reuse materials and reduce emission levels.[56]

The government's ambitious Extended Producer Responsibility (EPR) targets for waste tires, aiming for 100% recycling or disposal by 2024-25, signal a strong commitment to environmental sustainability. However, this policy ambition is undermined by a significant and contradictory reality: a dramatic five-fold increase in waste tire imports from FY21 to FY24, largely for pyrolysis. The Automotive Tyre Manufacturers' Association (ATMA) explicitly states that these imports "undermine the objectives of the Extended Producers Responsibility (EPR) Regulation" and that importing waste tires for pyrolysis is a "breach of Indian regulations." Furthermore, many pyrolysis plants continue to operate without proper compliance. This situation reveals a critical enforcement gap or a loophole in import regulations that allows for the continued influx of waste tires, which then bypass the intended EPR framework. This creates an additional burden on India's waste management infrastructure and perpetuates environmental hazards, including air, soil, and water pollution, fire risks, and the proliferation of vector-borne diseases. The effectiveness of India's environmental policies in the tire sector is severely hampered by this enforcement gap. While the regulatory framework exists, its impact is diluted by widespread unregulated practices. This could lead to continued environmental degradation and health risks despite policy efforts, and it creates unfair competition, where compliant recyclers and manufacturers adhering to EPR face disadvantages against those utilizing cheaper, unregulated waste.

R&D Incentives and Quality Standards

To foster innovation and elevate product quality, the Department of Scientific and Industrial Research (DSIR) offers incentives for in-house R&D units within the industry. These incentives include customs duty exemptions and concessional Goods & Services Tax (GST) on procurements specifically for research activities.[58] Obtaining DSIR recognition for in-house R&D units is a primary requirement for companies to avail these fiscal incentives.[58] Concurrently, new quality standards are being implemented for tires. From October 2023, new tire specifications came into effect, with specific standards for wet grip and rolling resistance mandated from April 2024, and rolling noise regulations enforced from June 2024.[44]

While these DSIR incentives aim to boost in-house R&D and new quality standards are being implemented, there is a perceived disincentive for local manufacturers to proactively improve quality due to reduced import competition. This situation suggests a potential gap between the policy's intent and its market outcome. The import restrictions, while protecting domestic industry, might inadvertently diminish the very competitive pressure that often drives innovation and quality improvements in a free market. This could lead to a slower pace of innovation or a focus on incremental improvements rather than disruptive ones, particularly in segments shielded from international competition. Consequently, the effectiveness of R&D incentives might be diluted if the market does not strongly demand higher quality due to limited alternatives. This dynamic could impact India's long-term competitiveness in global markets if domestic quality standards lag behind international benchmarks.

7. Export Performance and Global Acceptance

India's tire industry is increasingly making its mark on the global stage, with significant growth in exports and a notable shift in international perception regarding the quality of Indian-manufactured tires.

Analysis of Export Growth Trends

Indian tire exports have demonstrated substantial growth in value. In the first half of fiscal year 2024-25 (April-September), tire exports surged by 12% in value, reaching Rs 12,131 crore (approximately USD 1.45 billion), with an overall volume increase of 6%.[40] Over a four-year period, tire exports from India nearly doubled in value, rising from Rs 12,844 crore in FY2020 to Rs 23,125 crore in FY2023. Total exports reached USD 3 billion (Rs 24,993 crore) in FY23, accounting for over 25% of the industry's total turnover.[41]

Breaking down the growth by product type, motorcycle tire exports saw a significant rise of 37% in H1 FY24-25, reaching nearly 3.5 million units. Passenger Car Radial

(PCR) exports experienced an 18% growth, while Truck & Bus Radial (TBR) exports grew by 19% during the same period.[40] The export business currently constitutes approximately 20% of the Indian tire industry's total sales, with projections indicating an increase to 30% by 2030.[16]

However, there appears to be an apparent contradiction between reports of significant value growth in exports (doubling from FY20 to FY23, and 12% in H1 FY24-25) and reports of volume contraction or flatness (7% contraction in FY2023, and flat in 9M FY2024).[41] This discrepancy suggests that the increase in export value is primarily driven by higher unit prices or a strategic shift towards higher-value tire types, rather than a mere increase in the quantity of tires shipped. This indicates that Indian manufacturers are successfully moving up the value chain or benefiting from global price inflation, even amidst challenging global demand conditions. This strategy allows Indian manufacturers to capture more value per tire in international markets, which can mitigate the impact of global demand slowdowns on overall export revenues. This also signals a growing sophistication in India's export strategy, moving beyond just volume to focus on higher-value products and market segments.

Key Export Destinations and Market Share

Indian-manufactured tires are exported to a vast global market, reaching over 170 countries worldwide.[41] The United States stands as the largest importer of Indian tires, accounting for 15% of the total export value in H1 FY24-25 [40], 19% in FY22 [7], and approximately 25% in FY23.[41] Other major importing countries include Brazil, Germany, the UAE, France, and the UK.[7] For motorcycle tires specifically, Colombia has emerged as the leading importer of Indian products.[13] Replacement markets in Europe and the US are identified as key export destinations, accounting for 30-35% and 18-25% (in value terms) of Indian tire exports, respectively.[60]

Factors Driving Global Demand and Quality Perception

The increasing global acceptance of Indian tires is attributed to several key factors. Significant investments in research and development (R&D) and enhanced manufacturing capabilities within India have played a crucial role.[40] There is a favorable global demand for the quality of Indian tires, with the industry offering a "compelling value proposition on quality" that is increasingly appreciated worldwide.[40] This has led to increasing acceptance of Indian tires in overseas markets.[60] The Automotive Tyre Manufacturers' Association (ATMA) actively encourages automotive OEMs to export vehicles fitted with Indian-manufactured tires, aiming to further showcase the capabilities of the Indian tire industry to potential international markets

and foster broader global recognition.[41]

Despite some historical perceptions of lower quality for domestic brands (based on 2017 data), the sustained growth in tire exports, particularly to discerning markets like the US and Europe, alongside ATMA's emphasis on a "compelling value proposition on quality," suggests a significant improvement in the global perception and actual quality of Indian-manufactured tires. This indicates that Indian manufacturers are successfully bridging any historical quality gap, moving beyond mere cost competitiveness to offer products that meet international standards. This development is critical for long-term export growth and market diversification, as it allows Indian companies to compete on quality rather than solely on price. This positive shift in quality perception could also eventually translate into stronger domestic brand loyalty for premium segments, potentially challenging international brands within India.

The following table provides a detailed breakdown of India's tire exports by product type and key destinations for H1 FY2024-25, offering a granular view of export performance and market focus:

Table: India's Tire Exports by Product Type and Key Destinations (H1 FY2024-25)

Product Type	Growth Rate (H1 FY24-25)	Volume (H1 FY24-25)	Key Export Destinations
Motorcycle Tires	37%	~3.5 million units	Colombia (leading importer) [40]
Passenger Car Radials (PCR)	18%	N/A	USA, Europe (replacement markets) [40]
Truck & Bus Radials (TBR)	19%	N/A	USA, Europe (replacement markets) [40]
Off-the-Road (OTR) Tires	46% (TTM Oct 23-Sep 24)	942 shipments	Guatemala, Nigeria [61]

Overall Tire Exports (Value)	11.7%	Rs 12,131 crore (USD 1.45B)	USA (15%), Brazil, Germany, UAE, France, Italy [7]
Overall Tire Exports (Volume)	6%	N/A	N/A [40]

Source: ATMA, Ministry of Commerce, Volza [7]

8. Innovation and Research & Development Landscape

Innovation and Research & Development (R&D) are increasingly vital for the Indian tire industry to maintain competitiveness, address evolving market demands, and navigate sustainability imperatives.

Key R&D Focus Areas

The R&D efforts within the Indian tire industry are multifaceted, focusing on several critical areas:

- **Material Science:** There is a significant push towards developing and incorporating eco-friendly alternatives into tire compounds. This includes exploring novel materials like nano cellulose as a potential substitute for carbon black and utilizing advanced devulcanization techniques to enhance the quality of recycled rubber.[2] The broader aim is to integrate bio-based rubber and recycled materials into tire manufacturing processes.[43]
- **Performance Enhancement:** R&D is geared towards improving fundamental tire performance attributes. This includes achieving ultra-low rolling resistance (with some manufacturers like Apollo Tyres achieving coefficients as low as 5.5 kg/tonne), enhancing high traction, and reducing noise emissions.[45] The Department of Scientific and Industrial Research (DSIR) also emphasizes R&D for improved grip, rolling resistance (RR), and noise reduction.[58]
- **Lightweighting:** Efforts are underway to reduce the overall weight of tires without compromising durability or performance. For instance, Apollo Tyres has developed lightweight Truck Bus Radial (TBR) tires with a 10% weight reduction, contributing to fuel efficiency and environmental stewardship.[45]
- **Smart Tires:** The development of smart tires equipped with sensors is a growing area. These sensors can monitor critical parameters such as tire pressure, tread depth, temperature, friction, and even corrosion, providing real-time data to drivers and fleet operators, thereby enhancing safety and operational efficiency.[3]
- **EV-specific Tires:** The rapid adoption of Electric Vehicles (EVs) in India presents

unique challenges and opportunities for tire manufacturers. EVs exert higher torque and carry increased weight due to their batteries, necessitating specialized tires that offer greater durability and manage increased tire wear emissions. R&D is focused on developing tailored solutions, such as FOAM technology to reduce cavity noise for EVs, and designing tires that cater to the specific performance demands of electric powertrains.[12]

Role of DSIR Incentives and Industry-Academia Collaborations

The Indian government actively supports industrial research through the Department of Scientific and Industrial Research's (DSIR) "Industrial Research & Development Promotion Program (IRDPP)." This program aims to promote in-house R&D units within the industry by offering various fiscal incentives, including customs duty exemptions and concessional Goods & Services Tax (GST) on procurements specifically for research activities.[58] DSIR recognition is a primary requirement for companies to avail these crucial fiscal benefits.[58] Furthermore, leading tire manufacturers like Apollo Tyres are actively engaging in collaborations with prominent universities and Asian premier institutes to foster innovation and leverage external expertise in their R&D initiatives.[45]

While DSIR incentives and industry-academia collaborations are actively fostering research and development within the Indian tire industry, a broader examination of India's overall R&D expenditure reveals a potential limitation. India's R&D expenditure as a percentage of GDP has remained stagnant at around 0.7% over the last decade, which is significantly lower compared to global averages in regions like Europe, OECD countries, and East Asia, where it typically exceeds 2%.[46] This disparity suggests that despite targeted incentives for specific industries, the broader innovation ecosystem in India might still be underfunded or inefficiently structured, particularly given a perceived "make-heavy" approach in public sector R&D.[62] This situation could potentially limit the scale and pace of disruptive innovation compared to global leaders. The implication is that while the tire industry is making commendable strides in innovation, it may not be operating within a national ecosystem that fully supports rapid, large-scale technological breakthroughs. This might necessitate greater private sector investment in R&D or a strategic shift in government policy towards more "contracting-out" models, where public funds are channeled into external research institutions and private enterprises, as seen in leading innovation systems globally.[62] If India does not address this broader R&D funding gap, its industries, including tires, might struggle to maintain a competitive edge against countries with more robust and dynamic innovation ecosystems in the long term.

Intellectual Property Protection and Future Innovation Trajectories

Intellectual Property (IP) teams play a crucial role in safeguarding and advancing the competitive edge of tire manufacturers. These teams are tasked with recognizing, securing, and strategically utilizing IP assets to ensure sustained value for stakeholders.[45] The future innovation trajectories in the Indian tire industry are increasingly focused on the development of sustainable tire technologies and specialized solutions for Electric Vehicles (EVs).[2] This strategic direction aligns with global environmental concerns and the burgeoning EV market, positioning Indian manufacturers to cater to future mobility needs.

9. Challenges and Opportunities

The Indian tire industry, while on a significant growth trajectory, faces a unique set of challenges that must be navigated to capitalize on emerging opportunities.

Key Challenges

- **Raw Material Price Volatility:** The industry is highly susceptible to fluctuations in raw material prices, particularly natural rubber (NR). NR prices have been surging due to global shortages, production disruptions, and adverse weather conditions, directly impacting profit margins for manufacturers.[2] Volatility also extends to synthetic rubber, carbon black, and steel prices, which are significant components of production costs.[2]
- **Import Competition & Restrictions:** While import restrictions (such as reclassifying tires as "Restricted" and imposing anti-dumping duties) are intended to protect domestic manufacturers, they can inadvertently disincentivize quality improvement due to reduced competitive pressure.[33] These restrictions also pose challenges for niche markets and high-end vehicle segments that rely on specialized imported tires not produced domestically.[33] Furthermore, the surge in unregulated waste tire imports poses significant environmental and safety risks, undermining the Extended Producer Responsibility (EPR) scheme.[34]
- **High Production Costs:** Manufacturing specialized tires, such as Off-the-Road (OTR) tires, requires advanced materials and complex processes, leading to high production costs.[20] Additionally, the relatively high corporate income tax in India compared to other countries can contribute to reduced competitiveness among Indian tire manufacturers.[7]
- **Supply Chain Disruptions:** Geopolitical tensions, such as the Red Sea crisis, and increasing shipping costs pose significant downside risks, leading to longer transit times and higher freight expenses.[40]
- **Inverted Duty Structure:** The Indian tire industry faces an inverted duty

structure, where duties on finished goods are lower than those on certain raw materials, which can negatively impact profit margins.[7]
- **Inadequate Recycling Infrastructure:** Despite ambitious EPR targets for waste tires, the country still faces limited recycling infrastructure, leading to challenges in efficient waste management and environmental compliance.[37]

Growth Opportunities

- **Expanding Domestic Demand:** The primary growth driver remains the robust and expanding domestic market. This is fueled by rising automotive production, increasing vehicle ownership, growing disposable incomes, and rapid urbanization across India.[2]
- **Radialization:** There is significant scope for further radial tire adoption, particularly in the commercial vehicle segment (trucks and buses), where the benefits of fuel efficiency and durability are increasingly recognized. This ongoing shift presents a substantial market opportunity for manufacturers.[2]
- **EV Tire Market:** The burgeoning adoption of Electric Vehicles (EVs) in India is creating a new and specialized demand segment for tires. Manufacturers focusing on developing high-performance, durable, and low-rolling-resistance tires tailored for EVs can tap into this growing market.[12]
- **Export Potential:** Indian tires are gaining increasing global acceptance due to investments in quality and innovation. There is a strategic focus on further diversifying export markets and increasing export value, with a target of crossing $5 billion by 2030.[7]
- **Sustainable Manufacturing:** A growing emphasis on environmental responsibility presents opportunities for manufacturers to invest in bio-based materials, increase recycled content, promote tire retreading, and adopt eco-friendly production processes. This not only aligns with regulatory requirements but also caters to increasing consumer and industry demand for sustainable products.[2]
- **Infrastructure-led Demand:** Continued and substantial government investment in infrastructure projects, including road construction, mining, and other heavy industries, will sustain and boost demand for Off-Highway Vehicle (OHV) and commercial vehicle tires.[3]

10. Conclusions and Strategic Recommendations

The Indian tire industry stands at a pivotal juncture, poised for substantial growth driven by its robust automotive sector, ambitious infrastructure development, and the burgeoning e-commerce and logistics segments. The dominance of the aftermarket

provides a resilient demand base, offering stability even amidst fluctuations in new vehicle sales. The rapid adoption of radial technology across vehicle segments, coupled with emerging demand for specialized EV tires and smart tire solutions, underscores a strong drive towards performance and technological advancement.

However, the industry faces critical challenges, particularly concerning raw material supply. India's structural import dependency for natural rubber and synthetic rubber exposes manufacturers to global price volatility and supply chain disruptions, directly impacting profitability. While domestic production of carbon black and steel reinforcement is improving, a nuanced approach to sourcing is essential to manage uneven supply chain resilience.

Government policies, aimed at fostering domestic manufacturing through import restrictions and incentives, present a double-edged sword. While these measures protect local players from cheap imports, they risk stifling innovation and quality improvement due to reduced competitive pressure, potentially hindering the growth of niche and premium segments. Furthermore, the effectiveness of ambitious environmental regulations, such as Extended Producer Responsibility (EPR) for waste tires, is undermined by a significant enforcement gap, evident in the surge of unregulated waste tire imports and non-compliant pyrolysis operations. Addressing this gap is crucial for achieving environmental objectives and ensuring fair competition within the recycling ecosystem.

Despite these challenges, Indian tire exports are gaining considerable traction globally, driven by investments in R&D and manufacturing capabilities that are enhancing product quality and value proposition. This improving global perception is vital for long-term export growth and market diversification. However, India's overall R&D expenditure, when compared to global leaders, suggests a broader innovation funding gap that could limit the pace of disruptive technological advancements.

Strategic Recommendations:

1. **Diversify and Secure Raw Material Supply:** Tire manufacturers should implement robust, diversified sourcing strategies for natural and synthetic rubber, including exploring long-term contracts, hedging mechanisms, and actively supporting domestic rubber cultivation initiatives to reduce import dependency. For carbon black and steel, while leveraging growing domestic capacities, continuous monitoring of global prices and trade policies is essential for specialized grades.
2. **Harmonize Trade and Innovation Policies:** The government should consider a more nuanced approach to import policies. While protection is necessary for

nascent segments, targeted exemptions for specialized tires not domestically produced could support high-end automotive growth. Simultaneously, strengthening competitive pressures through performance-based incentives, rather than solely protectionist measures, could further drive quality improvement and innovation among local manufacturers.

3. **Strengthen Environmental Enforcement and Infrastructure:** A concerted effort is required to close the enforcement gap in EPR regulations for waste tires. This includes stricter controls on unregulated waste tire imports and rigorous oversight of pyrolysis plants to ensure environmental compliance. Investment in advanced, compliant recycling infrastructure and technologies is paramount to effectively manage End-of-Life Tires and unlock value from recycled materials.
4. **Invest Strategically in R&D and Specialization:** Manufacturers should continue to prioritize R&D in areas such as eco-friendly materials, advanced performance characteristics (e.g., ultra-low rolling resistance, noise reduction), smart tire technologies, and specialized EV-specific tires. Given the divergent demands of heavy-duty industrial applications and the evolving EV segment, strategic allocation of R&D resources towards distinct product lines will be crucial. Addressing the broader national R&D funding gap through increased public and private investment is also essential for fostering disruptive innovation.
5. **Capitalize on Export Momentum:** Indian manufacturers should continue to leverage their improving global quality perception and value proposition to expand into new international markets beyond traditional destinations. Collaborations with automotive OEMs to factory-fit Indian-made tires on exported vehicles can further enhance global recognition and market penetration.

Works cited

1. Top Tyre Stocks in India as per Market Cap, accessed on June 4, 2025, https://www.bajajbroking.in/blog/top-tyre-stocks-in-india-as-per-market-cap
2. India Tyre Market Size, Growth, Share and Forecast 2032, accessed on June 4, 2025, https://www.credenceresearch.com/report/india-tyre-market
3. India Automotive Tire Market Size, Growth Report 2035, accessed on June 4, 2025, https://www.marketresearchfuture.com/reports/india-automotive-tire-market-54689
4. India Tire Market Share, Size, Growth, Analysis | Demand 2030, accessed on June 4, 2025, https://www.marknteladvisors.com/research-library/india-tire-market-analysis.html
5. India $29 Bn Tyre Industry Research to 2030: Robust Growth Across Passenger

Cars, Commercial Vehicles, and Two-Wheelers - GlobeNewswire, accessed on June 4, 2025, https://www.globenewswire.com/news-release/2024/10/10/2961384/28124/en/India-29-Bn-Tyre-Industry-Research-to-2030-Robust-Growth-Across-Passenger-Cars-Commercial-Vehicles-and-Two-Wheelers.html
6. India Tire Market 2030 - Publitas, accessed on June 4, 2025, https://view.publitas.com/99793/2222456/pdfs/8bde706a-d570-43da-b820-9a67e7713065.pdf?response-content-disposition=attachment%3B+filename%2A%3DUTF-8%27%27Worldreport%2520-%2520India%2520Tire%2520Market%2520Latest%2520Report%2520Shows%2520Growth%2520from%2520USD%252012.84%2520Billion%2520to%2520USD%252029.16%2520Billion%2520by%25202030.pdf
7. India Tire Market: Growth in Automotive Sector to boost the Market growth - maximize market research, accessed on June 4, 2025, https://www.maximizemarketresearch.com/market-report/india-tire-market/21022/
8. India Tyre Industry Report 2024 - ResearchAndMarkets.com - Business Wire, accessed on June 4, 2025, https://www.businesswire.com/news/home/20240307005095/en/India-Tyre-Industry-Report-2024---ResearchAndMarkets.com
9. Chapter 2 : Growth Drivers of Indian Tyre Industry - Wright Research, accessed on June 4, 2025, https://www.wrightresearch.in/encyclopedia/chapter-report/chapter-2-growth-drivers-of-indian-tyre-industry/
10. India Tyre Market Size, Competitors & Forecast to 2032, accessed on June 4, 2025, https://www.researchandmarkets.com/report/india-tubeless-tire-market
11. Purchase Decision Making in the Tire Industry - ISME, accessed on June 4, 2025, https://www.isme.in/purchase-decision-making-in-the-tire-industry/
12. India Tire Market Poised for Robust Expansion: Projected to Reach USD 239.30 Million by 2030 - openPR.com, accessed on June 4, 2025, https://www.openpr.com/news/4030712/india-tire-market-poised-for-robust-expansion-projected
13. India Tyre Manufacturers Market Size, Share, Growth 2032, accessed on June 4, 2025, https://www.marketresearchfuture.com/reports/india-tyre-manufacturers-market-21672
14. Revenue-share of Tyre manufacturers in India - Team-BHP, accessed on June 4, 2025, https://www.team-bhp.com/forum/tyre-alloy-wheel-section/185623-revenue-share-tyre-manufacturers-india.html
15. India Tire Market - hardman and well management consultancies l.l.c, accessed on June 4, 2025, https://mckinseywell.com/products/india-tire-market
16. India Tyre Market Size, Share & Industry Growth 2030 - Markets and Data, accessed on June 4, 2025, https://www.marketsandata.com/industry-reports/india-tyre-market
17. Thriving Potential: Tyre Companies in India for 2025 - IndiaOne Finance, accessed

on June 4, 2025, https://indiaonefinance.com/tyre-companies-in-india/
18. Tire Manufacturing Cost Modeling Framework | Case Study - IMARC Group, accessed on June 4, 2025, https://www.imarcgroup.com/insight/tire-economics-a-cost-modeling-framework-for-manufacturing-efficiency
19. Tesla Not Interested in Manufacturing in India: Heavy Industries Minister Kummaraswamy, accessed on June 4, 2025, https://www.autocarpro.in/news/tesla-not-interested-in-manufacturing-in-india-heavy-industries-minister-kummaraswamy-126761
20. India Off-the-Road Tire Market Size, Share and Forecast 2032 - Credence Research, accessed on June 4, 2025, https://www.credenceresearch.com/report/india-off-the-road-tire-market
21. Natural Rubber Prices Surge – Impact on Indian Tyre Industry - Freight Fox, accessed on June 4, 2025, https://www.freightfox.ai/blog/natural-rubber-price-spikes-tire-industry
22. GLOBAL NATURAL RUBBER SUPPLY UNDER STRESS, PRICE HIKE EXPECTED The global - ICRA Limited, accessed on June 4, 2025, https://www.icra.in/Media/GetNewsFile/22875
23. India - International Rubber Study Group, accessed on June 4, 2025, https://www.rubberstudy.org/india
24. Introduction - Infomerics Ratings, accessed on June 4, 2025, https://www.infomerics.com/admin/uploads/rubber-industry2025.pdf
25. Indian Synthetic Rubber Private Limited - CARE Ratings, accessed on June 4, 2025, https://www.careratings.com/upload/CompanyFiles/PR/202501140106_Indian_Synthetic_Rubber_Private_Limited.pdf
26. Carbon Black Imports in India - Volza.com, accessed on June 4, 2025, https://www.volza.com/p/carbon-black/import/import-in-india/
27. Steel Cord for Automotive Tire Market - PW Consulting Chemical & Energy Research Center, accessed on June 4, 2025, https://pmarketresearch.com/chemi/stanol-ester-market/steel-cord-for-automotive-tire-market
28. PCBL selects site for new carbon black facility | European Rubber Journal, accessed on June 4, 2025, https://www.european-rubber-journal.com/article/2096792/pcbl-selects-site-for-new-carbon-black-plant-facility
29. A Potential USD 200 Million Opportunity: What EU's ban on Russian Imports mean for Indian Carbon Black Producers - Prismane Consulting, accessed on June 4, 2025, https://prismaneconsulting.com/blog-details/a-potential-usd-200-million-opportunity-what-eus-ban-on-russian-imports-mean-for-indian-carbon-black-producers
30. India Carbon Black Market Share, Size, Trends and Forecast 2028 | TechSci Research, accessed on June 4, 2025, https://www.techsciresearch.com/report/india-carbon-black-market/3799.html

31. Anti-Dumping in the Automotive Industry - Oxyzo, accessed on June 4, 2025, https://www.oxyzo.in/blogs/anti-dumping-in-the-automotive-industry/147856
32. Chapter 3 : Government initiatives and Recent developments in Indian Tyre Industry, accessed on June 4, 2025, https://www.wrightresearch.in/encyclopedia/chapter-report/chapter-3-government-initiatives-and-recent-developments-in-indian-tyre-industry/
33. Govt. imposes severe restrictions on tyre imports - Team-BHP, accessed on June 4, 2025, https://www.team-bhp.com/forum/tyre-alloy-wheel-section/223509-govt-imposes-severe-restrictions-tyre-imports-2-print.html
34. ATMA Speaks on the Environmental Challenge of Imported Waste Tyres, accessed on June 4, 2025, https://dpvhopjrr64pm.cloudfront.net/articles/news/atma-speaks-on-the-environmental-challenge-of-imported-waste-tyres/
35. India Waste Tyre Imports Surge | Market Insights & Industry Impact, accessed on June 4, 2025, https://kleanindustries.com/insights/market-analysis-reports/indian-waste-tyre-imports-five-fold-increase/
36. [Explainer] Why are waste tyres a growing environmental concern? - Mongabay-India, accessed on June 4, 2025, https://india.mongabay.com/2024/02/explainer-why-are-waste-tyres-a-growing-environmental-concern/
37. How To Set Up A Successful Tyre Recycling Business in India - Mywastesolution Articles, accessed on June 4, 2025, https://blog.mywastesolution.com/how-to-set-up-a-successful-tyre-recycling-business-in-india/
38. Waste-Tyre - Central Pollution Control Board, accessed on June 4, 2025, https://eprtyres.cpcb.gov.in/
39. India's CPCB Cracks Down on Illegal Tyre Pyrolysis Pollution | Klean Industries, accessed on June 4, 2025, https://kleanindustries.com/insights/market-analysis-reports/india-crackdown-illegal-tyre-pyrolysis-cpcb-action/
40. India's tyre exports surge 12% in H1 FY 2024-25 - ET Manufacturing, accessed on June 4, 2025, https://manufacturing.economictimes.indiatimes.com/amp/news/automotive/indias-tyre-exports-surge-12-in-h1-fy-2024-25/115696339
41. India to become 3rd largest tyre market, exports to cross $5 billion by 2030 says ATMA's Anshuman Singhania - The Financial Express, accessed on June 4, 2025, https://www.financialexpress.com/business/express-mobility-india-to-become-3rd-largest-tyre-market-exports-to-cross-5-billion-by-2030-says-atmas-anshuman-singhania-3398832/
42. Treading Innovation: How Indian Tyre Manufacturers Stay Ahead in the Global Market?, accessed on June 4, 2025, https://www.dolfintyres.com/how-indian-tyre-manufacturers-stay-ahead-in-global-market.php

43. India Off-Highway Vehicle Tire Market Size, Share - IMARC Group, accessed on June 4, 2025, https://www.imarcgroup.com/india-off-highway-vehicle-tire-market
44. India Airless Tires Market Share, Size and Forecast Report 2030 - Markets and Data, accessed on June 4, 2025, https://www.marketsandata.com/industry-reports/india-airless-tires-market
45. Rolling Steady - Tyre Trends, accessed on June 4, 2025, https://tyre-trends.com/columns/rolling-steady
46. R&D behaviour of Indian Firms: A Case of High-tech Manufacturing, K Seenaiah, March 2023 - ISID, accessed on June 4, 2025, https://isid.org.in/wp-content/uploads/2023/06/WP266.pdf
47. www.imarcgroup.com, accessed on June 4, 2025, https://www.imarcgroup.com/india-off-highway-vehicle-tire-market#:~:text=India%20Off%2DHighway%20Vehicle%20Tire%20Market%20Size%20and%20Share%3A,7.25%25%20during%202025%2D2033.
48. India Rubber Market Share & Industry Size Report 2033, accessed on June 4, 2025, https://www.imarcgroup.com/india-rubber-market
49. Powering India's participation in Global Value Chains - NITI Aayog, accessed on June 4, 2025, https://www.niti.gov.in/sites/default/files/2025-04/Automotive-Industry-Powering-India-participation-in-GVC_Non-Confidential.pdf
50. Synthetic Rubber in India Trade | The Observatory of Economic Complexity, accessed on June 4, 2025, https://oec.world/en/profile/bilateral-product/synthetic-rubber/reporter/ind
51. Global Carbon Black Market Faces Volatility Amid Weak Demand and Trade Disruptions, accessed on June 4, 2025, https://www.chemanalyst.com/NewsAndDeals/NewsDetails/carbon-black-market-faces-volatility-amid-weak-demand-and-trade-disruptions-35796
52. Carbon Black Feedstock Imports in India - Volza.com, accessed on June 4, 2025, https://www.volza.com/p/carbon-black-feedstock/import/import-in-india/
53. Steel Cord at Best Price in India - IndiaMART, accessed on June 4, 2025, https://dir.indiamart.com/impcat/steel-cord.html
54. India tightens apparel Import rules for Bangladesh, aims to boost domestic manufacturing, accessed on June 4, 2025, https://infashionbusiness.com/home/news_details/5515
55. Certain New Pneumatic Off-the-Road Tires From India: Continuation of Antidumping and Countervailing Duty Orders - Federal Register, accessed on June 4, 2025, https://www.federalregister.gov/documents/2023/05/25/2023-11143/certain-new-pneumatic-off-the-road-tires-from-india-continuation-of-antidumping-and-countervailing
56. Sustainable Management of Rubber Waste from Indian Tire Manufacturing - ScrapEco, accessed on June 4, 2025, https://www.scrapeco.in/sustainable-management-of-rubber-waste-from-indian-tire-manufacturing/

57. Standard Operating Procedure(SOP) for Recycling of Waste Tyre Scrap for the recovery of Tyre Pyrolysis Oil, Pyro - Central Pollution Control Board, accessed on June 4, 2025, https://cpcb.nic.in/uploads/Projects/Waste-Tyre/SOP_TPO_16012024.pdf
58. www.dsir.gov.in, accessed on June 4, 2025, http://www.dsir.gov.in/sites/default/files/2021-12/06irdpp_1.pdf
59. Industrial R&D Promotion Programme (IRDPP) - DSIR, accessed on June 4, 2025, https://www.dsir.gov.in/sites/default/files/2021-12/06irdpp_1.pdf
60. www.icra.in, accessed on June 4, 2025, https://www.icra.in/Rating/DownloadResearchSummaryReport?id=5588
61. Otr Tyre Exports from India - Volza.com, accessed on June 4, 2025, https://www.volza.com/p/otr-tyre/export/export-from-india/
62. India Spends Billions On R&D And Yet Innovation Is In Crisis — Here Are Four Fixes, accessed on June 4, 2025, https://swarajyamag.com/technology/india-spends-billions-on-rd-and-yet-innovation-is-in-crisis-here-are-four-fixes