

India

Automotive Industry

Compiled by:

SBH India
New Delhi, April 2008

The Indian automotive industry is represented by two industry associations – Society of Indian Automobile Manufacturers (SIAM) which represents the OEMs and the Automotive Components Manufacturers' Association (ACMA) which represents the components industry. Both associations actively engage with industry, government and other stakeholders to promote the interests of the sector and improve competitiveness.

The automotive sector comprises of Original Equipment Manufacturers (OEMs) and auto component manufacturers. The industry encompasses commercial vehicles, multi-utility vehicles, passenger cars, two wheelers, three wheelers and auto components. Global as well as local forces have affected the Indian auto industry, leading to a rapid transformation over the last decade or so. After the end of licensing era in early 1990s, the industry has witnessed rapid growth in volumes and capacity and several new ventures have come up in the last 10 years.

The industry (OEMs and suppliers together) contributed nearly 5 per cent to the country's GDP in 2006. The automotive sector also offers significant employment opportunities. It employs approximately 13 million people directly and indirectly. The industry's capabilities in design, engineering and manufacturing have been recognised the world over and most automotive majors are looking to increasingly source auto components from India.

Cost and quality remain the underlying issues of India's auto industry internationalisation. Indian makers are being challenged on several counts. Costs, especially labour costs are rising for Indian manufacturers, while the cost reductions that should come with infrastructure improvements are painfully slow in materialising. The quality imperative means that Indian makers have to seek new technological resources through alliances and acquisitions, challenging the capital and management resources of companies that are often small and family owned.

Infrastructure development projects which are underway in India combined with favourable government policies will also drive automotive growth in the next few years. Easy availability of finance and moderate cost of financing facilitated by double income families will drive sales in the next few years. India is also emerging as an outsourcing hub for global majors. Companies like GM, Ford, Toyota and Hyundai are implementing their expansion plans in the current year. While Ford and Toyota continue to leverage India as a source of components, Hyundai and Suzuki have identified India as a global source for specific small car models.

At the same time, Indian players are likely to increasingly venture overseas, both for organic growth as well as acquisitions. India is emerging as one of the most attractive automotive markets in the world, and is poised to become a key sourcing base for auto components.

1. Automotive Components Industry

According to the Auto Component Manufacturers Association (ACMA), the apex body of component makers in India, global sourcing of components from the country will double from US\$ 2.95 billion in 2006-07 to US\$ 5.9 billion in 2009-10, and is slated to hit US\$ 20 billion by 2015-16.

Riding this success, and capitalising on the spiralling demand of domestic auto companies, the Indian automobile components industry has emerged as one of India's fastest growing manufacturing sectors, and a globally competitive one.

Industry – Snapshot

Year	Turnover (US\$ bio)	Export (US\$ bio)	Investments (US\$ bio)
2002-03	5.4	0.8	2.7
2003-04	6.7	1	3.1
2004-05	8.7	1.4	3.8
2005-06	12	2.1	4.4
2006-07	15	2.9	5.4
2007-08	18	3.6	7.2
2009-10*	18.7	5.9	10.1
2015-16*	40	20	20.9
	CAGR**:	CAGR:	CAGR:
	2002-06: 29%	2002-06: 38%	2002-06: 19%
	2006-1015: 13%	2006-1015: 24.4%	2006-2015: 16%

Source: ACMA

* Estimates

** CAGR – Compounded Annual Growth Rate

The global auto component industry is expected to touch US\$ 1.9 trillion by 2015, of which around 40 per cent (US\$ 700 billion) is potentially expected to be sourced from low cost countries (LCC) like India. ACMA-McKinsey Vision 2015 document estimates the potential for the Indian auto component industry to be US\$ 40 billion by 2015. Of this, 50 per cent is expected to come from exports.

Of the US\$ 2.1 billion worth of component exports by the Indian auto component industry in 2005-06, around 57 per cent were bought by global majors in Europe and North America.

Continent-wise Share of export of auto components 2005-06 (%)

Europe	32.4	Middle East	7.8
North America	25.1	South America	2.5
Asia	20	Oceania	1.3
Africa	10.8	Other	0.02

Source: ACMA

India's component industry has the capability to manufacture the entire range of auto-components, such as engine parts, drives, transmission parts, suspension and braking parts, electrical parts and body and chassis parts, with engine parts making up nearly a third of all exports.

Engine Parts	31%
Electrical Parts	9%
Drive Transmission and Steering Parts	19%
Suspension and Braking Parts	12%
Equipment	10%
Body and Chassis	12%
Others	7%

Source: ACMA

The composition of exports in terms of the proportion of original equipment manufacturer (OEM) and aftermarket has undergone a sweeping change since the past decade. The ratio of OEM to aftermarket has changed from 35:65 in the 1990s to 75:25 in 2006. In a bid to lower freight charges and facilitate faster delivery, automotive components manufacturers are located largely around their OEM customers. This is particularly so since most of them are directly supplying to the OEM producer.

While exports have been booming, there has been a sharp rise in imports of auto components as well, especially in the last few years. From an import of US\$ 2.48 billion in 2005-06, they are estimated to go up to US\$ 4.93 billion in 2007-08. This is a healthy trend, indicative of rising domestic demand.

Over 20 OEMs have set up their International Purchase Offices (IPOs) in India to source the components from this region. This number is expected to double by the year 2010. The OEMs in India include firms like General Motors, Ford Motor Company, Cummins International, Bosch, Volkswagen, BMW, MAN (trucks) and JCB (earthmoving equipment) amongst others.

India enjoys a cost advantage with regard to castings and forgings. The manufacturing costs in India are 25 to 30 percent lower than its western counterparts. India's competitive advantage does not come from costs alone, but from its full service supply capability. Besides, the quality consciousness of the industry matches global standards now. This is corroborated by the fact that eleven Indian companies in the automotive sector have received the coveted Deming Prize, which is the largest number outside Japan.

Auto component sector is highly fragmented

The Indian automotive component industry is highly fragmented. There are nearly 6'400 players in the sector, of which only about 6 per cent are organised and the remaining 94 per cent are small-scale, unorganised players. In terms of value added, however, the organised players account for nearly 77 per cent of the output in the sector. The sector manufactures components across all key vehicle systems.

- **Unorganised Sector:** The unorganised sector accounts for a sizeable chunk of the total production of components in the country. Most of these manufacturers use primitive technologies and buy second-hand machinery, sometimes at near-scrap value. This sector serves mainly the replacement market.
- **The Counterfeit Components Market:** The Indian automotive components market has long been affected by the presence of a large spurious-parts market. Further, counterfeiting is largely prevalent in those segments (or models) that offer sufficient volume. Manufacturers have been using bar coding techniques to partly offset the problems created by the spurious market.

Investments related news

- Chrysler is setting up a local sourcing unit in Chennai and is expected to start sourcing for its global plant by next year.
- Palfinger AG, the Austrian hydraulic lifting, loading and handling systems manufacturer, has joined hands with Western Auto LLC, Dubai, the vehicle dealership arm of ETA Star group, have invested US\$ 1.7 million to set base in India.
- IFCI Venture Capital Funds Ltd is launching a private equity fund in association with German consultancy UBF-B worth US\$ 144.67 million focussed entirely on domestic automotive components industry.
- The world's third largest auto components maker, Magna International Inc., plans to bring two more group companies to India in the next 12 months and is considering the Gurgaon, Chennai and Pune regions for these manufacturing facilities.
- Auto parts maker Robert Bosch of Germany will invest US\$ 201.4 million in its Indian subsidiaries over the next two years.
- Ashok Leyland and Nissan Motor have invested US\$ 500 million in three joint ventures to manufacture light commercial vehicles (LCVs), LCV engines and power train components.

Not only global investors, Indian component companies are also pumping in huge sums into expanding operations:

- Bharat Forge invested US\$ 135 million in its Pune plant for increasing domestic capacity to 240'000 tons.
- Amtek Auto is expanding capacity of its castings unit to 70,000 tonnes per annum (tpa) from 30'000 tpa.
- Sona Koyo plans to have capacity of three million pieces of manual steering gears, 500'000 units of hydraulic power steering and 250'000 units of electronic power steering (EPS), apart from doubling the capacity of steering columns from one million parts.
- Rico Auto is investing US\$ 23 million to expand capacity.

Opportunities for large scale auto component manufacturing in India is driven by the fact that India is being seen as a global compact car hub, as a centre for skill based manufacturing and engineering and increasingly companies in US/Europe are seeking partnerships in low cost countries like India. Besides the burgeoning demand from global auto majors, there is also the domestic car industry, which is growing at a sparkling rate of over 20 per cent, driven by a rising consumer base and affordable loans.

2. Automobiles Industry

The Indian automotive industry has witnessed an unprecedented boom in recent years, owing to the improvement in living standards of the middle class, and a significant increase in their disposable incomes. The industry is expected to touch the 10 million mark, to which the commercial vehicle segment will be a major contributor. Industry experts peg the Indian Automobile sales growth at a compounded annual growth rate (CAGR) of 9.5 per cent by 2010.

India has made a mark in the global automobile industry; the salient aspects below make for India featuring on every leading automobile player's roadmap.

- India is the second largest two-wheeler market in the world
- Fourth largest commercial vehicle market in the world
- Eleventh largest passenger car market in the world
- Fifth-largest bus and truck market in the world (by volume)
- Envisaged to be the seventh largest automobile market by 2016, and world's third largest by 2030 (behind only China and the US)

The industry structure spans all segments and is concentrated in regional clusters

Automobile manufacturing units are located all over India. These are, however, concentrated in some pockets such as Chennai and Bangalore in the south, Pune in the west, the National Capital Region (NCR, which includes New Delhi and its suburban districts) in the north, Jamshedpur and Kolkata in the east and Pithampur in the central region. Following global trends, the Indian automotive sector also has most auto suppliers located close to the manufacturing locations of OEMs, forming regional automotive clusters. Broadly, the three main clusters are centred around Chennai, Pune and the NCR.

Production

Growth in consumer-spending habits has reshaped the industry which has spurred an enormous cost advantage in manufacturing, research and development (R&D), skilled labour, software, and design, encouraging leading automakers to perceive India as a global player in this sector. Marked by consistent growth at a frantic pace, the automobile industry recorded production of a wide variety of vehicles - including over 2.06 million four-wheelers (passenger cars, light, medium and heavy commercial vehicles, multi-utility vehicles such as jeeps), and over 9 million two-and-three wheelers (scooters, motor-cycles, mopeds, and three wheelers) - in 2006-07.

Automobile Production Trends

(Number of Vehicles)

Category	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Passenger Cars	500'301	557'410	782'562	960'487	1'046'133	1'238'032
Utility Vehicles	105'667	114'479	146'325	182'018	196'506	222'111
MPVs	63'751	51'441	60'673	67'371	66'661	84'707
<i>Total Passenger Vehicles</i>	<i>669'719</i>	<i>723'330</i>	<i>989'560</i>	<i>1'209'876</i>	<i>1'309'300</i>	<i>1'544'850</i>
M&HCVs	96'752	120'502	166'123	214'807	219'295	294'266
LCVs	65'756	83'195	108'917	138'896	171'788	225'734
<i>Total Commercial Vehicles</i>	<i>162'508</i>	<i>203'697</i>	<i>275'040</i>	<i>353'703</i>	<i>391'083</i>	<i>520'000</i>
<i>Three Wheelers</i>	<i>212'748</i>	<i>276'719</i>	<i>356'223</i>	<i>374'445</i>	<i>434'423</i>	<i>556'124</i>
Scooters	937'506	848'434	935'279	987'498	1'021'013	943'974
Motorcycles	2'906'323	3'876'175	4'355'168	5'193'894	6'207'690	7'112'225
Mopeds	427'498	351'612	332'294	348'437	379'994	379'987
Electric Two Wheelers	-	-	-	-	-	7'982
<i>Total Two Wheelers</i>	<i>4'271'327</i>	<i>5'076'221</i>	<i>5'622'741</i>	<i>6'529'829</i>	<i>7'608'697</i>	<i>8'444'168</i>
Grand Total	5'316'302	6'279'967	7'243'564	8'467'853	9'743'503	11'065'142

Source: SIAM

Domestic Sales

The Society of Indian Automobile Manufacturers' Association (SIAM) estimates sales figures of 7 million motorcycles, 1.55 million cars (including MPVs, SUVs and MUVs) and 8.3 million two-wheelers, for the 2007-08 fiscal. Consequently, India should be able to contribute about 3 per cent to the total global automotive industry output by end-2007.

Automobile Domestic Sales Trends
(Number of Vehicles)

Category	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Passenger Cars	509'088	541'491	696'153	820'179	882'208	1'076'408
Utility Vehicles	104'253	113'620	146'388	176'360	194'502	220'199
MPVs	61'775	52'087	59'555	65'033	66'366	83'091
<i>Total Passenger Vehicles</i>	<i>675'116</i>	<i>707'198</i>	<i>902'096</i>	<i>1'061'572</i>	<i>1'143'076</i>	<i>1'379'698</i>
M&HCVs	89'999	115'711	161'395	198'506	207'472	275'600
LCVs	56'672	74'971	98'719	119'924	143'569	192'282
<i>Total Commercial Vehicles</i>	<i>146'671</i>	<i>190'682</i>	<i>260'114</i>	<i>318'430</i>	<i>351'041</i>	<i>467'882</i>
<i>Three Wheelers</i>	<i>200'276</i>	<i>231'529</i>	<i>284'078</i>	<i>307'862</i>	<i>359'920</i>	<i>403'909</i>
Scooters	908'268	825'648	886'295	922'428	909'051	940'673
Motorcycles	2'887'194	3'647'493	4'170'445	4'964'753	5'810'599	6'553'664
Mopeds	408'263	338'985	307'509	322'584	332'741	355'870
Electric Two Wheelers	-	-	-	-	-	7'341
<i>Total Two Wheelers</i>	<i>4'203'725</i>	<i>4'812'126</i>	<i>5'364'249</i>	<i>6'209'765</i>	<i>7'052'391</i>	<i>7'857'548</i>
Grand Total	5'225'788	5'941'535	6'810'537	7'897'629	8'906'428	10'109'037

Source: SIAM

Automobile Exports Trends
(Number of Vehicles)

Category	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Passenger Cars	49'273	70'263	125'320	160'670	169'990	192'745
Utility Vehicles	3'077	1'177	3'049	4'505	4'489	4'403
MPVs	815	565	922	1'227	1'093	1'330
<i>Total Passenger Vehicles</i>	<i>53'165</i>	<i>72'005</i>	<i>129'291</i>	<i>166'402</i>	<i>175'572</i>	<i>198'478</i>
M&HCVs	4'824	5'638	8'188	13'474	14'078	18'838
LCVs	7'046	6'617	9'244	16'466	26'522	30'928
<i>Total Commercial Vehicles</i>	<i>11'870</i>	<i>12'255</i>	<i>17'432</i>	<i>29'940</i>	<i>40'600</i>	<i>49'766</i>
<i>Three Wheelers</i>	<i>15'462</i>	<i>43'366</i>	<i>68'144</i>	<i>66'795</i>	<i>76'881</i>	<i>143'896</i>
Scooters	28'332	32'566	53'687	60'699	83'934	35'685
Motorcycles	56'880	123'725	187'287	277'123	386'054	545'887
Mopeds	18'971	23'391	24'078	28'585	43'181	37'566
Electric Two Wheelers	-	-	-	-	-	-
<i>Total Two Wheelers</i>	<i>104'183</i>	<i>179'682</i>	<i>265'052</i>	<i>366'407</i>	<i>513'169</i>	<i>619'138</i>
Grand Total	184'680	307'308	479'919	629'544	806'222	1'011'278

Source: SIAM

Market share – Passenger Cars

	2006-07 (April-Jan)	2007-08 (April-Jan)
Maruti	45.6	48.1
Hyundai	25	24.8
Tata Motors	15.2	12.7
Honda Siel	4.6	4.1
GM	1.3	3.2
Ford	5.2	2.5
Others	3.1	4.6

Source: ACMA

Auto sales related news:

- Maruti Udyog Ltd, India's biggest car maker, recorded a growth of about 20.7 per cent during April-August 2007 - selling 293'536 vehicles as against 243'211 in the corresponding period of the previous year. For the first time, Maruti Suzuki sold more cars in India than its parent in Japan during the first half of the fiscal year.
- GM India reported a whopping 110 per cent jump in its domestic sales during November 2007 at 5'356 units against 2'554 units in the same month last year.
- Mahindra & Mahindra Limited (M&M) cumulative sales (including exports) during the April-September 2007 period grew by 35.8 per cent – 106'094 units compared to 78'144 units in the corresponding period last fiscal.
- Honda Siel Cars India Ltd. (HSCI), one of the leading manufacturers of premium cars in India, recorded a growth of 16.1 per cent in cumulative sales during January-August 2007 over the previous year selling 41'638 units against 35'853 units.
- SkodaAuto has already doubled sales targets to 25'000 units this year, from 12'000 units in 2007.
- Hyundai Motors India Limited (HMIL) exported 67'625 units during April-September 2007 and gained 14 per cent - constituting 68 per cent of all car exports from India in the half-year period.
- DaimlerChrysler sold 1'681 units during January-August 2007 - growth of over 22 per cent from a year ago.
- General Motors India (GM), the wholly owned subsidiary of General Motors Corporation, US, reported 114 per cent increase in domestic sales in August 2007 - at 5'817 units against 2'720 units in the same month last year.
- Hero Honda crossed the 2 million unit sales mark during January-August 2007

FDI in the automobile sector

The Indian automobile success story has paved the way for foreign investments, making India an attractive destination for global players like Japanese, Korean, European, and American OEMs which have made a foray in the Indian market and added over 1 million four-wheelers during 2005-06. International carmakers are now shifting focus to India, from China, to establish their manufacturing plants and units:

- Suzuki Motor Corp will make India a production hub and build a new 'world car' in the country, and is beefing up its vehicle line-up and dealer network in a bid to retain its market-share of at least 50 per cent. With a capacity to make 1 million units by 2010-11, it is investing US\$ 1.75 billion in R&D.
- Audi AG has started production on its midsize A6 luxury sedan, with the aim of producing more than 2'000 cars a year by 2015 at the plant in Aurangabad, Maharashtra. It will invest US\$ 29.37 million by 2015 in India, and also begin assembly of its A4 model aiming for a bigger share of the fast-growing market.

- Volkswagen may make India a base to make cars exclusively for the world market. It is setting up a US\$ 601.6 million production plant in Pune to manufacture B/B Plus segment car specifically designed for India, and expects to sell about 400'000 cars in 10 years in India.
-
- Piaggio will step up production in India and launch scooters in a market that is set to play a greater role in the Italian firm's global operations. It has also entered a new agreement with India's Greaves Cotton for diesel engines for three-wheelers.
- Daimler AG has got a nod from the Government to invest US\$ 411million in the country through a joint venture with the Hero Group. The Hero-Daimler joint venture, which would produce commercial vehicles above 2 tonne, would sell initially in the domestic market and later in overseas markets.

Mergers and Acquisition (M&A), Joint Venture (JV)

An upbeat Indian economy, corporate cash and friendly government policies have contributed to the new M&A trend. Indian companies are now aggressively looking at North American, the European markets and Asia to spread their wings and become global players in this sector. Indian automotive industry now has the dynamics of an open market. Many joint ventures have been set up in India with foreign collaboration, both technical and financial with leading global manufacturers. This has led to the recent spurt in the demand for new automobile models in India where over 20 models have been launched in only passenger vehicle segment over the past 12 months.

Auto M&A news:

- Tata Motors has recently bought Jaguar and Land Rover from US based Ford Motors.
- A consortium of Indian vehicle maker Mahindra & Mahindra Ltd and private equity firm ICICI Venture Funds has signed an agreement to buy Italian gear manufacturer Metalcastello.
- DaimlerChrysler AG of Germany has taken a call option to buy 26 per cent in Jalandhar-based bus body builder Sulej Motors.
- German auto major Daimler will hold 60 per cent stake in its commercial vehicle joint venture in India with the Hero group holding the remaining 40 per cent, with a total investment of about US\$ 870.5 million.
- Mahindra and Mahindra (M&M) will set up a utility assembly plant in Manaus, North Brazil, with local partner Bramont. In Egypt, the company will assemble Scorpios under the CKD operation with local partner Bavarian Motors.
- TVS Motor Company has set up a two-wheeler manufacturing plant in Indonesia at Surya Cipta Estate in Karawang.
- Tata Motors acquired a Nissan facility in Pretoria, S. Africa which would allow it to roll out Tata vehicle for both South African and European market.

Testing and Certification

Indian expertise in the automotive sector is coming handy for global car companies like Japanese manufacturers Nissan, Toyota and Honda and the German luxury car makers like BMW and Volkswagen to test their vehicle performance and get international certification.

These car makers are negotiating with the National Automotive Testing and R&D Infrastructure Project (NATRIP) to take on the rigorous robustness and performance tests of their future vehicles intended for both overseas as well as the Indian market. Funded by the Union Government, NATRIP's centre at Manesar, in Haryana, began operations recently to carry out homologation tests. It also has centres at Oragadam near Chennai, and Vehicle Research & Development Establishment near Pune. Going forward, the organisation plans to open three more centres in Silchar, Rai Bareilly and Indore.

Research and Development

India's attractiveness as an R&D location is already an established fact: more than 125 Fortune 500 companies have already setup their R&D bases in India. There are already signs that automakers too are choosing to use India's auto engineering potential to cut the high cost of design as auto model lives shrink and the imperative grows to innovate at a lower cost. Indian companies are already drawing on local engineering design capability where in the past they relied on imported auto design, allowing companies like Tata Motors and Mahindra & Mahindra to develop entirely new vehicle platforms locally.

India – a base for cars manufacturing

Maruti Suzuki	<ul style="list-style-type: none"> • New car plant to make 250'000 cars per annum (total 800'000 cars/annum) • 10 new Component JVs to support new Diesel Engine Plant.
Hyundai	<ul style="list-style-type: none"> • Increase capacity to 600'000 cars per annum over next 1 year.
Nissan	<ul style="list-style-type: none"> • Ashok Leyland and Nissan Motor Co. Ltd., signed a binding Master Co-Operation Agreement (MCA) for the formation of three joint venture companies supporting the Light Commercial Vehicle (LCV) business at a investment of US\$ 500mln.
Tata Motors	<ul style="list-style-type: none"> • New plant to manufacture Rs. 100'000/- car in West Bengal with an investment of US \$ 240 million.
Toyota	<ul style="list-style-type: none"> • Target of 200'000 units capacity by 2008 and already looking at the small segment
General Motors	<ul style="list-style-type: none"> • New capacity to manufacture GM Spark small car by 2007
Nissan-Renault	<ul style="list-style-type: none"> • 50:50 JV, to make 400'000 cars a year with an investment of over US \$ 1 billion
Volkswagen	<ul style="list-style-type: none"> • Investing 400 million euro in a new plant in Pune. Operations are to start in second half of 2009.
Honda	<ul style="list-style-type: none"> • Investing US \$ 250 million in a new plant in Rajasthan with capacity of 60'000 car per year (First car to roll out in 2009).
Ford	<ul style="list-style-type: none"> • Plans to invest US\$ 500 million including the expansion of Ford India's current manufacturing facility in Chennai.

Source: ACMA

3. Government initiatives

Auto Policy

The government had announced its Auto Policy in 2002. This aim of the policy has been to promote integrated, phased, enduring and self-sustained growth of the Indian automotive industry. The policy states;

- Exalt 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 and a key center for manufacturing tractors and two-wheelers in the world;
- Ensure a balanced transition to open trade at a minimal risk to the Indian economy and local industry;
- Conduce incessant modernization 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;
- Development of domestic safety and environmental standards at par with international standards.

The Government of India allows automatic approval for foreign equity investment up to 100 per cent for the manufacture of auto components. Manufacturing and imports in this sector is free from licensing and approvals. There is no local content regulation in the auto industry. The Engineering Export Promotion Council under the aegis of Ministry of Commerce and Industry, Government of India, over the years has been engaged in promoting exports of engineering goods including auto parts. Among other initiatives that have been effected in 2006-07 are:

- Setting up of the National Automotive Testing and R&D Infrastructure Project (NATRIP) at a total cost of US\$ 388.5 million for enabling the industry to usher in global standards of vehicular safety, emission and performance standards.
- Finalisation of the Automotive Mission Plan (AMP) 2006-2016 for making India a preferred destination for design and manufacture of automobile and automotive components.
- The government has notified setting up an automobile testing and homologation centre, International Centre for Automotive Technology (ICAT), at an investment of US\$ 15.23 million which would act as an accredited agency to approve homologation standards for automobiles.

4. Environmental Issues

India is currently experimenting with a range of alternative fuels. In both Delhi and Mumbai, CNG is already widely used for buses, taxis and three-wheelers. Some larger gas-powered vehicles run on LPG, although the distribution infrastructure remains embryonic. There are only two cross-country pipelines, both in North-eastern India, while one more is proposed. Some states have introduced gasoline blended with 5 percent ethanol derived primarily from molasses, and field trials are underway on a 10 percent ethanol blend. Bio-diesel which can be derived from a wide range of fat-bearing agricultural products (in India the crop of choice is the *Jatropha* plant) or even industrial waste is also limited to field trials in passenger cars, buses and trains. A very small number of electrically-powered vehicles also operate.

Some companies believe that bio fuels will emerge as a significant sector in the Indian economy, as policymakers grasp their potential for bringing new profitability to agriculture. Regulatory changes in India will also create demand for lower-emission alternative fuels. Under the Indian government's Automotive Fuel Policy, a series of new emission controls known as the Bharat Stage norms – standards modelled on European emission rules – are already being enforced in a rolling program ending in April 2010. The Bharat Stage norms have already resulted in the conversion of all three-wheelers and taxis, in the national capital region (NCR) and Mumbai, to LPG or CNG vehicles; the phased conversion of diesel-based commuter public buses in target cities to CNG and the phasing out of commercial vehicles above 15 years in age. Based on a survey of auto industry professionals, KPMG in India estimates that of the 14 'select' cities with access to piped fuel gas, approximately 10 percent of passenger cars (or 680'000 vehicles) will be running on CNG by 2015. Commuter vehicles and light commercial vehicles are likely to be running on LPG and CNG without exception by 2015. As the final Bharat Stage IV emission controls are introduced, a likely total of 2.17 million vehicles will be running on gas fuel in the 14 cities.

Annex

Profile of key Domestic Players

Name of the company	Parent company	Output	Models	Plants
Tata Motors Ltd	Largest commercial vehicle player in the country and one of the largest in the passenger vehicles segment.	Capacity – 160'000 units pa Volumes – 171'870 units in 2004 Operating income- US\$ 3.8 billion in 2005	Sierra, Sumo, Safari, Indica, Indigo	Pune (Maharashtra)
Mahindra & Mahindra Ltd	Flagship company of the Mahindra Group; largest player in the tractor segment in India	Capacity – 125'000 units pa Volumes – 69'737 units in 2004 Operating income- US\$ 1.47 billion in 2005	Armada, Bolero, Commander, Marshall, Maxx, Voyager, Scorpio	Mumbai, Nashik (Maharashtra)
Hindustan Motors Ltd.	A C.K Birla group flagship and one of the oldest auto companies in India.	Capacity – 64'000 units pa Volumes – 15'782 units Operating income- US\$ 159.7 million in 2004	Lancer, Ambassador, Contessa, Trekker, RTV, Pushpak, Pajero	Uttarpara (West Bengal), Pithampur (Madhya Pradesh), Trivellore (Tamil Nadu)
Ashok Leyland	Hinduja group	Operating Income - US\$ 952.9 million in 2005	Multi-axle vehicles, tractor, ecomet, engines, Viking BSI, Viking BS-II, Vestibule Bus, 222 CNG bus etc	Ennore, two plants at Hosur, the assembly plants at Alwar, Bhandara, castings plant at Hyderabad
TVS Motor	TVS Group	Operating Income - US\$ 641.9 million in 2005	Mopeds - Excel, Champ, TVS 50 Scooterettes - Scooty Motorcycles - Max 100, Victor, Centra, Fiero	Hosur, Mysore
Bajaj Auto	Bajaj Group	Capacity - 2.52 million units pa Operating income - US\$ 1.3 billion in 2005	Motorcycles - Boxer, CT 100, Discover, Wind, Caliber, Pulsar, Eliminator Scooters - Spirit, Saffire, Wave	3 Plants at Akurdi, Waluj, Chakan

Profile of key Foreign Players

Name of the company	Parent company	Output	Models	Plants
Maruti Udyog Ltdl	Suzuki of Japan holds a 54.2 per cent stake in the company	Capacity - 500'000 units pa Volumes - 472'122 units including exports in 2004 Operating income- US\$ 2.4 billion in 2005	800, Omni, Alto, WagonR, Zen, Baleno, Esteem, Gypsy, Vitara, Versa	Gurgaon (Haryana)
Hyundai Motors India Ltd	Wholly owned subsidiary of Hyundai Motor Company, S. Korea	Capacity - 150'000 units pa Volumes - 171'905 units	Santro, Accent, Sonata, Terracan	Irrungattukottai (Tamil Nadu)
Daimler Chrysler India	100 per cent subsidiary of Daimler Chrysler group	Capacity - 10'000 units pa Volumes - 1'640 units	E class, S class, C class	Pune (Maharashtra)
Fiat Motors	Subsidiary of Fiat Auto SpA	Capacity - 50'000 units pa Volumes - 10'428 units	Uno, Siena, Palio, Palio Adventure	Mumbai (Maharashtra)
Ford Motors Ltd	Ford Motor Company, the world's second largest automaker	Capacity - 100'000 units pa Volumes - 45'723 units	Ikon, Mondeo	Chengaipattu (Tamil Nadu)
General Motors Ltd	collaboration between General Motors Corporation and C.K. Birla Group of companies	Capacity - 25'000 units pa Volumes - 17'986 units	Astra, Corsa, Swing, Forrester, Vectra, Sail, Optra, Chevrolet Optra	Halol (Gujarat)
Honda Siel Cars India (HSCI)	Established in 1995, with Honda Motor Company, (Japan) and Siel Ltd (India) being the key promoters.	Capacity - 30'000 units pa	Volumes - 20,550 units City, Accord, CR -V	Noida (UP)

Toyota Kirloskar	Joint venture between Kirloskar Group and Toyota Motor Corp	Capacity 50'000 units pa	–	Volumes - 42,549 units Qualis, Camry, Corolla	Bidadi (Karnataka)
Skoda Auto India	Skoda Auto, based in Czech Republic, is a part of Volkswagen group	Capacity 10'000 units pa Volumes 3'712 units	–	Octavia, Laura	Aurangabad (Maharashtra)
Hero Honda	Joint venture between Hero Group, the world's largest bicycle manufacturers and the Honda Motor Company of Japan	Capacity - 2.8 million units pa Operating income - US\$ 1.66 billion in 2005	–	Motorcycles - CD Dawn, CD Deluxe, Splendour, Passion, Karizma, CBZ, Ambition Step Through - Street	2 plants at Daruhera and Gurgaon
Honda Motorcycle & Scooters India Pvt. Ltd (HMSI)	Wholly owned subsidiary of Honda Motor Company Ltd., Japan	Capacity- 200'000 vehicles per annum	–	Scooters - Activa, Dio, Eterno Motorcycles - Unicorn	Manesar

Source: IBEF 2006