India: Mecca of Small Car
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1. **Indian Automobile: The sunshine sector**

The Indian automobile sector is the seventh largest in the world producing about 2.6 million cars of the world’s 73 million cars produced. According to the Automotive Component Manufacturers Association of India (ACMA) and Society of Indian Automobile Manufacturers (SIAM) estimates, the car production is set to increase to 4 million by 2015 and to 9 million by 2020. The country is also the largest manufacturer of motorcycles and the fifth largest producer of commercial vehicles. In 2009, India became the fourth largest exporter of automobiles followed by Japan, South Korea and Thailand.

2. **India: The small car hub**

Traditionally, the Indian automobile market has been dominated by the two-wheeler segment, which accounted for almost 75 per cent of the automobile sales in the country. However, since 2005, the passenger car market (70 per cent of which comprises the small car segment) has boomed.

Exhibit 1 shows the demand for passenger car segment to be 3.8 million in the next 10 years. Small car segment is expected to grow to 2.66 million by 2020.

**Exhibit 1:** Consumption of cars over the next 10 years in BRIC countries and the share of each country among the incremental consumption. Consumption forecasts for 2020 were arrived at assuming a Compound Annual Growth Rate (CAGR) of 14 per cent for India and 6 per cent each for China, Brazil and Russia, as estimated in a study by Ernst & Young.

*Source: Organisation Internationale des Constructeurs d’Automobiles (OICA) production statistics, Redseer Analysis*
3. Manufacturer and exporter of small cars

The export market of small cars in India is growing at a rapid pace of average Compound Annual Growth Rate (CAGR) of 33 per cent over the last five years. As per the IHS Global Insight Inc estimates, by 2016, India is set to topple Japan as the world’s biggest small car producer, building as many as three million units. By 2013, 31 per cent of the world’s small cars would be from India.

Small cars manufactured in India are being exported to countries such as UK, Italy, Germany, Netherlands, South Africa, Latin American and other East Asian countries. The export market is, however, highly fragmented, with countries such as UK and Italy having 10 per cent share each and countries such as Netherlands, Germany and South Africa having 5 per cent share each. Singapore is fast rising as a big market where the demand for Indian cars has grown seven times over the last four years. Assuming an average growth rate of 40-50 per cent in small car export, by 2014, India will overtake Japan as the largest exporter of small cars.

Hyundai, the second largest automotive manufacturer in India, exports 50 per cent of its India production.

![Exhibit 2: Exports of small cars from India and Japan over the last 5 years](image)

For years 2011-12 to 2013-14 small car exports were estimated by assuming a Compound Annual Growth Rate (CAGR) of 40 per cent -50 per cent for India, justified by the growing demand for Indian small cars worldwide, big investments in the small car industry by the foreign manufacturers. Japan’s Compound Annual Growth Rate (CAGR) is assumed as 5 per cent, justified by the increasing production costs and costlier small exports.

Source: Society of Indian Automobile Manufacturers (SIAM) website, JAMA (Japan automobile manufacturers association), Redseer Analysis
4. **India Advantage**

“What an Indian engineer promises to do with one, my engineer tells me we need five to complete” - Carl Ghosn, Renault Nissan, CEO

India is not just a low-cost production destination, but also a leader in engineering services. The Global CEO of Renault - Nissan, Carl Ghosn, quoted, "What an Indian engineer promises to do with one, my engineer tells me we need five to complete," highlighting the innovation and cost advantage which Indian engineers are able to bring to the table.

<table>
<thead>
<tr>
<th>Advantage Indian</th>
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<tbody>
<tr>
<td><strong>Factors</strong></td>
<td><strong>Indian Advantage</strong></td>
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<tr>
<td>Demand for small cars</td>
<td>As per McKinsey estimates, by 2025, the Indian middle-class is expected to grow from 50 million to 550 million. This, when combined with Indian middle-class propensity for low-cost fuel-efficient cars, the demand for small cars in India is all set to continue growing at a blistering pace.</td>
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<tr>
<td>Low cost production</td>
<td>Raw material costs (Steel) and labour costs in India are cheaper giving a cost advantage in production. As per the wage cost index, with South Korea normalised to 100, Indian hourly wage cost is just 18.7 in comparison to other BRIC countries like China (29.2), Russia (53.3) and Brazil (65.8)</td>
</tr>
<tr>
<td>Strong engineering services background and fluency in English</td>
<td>India churns out the second-largest number of Engineering graduates, after the US -- Approximately 300,000 engineers graduate from more than 1,400 colleges in India, an advantage that few countries can compete with. It has a huge English-speaking population base of 72 million people. Indians with strong IT and Engineering skills provide an opportunity for the foreign players entering India to develop R&amp;D centres for new technologies like 'parking space measurement' (PSM) devices, automatic wipers, speed-sensitive automatic door locking systems, Anti-lock Breaking System (ABS), Adaptive dampers, Ride control etc.</td>
</tr>
<tr>
<td>Better IP protection</td>
<td>Indian Patents Act 1970 has been amended thrice in the last 10 years to stay up-to-date with the TRIPs agreement. As per the <strong>International Property Rights Index (IPRI) 2011</strong> report, IP protection provided in India is ranked better than other BRIC countries and has given a greater confidence for foreign players to launch their proprietary models in India.</td>
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5. **India: An ecosystem for automobile manufacturing**

The experience of indigenous small car development, excellence in manufacturing sector, strong auto component industry are the three major pillars that form the ecosystem of the small car industry in India.

India is ranked second in manufacturing competence, according to a report ‘2010 Global Manufacturing Competitiveness Index’ by Deloitte and the US Council on Competitiveness. This can be attributed to a healthy growth of the Indian manufacturing sector, expertise in low-cost auto component manufacturing, increasing talent pool of scientists, researchers & engineers, English-speaking workforce, low labour costs and protection of intellectual property (IP) rights.

Despite the recession, Indian manufacturing industry has grown at a healthy rate of 9.5 per cent over the last five years, As per the CII-ASCON survey, 41 out of 121 sectors in the manufacturing industry are estimated to grow over 20 per cent, spearheaded by growth rates in vehicle (33.2 per cent), and passenger car (32.5 per cent) segments in 2010-11.
5.1 Indian auto component industry

Indian auto components are 10-15 times cheaper than European and North American components which form the primary export markets. As per Automotive Component Manufacturers Association of India (ACMA) estimates, by 2020, the auto component industry is set to grow four-fold, i.e. to a $113 billion industry.

Exports form a significant $5 billion of the present $28 billion auto component industry. The growing domestic demand and the manufacturing cost advantage are drawing huge investments and collaborations with global players in this sector. For example, foreign players like Volkswagen and Renault - Nissan are having tie-ups for component sharing with local players like Maruti-Suzuki and are making use of the strong Indian supplier base. Toyota plans to invest $107 million to make engines and gearboxes for its new small car, Etios, in India. JK Tyres & Industries will be setting up a $326 million plant in Chennai for tyre manufacturing.

6. Pioneers of small cars

Maruti-Suzuki launched its first small car, Maruti-800, for India in 1983. In less than 5 years, it indigenised over 70 per cent to reduce production costs and followed greater indigenisation levels of 85-90 per cent in its future models of Zen, WagonR, etc.

Tata Motors launched the first indigenously designed and manufactured Tata Indica in 1999. In 2009, the company indigenously developed the world’s cheapest small car Tata Nano. Having developed two indigenous small cars, India can now claim to have the expertise and experience of end-to-end development of small cars.

6.1 Indian auto component industry

The Indian small car industry underwent a ground-breaking change when the Indian car maker Tata Motors came up with a car that captured the imagination of the world. Tata Motors looked at the huge price gap between the two-wheelers and cars as a potential opportunity to launch a new car. It innovated and improvised the entire value chain of car production, from design, development, and manufacturing to supply and marketing. If we look at the cost savings accounted for in Tata’s Nano car, 63 per cent of savings were achieved
through low-cost designs. Tata Motors revolutionised the supply chain by bringing in suppliers like Bosch and Delphi in the early stage design and making them full partners in the Nano innovation by developing low-cost components.iii

7. Government policies and reforms

The Auto Policy of 2002 allowed 100 per cent Foreign Direct Investments (FDIs) without any restrictions on foreign players to collaborate with domestic players to set up their facilities.iv

American and European countries drafted strict emission standards to control their environment pollution. The government drafted the National Auto Fuel Policy in 2003 to promote car exports to these markets. This policy focuses on introducing and implementing emission standards such as Bharat stage III and stage IV in India. Compulsory implementation of these stricter emission standards has guided local and foreign automobile players to invest in R&D of technology to produce more fuel-efficient cars.

Special Economic Zones (SEZs) set up by the government has led to the formation of automobile and automotive hubs in and around cities like Chennai, Gurgaon and Pune.

The government drafted the Automotive Mission Plan 2006–2016 together with the establishment of world-class testing, homologation and certification facilities along with nine state-of-the-art R&D centres under National Automotive Testing & R&D Infrastructure Development Project (NATRIP) by making investments of about $360 million. This has given the Indian industry an edge over the newly emerging automotive destinations.

Indian Government has set up the National Automotive Testing and R&D Infrastructure Project (NATRIP) with investments of around 360 million USD

Further, to mitigate the impact of R&D expenses on the automobile prices, the Finance Minister had raised the weighted tax deduction to 200 per cent on the expenditure incurred by companies on in-house R&D activities, from the existing 150 per cent as part of the Union Budget 2010-11. All these policy initiatives have led to the spiralling R&D expenditure and have set the framework for India emerging as a small car hub.
The government also showed special focus on small cars in the Budget Proposal 2010-11 by promoting the manufacturing of fuel-efficient and hybrid cars. The government also announced tax breaks and proposed the setting up of a `National Mission for Hybrid and Electric Vehicles`.

8. Manufacturing facilities & their future investments

The India advantage for small car has drawn huge investments in the manufacturing and R&D facilities by local and foreign OEMs over the last decade. Many foreign players are now doing in-house development, manufacture, and exports of small cars from India. Chennai is now being called the `Detroit of the South` because big players such as Ford, Hyundai, Renault - Nissan, Daimler and BMW have opened up manufacturing plants and R&D houses. Exhibit 4 shows the current picture of India in its role as a manufacturer, developer and exporter of small cars.

<table>
<thead>
<tr>
<th>Car manufacturers</th>
<th>Flagship small cars launched in India</th>
<th>Manufactured in India</th>
<th>Developed in India</th>
<th>Exported to other Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maruti - Suzuki</td>
<td>Maruti 800, Alto, Zen</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hyundai</td>
<td>Santro, i10, i20</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Ford</td>
<td>Figo</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Volkswagen</td>
<td>Polo</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Renault - Nissan</td>
<td>Micra</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Chevrolet</td>
<td>Beat, Spark, Aveo U-VA</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fiat</td>
<td>Palio, Punto</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tata Motors</td>
<td>Indica, Nano</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Skoda</td>
<td>Fabia</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Toyota</td>
<td>Etios</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

✓ Already being exported
✓ Planning to export
Global car manufacturers made huge investments in setting up manufacturing plants and increasing production capacities of small car to meet the growing domestic demand and export demands.

Exhibit 5 shows the location-wise investments and the production capacity increments. Many global players such as Volkswagen, Mercedes- Benz and BMW, alongside domestic players such as Bajaj, have realised the potential of small and cheaper cars in the Indian market. These players have plans to make huge infrastructure investments to produce their small cars for India. Tata Motors, on the other hand, is modifying Nano to suit the needs of the global market.
Exhibit 6 compares the key investments made by major car manufacturers till year 2010 with future investment plans for the next five years. Players such as Tata Motors and Maruti - Suzuki plan to double their investments in the next five years (2010-2015).

9. New Technologies and Initiatives

In 1999, the Indian small car industry showcased its innovation in car design and new technologies by building the completely indigenised Tata Indica. The Bangalore based Reva Electric Car Company, launched the first ever electric car REVA, the world’s smallest produced electric car in 2001.

Tata Nano is an excellent example of innovation using light-weight technologies to produce a fuel-efficient and low-cost car. Tata Motors is now shifting gears to the electric versions of Nano and Indica and has plans to launch these hybrids in India by 2011.

Advanced technologies used in the cars exported to Europe are now being developed in India itself. For example, Nissan Micra provides features such as reversing sensors, new ‘parking space measurement’ (PSM) devices,
automatic wipers and speed-sensitive automatic door-locking system etc, which are developed in India for exporting to Europe.

New technologies in batteries are made available to the Indian markets, which are expected to further boost the electric car market in India.

<table>
<thead>
<tr>
<th>Car manufacturers</th>
<th>New investments/plans</th>
</tr>
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<tbody>
<tr>
<td>Maruti- Suzuki</td>
<td>Plans to set up a third plant worth $411.45 million in Manesar with a capacity of 2,50,000 units</td>
</tr>
<tr>
<td>Tata Motors</td>
<td>Is collaborating with a Canadian company for second-generation gearless Nano and preparing to launch the electric version of Tata Indica Vista</td>
</tr>
<tr>
<td>Toyota</td>
<td>Is set to launch Etios, with a localisation level of 70 per cent. Invested $107 million for manufacturing auto components of Etios. Plans to ramp up production capacity in India by ten-fold to make India a hub for Toyota manufacturing</td>
</tr>
<tr>
<td>Bajaj &amp; Renault-Nissan</td>
<td>Formed an alliance for developing low cost car and setting up a manufacturing plant in Pune</td>
</tr>
<tr>
<td>General Motors</td>
<td>Plans to launch another small car and to export small cars to Bhutan, Nepal and Sri Lanka</td>
</tr>
<tr>
<td>Honda</td>
<td>Plans to launch its small car in India, Nepal, Sri Lanka by end of 2011. Plans to start production at Greater Noida</td>
</tr>
<tr>
<td>Renault - Nissan</td>
<td>Shifted the production of exported Micra cars from United Kingdom to India</td>
</tr>
<tr>
<td>Ford</td>
<td>Invested $500 million on its Chennai plant to make it the hub for small car production</td>
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</table>

As a part of the NATRIP, International centre for Automotive Technology (ICAT) was set up in Manesar that provides R&D and support services for automotive design, test and validation. The global component manufacturers like Bosch, Valeo, Caterpillar, General Motors, Ford, Cummins etc, have set up their R&D facilities in India.
10. The road ahead

The growing demand for small cars globally and the India advantage have established the subcontinent as the hub of small cars. The Indian small car industry now has the expertise and experience to innovate further and make affordable cars for the highly untapped rural segments. Moreover, with the ever-increasing oil prices, hybrid vehicles and electric cars seem to be the way ahead. India, which has the expertise of developing electric car ‘REVA’ as early as 2001 should leverage the quality talent pool, best in-house R&D facilities, auto component systems and government support (setting up of National Mission for Hybrid and Electric Vehicles) to focus on being the leader in the electric car segment.
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