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Advantage India

• The Government of India (GoI) has permitted 100 per cent foreign equity investments.
• FDI inflow in 2009–2010 for the auto components sector was recorded at US$ 1.2 billion. FDI inflow in the same period was 4 per cent of the total FDI inflow in the country.

• Growing per capita income due to growth in employment levels has boosted domestic demand.
• Vehicle production grew to 14 million in 2009–2010.
• Consumer awareness of, and linkage to global auto trends is on the rise.

• NATRiP was set up at a cost of US$ 380 million to promote R&D in the sector.
• It will focus on providing low-cost manufacturing and product development.
• Many foreign and domestic companies such as Bosch Group, Amtek Auto and Avtec Ltd, are increasing their R&D expenditure.

• India has proven product-development capabilities and proximity to emerging markets.
• Europe and North America are the major export destinations for India’s auto components industry.
• Shipments to Europe from India cost less than those from Brazil and Thailand.

• The manufacture of castings and forgings in India costs 25 to 30 per cent less than in western countries.
• India offers the advantage of low manufacturing costs due to economies of scale, low design, research and labour costs, and local sourcing of tools and components.

• Indian companies are compliant with global automotive standards, e.g., the Japanese Industrial Standard Committee (JISC) and Deutsches Institut für Normung (DIN).

• The cost of skilled labour in the country is the lowest in the world, with an average cost of around US$ 8,000 per annum for an entry-level engineer.
• India produces more than 0.4 million engineers every year.

Source: Ernst & Young research
NATRiP: National Automotive Testing and R&D Infrastructure Project, MEA: Middle East and Africa

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Market overview … (1/2)

- The size of the auto components industry has been estimated at US$ 22 billion in 2009–2010, growing at a compound annual growth rate (CAGR) of 20.4 per cent since 2004–05. The industry is expected to grow beyond US$ 110 billion by 2020.

- Among the 6,400 players present in the Indian market, about 600 constitute the organised sector and contribute more than 77 per cent of the country’s total production of auto components.

Market overview … (2/2)

- Large Indian players contribute around 43 per cent of the total production, while foreign companies such as Magna, Visteon, Valeo, Bosch, Federal-Mogul Corporation and Denso contribute 15 per cent.


### Key segments

<table>
<thead>
<tr>
<th>Auto components</th>
<th>Engine and engine parts</th>
<th>Transmission and steering parts</th>
<th>Suspension and braking parts</th>
<th>Equipment</th>
<th>Electrical parts</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pistons and piston rings</td>
<td>Gears</td>
<td>Brake and brake assemblies</td>
<td>Headlights</td>
<td>Starter motors</td>
<td>Sheet metal parts</td>
<td></td>
</tr>
<tr>
<td>Engine valves and parts</td>
<td>Wheels</td>
<td>Brake linings</td>
<td>Halogen bulbs</td>
<td>Spark plugs</td>
<td>Body and chassis</td>
<td></td>
</tr>
<tr>
<td>Fuel-injection systems and carburettors</td>
<td>Steering systems</td>
<td>Shock absorbers</td>
<td>Wiper motors</td>
<td>Electric ignition systems (EIS)</td>
<td>Fan belts</td>
<td></td>
</tr>
<tr>
<td>Cooling systems and parts</td>
<td>Axles</td>
<td>Leaf springs</td>
<td>Dashboard instruments</td>
<td>Flywheel magnetos</td>
<td>Pressure die castings</td>
<td></td>
</tr>
<tr>
<td>Powertrain components</td>
<td>Clutches</td>
<td></td>
<td>Other panel instruments</td>
<td>Other equipment</td>
<td>Hydraulic pneumatic instruments</td>
<td></td>
</tr>
</tbody>
</table>

**MARKET OVERVIEW**

Auto Components | November 2010

**IBEF**

[ibef.org](http://www.ibef.org)
Key segments — engine and engine parts … (1/2)

- Sub-segments include pistons, piston rings, engine valves, carburettors, fuel-delivery and cooling systems and powertrain components.

- Engine parts comprise the largest product segment of the auto components industry with a 31 per cent production share.

Major players

- The four major players in the pistons sub-segment include Goetze, Shriram Pistons & Rings, India Pistons and Samkrg Pistons, while Rane Engine Valves, KAR Mobiles and Shriram Pistons & Rings lead the engine valves sub-segment.

- Ucal Fuel Systems and Spaco Carburettors & Escorts Auto Components are prominent players that manufacture carburetors. In diesel-based fuel-injection systems, Mico, Delphi, TVS Diesel System and Tata Cummins are the major players.
Key segments — engine and engine parts … (2/2)

Outlook

• The segment is technology- and capital-intensive and is likely to be led by existing major players in the short to medium term.

• Some new technological changes in this segment include the introduction of turbochargers and common rail systems.

• The trend of outsourcing may gain importance in this segment in the short to medium term.
Key segments — transmission and steering parts … (1/2)

- Transmission and steering parts constitute the second-largest product segment in the Indian auto components industry, with a 19 per cent production share.

- The sub-segment comprises gears, wheels, steering systems, axles and clutches.

Major players

- Sona Koyo Steering Systems, Rane Madras and Rane TRW Systems are the key players in steering systems.

- Bharat Gears, Gajra Bevel Gears and Eicher are some of the major players in the gears sub-segment. Two international companies, Graziano Trasmissioni and SIAP Gears India, have set up base in India.

- Clutch Auto, Ceekay Daikin, Amalgamations Repco and Luk Clutches are the major players in the clutch sub-segment. Rane Brake Lining and Rico Auto are the key players manufacturing clutch-facings.

- GKN Driveshafts (India) and Delphi cater to the drive-shaft requirements of passenger cars and Sona Koyo Steering Systems services the commercial vehicle (CV) segment.
Key segments — transmission and steering parts … (2/2)

Outlook

• The unorganised sector is unlikely to enter segments such as steering systems because of its capital-intensive and technology-intensive nature.

• The share of the replacement market in sub-segments such as clutches is likely to grow due to the rise in traffic density.

• Competition is expected to intensify in sub-segments such as gears and clutches with the entry of global players.

• Original equipment manufacturers (OEMs) prefer to source complete axle assemblies from one or two vendors rather than individual components from different vendors.
Key segments — suspension and braking parts … (1/2)

• This is the third-largest product segment with a 12 per cent production share.

• Primary sub-segments include brakes, brake assemblies, brake linings, shock absorbers and leaf springs.

• The demand share of the replacement market in this segment varies from 30 to 70 per cent, depending on the product.

Major players

• Brakes India, Kalyani Brakes and Automotive Axles are the three major brake-system suppliers in the country.

• Rane Brake Lining, Sundaram Brake Lining, Hindustan Composites and Allied Nippon dominate the brake linings sub-segment.

• Jamna Auto and Jai Parabolic are major manufacturers of leaf springs.

• Gabriel India, Delphi and Munjal Showa are key manufacturers of shock absorbers.
Key segments — suspension and braking parts … (2/2)

Outlook

• The segment is estimated to witness high replacement demand, with players maintaining a diversified customer base in the replacement and OEM segments, apart from the export market.

• Replacement market companies are expected to focus on setting in place a wide distribution network, maintaining a wide range of products and building a brand image.

• Following the entry of global players, competition is expected to intensify in sub-segments such as shock absorbers.
Key segments — equipment

• This is the fourth-largest product segment with a 10 per cent production share.

• Primary sub-segments include headlights, halogen bulbs, wiper motors, dashboard instruments, switches, electric horns and other panel instruments.

• The demand share of the replacement market in this segment varies from 30 to 70 per cent.

Major players

• Lumax, Autolite and Phoenix Lamps are key players in the headlights sub-segment.

• Premiere Instruments and Controls is the leading player in the dashboard sub-segment.

• Jay Bharat Maruti, Omax Auto and JBM Tools are major players in the sheet metal parts sub-segment.

Outlook

• Indian companies are becoming more globally competitive in key segments of the auto components industry.

• Replacement market companies are likely to focus on establishing a distribution network, brand image, product portfolio and pricing policy.
Key segments — electrical parts

• This is the fifth-largest product segment in the auto components industry, with a 9 per cent production share.

• Primary sub-segments include starter motors, generators, distributors, spark plugs, ignition coils, flywheel magnetos, voltage regulators and EIS.

• The demand share of the replacement and export markets is low at around 25 per cent, while that of the OEM segment is around 75 per cent.

Major players

• Lucas TVS, Denso, Delco Remy Electricals and Nippon Electricals are key players in this segment.

Outlook

• Opportunities for manufacturers of EIS are increasing due to the growing recognition of electric start mechanisms for the two-wheeler segment.

• Competition is expected to intensify in the electrical parts segment serving four-wheelers due to the increasing presence of multinational companies in the country.
Key segments — others

• This segment is one of the fastest growing within the automotive components industry, with a 19 per cent production share.

• The segment includes components such as sheet metal parts, pressure die castings, plastic moulded components, fan belts and hydraulic pneumatic equipment.

Major players

• Phoenix Lamps, Autolite, Hella India and Lumax are prominent players manufacturing sheet metal parts.

Outlook

• Currently, leading players in the sheet metal parts sub-segment are in the process of expanding their customer base. This sub-segment is expected to grow at 10 to 11 per cent during 2010-2015.

• Companies in this segment are likely to reduce their costs and improve their margins.
Exports … (1/2)

- Auto component exports from India were estimated at US$ 3.8 billion for 2009–2010, witnessing a CAGR of 17.5 per cent over the last five years. Exports are expected to grow to US$ 30 billion by 2020.

Exports … (2/2)

- Europe and North America cumulatively account for nearly 63 per cent of total exports from India, followed by Asia.

Domestic demand … (1/2)

• OEM exports are likely to grow by 5 per cent in 2010–11, along with 8 per cent growth in replacement demand.

Off-take for auto components by segment (2008–09)

- Cars and utility vehicles: 53.0%
- Two wheelers: 22.0%
- Commercial vehicles: 17.6%
- Tractors: 6.0%
- Three wheelers: 1.5%

Source: ACMA 2008–09 annual report.
Domestic demand … (2/2)

- Domestic automobile production is expected to grow in 2010–11, resulting in a 13 per cent rise in OEM demand in the auto components industry.

Auto components industry by market type (2008–09)

Source: ACMA 2008–09 annual report.
Growth drivers

Technological shifts in the Indian automobile industry have been the key drivers of growth and innovation in the country’s auto components industry.

• The transition of emission norms from Euro I in 2000 to Euro IV and Bharat Stage IV in 2010 have made Indian automobiles more compliant with environmental norms.

• Concurrent design, styling and frugal engineering, showcased in India’s first electric car, the Reva, in 2001 and in the TATA Nano in 2009 have demonstrated India’s ability to innovate and design.

• By 2012, India is expected to foresee the increased deployment of IT-enabled automobile support systems such as global positioning systems (GPS), anti-braking systems (ABS), automatic speech recognition (ASR) and safety systems promoting innovation in the auto component industry.
Key trends

India is poised to become a global components sourcing hub.

Domestic component manufacturers are adopting the inorganic route to expand their global footprint.

Product-development capabilities have improved.

Auto-financing activity in India has increased.

- Major global OEMs are planning to make India a component sourcing hub for their global operations.
- Several global tier-I suppliers have also announced their plans to increase procurement from their Indian subsidiaries.
- India is also emerging as a sourcing hub for engine components, with OEMs increasingly setting up engine manufacturing units in the country.

- Domestic players are acquiring global companies to gain access to the latest technology, expand client base and diversify revenue streams.
- Players such as Amtek Auto and Bharat Forge have adopted a dual-shore manufacturing model, using overseas facilities to carry out product design and manufacture of high-value components, while outsourcing their labour-intensive operations to their low-cost facilities in India.

- High-quality designs are being produced at low costs.
- Increased investments in R&D operations and laboratories, which are being set up to conduct activities such as analysis and simulation and engineering animations.
- The growth of global OEM sourcing from India and the increased indigenisation of global OEMs is making the country a preferred manufacturing base.

- There are more than 35 financers in the market today, with the State Bank of India being the leader.
- Easy availability of finance has been one of the most important growth drivers of the auto industry from 2003 to 2010.
- Reduction in interest rates by the Reserve Bank of India is expected to further boost industry growth.
## Key players — Indian … (1/2)

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue (US$ million), 2009–2010</th>
<th>Component category</th>
<th>Manufacturing locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bharat Forge Ltd</td>
<td>378.0</td>
<td>Crankshafts, front axle beams and steering knuckles (forged and machined), connecting rods, camshafts and rocker arms (forged)</td>
<td>Maharashtra (4)</td>
</tr>
<tr>
<td>Sumi Motherson Group</td>
<td>NA</td>
<td>Automotive wire manufacturers, automotive rearview mirrors, injection-moulding tools, sunroofs, vehicle air-conditioning systems, lighting systems, cabins for off-highway vehicles, cutting tools and thin film coating metals</td>
<td>Kandla (1), Nashik (1), Pune (1), Bengaluru (1), Noida and NCR region (1), Chennai (1), Puducherry (1)</td>
</tr>
<tr>
<td>Lucas-TVS Ltd</td>
<td>222.7</td>
<td>Auto-electrical equipment</td>
<td>Chennai (1), Puducherry (1), Haryana (1)</td>
</tr>
<tr>
<td>Rico Auto</td>
<td>151.6</td>
<td>High-precision fully machined aluminum and ferrous components and assemblies</td>
<td>Haryana (2), Ludhiana (1)</td>
</tr>
<tr>
<td>Rane Group</td>
<td>87.4</td>
<td>Manual steering and suspension systems, engine valves, tappet, brake linings, disc pads, clutch facings, brake blocks and pads, power-steering systems and seatbelt systems</td>
<td>Bengaluru (1), Mysore (1), Tamil Nadu (3), Hyderabad (1), Haryana (1), Uttaranchal (1)</td>
</tr>
</tbody>
</table>


Note: This is an indicative list.
## Key players — Indian … (2/2)

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue (US$ million), 2009–2010</th>
<th>Component category</th>
<th>Manufacturing locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shriram Piston and Rings Ltd</td>
<td>156.6</td>
<td>Automobile pistons, piston rings, engine valves and piston pins</td>
<td>Ghaziabad (1), New Delhi (1)</td>
</tr>
<tr>
<td>Pricol Ltd</td>
<td>162.4</td>
<td>Auto-electrical equipment</td>
<td>Coimbatore (3), Gurgaon (1), Uttarakhand (2), Pune (1)</td>
</tr>
<tr>
<td>Sundaram Fasteners Ltd</td>
<td>277.9</td>
<td>High-tensile fasteners, powder metal components, hot forged components, radiator caps, automotive pumps, gear shifters, gears and couplings, hubs and shafts, tappets and iron powder</td>
<td>Chennai (4), Hosur (3)</td>
</tr>
<tr>
<td>Sona Koyo Steering Systems Ltd</td>
<td>177.1</td>
<td>Steering systems</td>
<td>Gurgaon (1), Chennai, (1), Haryana (1)</td>
</tr>
<tr>
<td>Minda Industries Ltd</td>
<td>92.9</td>
<td>Auto-electrical components</td>
<td>Baddi (1), Haryana (2), New Delhi (1), Aurangabad (1), Pune (1), Uttar Pradesh (1), Hosur (1), Mysore (1)</td>
</tr>
</tbody>
</table>


Note: This is an indicative list.
# Key players — international

<table>
<thead>
<tr>
<th>Company</th>
<th>Revenue (US$ million), 2009–2010</th>
<th>Component category</th>
<th>Manufacturing locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosch India</td>
<td>1199.9</td>
<td>Auto electrical, belts, braking systems and pads, clutch plates and gear pumps</td>
<td>Bengaluru (2), Nashik (1), Jaipur (1) and Goa (1)</td>
</tr>
<tr>
<td>Denso India</td>
<td>153.4</td>
<td>Auto-electrical components, alternators, starters, wiper motors, engine cooling fans and washer pumps</td>
<td>Bengaluru (1), Noida (1) and Haryana (1)</td>
</tr>
<tr>
<td>Continental AG</td>
<td>74.7</td>
<td>Chassis, power-train and interior equipment</td>
<td>Bengaluru (1), Kolkata (1), Chennai (1), Delhi (1), Gurgaon (2), Pune (1)</td>
</tr>
<tr>
<td>Magna</td>
<td>23.7</td>
<td>automotive interiors, seating, metal body and chassis, electronic equipment and power train components</td>
<td>Pune (1)</td>
</tr>
<tr>
<td>Cummins</td>
<td>592.7</td>
<td>Engines and components</td>
<td>Pune (1) and Daman (1)</td>
</tr>
<tr>
<td>Visteon Automotive Systems</td>
<td>180.9</td>
<td>Air-conditioning systems, alternators, panel instrument assembly and plastic components</td>
<td>Pune (2), Rajasthan (1) and Chennai (1)</td>
</tr>
<tr>
<td>Delphi</td>
<td>112.6</td>
<td>Electronic and safety systems, evaporative emissions canisters, air-conditioning systems, oil filters and radiators</td>
<td>Bengaluru (1), Gurgaon (1), Manesar (1)</td>
</tr>
<tr>
<td>Same Deutz-Fahr</td>
<td>NA</td>
<td>Tractors, engines and agricultural machinery and components</td>
<td>Tamil Nadu (1)</td>
</tr>
<tr>
<td>ArvinMeritor</td>
<td>NA</td>
<td>Engines and components</td>
<td>Maharashtra (1), Bengaluru (1), Mysore (1)</td>
</tr>
<tr>
<td>Valeo</td>
<td>8.8</td>
<td>Wiper systems, clutches, lighting and signaling, braking and ignition</td>
<td>Tamil Nadu (3), Pune (2)</td>
</tr>
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</table>

Note: This is an indicative list.
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Industry infrastructure — Special Economic Zones (SEZs) … (1/2)

<table>
<thead>
<tr>
<th>Name and location</th>
<th>No of companies</th>
<th>Exports (2007–08)</th>
<th>Contact details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahindra City SEZ (auto ancillary), Chennai, Tamil Nadu</td>
<td>8</td>
<td>US$ 8.7 million (INR 415.5 million)</td>
<td>Mahindra World City, New Chennai Administrative Block, Central Avenue, Natham Sub Post, Chengalpattu Taluk, Kancheepuram, Tamil Nadu, India</td>
</tr>
</tbody>
</table>

Industry infrastructure — SEZs … (2/2)

Distribution of auto component SEZs (2009–2010)

- Formal approved: 3
- In-principle approved: 5
- Notified: 1

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Investments ... (1/2)

Vision 2020

- The Indian auto components industry is expected to grow beyond US$ 110 billion by 2020. The domestic turnover is estimated to grow up to US$ 80 billion, and exports are projected to touch US$ 29 billion.

- Investment in the industry is expected to cross US$ 35 billion by 2020. This is expected to create more than a million employment opportunities for skilled labour.

- The auto component industry has recorded a total investment of US$ 9 billion in 2009–2010.

Investments … (2/2)

• India’s share in the global auto components market is expected to rise from 0.9 per cent in 2008–09 to 2.5 per cent in 2015.

• Auto component production in the range of US$ 20 to US$ 25 billion is expected to be outsourced to India by 2015.

M&A scenario in the Indian automobile industry (from January 1, 2009 to October 31, 2010)

<table>
<thead>
<tr>
<th>Year</th>
<th>Deal type</th>
<th>No of deals</th>
<th>Deal value (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 (Jan–Dec)</td>
<td>Outbound</td>
<td>5</td>
<td>68.94</td>
</tr>
<tr>
<td></td>
<td>Inbound</td>
<td>9</td>
<td>27.76</td>
</tr>
<tr>
<td></td>
<td>Domestic</td>
<td>15</td>
<td>131.65</td>
</tr>
<tr>
<td>2010 (Jan–Oct)</td>
<td>Outbound</td>
<td>7</td>
<td>26.6</td>
</tr>
<tr>
<td></td>
<td>Inbound</td>
<td>6</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>Domestic</td>
<td>10</td>
<td>267.39</td>
</tr>
</tbody>
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The National Strategy for Manufacturing, drawn by the National Manufacturing Competitiveness Council (NMCC), has identified the automotive sector as a priority area. The GoI has taken a number of initiatives to promote growth in the sector.

**Auto Policy 2002**

- The policy emphasises on low emission fuel auto technologies and the availability of appropriate auto fuels.
- The policy provides for the automatic approval for foreign equity investment of up to 100 per cent for the manufacture of auto components.
- Manufacturing and imports in this sector are free from licencing and approvals.
Policy and regulatory framework … (2/5)

Automotive Mission Plan (AMP) 2006–2016

- The AMP targets exports worth US$ 40–45 billion in 2016, including component exports worth US$ 20–25 billion and outsourced engineering services worth US$ 2–2.5 billion. The AMP targets a total turnover of US$ 155 billion by 2016.

- Recommendations of the AMP
  - Setting up a technology-modernisation fund, with special emphasis on small and medium enterprises (SMEs) and encouragement to establish development centres for SMEs
  - Increasing exports and related infrastructure and streamlining training/research institutions around auto hubs
  - Setting up automotive training institutes and auto design centres, special auto parks and auto component virtual SEZs
Policy and regulatory framework … (3/5)

National Automotive Testing and R&D Infrastructure Project (NATRiP)

• The GoI aims to set up NATRiP, at a total cost of US$ 388.5 million, to enable the industry to adopt and implement global standards of vehicular safety, emission and performance standards.

• NATRiP will focus on enhancing the industry’s competitiveness by providing low-cost manufacturing and product development.

Union Budget 2010–11

• The most recent Union Budget gave further impetus to the automotive industry by increasing weighted income tax deduction for in-house R&D from 150 per cent to 200 per cent, and for outsourced R&D from 125 per cent to 175 per cent.

• R&D activity is a critical component of the auto component sector, and this step may reduce the upgrading costs of companies.
Policy and regulatory framework … (4/5)

Department of Heavy Industries & Public Enterprises

• Initiatives such as reducing excise duty on small cars, extending 150 per cent weighted deduction on R&D expenditure, increasing budgetary allocation for R&D activities and lowering the duty regime have been undertaken to further strengthen the capability of the sector.

• The Department of Heavy Industries & Public Enterprises has also suggested creating a fund worth US$ 0.2 billion (INR 10 billion) to modernise the auto components industry by providing an interest subsidy on loans and the purchase of new plants and equipment.

De-reservation of items for the small-scale sector

• This will include extending deemed export benefits to intermediate suppliers of auto components against the Duty Free Replenishment Certificate (DFRC) scheme in the GoI’s EXIM Policy for 2004–05.

• The scheme is aimed at benefiting all auto component manufacturers to enable them to avail of duty drawbacks, refund of terminal excise duties and an advance licence for the duty free import of input.
Other incentives

- These include reducing excise duty on smaller PVs and reducing the duty levied on raw material to 5–7.5 per cent from 10 per cent previously.

- Emission norms and environmental standards, in line with those of the developed world, and the enforcement of Euro IV and Bharat Stage IV emission norms, have fostered the growth of the Indian auto components industry.
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Opportunities - Increasing focus on R&D activities … (1/3)

- The NATRiP, set up by the GoI with an investment of US$ 388.5 million, is expected to strengthen the country’s automotive R&D infrastructure.

- Government policies, including a weighted tax deduction of up to 200 per cent for in-house R&D activities in the country, have boosted investment in R&D.

Establishment of R&D centres in India by international players

- Increasing production costs, short product lifecycles and the growing trend of geographic expansions to derisk dependence on a single market are factors driving outsourcing.
### Opportunities - Increasing focus on R&D activities … (2/3)

<table>
<thead>
<tr>
<th>NATRiP centre — North India</th>
</tr>
</thead>
</table>
| Rae Bareilly centre         | - Services to agri-tractors, off-road vehicles and a driver training centre  
                              |   - Centre of excellence for accident data analysis. |
| International Centre for Automotive Technology (iCAT), Manesar | - Services to all vehicle categories  
                              |   - Centre of excellence for component development, noise vibration and harshness (NVH) testing |

<table>
<thead>
<tr>
<th>NATRiP centre — East India</th>
</tr>
</thead>
</table>
| Silchar centre, Assam       | - Research, design, development and testing of vehicles  
                              |   - Centre of excellence for photometry, electromagnetic compatibility (EMC) and test tracks  
                              |   - Centre completed |
## Opportunities - Increasing focus on R&D activities … (3/3)

### NATRiP centre — West India

<table>
<thead>
<tr>
<th>Location</th>
<th>Services</th>
</tr>
</thead>
</table>
| **Vehicles Research & Development Establishment (VRDE), Ahmednagar** | • Research, design, development and testing of vehicles  
  • Centre of excellence for photometry, electromagnetic compatibility (EMC) and test tracks |
| **Indore — National Automotive Test Tracks (NATRAX)** | • Complete testing facilities for all vehicle categories  
  • Centre of excellence for vehicle dynamics and tyre development  
  • Scheduled for completion in December 2010 |
| **Automotive Research Association of India (ARAI), Pune** | • Services for all vehicle categories  
  • Centre of excellence for powertrain development and material |

### NATRiP centre — South India

<table>
<thead>
<tr>
<th>Location</th>
<th>Services</th>
</tr>
</thead>
</table>
| **Chennai centre, Tamil Nadu**    | • Complete homologation services for all vehicle categories  
  • Centre of excellence for infotronics, EMC and passive safety |
Opportunities - Increasing capital expenditure … (1/2)

Domestic manufacturers are increasing their capital expenditure plans

• Players are now increasingly focused on capacity expansion and technology upgrades to fully tap the potential of component outsourcing and cater to increasing domestic demand.

Source: Ernst & Young analysis.
## Capex plans of some auto component players

<table>
<thead>
<tr>
<th>OEM/Tier-I suppliers</th>
<th>R&amp;D plans in India</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bosch Group</strong></td>
<td>Bosch plans to invest around US$ 625 million (INR 30 billion) during 2010-2013, among its six companies in India. Bosh Limited alone will invest more than US$ 312 million (INR 15 billion) in the automotive side.</td>
</tr>
<tr>
<td><strong>Apollo Tyres</strong></td>
<td>Apollo Tyres is planning to invest US$ 625 million (INR 30 billion) during 2010-2012 to meet the overseas growth target. The company plans to generate 60 per cent of the overseas revenue for the group. At present, it is generating around 40 per cent of the total group revenue from overseas operations, while the rest comes from the domestic market.</td>
</tr>
<tr>
<td><strong>Denso Corporation</strong></td>
<td>The company plans to spend around US$ 35 million to establish a development facility in India for engine parts and other automotive products destined for the local market. The plant will be located in Gurgaon near Delhi; the facility will take over tasks currently handled in Japan.</td>
</tr>
<tr>
<td><strong>Tata AutoComp Systems (TACO)</strong></td>
<td>India’s TACO is setting up five auto component-manufacturing plants in Sanand, Gujarat, at an investment of US$ 62 million (INR 3 billion). These five new factories are part of the vendor park being developed at the Tata Nano plant site.</td>
</tr>
<tr>
<td><strong>Amco Batteries</strong></td>
<td>Amco Batteries plans to invest US$ 21 million (INR 1 billion) during 2010-2012 to double its revenue, as a result of strong demand in the automobile sector.</td>
</tr>
<tr>
<td><strong>Avtec Limited</strong></td>
<td>Avtec Limited plans to invest up to US$ 27 million (INR 1.3 billion) during 2010-2011 to expand capacity by 35 per cent. The company will also invest part of the funds in R&amp;D and on new business.</td>
</tr>
<tr>
<td><strong>Motherson Sumi Systems</strong></td>
<td>Motherson Sumi Systems plans to invest US$ 80-90 million (INR 4-5 billion) in 2010-2011 to expand the capacity of its plants in Chennai, Haldwani and Bengaluru as well as of other international plants such as a new one in Hungary.</td>
</tr>
</tbody>
</table>

*Source: Ernst & Young analysis.*
Opportunities - India as a manufacturing and global components sourcing hub … (1/3)

- The number of global players moving to India has been increasing as a result of GoI permitting 100 per cent foreign equity investments.

- Nearly all major global OEMs have announced their plans to make India the component sourcing hub for their global operations.

- Various global tier-I suppliers, including Bosch, Federal-Mogul, Timken and SKF, have also announced their intent to increase procurement from their Indian subsidiaries. India is emerging as a sourcing hub for engine components, with OEMs increasingly setting up engine-manufacturing units in the country.

- Some companies are sourcing components from local suppliers, while others are either setting up their own manufacturing units or opting for a mix of both.

- Components made in India and China cost 10–15 per cent lower than those made in Europe and the US. European manufacturers are likely to enjoy a cost advantage of 20–25 per cent, and Latin American manufacturers, nearly 10 per cent, in India.
Opportunities - India as a manufacturing and global components sourcing hub … (2/3)

- More than 100 projects have been announced in the auto components industry, with investments worth more than US$ 1.9 billion in the last two years (2008-2010)

- Currently, small cars are the fore-runners in the completely built units (CBUs) sourcing space in India and have low manufacturing costs.

Global tier-I suppliers are adopting the joint venture (JV) route to enter the country

- Domestic players have, in the past, entered technical alliances with global component manufacturers as minority partners, largely to access their technical capabilities. However, India’s emergence as an important market and manufacturing destination for automobiles as well as auto components has brought about a shift in the kind of JVs formed with Indian manufacturers. Indian players are now increasingly forming alliances with their global counterparts on a more equitable basis.
Opportunities - India as a manufacturing and global components sourcing hub … (3/3)

<table>
<thead>
<tr>
<th>Company</th>
<th>Sourcing plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyundai</td>
<td>• Hyundai plans to source gasoline and diesel engines from its Indian manufacturing operations for its domestic and global operations.</td>
</tr>
</tbody>
</table>
| Ford      | • Ford plans to expand the engine-production capacity at its Chennai plant to 250,000 per annum by 2010.  
           | • The company plans to make India its manufacturing hub for engines for the Asia-Pacific region and Africa. |
| Volkswagen| • Volkswagen plans to increase local sourcing to 70 per cent.  
           | • The company aims to source components worth US$ 1.3 billion by 2010. |
| Honda     | • Honda intends to set up a power-train facility project in Rajasthan with an investment of US$ 115 million.  
           | • The company has an export base for certain key engine components. |

Source: Ernst & Young analysis.
Opportunities

- Indian auto component manufacturers have been enhancing their product-development functions by producing high-quality designs at low costs.
- The country is also witnessing increased investment in R&D operations and the establishment of laboratories to conduct activities such as analysis and simulation as well as engineering animations.
- The growth of global OEMs sourcing from India and increased levels of indigenisation are contributing to India's position as a strong manufacturing base.
Opportunities - Introduction of new electronic features

• OEMs are introducing new electronic features to give impetus to the growth of auto component manufacturers.
Contents

- Advantage India
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- Policy and regulatory framework
- Opportunities
- Industry associations
Industry associations

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Note

Wherever applicable, numbers in the report have been rounded off to the nearest whole number.

Conversion rate used: US$ 1 = INR 48
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