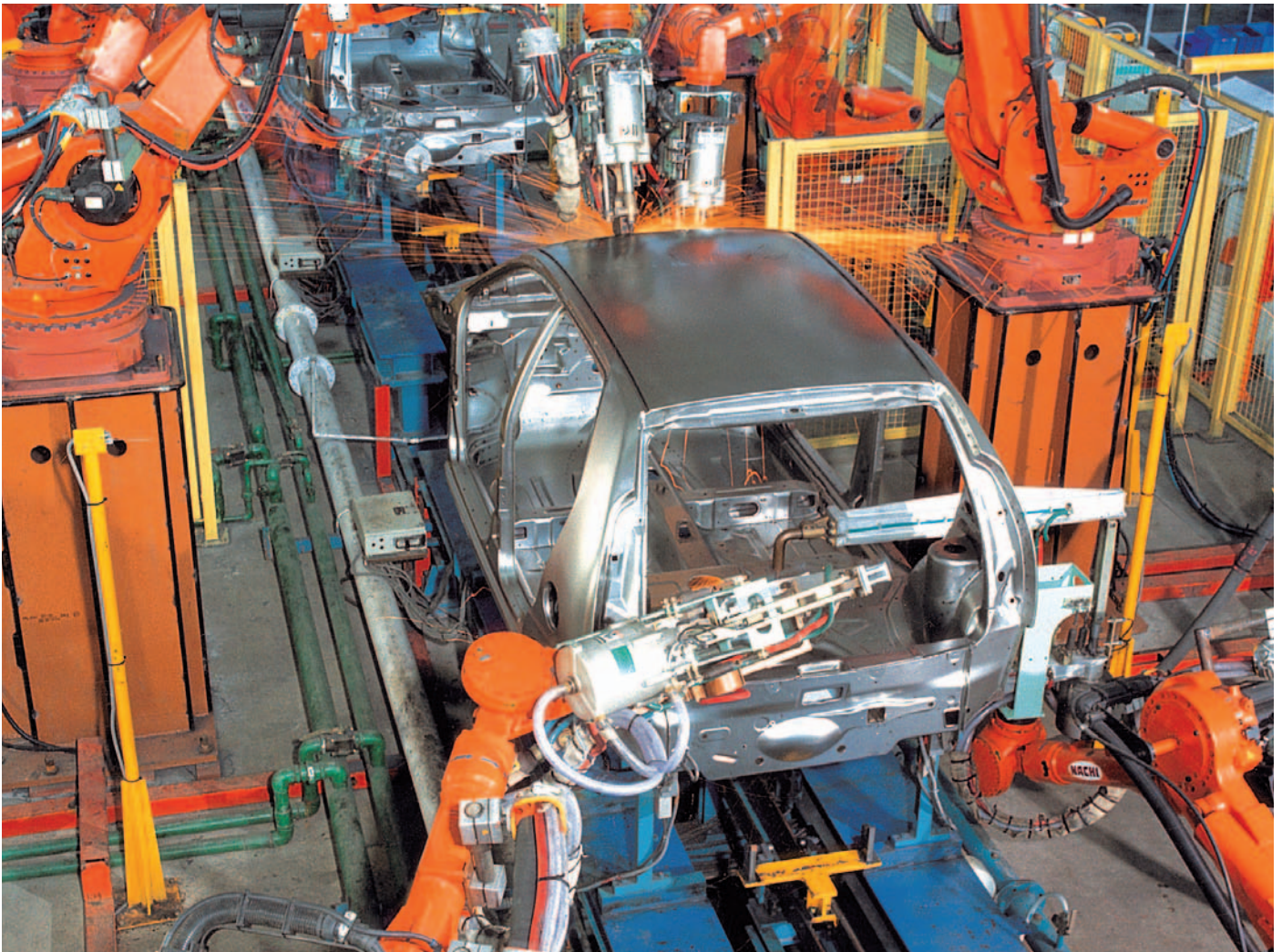


# Automotive

## MARKET & OPPORTUNITIES





# Automotive

## MARKET & OPPORTUNITIES

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# Indian Automotive Industry – Market Size and Growth

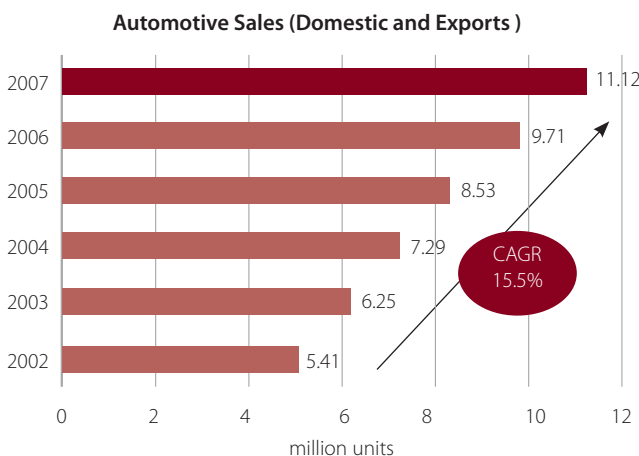
Indian Automotive Industry – Development and Growth

Pre 1983	1983-1993	1993-2007
<ul style="list-style-type: none"> <li>• Closed market</li> <li>• Growth of market limited by supply</li> <li>• Outdated models</li> </ul> <p><b>Players</b></p> <ul style="list-style-type: none"> <li>• Hindustan Motors</li> <li>• Premier</li> <li>• Telco</li> <li>• Ashok Leyland</li> <li>• Mahindra &amp; Mahindra</li> </ul>	<ul style="list-style-type: none"> <li>• Suzuki, Japan and GOI joint venture to form Maruti Udyog</li> <li>• Joint ventures with companies in commercial vehicles and components</li> </ul> <p><b>Players</b></p> <ul style="list-style-type: none"> <li>• Maruti Udyog</li> <li>• Hindustan Motors</li> <li>• Premier</li> <li>• Telco</li> <li>• Ashok Leyland</li> <li>• Mahindra &amp; Mahindra</li> </ul>	<ul style="list-style-type: none"> <li>• Delicensing of the sector in 1993</li> <li>• Global major OEMs start assembly in India (GM, Ford, Honda, Hyundai, etc.)</li> <li>• Imports allowed from April 2001; alignment of duty on components and parts to ASEAN levels</li> <li>• Implementation of VAT</li> </ul>

The Indian automotive industry has the potential to emerge as one of the largest in the world. India ranks number two globally in the two-wheeler segment next only to China. It ranks 11<sup>th</sup> in car production and 13<sup>th</sup> in commercial vehicle production globally. With increasing industrial production and growing spending power of the Indian middle class households, the country is expected to make it to the top five markets in the cars and commercial vehicles segment by 2020.

In the year 2006-07, sales of the the Indian automotive industry crossed the historic landmark of 10 million units. Sales (domestic as well as exports) of the industry had grown from 5.51 million units in 2001-02 to 11.12 million units in 2006-07, at an impressive Compound Annual Growth Rate (CAGR) of 15.5 per cent. This extraordinary growth had been driven by a buoyant economy, increasing purchasing power of the Indian middle class, new product launches and attractive finance schemes from automobile manufacturers and financial institutions. Of the total sales, roughly 10 per cent was contributed by exports to various countries.

In terms of volume, the two wheelers segment with sales of 8.48 million units in 2006-07 had the highest share of more than 76 per cent in the industry, followed by passenger vehicles, three wheelers and commercial vehicles. The maximum growth, however, had occurred in the commercial vehicles segment, which grew at a CAGR of 26.6 per cent in the last five years to reach a sales figure of roughly 518,000 units in 2006-07. The next highest growth was witnessed in the three wheelers segment, which grew to roughly 548,000 units. The Indian automotive industry is highly competitive with a number of global and Indian companies present in the market. The foreign companies are present in India either through joint ventures with local



Source: Indian Automotive Sector

### Segment-wise Sales, Share and Growth in the Indian Automotive Industry

	Sales in 2006-07	Share in Total Sales	CAGR 2002-07
Two Wheelers	8,476,686	76.2%	14.5%
Passenger Cars	1,578,176	14.2%	16.7%
Three Wheelers	547,805	4.9%	20.5%
Commercial Vehicles	517,648	4.7%	26.7%

Source: Society of Indian Automobile Manufacturers (SIAM)

partners wholly/partially owned technology tie-ups or as subsidiary companies of their parent companies.

Most players are present in more than one segment. The industry is also witnessing diversification by players into other segments. The passenger cars and commercial vehicles industries in particular are poised to witness the entry of new players.

### Leading Players and Segments in which they Operate

Manufacturer	Segments
Ashok Leyland	LCVs, M&HCVs, Buses
Asian Motor Works	M&HCVs
Atul Auto	Three wheelers
Bajaj Auto	Two and Three Wheelers
BMW India	Cars and MUVs
Daimler Chrysler India	Cars
Eicher Motors	LCVs, M&HCVs, Buses
Electrotherm India	Electric Two Wheelers
Fiat India	Cars
Force Motors	Three Wheelers, MUVs and LCVs
Ford India	Cars and MUVs
General Motors India	Cars & MUVs
Hero Honda Motors	Two Wheelers
Hindustan Motors	Cars, MUVs and LCVs
Honda	Two Wheelers, Cars and MUVs
Hyundai Motors	Cars and MUVs
Kinetic Motor	Two Wheelers
Mahindra & Mahindra	Three Wheelers, Cars, MUVs, LCVs
Majestic Auto	Three Wheelers
Maruti Suzuki	Cars, MUVs
Piaggio	Three Wheelers, LCVs
Reva Electric Car Co.	Electric Cars
Royal Enfield Motors	Two Wheelers
Scoters India	Three Wheelers
Skoda Auto India	Cars
Suzuki Motorcycles	Two Wheelers
Swaraj Mazda Ltd.	LCVs, M&HCVs, Buses
Tata Motors	Cars, MUVs, LCVs, M&HCVs, Buses
Tatra Vectra Motors	M&HCVs
Toyota Kirloskar	Cars, MUVs
TVS Motor Co.	Two Wheelers
Volvo India	M&HCVs, Buses
Yamaha Motor India	Two Wheelers

LCV: Light Commercial Vehicle

MUV: Multi Utility Vehicle

M&HCV: Medium and Heavy Commercial Vehicle

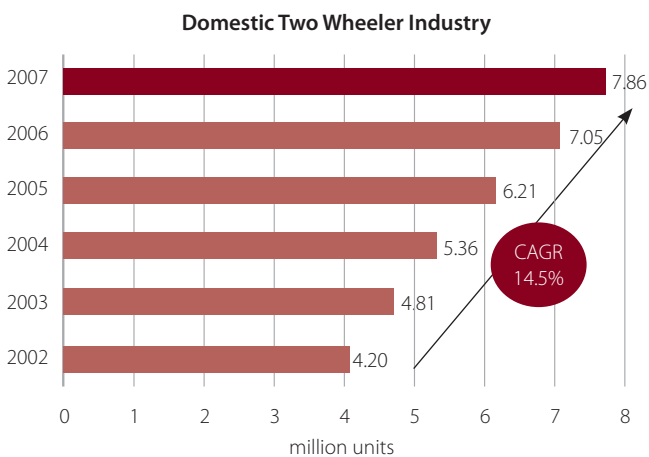
Source: SIAM, Company websites

# Overview of the Two Wheeler Market

## MARKET SIZE AND SEGMENT-WISE GROWTH

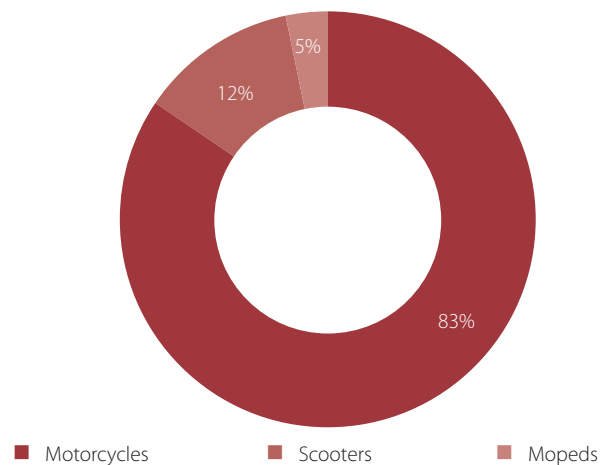
The total sales of the Indian two wheeler industry had grown at a CAGR of 14.5 per cent between 2001-02 and 2006-07. Of the total sales of 8.48 million units in 2006-07, domestic sales were 7.86 million units. There are four sub-segments in the two wheelers market in India, which are as follows:

- Scooter/Scooterette: Two wheelers having wheel size less than or equal to 12 inches
- Motorcycles: Two wheelers having wheel size more than 12 inches
- Mopeds: Two wheelers having engine capacity less than 75 cc with fixed transmission and wheel size more than 12 inches
- Electric two wheelers: These are electrically driven bikes



Source: SIAM, IMAcS Analysis

Breakup of the Industry by Segment



Motorcycles constitute nearly 84 per cent of the two wheeler market. The motorcycles market had witnessed the fastest growth rate in the two wheeler segment. Domestic sales as well as exports achieved a CAGR of 19.2 per cent. The cost of ownership and operational economy are important purchase criteria. Entry level bikes (those having engine power below 125 cc and priced between US\$ 850-1100) have the maximum share. The premium bike segment (having engine power above 125 cc and price between US\$ 1,200-2,000) has been growing at a rapid pace. This demand is an indication of the increasing affluence levels of the middle class Indians. Though the scooter segment as a whole has been shrinking, the scooterette segment, powered by 75-125 cc engines, has been growing significantly.

While the A1 segment of scooters, comprising of geared scooters, has almost become negligible, the A2 segment of auto transmission scooters with engine capacity 75-125 cc has grown at a CAGR of 32.9 per cent. The A3 segment has also witnessed a decline and comprises of only 1 per cent of the market as compared to its share of 12 per cent five

### Segment-wise Analysis of Indian Two Wheeler Market

Segment	Description	Share in 2001-02	Share in 2006-07	CAGR
A1	Scooter with engine capacity less than 75 cc	5%	0%	-33.9%
A2	Scooter with engine capacity between 75-125 cc (Scooterette)	5%	10%	32.9%
A3	Scooter with engine capacity between 125-250 cc	12%	1%	-27.7%
B2	Motorcycle with engine capacity between 75-125 cc	62%	66%	14.9%
B3	Motorcycle with engine capacity between 125-250 cc	5%	17%	44.8%
B4	Motorcycle with engine capacity above 250 cc	1%	1%	5.7%
C1	Mopeds	10%	5%	-2.7%

Source: SIAM

years back. The key reason for this trend is the increased consumer preference for stylish features as well as the fuel efficiency of the A2 segment.

The B2 and B3 segments had witnessed impressive growth rates at a CAGR of 14.9 per cent and 44.8 per cent respectively between the years 2001-02 and 2006-07. The high powered premium B3 segment had in particular seen its share rise from only 5 per cent in 2001-02 to 17 per cent in 2006-07. The sales in this segment have been driven by young consumers in the age group of 18-25 years, for whom performance and style are important criteria for selection as compared to fuel efficiency. The B1 segment in motorcycles (having engine capacity less than 75 cc) has become almost negligible in the market, an indicator of the preference of Indians towards optimally powered vehicles.

Another interesting aspect of the two wheeler market in India is the fact that the demand for the replacement purchase has been growing. In 2003, first time buyers of two wheelers constituted 74 per cent of total sales, whereas those purchasing a two wheeler as a replacement of an existing two wheeler were only 26 per cent. While in 2006, the replacement market had grown considerably to 36 per cent of the overall market.

Increasingly two wheeler owners are upgrading to cars, a trend that is more prominent in North India. In the South and West India, the preference of buyers is towards upgrading to high powered motorcycles.

### MARKET SHARES AND BRANDS OF KEY PLAYERS IN THE TWO WHEELER MARKET

Market Share of Key Players in 2006-07	
Hero Honda Motors	42%
Bajaj Auto Ltd.	27%
TVS Motor Co.	19%
HMSIL	9%
Others	3%

Source: SIAM, IMAcS Analysis

In the Indian two wheeler market, competition is intense with around 10 players competing for the share in the industry. These players include global giants like Honda, Suzuki and Yamaha as well as Indian players like Bajaj and TVS. The market leader in the domestic two wheeler industry is Hero Honda Motors, with a 42 per cent market share. It is the largest two wheeler manufacturer in the world and is closely followed by Bajaj Auto, which has a 27 per cent market share. TVS Motor is the third largest two wheeler manufacturer in the country, it has also established a manufacturing facility in Indonesia. Honda Motors is present in India as Honda Motorcycles and Scooters India Limited (HMSIL), a 100 per cent subsidiary, in addition to its joint venture, Hero Honda. Another international player, Suzuki, has recently entered the Indian market through its direct subsidiary. The industry is characterised by frequent product launches, with over 20 models launched in 2006-07.

## Key Brands in the Two Wheeler Market

Segment	Brand (Manufacturer)
A1	TVS Scooty (TVS Motors)
A2	Pleasure (Hero Honda), Kristal (Bajaj Auto), Honda Activa, Duo (HMSIL), Nova (Kinetic Motor Co.)
A3	Honda Eterno (HMSIL), Blaze (Kinetic Motor Co.)
B2	Splendour, CDDawn/Delux, Splendour, Achiever (Hero Honda), CT100, Platina, Discover (Bajaj Auto), Shine (HMSIL), Stryker (Kinetic Motor Co.), Zeus/Heat (Suzuki Motorcycles), Super XL, Victor, Centra, Star (TVS Motors), G5, Crux, Alba (Yamaha)
B3	Glamour, Karizma, CBZ (Hero Honda), Bajaj Pulsar, Avenger (Bajaj Auto), Unicorn (HMSIL), Comet, Aquila (Kinetic Motor Co.), Fiero, Apache (TVS Motor), Gladiator (Yamaha Motor)
B4	Bullet, Machismo, Thunderbird (Royal Enfield Motors)
C1	Luna, V2, King (Kinetic Motor Co.)
D	YO Smart, YO Spin, YO teen (Electrotherm India)

Source: SIAM

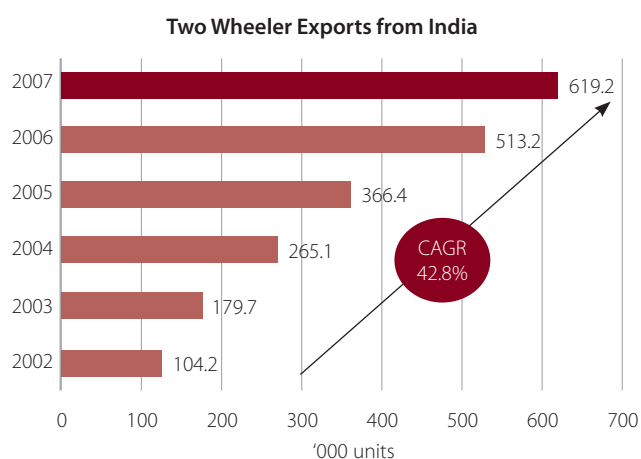
The key brands of leading players in various sub-segments are shown in the table overleaf

## Capacities of Major Players in the Two Wheeler Market

Player	Capacity (in thousand units)
Hero Honda Motors	4,400
Bajaj Auto Ltd.	4,050
TVS Motor Co.	1,900
Yamaha Motor India	500
Suzuki Motorcycles India	100
Kinetic Motor Co.	300
Royal Enfield Motors	50
Electrotherm India Ltd.	288
Honda (HMSIL)	750

Source: Annual Reports of companies, News clippings

## Exports of Two Wheelers from India



Source: SIAM, ImaCS Analysis

## Market Share of Key Players in Exports 2006-07

Bajaj Auto	46%
TVS Motor Company	16%
Hero Honda Motors Ltd.	15%
Yamaha India	10%
Others	13%

Source: SIAM, ImaCS Analysis

The exports of two wheelers from India grew from 104,200 units in 2001-02 to over 619,200 units in 2006-07, at a CAGR of 42.8 per cent. Majority of the exports are made to neighbouring countries like Bangladesh, Sri Lanka, Bhutan and Nepal. Motorcycles constituted 88 per cent of the total two wheeler exports. Motorcycle exports grew at a CAGR of 57.2 per cent, from 2001-02 to 2006-07. Most of the bikes exported were those with engine capacity below 125 cc, indicating consumer preference for Indian made economy bikes in these countries. While exports of mopeds grew at a CAGR of 14.6 per cent, exports of scooters grew only at 4.7 per cent over the five year period.

Bajaj Auto is the market leader in exports with 46 per cent share. It is followed by other leading players like Hero Honda Motors, TVS Motor Company and Yamaha India, amongst others.

## Growth Prospects and Key Drivers of the Indian Two Wheelers Industry

The growth witnessed by the Indian two wheeler industry indicates the growing demand for low cost personal transportation solutions amongst the 300 million Indian middle class consumers. Despite this spectacular growth

rate, the two wheeler penetration (number of two wheelers per 1000 inhabitants) in India remains lower than other Asian countries. This fact provides an opportunity for continued growth in the market. India has the lowest penetration of two wheelers as compared to countries like Taiwan, Thailand, Malaysia, Vietnam, Indonesia and China.

In the present scenario, growth in the two wheeler industry will be driven by several factors:

Comparison of Two Wheeler Penetration (per thousand inhabitants)	
Taiwan	590
Thailand	286
Malaysia	258
Vietnam	140
Indonesia	90
China	52
<b>India</b>	<b>37</b>

### Rise in India's Young Working Population

With the rising levels of per capita income of people, the Indian two wheeler market offers a huge potential for growth. This growth is relevant in the light of the fact that 70 per cent of India's population is below the age of 35 years and 150 million people will be added to the working population in the next five years. The number of women in the urban work force is also increasing, this will lead to the growth of gearless scooters.

### Rise of India's Rural Economy and Growth in Middle Income Households

The growth prospects of the Indian rural economy offer a significant opportunity for the motorcycle industry in India. The penetration of motorcycles amongst rural households with income levels greater than US\$ 2,200 per annum has already increased to over 50 per cent. The current target segment for two wheelers, i.e, households belonging to the income category of US\$ 2,200–12,000 is expected to grow at a CAGR of 10 per cent.

### Greater Affordability of Vehicles

The growth in two-wheeler sales in India has been driven by an increase in affordability of these vehicles. An analysis of the price trends indicates that prices have more or less

stagnated in the past. This has been part of the marketing strategy adopted by the manufacturers to gain volume, as well as conscious efforts adopted to bring down costs. The operating expenses of leading manufacturers have declined by around 15 per cent in the last five years. With greater avenues of financing, the customer's capacity to own a two wheeler has improved.

### Rapid Product Introduction and Shorter Product Life Cycle

The last five years have witnessed a sharp increase in new product launches in the two-wheeler industry. It is estimated that close to 50 new products have been launched by manufacturers during this period, filling up all price points and targeted at various consumer segments.

### Inadequate Public Transport Systems in most Urban Areas

The economic boom witnessed in the country and the increased migration to urban areas have increased the traffic congestion in Indian cities and worsened the existing infrastructure bottlenecks. Inadequate urban planning has meant that transport systems have not kept pace with the economic boom and the growing urban population. This has increased the dependence on personal modes of transport and the two wheelers market has benefited from this infrastructure gap.

## CHALLENGES FACED BY THE INDUSTRY

Despite the high growth achieved in the past and the high potential in the future, the two-wheelers market faces some challenges.

### Rising Customer Expectations

The growth witnessed by the Indian two wheeler industry has attracted a number of new entrants to the market and it is expected that the Indian industry will become more competitive in the future. The plethora of products introduced in the past has also raised customer expectations with respect to reliability, styling, performance and economy.

### **Environmental and Safety Concerns**

The increasing demand for two wheelers will need to be managed to address issues relating to overcrowding of roads. Another problem is the insufficient infrastructure for inspection to ensure adherence to emission norms. As the industry grows, it is important to regulate the sale of used two wheelers in a more organised manner for which a mechanism needs to be evolved. Unregulated sale of two wheelers, especially in the rural areas, are likely to create issues related to emissions and safety of vehicles.

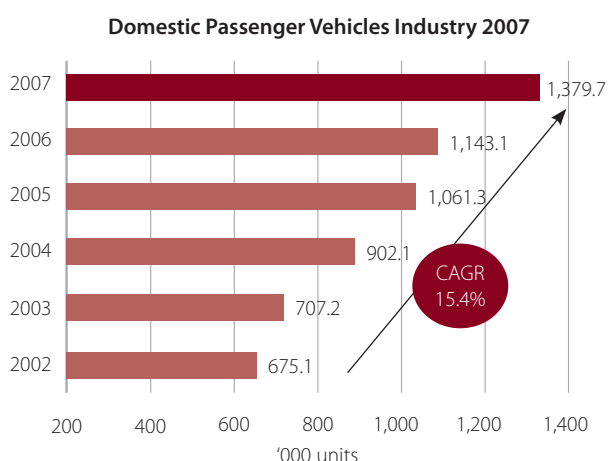
### **Creation of Distribution Infrastructure**

Leading companies need to ensure that on one hand they build adequate infrastructure in terms of dealerships and servicing stations in the urban areas and on the other ensure that their distribution infrastructure also reaches the rural areas.

# Overview of the Passenger Vehicles Market

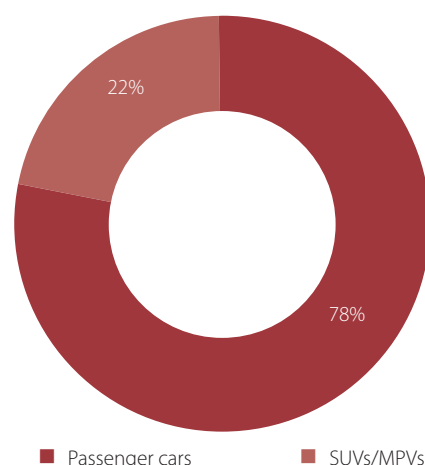
## Market Size and Segment-wise Growth

The total sales of the Indian passenger vehicles industry has grown to reach 1.58 million units in 2006-07, of which domestic sales were 1.38 million units and the remaining



global players into India has made the Indian car industry increasingly competitive, as the consumers enjoy the luxury of choice among segments. The increasing affluence level

Breakup of the Industry by Segment for 2007



Source: SIAM, IMAcS Analysis

were exports. Domestic sales grew at a CAGR of 15.4 per cent between 2001-02 and 2006-07. The entry of

of the Indian middle class has also affected the industry. Passenger cars, which constitute 78 per cent of the market

Segment-wise Analysis of Passenger Vehicle Market

Segment	Description	Share in 2001-02	Share in 2006-07	CAGR
A	Mini cars, upto 3400 mm length	28.0%	7.00%	-11.0%
B	Compact cars, between 3401-4000 mm length	54.0%	70.00%	22.0%
C	Mid size cars between 4001-4500 mm length	17.0%	18.00%	18.6%
D	Executive cars between 4501 - 4700 mm length	0.2%	3.80%	112.0%
E	Premium cars between 4701 - 5000 mm length	0.9%	0.55%	6.0%
F	Luxury cars - above 5001 mm length	0.0%	0.02%	NA

Source: SIAM

grew at a CAGR of 16.2 per cent. Utility vehicles and Multi Purpose Vehicles (MPVs), having a share of 16 per cent and 6 per cent, grew at a CAGR of 16.1 per cent and 6.1 per cent respectively.

It is significant that the mini car segment, which had triggered the growth of the Indian car industry in the past, has been shrinking in size. Its share in the total car market has fallen from 28 per cent in 2001-02 to 7 per cent in 2006-07. On the other hand, the compact car segment has grown at a CAGR of 22 per cent, to garner 70 per cent of the share of the car market. The major reason for this trend is that compact cars have been priced marginally above the mini cars by most manufacturers. Also this segment has seen a number of new product launches.

The Indian market, however, is once again witnessing high levels of activity in the mini car segment with several players are announcing their plans to enter this segment since Tata Motors' announcement of its US\$ 2,500 car. In the future the mini car segment is expected to be revived by the launch of low cost cars by other players as well. The executive segment (D) has grown at an impressive CAGR of 112 per cent between 2001-02 and 2006-07, a clear indication of the increasing disposable incomes of Indian businessmen and senior executives.

An interesting aspect of the Indian passenger vehicles market is the fact that around 40 per cent of the market comprises of consumers, who already own one car and are buying their second car. Those replacing their current car comprise 28 per cent of the market. Buyers, who replace their cars, usually upgrade to a higher segment.

Indian consumers are value conscious and cost of ownership is more important as compared to image, performance and power. This is supported by the fact that 80 per cent of the cars sold in India are priced below US\$ 12,000. More than 25 per cent of the cars on Indian roads are chauffeur driven, and this factor makes rear passenger comfort a critical influence in purchasing decisions, especially in the mid sized cars.

The Indian passenger vehicle industry is undergoing significant dispersion of the market. Today the top 20 cities account for around 50 per cent of the cars sold. Till a few years back, the metros alone accounted for 60-70 per cent of the passenger vehicles sold.

### Market Shares of Key Players in the Passenger Vehicles Market

The market for passenger vehicles in India is highly competitive with more than a dozen manufacturers in the industry. Most of the leading global players have a presence in India in the form of joint ventures or subsidiaries.

Market Shares of Key Players in 2006-07	
Maruti Udyog Ltd.	46%
Tata Motors Ltd.	16%
Hyundai Motor India Ltd.	14%
Mahindra & Mahindra	7%
Toyota	4%
Others	13%

Source: SIAM, IMAcS Analysis

The industry leader is Maruti Udyog with 46 per cent market share, followed by Tata Motors and Hyundai Motors. India is considered as a strategic market by Suzuki, Japan, a co-promoter of Maruti Udyog. Tata Motors, the largest automotive player in India is launching the US\$ 2,500 car. Hyundai Motors, the third largest passenger vehicle manufacturer in India, has established its global manufacturing base for small cars in India and is a leading exporter of small cars from the country. Mahindra & Mahindra is amongst the largest players in the

### Capacities of Major Players in Indian Passenger Vehicles Segment

Player	Capacity (in thousand units)
Maruti Suzuki	700
Tata Motors	290
Hyundai Motors	400
Mahindra & Mahindra	170
Toyota Kirloskar	60
BMW India	1.7
Honda Motors	50
General Motors India	85
Ford India	100
Hindustan Motors	35
Skoda Auto India	17
Force Motors	24
DaimlerChrysler India	2.5

Source: Annual Reports of companies, News clippings

Multi Utility Vehicles (MUV) segment. It has tied up with Renault for manufacturing and marketing of 'Logan' brand

of cars in India. Other major players are Toyota, Honda Motors and Ford, all of these are operating in the premium cars segment.

**Key Brands in Passenger Vehicles Market**

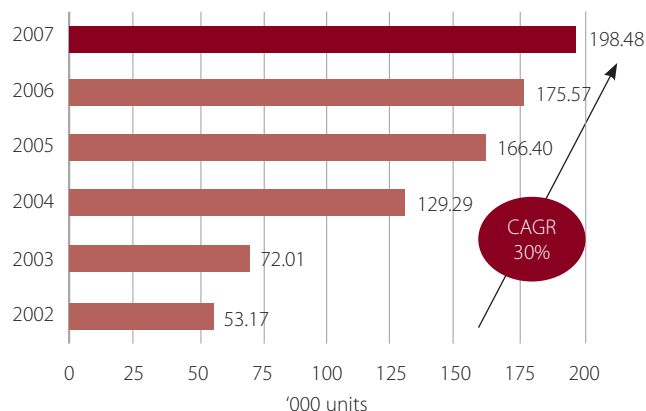
Segment	Key Brands and Companies to which they Belong
A	Maruti 800 (Maruti Suzuki)
B	Alto, Wagon-R, Swift (Maruti Suzuki), Indica (Tata Motors), Santro, Getz (Hyundai Motors), Palio (Fiat India)
C	Esteem, SX4, (Maruti Suzuki), Indigo (Tata Motors), Verna, Elantra (Hyundai Motors), Honda City (Honda Motors), Astra, Aveo, Optra (General Motors), Logan (M&M), Icon, Fiesta (Ford India), Cedia (Hindustan Motors), Petra (Fiat India)
D	Civic (Honda), Opel Vectra (General Motors), Contessa (Hindustan Motors), Skoda Octavia (Skoda Auto), Mercedes C-class (Daimler Chrysler India)
E	Sonata (Hyundai Motors), Accord (Honda), Corolla, Camry (Toyota Kirloskar), Mondeo (Ford India), Superb (Skoda Auto), Mercedes E-class (DaimlerChrysler India), 5 series (BMW India)
F	Mercedes S-class, Maybach (DaimlerChrysler India), 7 Series (BMW India)
SUV	Grand Vitara (Maruti Suzuki), Safari (Tata Motors), Tucson (Hyundai Motors), CRV (Honda), Scorpio (M&M Ltd), cFusion, Endeavour (Ford India), Pajero (Hindustan Motors), Challenger, Toofan (Force Motors)
MUV	Omni, Versa (Maruti Suzuki), Sumo, Indigo Marina (Tata Motors), Innova (Toyota Kirloskar), Tavera (General Motors India), Bolero (M&M)

Source: SIAM

**Exports of Passenger Vehicles from India**

The exports of Indian cars has grown at a CAGR of 30 per cent in the last five years and crossed 198 thousand units.

**Passenger Vehicles Exports from India**



Source: SIAM, IMaCS Analysis

Hyundai Motor India has emerged as the leading exporter of cars with 68 per cent share in the total exports. Manufacturing companies in India have gained expertise over the years in manufacturing mini and compact cars and thereby have an advantage over other low cost countries in these vehicle categories. In the year 2006-07, 71 per cent of the Indian car exports comprised of compact cars. This is a clear indication that India is turning into a small car manufacturing hub. Exports from India are made to South America, Africa, Europe, Latin America and the Middle East.

**Market Share of Key Players in Exports 2006-07**

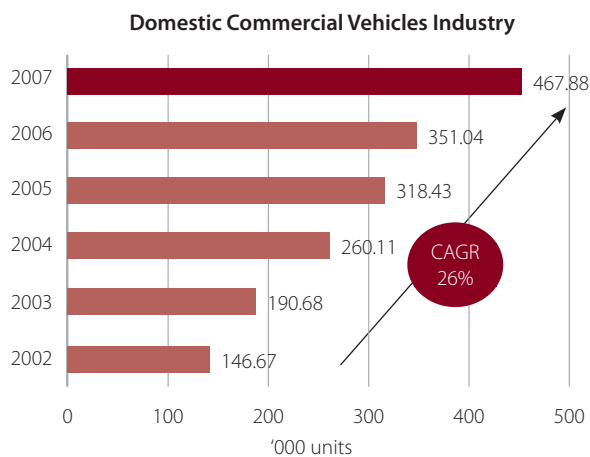
Hyundai Motor India Ltd.	58%
Maruti Udyog	20%
Ford India Pvt Ltd.	12%
Tata Motors	9%
Others	1%

Source: SIAM, IMaCS Analysis

# Overview of the Commercial Vehicle Market

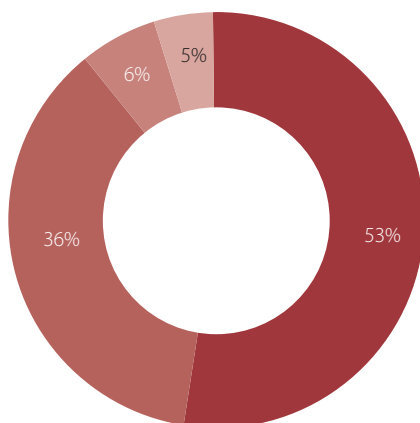
## MARKET SIZE AND SEGMENT-WISE GROWTH

The total sales of the Indian commercial vehicles (CV) industry had grown to reach more than 518,000 units in



Source: SIAM, IMAcS Analysis

## Breakup of the Industry by Segment



■ M & HCV Goods      ■ LCV Goods  
■ M & HCV Passenger      ■ LCV Passenger

Source: SIAM, IMAcS Analysis

the year 2006-07. Out of which domestic sales were nearly 468,000 units and the remaining were exported. Domestic sales has been growing at a CAGR of 26.1 per cent in the last five years. The CV industry is segmented broadly into LCV, having gross vehicle weight below 7.5 tonnes, and M&HCV, having gross vehicle weight above 7.5 tonnes.

The growth in the CV industry has been driven by increased industrial production as well as the growth in investments made in building infrastructure in the country. While the passenger bus industry has seen moderate growth, goods vehicles witnessed an impressive growth. The latter is dominated by multi axle vehicles. The share of LCV is increasing rapidly.

The composition of the CV industry has been changing over the period of time. In 2006-07, the total share of the multi axle vehicles in the CV market was 21 per cent when compared to 8 per cent in 2001-02. The share of the 3.5 tonnes pickups increased to 36 per cent from 15 per cent during the period 2001-02. This shift indicates the evolution of a hub and spoke model, wherein multi axle trucks are used for long distance hauls and pickups are used for the last mile logistics. The introduction of Tata Ace in the sub 1 tonne segment has shown significant growth in the CV market. However, a shift in the market to tractor trailers is expected to start in the near future, with improvements in the road infrastructure.

Economics of operation is the most important purchase criteria in the case of a CV. Other factors, which influence sales include price, service network of the manufacturer and resale value of the brand being purchased. The industry is characterised by a low proportion of owner driven vehicles. The large uneducated driver population makes criteria like driver safety and comfort to be of trivial consideration.

**Segment-wise Analysis of Indian CV Market**

Description (by Gross Vehicle Weight)	Share in 2001-02	Share in 2006-07	CAGR
Upto 3.5 tonnes (Pickups)	15%	36%	51.9%
5 - 7.5 tonnes (LCV)	25%	9%	5.1%
7.5 – 12 tonnes (Intermediate CV)	7%	9%	33.4%
12 – 16 tonnes( 4X2 FF/SF)	29%	17%	14.6%
16 – 25 tonnes (Multi Axles)	8%	21%	55.9%
25 tonnes and above (Tractor Trailers)	8%	21%	9.7%

Source: SIAM

**Market Shares and Brands of key Players in the Commercial Vehicles Market**

Tata Motors clearly leads the market in both the goods and passenger segments of CV with a total market share of 64 per cent. Ashok Leyland ranks next and has a considerable market share in M&HCV segment. It has formed a joint venture to manufacture LCV with Nissan. The LCV market is dominated by Tata Motors, followed by Mahindra & Mahindra. The latter a relatively new player in the CV segment, has formed a joint venture with International Trucks to manufacture M&HCV trucks in India. Eicher Motors, having a 6 per cent share in the overall market, is a leading player in the LCV trucks segment and has recently entered the M&HCV trucks segment. Other key players include Swaraj Mazda, present in the LCV segment and Volvo India, a leading player in luxury passenger buses and heavy duty tippers. All the major players in the CV segment are in the process of enhancing their capacities and launching new products.

Market Shares of Key Players in 2006-07	
Tata Motors Ltd.	64%
Ashok Leyland Ltd.	16%
M&M Ltd.	10%
Eicher Motors Ltd.	6%
Others	4%

**Capacities of Major Players in the CV Market**

Player	Capacity (in thousand units)
Tata Motors	682
Ashok Leyland	86
Asian Motor Works	10
Eicher Motors	30
Swaraj Mazda Ltd.	12
Volvo India	1
Tatra Vectra Motors	0.2

Source: Annual Reports of companies, News clippings

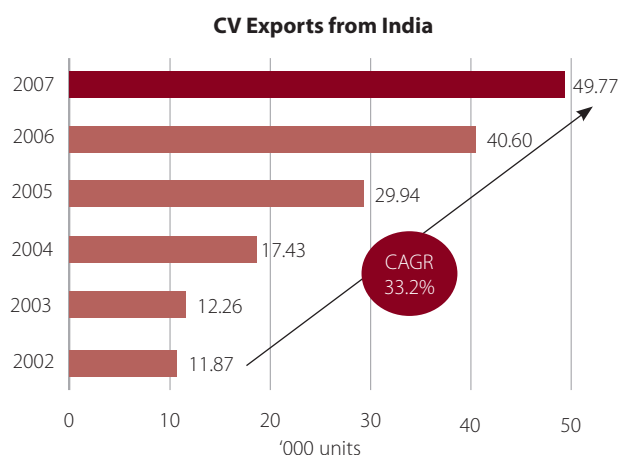
**Key Brands in the CV Market**

Segment	Key Brands and Companies to which they belong
LCV Passenger	Stag (Ashok Leyland), Skyline, Cruiser, School (Eicher Motors), 709, Cityride, Ace, Magic (Tata Motors )
LCV Goods	11.90, 10.95, 10.90 (Eicher Motors), Prestige, Super (Swaraj Mazda), LPT709, SFC407, 207DI, Ace (Tata Motors)
M&HCV Passenger	Viking, Cheetah, Panther (Ashok Leyland), 4923, 2523 (Asian Motor Works), Globus, Starbus (Tata Motors), B7R (Volvo India)
M&HCV Goods	4018H, 2214H, 2516H, 1613H, 1612H, ecomet (Ashok Leyland Ltd), Jumbo 20.16, Galaxy 30.25 (Eicher Motors), Sartaj (Swaraj Mazda), LPS 4018, LPT 2515 TCIC, LPT 2515 TC, LPT1613, SE 1613 (Tata Motors), HEMANG (Tatra Vectra Motors), FM9, FH12 (Volvo India)

Source: SIAM

**Exports of CVs from India**

The exports of Indian CVs have grown at a CAGR of 33.2 per cent between 2001-02 and 2006-07 to reach nearly 50,000

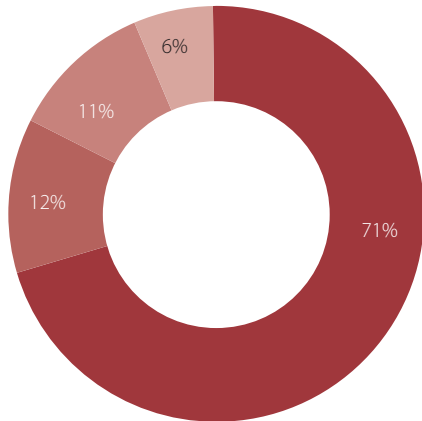


Source: SIAM, ImaCS Analysis

units. Tata Motors accounts for more than 70 per cent of the CV exports. LCV goods carriers accounted for more than 50 per cent of the overall exports. Most of the exports are

made to Sri Lanka, the Gulf countries and Africa.

Market Share of Key Players in Exports



■ Tata Motors ■ Ashok Leyland ■ M&M ■ Others

Source: SIAM, IMAcS Analysis

## GROWTH PROSPECTS AND KEY DRIVERS OF THE INDIAN COMMERCIAL VEHICLE INDUSTRY

### Growth in Industrial Production

The Indian economy has grown at 8.5 per cent per annum over the last few years and has emerged as one of the fastest growing economies in the world. The manufacturing sector has grown at 8–10 per cent per annum in the last few years. This has created the need for transportation of goods and increased demand for CVs.

### Increasing Access to Cheaper Finance

More than 90 per cent of the CV purchase is on credit. Finance availability to CV buyers has grown in scope during the last few years. A host of finance companies have entered into the CV business. This has made the availability of finance much easier for the consumers.

### Emergence of Road as Primary Mode of Transportation

The share of roads in transportation in India has been constantly increasing with a corresponding decline in the share of railways. In the 1950s the share of road transport in the overall transportation of goods was roughly 15 per cent, today it is almost 60 per cent. This development is due to improved road infrastructure, reduction in differential between road and rail costs and advantages provided by road in terms of last mile connectivity.

### Implementation of Regulations on Overloading and other Regulations

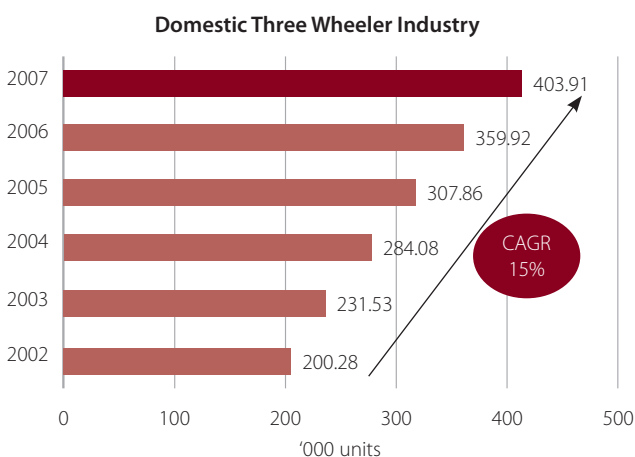
The increased enforcement of overloading restrictions has also contributed to an increase in the number of CVs plying on Indian roads. In addition, some states have curbed the usage of old CVs, which has contributed to an increase in the demand for replacement in this segment.

# Overview of the Three Wheeler Market

## MARKET SIZE AND SEGMENT-WISE GROWTH

The total sales of the Indian three wheeler industry has grown to reach nearly 548,000 units in 2006-07, of the total domestic sales were 404,000 units and the remaining were exports. Domestic sales grew at a CAGR of 15.1 per

cent between 2001-02 and 2006-07. Three wheelers play an important role in the last mile transportation of goods and form an integral part of the public transportation system. The share of goods carriers in overall sales has doubled over the last five years, indicating the increased need for low cost, last mile transportation systems.

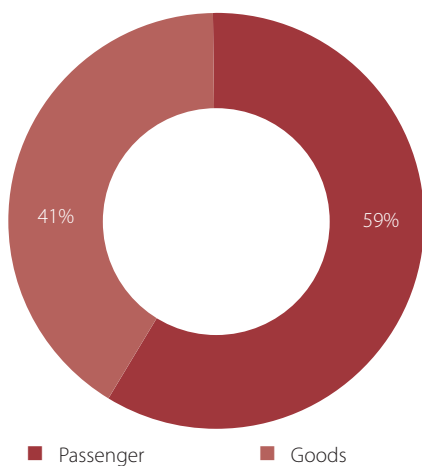


Source: SIAM, IMAcS Analysis

## Market Shares and Brands of key Players in the Three Wheeler Market

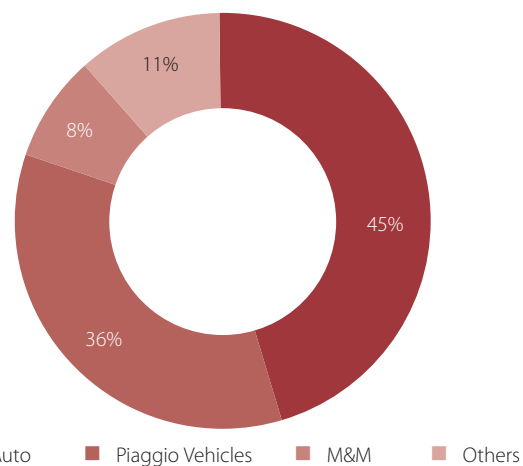
Bajaj Auto is the market leader in the three wheeler domestic market, with 45 per cent share. It is closely followed by Piaggio with a 36 per cent share. Bajaj Auto is also the market leader in the passenger carrier segment, while Piaggio leads the goods segment. Piaggio's market share in the industry is growing rapidly and the company is in the process of making India its global manufacturing hub. Atul Auto, another major player, has introduced new products in

Break-up of Industry by Segment 2006-07



Source: SIAM, IMAcS Analysis

Market Share of Key Players 2006-07

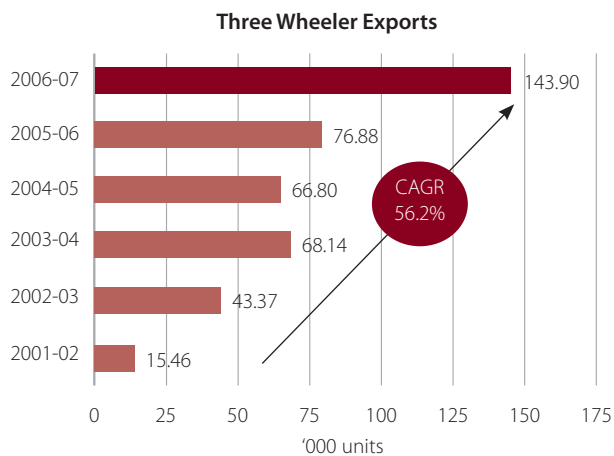


Source: SIAM, IMAcS Analysis

the rear engine segment. It is the manufacturer of Chakda, a three wheeler reengineered from a two wheeler, very popular in the western parts of the country. Force Motors, a joint venture between Bajaj Tempo and MAN AG of Germany, is a leading player in the goods segment.

### Exports of Three Wheeler Vehicles from India

The highest growth in automotive exports has been recorded by the three wheelers segment. It grew to almost 144,000 units in 2006-07 at a CAGR of 56.2 per cent from the year 2001-02 onwards. Bajaj Auto is the largest exporter of three wheelers with a share of 98 per cent in 2006-07. Passenger versions of three wheelers accounted for 97 per cent of the exports by Bajaj Auto, a fact that indicates the need for low cost public transportation in the other developing countries.



## GROWTH PROSPECTS AND KEY DRIVERS OF THE INDIAN THREE WHEELER INDUSTRY

### Need for Economically Viable Transportation System

The high growth achieved by the Indian economy has resulted in the growth of the manufacturing sector, which in turn has generated demand for vehicles for transporting goods and commodities across the country. India is moving towards a hub and spoke transportation model in which M&HCVs are used for inter-city (hubs) transportation and the three-wheelers fulfil the need for last mile connectivity in goods transport.

### Government Regulations

Demand for new vehicles in the future will be driven by the age limit enforcement on usage of three wheelers in large cities. Government regulations and incentives in the form of subsidies on usage of cleaner fuels like CNG and LPG will force a shift to new vehicles. This trend is already visible in cities like Delhi and Ahmedabad. Relaxation of ceilings on new vehicle registrations in cities like Bangalore, Mumbai, Delhi and Hyderabad will also generate demand for three wheelers.

# Indian Partnerships with Foreign Firms

Several Indian firms have partnered with global players. While some have formed joint ventures with equity participation, others have entered into technology tie-ups.

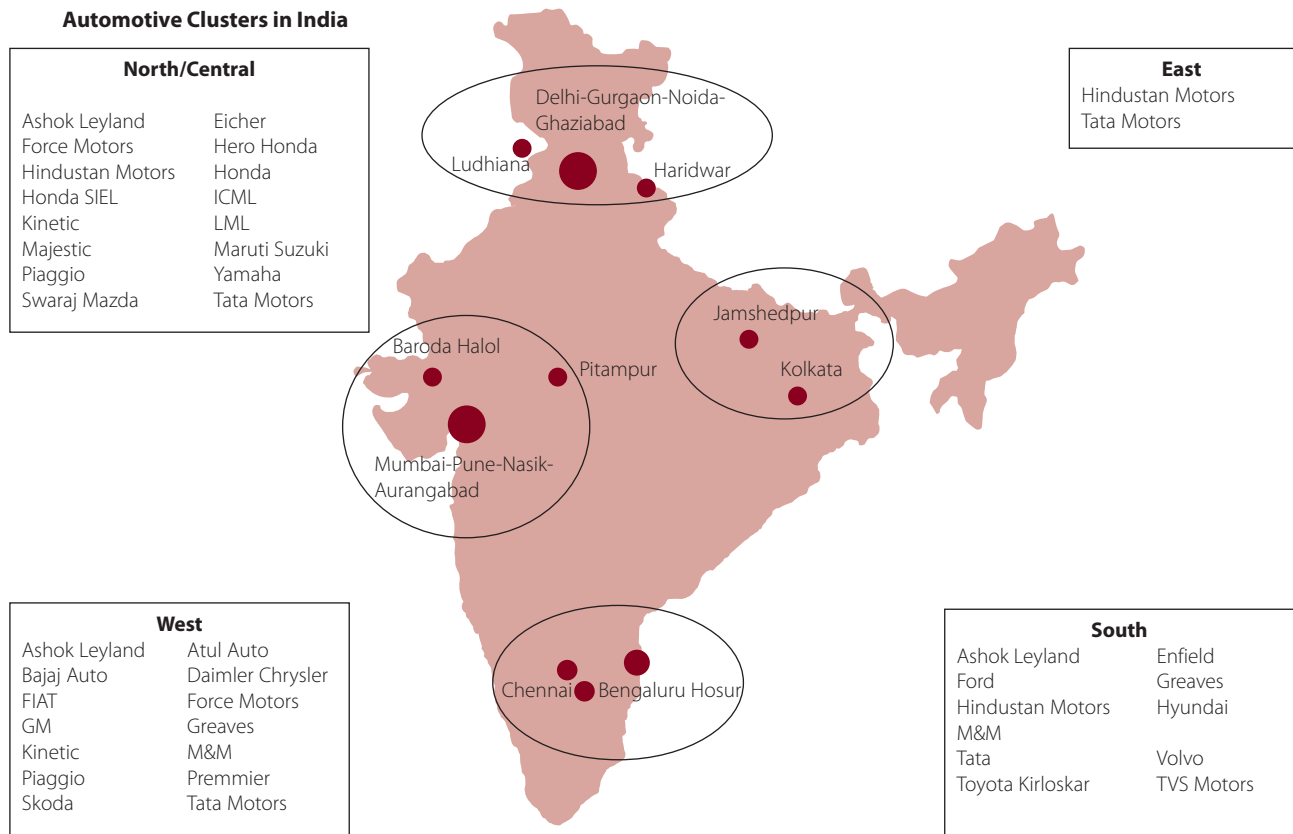
**Status of Indian tie-ups in the Automotive Sector**

Indian OEM	Foreign Partner	Type of partnership
Maruti Suzuki	Suzuki Motor corporation-Japan	Equity partner
Mahindra & Mahindra	Renault, S.A, France	Joint Venture for manufacturing and selling Logan in India
Tata Motors	Fiat, Italy	Tie-up for manufacturing & marketing in India
Kinetic Group	Sanyang Industry Co Ltd (SYM, Taiwan)	Technology tie-up
	Italjet, Italy	Tie-up for manufacturing and distribution
Hero Group	Honda, Japan	Technology
Hero Cycles	Ultra Motor Company, U.K	Technology
Bajaj Auto	Kawasaki Heavy Industries Ltd., Japan	Engine Technology
	Tokya R&D Co. Ltd., Japan	Technology
	Kubota Corp., Japan	Technology
L&T Ltd.	Scania, Spain	Tie-up for marketing in India
Ashok Leyland	Hino, Japan	Engine Technology
	Irizar, Spain	Bus body Technology
	ZF, Germany	Gearbox Technology
Tata Motors	Marco Polo, Brazil	Bus/Coach Technology
	Cummins, USA	Engine Technology

# Automotive Clusters in India

The Indian automotive industry is largely clustered in three regions, namely, Chennai (TamilNadu), Pune-Mumbai (Maharashtra), and the National Capital Region (NCR). The formation of the Chennai cluster, resulted mainly from demand generated by large component manufacturers setting up their units in this region in the late 1940s and

the 1950s. These units have locational advantage such as access to ports, access to a pool of educated workforce, and supportive government policies. In contrast, the auto cluster in the NCR was mainly created by a single automotive company, Maruti Udyog, which attracted a host of auto component companies in its vicinity.



# India's Automotive Policy and Status of Regulations

In 2002, the Indian government formulated an auto policy that aimed at promoting an integrated, phased and self-sustained growth of the Indian automotive industry. Its stated objectives are to:

- Position the sector as a lever of industrial growth and employment and to achieve a high degree of value addition in the country
- Promote a globally competitive automotive industry and emerge as a global source for auto components
- Establish an international hub for manufacturing small, affordable passenger cars as well as tractors and two-wheelers
- Ensure a balanced transition to open trade at minimal risk to the Indian economy and local industry
- Conduce modernisation of the industry and facilitate indigenous design, research and development
- Steer India's software industry into automotive technology
- Assist development of vehicles propelled by alternate energy sources
- Develop domestic safety and environmental standards at par with international standards

The Auto Policy has spelt out the direction of growth for the auto sector in India and addresses most concerns of the automobile sector, including,

- Allowing automatic approval for foreign equity investment up to 100 per cent, with no minimum investment criteria
- Investment incentives to be provided by the state governments, especially for large investments
- Laying emphasis on R&D activities carried out by companies in India by giving a weighted tax deduction of up to 150 per cent for in-house research and R&D activities
- Formulation of an auto fuel policy to ensure availability

of adequate amount of appropriate fuel to meet emission norms

- Impetus to alternative fuel vehicles through appropriate long term fiscal structure
- Plan to have a terminal life policy for CV along with incentives for replacement for such vehicles
- Promoting multi-modal transportation and the implementation of mass rapid transport systems

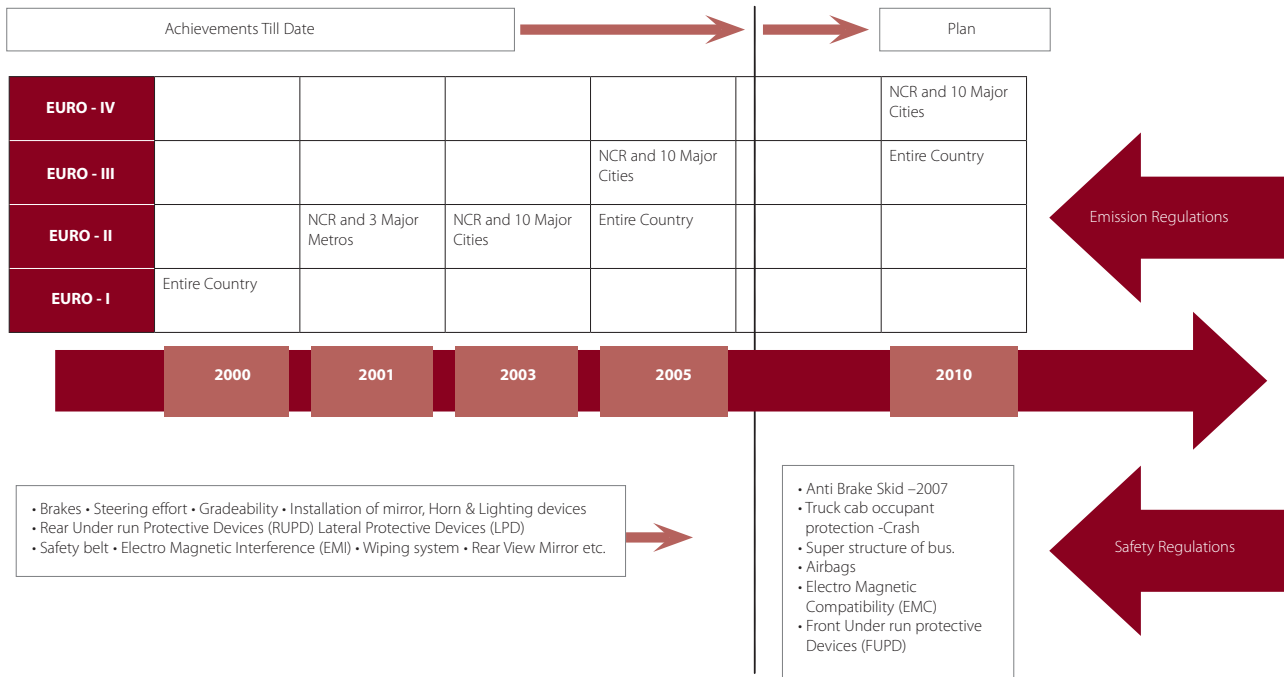
Indian automotive regulations are closely aligned to the ECE regulations. The level of alignment of the Indian regulations with the ECE regulations is depicted below:

**Status of Indian Automotive Regulations**

Status	Number of Regulations
Fully/partially aligned	81
In the process of being aligned	21
Items/regulations to be covered	20

The key regulations that are likely to impact the auto industry in the future are crash related regulations and introduction of Bharat Stage IV norms. India has already achieved Euro-1 norms in the year 2000 and Euro-2 norms in the year 2005. Euro-3 norms were achieved in the National Capital Region (NCR) and 10 major cities in India in 2005. Plans are on to achieve Euro-3 norms across the country and Euro-4 norms in NCR and 10 major cities by 2010. The status of these regulations is depicted as follows.

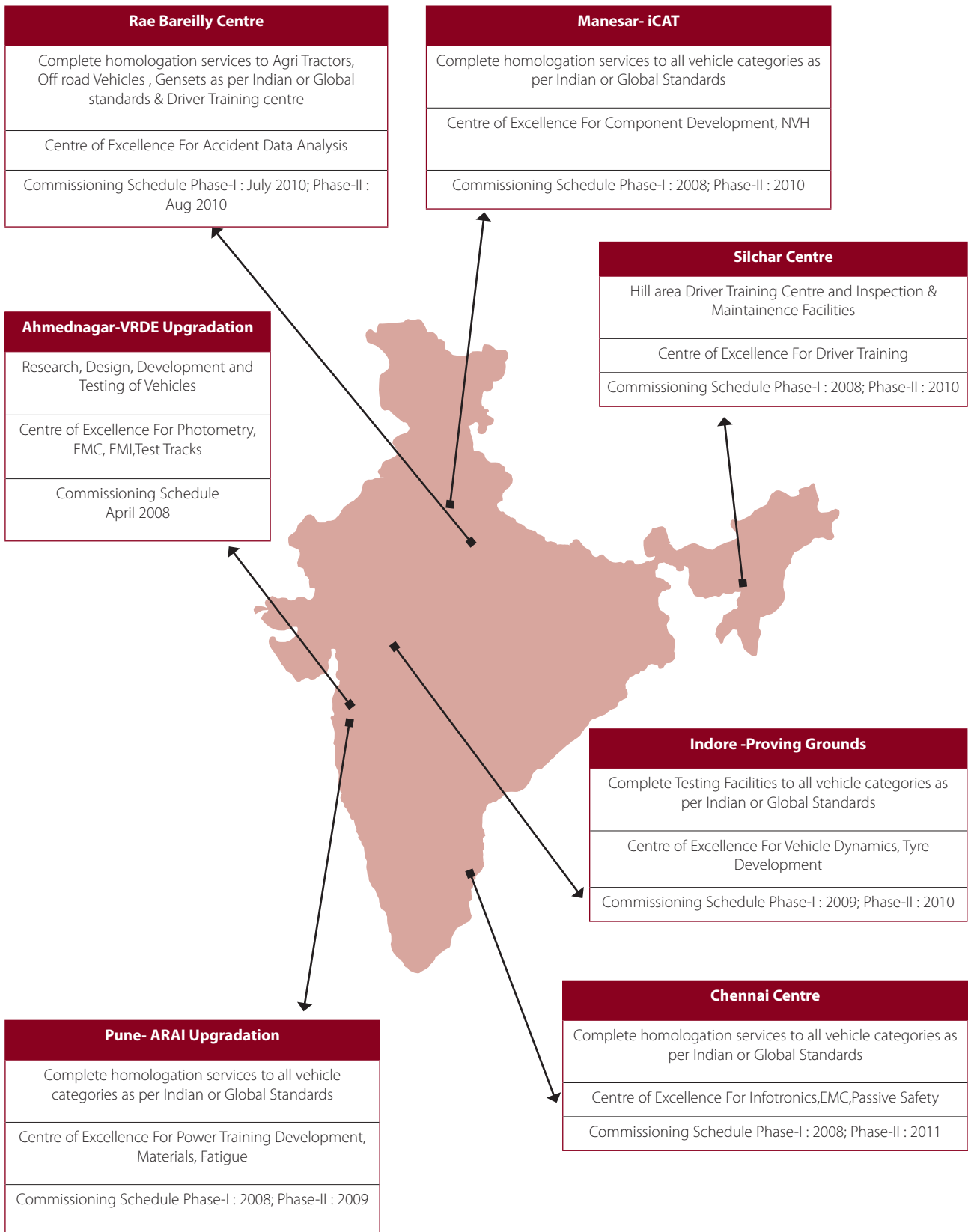
Status of Automotive Regulations in India



**GOVERNMENT OF INDIA’S INITIATIVE TO STRENGTHEN AUTOMOTIVE R&D INFRASTRUCTURE**

The National Automotive Testing and R&D Infrastructure Project (NATRIP) is the largest and one of the most significant initiatives in the automotive sector. It represents a unique collaboration between the Government of India,

a number of state governments and the Indian automotive industry to create state-of-the-art testing, validation and R&D infrastructure in the country. NATRIP envisages an investment of about US\$ 380 million in setting up several facilities for testing of vehicles. This initiative is expected to help in the production and export of low-priced, high-tech vehicles and components from the country by building appropriate infrastructure, as shown in the diagram.



# Growth Potential of the Indian Automotive Industry

## **GROWTH DRIVERS FOR THE INDIAN AUTOMOTIVE INDUSTRY**

There are several factors, which are expected to contribute to the growth in the automotive industry. These are as follows:

### **Increasing Demand for Vehicles**

This has been a result of the growth in income levels and easy availability of financing options. Greater consumer awareness and closer linkages with the global auto trends, for example, shorter life cycles of vehicles due to faster replacement, have led companies to introduce contemporary products in the Indian market. The CAGR of 14.1 per cent achieved by the domestic automotive industry between 2001-02 and 2006-07 makes India one of the fastest growing markets in the world.

### **Stable Economic Policies Adopted by Successive Governments**

The Indian Government has ensured continuity in reforms and policies in the country, which has contributed to the overall economic growth, including the growth of the automotive sector. In addition, the government has taken specific policy initiatives, such as lower excise duties on smaller cars, etc to boost local demand. Implementation of VAT has positioned India globally, as one of the leading low cost manufacturing sources. India is expected to emerge as the manufacturing hub for small cars. It has already been recognised as a low cost source for components. Vehicles are also expected to gain much from the global trend in outsourcing to low cost countries.

### **Availability of Low Cost Skilled Manpower**

The cost of quality manpower in India is one of the lowest in the world. In terms of availability, India produces 400,000 Engineering graduates every year and it is estimated that on an average roughly 7 million skilled workers enter the workforce every year.

### **High Quality Standards**

The 'Made in India' brand is rapidly getting associated with quality. Already, nine Indian component manufacturers have won the Deming Award for quality and most of the leading component manufacturers are QS and ISO certified.

### **Proximity to Key Markets**

Proximity to other growing Asian economies and emerging markets like Africa gives India a strong advantage over other competing nations. Besides the freight cost of shipments from India to Europe is cheaper as compared to freight costs of other competing countries like Thailand.

### **Growth Forecasts as per Automotive Mission Plan**

The size of the Indian automotive industry is expected to grow at a rate of 13 per cent per annum over the next decade to reach around US\$ 120-159 billion by 2016. In volume terms, the market is expected to reach 31.96 million units by 2015. The total investments required to support the growth are estimated at around US\$ 35-40 billion. Two wheelers are expected to lead the growth, with estimated sales of 27.8 million units by 2016. Sales of passenger vehicles are expected to grow from the current 1.58 million vehicles to 2.65 million vehicles by 2015.

The contribution of the automotive sector to the Indian GDP is expected to double from the present level of 5-6 per cent. The total exports from the automotive sector would be around US\$ 30–35 billion, of which component exports would account for US\$ 20-25 billion and vehicle exports for the rest. The total employment generated in the auto sector would be around 25 million by 2016 (including indirect employment).

**Potential Vehicle Sales in 2015**

<b>Vehicle Type</b>	<b>Number Sold (in million units)</b>
Two wheelers	27.80
Passenger vehicles	2.65
Three wheelers	0.87
CV	0.64
<b>Total</b>	<b>31.96</b>



### **Exchange Rate Used**

<b>Year</b>	<b>Exchange Rate (INR/US\$)</b>
2000	46.6
2001	48.3
2002	48.04
2003	45.6
2004	43.7
2005	45.2
2006	45
2007	42

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