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## EXECUTIVE SUMMARY

### Robust growth
- Over the last decade, the automotive components industry has registered a CAGR of 6.83 per cent and has reached US$ 51.20 billion in 2017-18 while exports have grown at a CAGR of 11.42 per cent to US$ 13.5 billion. Auto components production in 2018-19 to increase by 12-14 per cent due to robust growth in domestic and export market.
  - Indian tyre industry expects a 7-9 per cent growth over FY19-23.
  - The capital expenditure by the domestic automotive component manufacture is expected at around Rs 24,000 crore (US$ 33.26 billion) over the FY19 and FY20.
  - Domestic auto component industry is expected to grow at 15 per cent in FY19.

### Rising indigenisation
- The growth of global OEM sourcing from India & the increased indigenisation of global OEMs is turning the country into a preferable designing and manufacturing base.

### Increasing turnover
- The Indian auto-components industry is expected to register a turnover of US$ 100 billion by 2020 backed by strong exports ranging between US$ 80-100 billion by 2026.

### Contribution to GDP and employment
- The auto-components industry accounted for 2.3 per cent of India’s Gross Domestic Product (GDP) in 2017-18. During 2017-18, 1.5 million people directly and 1.5 million people indirectly were employed in the auto-components industry.

### Growing automobile industry
- India is expected to become the 4th largest automobiles producer globally by 2020 after China, US & Japan. The auto components industry is also expected to become the 3rd largest in the world by 2025.
- Domestic automobile production increased with 30.92 million vehicles manufactured in the country in FY19.

### Electric vehicles push
- The auto-components industry is expected to follow OEMs in adoption of electric vehicle technologies. The global move towards electric vehicles will generate new opportunities for automotive suppliers. The mass conversion to electric vehicles may generate a US$ 300 billion domestic market for EV batteries in India by 2030*.

---

*Note: OEM: Original Equipment Manufacturer, EV – Electric Vehicles, *As per NITI Aayog

Source: ACMA, Make in India, News Articles, ICRA, Crisil
ADVANTAGE INDIA
ADVANTAGE INDIA

- Growing working population & expanding middle class are expected to remain key demand drivers
- India is the fourth largest automobile market globally.
- Reduction in excise duties in motor vehicles sector to spur the demand for auto components
- India is emerging as global hub for auto component sourcing
- Relative to competitors, India is geographically closer to key automotive markets like the Middle East & Europe
- In December 2018 India pitched to boost its exports in auto components in the market of China.
- A cost-effective manufacturing base keeps costs lower by 10-25 per cent relative to operations in Europe & Latin America
- Presence of a large pool of skilled & semi-skilled workforce amidst a strong educational system
- Third largest steel producer globally hence a cost advantage
- In September 2015, Automotive Mission Plan 2016-26 was unveiled which targets a fourfold growth for the sector
- Strong support for R&D & product development by establishing NATRiP centres
- 100 per cent FDI allowed under automatic route for auto component sector
- In January 2019, The Government of India lowered the custom duty on import of parts and components of electric vehicles to 10-15 per cent.

Notes: NATRiP - National Automotive Testing and R&D Infrastructure Project, FY - Indian Financial Year (April to March), R&D – Research and Development
MARKET OVERVIEW
ROBUST GROWTH

- Revenues have risen at a CAGR of 6.83 per cent from US$ 26.44 billion in FY08 to US$ 51.20 billion in FY18.
- Domestic OEM supplies contribute 55.97 per cent of the industry turnover followed by exports (26.20 per cent) and domestic aftermarket (17.82 per cent).
- Exports of automobile components from India in FY18 stood at US$ 13.5 billion. As per Automobile Component Manufacturers Association (ACMA) forecasts, automobile component exports from India are expected to reach US$ 80 billion by 2026. The Indian auto component industry aims to achieve US$ 200 billion in revenues by 2026.
- Auto-component production in 2018-19 is expected to increase 12-14 per cent in FY19, on the back of robust growth in domestic and export markets.**

*Note: CAGR – Compound Annual Growth Rate, ** As per CRISIL Research, *Turnover data covers supplies to OEMs, aftermarket sales and exports, Exchange Rates as per on page 31, Updated data is expected after September 2019.

Source: ACMA
India’s exports of auto components increased at a CAGR of 11.42 per cent, during FY09-FY18, with the value of auto component exports increasing from US$ 5.10 billion in FY09 to US$ 13.50 billion in FY18.

Europe accounted for a volume share of 34 per cent during FY18 in Indian auto component exports followed by North America and Asia with 28 and 25 per cent respectively in the same year.

Note: Exchange Rates as per on page 31, Updated data is expected after September 2019.
Source: ACMA
India’s auto components aftermarket contributed 17.82 per cent of the total industry turnover in FY18.

Turnover of the aftermarket has increased at a CAGR of 9.67 per cent from US$ 5.80 billion in FY13 to US$ 9.20 billion in FY18.

The ‘Drive Transmission and Steering’ product category accounted for the largest part of the aftermarket at 21 per cent, followed by ‘Engine Components’ and ‘Electricals’ at 18 per cent each and ‘Suspension and Braking’ at 15 per cent.
SHARES IN PRODUCTION AND SUPPLY

- Production of Two Wheelers, Passenger Vehicles, Commercial Vehicles and Three Wheelers reached 24.50 million, 4.03 million, 1.11 million, and 1.27 million in 2018-19.
- Passenger vehicles had the highest share of total auto component supplies to Original Equipment Manufacturers (OEMs) in 2017-18, followed by two wheelers and Light Commercial Vehicles (LCV).

Note: Updated data is expected after September 2019
Source: ACMA
## MAJOR PLAYERS BY SEGMENT

### Engine & engine parts
- Pistons – Goetze, Shriram Pistons & Rings, India Pistons, Anand I-Power Ltd.
- Engine Valves – Rane Engine Valves, Shriram Pistons & Rings, SSV Valves
- Carburetors – Ucal Fuel Systems & Spaco Carburetors & Escorts Auto Components
- Diesel-based fuel-injection systems – Mico, Delphi-TVS Diesel System & Tata Cummins

### Transmission & steering parts
- Steering Systems – Sona Koyo Steering Systems, Rane NSK Steering Systems & Rane TRW Systems
- Gears – Bharat Gears, Gajra Bevel Gears, ZF Steering Gear (India) Ltd, Eicher, Graziano Trasmissioni & SIAP Gears India
- Clutch – Clutch Auto, Ceekay Daikin, Amalgamations Repco, Luk Clutches
- Driveshafts – GKN Driveshafts, Spicer India Private Ltd., Delphi & Sona Koyo Steering Systems

### Suspension & braking parts
- Brake Systems – Brakes India, Kalyani Brakes, Mando India Ltd. & Automotive Axles
- Brake Lining – Rane Brake Lining, Sundaram Brake Lining, Hindustan Composites & Allied Nippon
- Leaf Springs – Jamna Auto & Jai Parabolic
- Shock Absorbers – Gabriel India, Delphi, Mando India Ltd. & Munjal Showa

### Electrical
- Lucas TVS, Denso, Delco Remy Electricals & Nippon Electricals are key players in this segment

### Equipment
- Headlights – Lumax, Autolite & Phoenix Lamps
- Dashboard – Premiere Instruments & Controls
- Sheet metal parts – Jay Bharat Maruti, Omax Auto and JBM Tools

**Note:** OEM means Original Equipment Manufacturer  
**Source:** Media sources, Aranca research
RECENT TRENDS AND STRATEGIES
**Global components sourcing hub**

- Major global OEMs have made India a component sourcing hub for their global operations.
- Several global Tier-I suppliers have also announced 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.
- For companies like Ford, Fiat, Suzuki & General Motors, India has established itself as a global hub for small engines.
- Varroc Lighting Systems (VLS) is supplying the complete exterior lighting solutions for Tesla Model S sedan and the Tesla Model X crossover.

**Improving product-development capabilities**

- Increased investments in R&D operations & laboratories, which are being set up to conduct activities such as analysis, simulation & engineering animations.
- The growth of global OEM sourcing from India & the increased indigenisation of global OEMs is turning the country into a preferred designing & manufacturing base.
- ACT established to offer technical services to ACMA members for enhancing process & quality abilities through various cluster programmes.
- Faurecia, a global automotive equipment leader, has partnered with Indian Institute of Science (IISc) to develop new technologies and solutions in three areas viz. online air quality monitoring, data analysis and algorithms for driver behaviour and artificial intelligence for industrial design.

**Inorganic route to expansion**

- As of August 2018, Rico Auto Industries is soon going to sign a Joint Venture (JV) deal with HZ Manufacturing to produce automatic transmission for scooters.
- In July 2018, air-compressor manufacturer Elgi Equipments acquired Pulford Air and Gas based in Sydney, Australia. The acquisition will help the company to expand its global footprint and help in achieving its mission of becoming a leading player in the global air-compressor market by 2027.
- National Company Law Tribunal (NCLT) approved the amalgamation of INA Bearings India and LuK India on September 7, 2018.
- Mahindra CIE Automotive, auto component firm has decided to acquire Aurangabad Electricals Ltd (AEL) through acquisition of 100 per cent equity shares for a value of Rs 875.60 Crore (US$121.36 million).

**Note:** OEM means Original Equipment Manufacturer ACT - ACMA Centre for Technology

**Source:** Aranca Research
**STRATEGIES ADOPTED**

<table>
<thead>
<tr>
<th>New strategies</th>
<th>Diversification</th>
<th>Capacity</th>
<th>R&amp;D facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both Indian &amp; global manufacturers are investing in new capacities &amp; newer programmes, in order to get long term advantage</td>
<td>Many Indian firms specialising in only one product market or segment &amp; are looking forward to diversify horizontally in other segments like 2-wheelers, passenger cars or commercial vehicles.</td>
<td>India’s projected production is around 8.7 million passenger vehicles per year by 2020 (with most of them being compact cars)</td>
<td>Looking at the opportunity many global suppliers for example Bosch Chassis Systems, Tenneco and Faurecia have established R&amp;D facilities in India to adapt global designs &amp; develop new products</td>
</tr>
<tr>
<td>As markets in North, West &amp; South are getting saturated, components makers are now focusing on untapped market like the Northeast region of the country.</td>
<td>They are stepping up their product development capabilities in order to have the best chance of capturing growth opportunity.</td>
<td>Many MNC’s like Ford, Hyundai, Toyota &amp; GM are launching new vehicle models due to their earlier success in the Indian market.</td>
<td>Increasing investments in R&amp;D also assists companies in setting up laboratories, new facilities to conduct analysis, simulation &amp; engineering animations.</td>
</tr>
<tr>
<td>Varroc Engineering, India’s second largest auto-components producer, is aiming to attract business from sales of electric vehicle components such as electronics, motors and battery management system.</td>
<td></td>
<td></td>
<td>In August 2018, JK Tyre and Industries Ltd inaugurated its state-of-the-art global technology centre in Mysore. Research at the centre will focus on various aspects of tyre technology including coming up with advanced laboratory predictors for tyre performance and recognising key inputs for life prediction of rubber products.</td>
</tr>
<tr>
<td>Samvardhana Motherson International Limited (SAMIL) announced its joint venture partnership with Hamakyorex Co. to exploit the expected increase in automotive market.</td>
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*Source: Make in India, Media Sources*
GROWTH DRIVERS
GROWTH DRIVERS

**Demand-side drivers**
- Robust growth in domestic automotive industry
- Increasing investment in road infrastructure
- Growth in the working population & middle class income to drive the market

**Supply-side drivers**
- Competitive advantages facilitating emergence of outsourcing hub
- Technological shift; focus on R&D

**Policy support**
- Establishing special auto parks & virtual SEZs for auto components
- Lower excise duty on specific parts of hybrid vehicles
- Policies such as Automotive Mission Plan 2016-26, Faster Adoption & Manufacturing of Electric Hybrid Vehicles (FAME, April, 2015), NMEM 2020, likely to infuse growth in the auto component sector of the country.
- Government of India announced a National Mission on Transformative Mobility and Battery Storage which would be a year phased manufacturing programme (PMP) till 2024.
- To install electric vehicle supply equipment (EVSE) infrastructure for the electric vehicles (EV), various public sector firms, the railways and various ministries have come together to create infrastructure and manufacturing components.

*Note: NMEM – National Mission For Electric Mobility*
*Source: Aranca Research*
GROWTH IN THE AUTOMOBILES SECTOR

Vehicle production in India (thousand units)

- Passenger Vehicles
  - FY19: 4,026
  - FY21E: 10,000
- Commercial Vehicles
  - FY19: 1,112
  - FY21E: 2,350
- 2 & 3 Wheelers
  - FY19: 25,772
  - FY21E: 30,231

Vehicle Production (in number of units)

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<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>2,06,47,611</td>
<td>2,15,00,165</td>
<td>2,33,58,047</td>
<td>2,40,16,068</td>
<td>2,53,29,383</td>
<td>2,90,73,892</td>
<td>3,09,15,420</td>
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Vehicles, vehicle parts and transport equipment loan outstanding# (US$ billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19*</th>
</tr>
</thead>
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Note: (E) – Estimate; #Loan outstanding at the end of financial year, FY19* - up to June 2018, 2018-19

Source: ACMA, Reserve Bank of India, Aranca Research, SIAM
INDIA IS POISED TO EMERGE AS AN OUTSOURCING HUB

- Hyundai plans to source gasoline and diesel engines from its Indian manufacturing operations for its domestic & global operations.
- The company is also planning to invest US$ 300 million for a new engine plant & metal pressing shop in India & is also in plans to open its 2nd manufacturing plant in Rajasthan.
- As of January 2018, the company is considering adding a third production line with a capacity of 50,000 units a year at its plant in Tamil Nadu.

- Ford expanded its retail distribution network of genuine parts in Gujarat, Daman & Diu & Silvassa.
- Ford is currently working on a small – capacity petrol engine called Dragon which is estimated to be ready by 2016 – 17. The Detroit – based company is planning to produce 1.5 million units a year globally, 400,000 of which will be produced in India.
- In March 2018, Ford Motors signed five MoUs with Mahindra and Mahindra (M&M) to jointly develop new SUVs and small electric vehicle. The partnership will leverage Ford’s global reach and expertise and M&Ms presence in the Indian market.

- The company has an export base for certain key engine components in India.
- As of April 2018, the company has decided to invest Rs 8 billion (US$ 124.13 million) in India to introduce new products in the market and improve efficiency at its existing plants.
- The company plans to launch a new model and upgrade 18 existing ones in 2018-19.

- Toyota Kirloskar Motor disclosed its fully integrated cloud based telematics service for Indian market, by the name Toyota Connect.
- Toyota India under a new joint venture initiated production of diesel engines at Jigani Industrial Area.

Source: Respective Company Websites, News Articles
<table>
<thead>
<tr>
<th>Policy/Initiative</th>
<th>Description</th>
</tr>
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</table>
| Auto Policy 2002 | - Automatic approval for 100 per cent foreign equity investment in auto component manufacturing facilities.  
- Manufacturing & imports are exempt from licensing & approvals. |
| NATRiP           | - Set up at a total cost of US$ 388.5 million to enable the industry to adopt & implement global performance standards.  
- Focus on providing low-cost manufacturing & product development solutions. |
| Dept. of Heavy Industries & Public Enterprises | - Created a US$ 200 million fund to modernise the auto components industry by providing an interest subsidy on loans & investment in new plants & equipment.  
- Provided export benefits to intermediate suppliers of auto components against the Duty Free Replenishment Certificate (DFRC). |
| Automotive Mission Plan 2016-26 (AMP 2026) | - AMP 2026 targets a 4-fold growth in the automobiles sector in India which includes the manufacturers of automobiles, auto components & tractor industry over the next 10 years.  
- It is expected to generate an additional employment of 65 million. |
| FAME Scheme      | - The scheme is aimed at incentivising all vehicle segments i.e. 2 Wheeler, 3 Wheeler Auto, Passenger 4 Wheeler Vehicle, Light Commercial Vehicles and Buses. It covers hybrid & electric technologies like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles. The scheme has been extended for six months from September 2018 to March 2019.  
- The Government of India is in the process of coming up with FAME-II Scheme.  
- In February 2019, the Government of India approved the FAME-II scheme with a fund requirement of Rs 10,000 crore (US$ 1.39 billion) for FY20-22. |
| Union Budget 2019–20 | - The Government of India reaffirms their commitment towards Electric Vehicles (EV) and their mission for 30 per cent electric mobility by 2030 in order to overcome India's reliance on imported fossil fuels and gas, and greatly boost sustainable energy in India.  
- The Department of Revenue also eased the import duty on lithium-ion cells. |

**Note:** NATRiP - National Automotive Testing and R&D Infrastructure Project  
**Source:** SIAM, Make in India
INVESTMENTS HAVE BEEN RISING AT A FAST PACE

- FDI inflow in automotive* sector from April 2000 to December 2018 stood at US$ 20.85 billion.
- With the launch of “Make in India” initiative, the government is expected to vitalise a substantial investment in the auto component sector.
- Higher interest from private equity (PE) and venture capital (VC) investors is expected in India’s EV industry. Investments in EV increased to US$ 23 million in 2018 from US$ 3 million in 2017.
- The capital expenditure by the domestic automotive component manufacture is expected at around Rs 24,000 crore (US$ 33.26 billion) over the FY19 and FY20.
- India’s Exide Industries formed a 75:25 joint venture with Leclanché to manufacture lithium-ion (Li-ion) cells, modules and battery packs in the state of Gujarat, the Li-ion cell production plant is said to be operational by mid-2020.
- As of January 2019 Lite Auto Components Pvt Ltd, a part of Hindustan Magnesium Products Pvt Ltd plans to invest Rs 500 crore (US$ 69.30 million) to set up Magnesium-based manufacturing plant in Andhra Pradesh.
- Dhoot Transmission, maker of auto components acquired San Electromec, a wire harness and control panel maker for an undisclosed amount.
- Maruti Suzuki India Ltd to start a manufacturing batteries in its car manufacturing plant of Hansalpur by 2020.
- In April 2019, Durr, a German automotive painting and sealing company, entered into a partnership with Patvin to provide automated painting solutions for two or three-wheelers and agricultural machinery for the Indian markets.

Note: * - Includes automobiles and auto-components, ** - Up to December 2018
Source: ACMA, DIPP, News Articles
<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
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</table>
| CEAT Ltd                     | - Plans to reach at a production level of 17 million 2 wheeler tires, annually, 1 million Truck & Bus Radial (TBR) tires & 6 million passenger car radial tires, annually.  
- Plans to invest Rs 2,000 crore (US$ 277.20 million) in the next 3-5 years by setting up new manufacturing plant in Chennai. |
| IMI Precision Engineering    | - In October 2018, inaugurated its second largest manufacturing facility in the Asia Pacific region. Plans to expand product and technical offerings. |
| Rico Auto Industries         | - As of August 2018, developing plans to invest Rs 400 crore (US$ 57.00 million) in the next three years.                                       |
| Kesoram Industries           | - As of December 2018, decided to demerge its tyre business to unlock value and raise capital for expansion. Restructuring aims to enter high margin automotive radial tyre business. |
| Faurecia Interior Systems    | - As of June 2018, started construction of a Rs 50 crore (US$ 7.46 million) instrument panel plant. Initial capacity of five million square metres. |
| Hitachi Automotive           | - Set up new technical centre in Delhi in 2018. Plans to step-up production in India by 2020.                                                |
| Amara Raja Batteries         | - In August 2018, approved setting up of a Rs 700 crore (US$ 99.74 million) greenfield automotive battery plant. Capacity to be enhanced.       |
| Continental                 | - As of December 2018, planned investments of Rs 180 crore (US$ 25.65 million) for setting up a premium surface materials facility in Pune. |

**Source:** News articles, Government Websites, Aranca Research, Ministry of External Affairs, Govt. of India (ITP) Division
OPPORTUNITIES
DOMESTIC AND EXPORTS MARKETS HOLD HUGE POTENTIAL

- The domestic market is expected to account for 71 per cent of total sales by 2021 with a total market size of US$ 115 billion.

- Exports will account for as much as 26 per cent of the market by 2021.

Note: E – Estimate, Updated data is expected after September 2019
Source: ACMA
MARKET POTENTIAL BALANCED ACROSS PRODUCT TYPES

Both domestic & export markets are almost similar in terms of potential share by different product types. For example, Engine & Exhaust components, along with Body & Structural parts, are expected to make up 50 per cent potential domestic sales as well as exports in 2020.

Transmission, Steering components, Electronics & Electrical parts are likely to be the other key products.

As of December, 2018 companies like Exide, Exicom, Amaron, Greenfuel Energy Solutions, Trontek, Coslight India, Napino Auto & Electronics, Amara Raja Batteries, Trinity Energy Systems, Versatile Auto Components plan to make lithium-ion batteries to benefit from the wave of green vehicles.

As of January 2019, BHEL and Libcoin are in talks to build a 1GWh lithium-ion battery plant in India which could be scaled up to 30GWh in due course.

Note: 2020E – Estimated value for 2020 by ACMA
Source: ACMA, News Sources
### OPPORTUNITIES IN ENGINEERING PRODUCTS

<table>
<thead>
<tr>
<th>Segment</th>
<th>Opportunities</th>
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</table>
| Engine & engine parts    | - New technological changes in this segment include introduction of turbochargers & common rail systems  
                          | - The trend of outsourcing may gain traction in this segment in the short to medium term |
| Transmission & steering parts | - Share of the replacement market in sub-segments such as clutches is likely to grow due to rising traffic density  
                           | - The entry of global players is expected to intensify competition in sub-segments such as gears & clutches |
| Suspension & braking parts | - The segment is estimated to witness high replacement demand, with players maintaining a diversified customer base in the replacement & OEM segments besides the export market  
                           | - The entry of global players is likely to intensify competition in sub-segments such as shock absorbers |
| Equipment                | - Companies operating in the replacement market are likely to focus on establishing a distribution network, brand image, product portfolio & pricing policy |
| Electrical               | - As of March 2019, Tritium will soon be delivering fast charging technology for electric vehicles after the company signed an MOU with Tata AutoComp Systems.  
                           | - In January 2019, The Government of India lowered the custom duty on import of parts and components of electric vehicles to 10 from 15 per cent. |
| Others (Metal Parts)     | - Metal part manufacturers are likely to benefit from rising demand for body & chassis, pressure die castings, sheet metal parts, fan belts, hydraulic pneumatic instruments, mainly in 2 wheelers industry  
                           | - The prominent companies in this business are constantly working towards expanding their customer base |

*Note: OEM means Original Equipment Manufacturer   
Source: Make in India*
**CAPACITY ADDITION PLANS OF KEY PLAYERS**

<table>
<thead>
<tr>
<th>Company</th>
<th>Details</th>
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</table>
| **Bosch**        | Bosch inaugurated its 15th plant in November 2015, specialising in manufacturing power tools.  
                  | As of February 2018, Bosch has decided to invest Rs 500 – Rs 800 crore (US$ 77.58 – 124.13 million) over the next two years (FY19 and FY20) to expand operations in India and increase R&D to develop products for the global market. |
| **Apollo Tyres** | The company is planning to invest over Rs 1,800 crore (US$ 279.29 million), as of January 2018, for setting up of a new plant in Andhra Pradesh. The new facility will help the company cater to growing demand for passenger vehicle tyres.  
                  | The foundation stone for the plant has been laid and construction of the plant is expected to start in the next 6 months and production is expected to commence within 24 months.                                                                                                                                                                                                 |
| **Tata**         | Tata Auto Component Systems is setting up 5 auto component manufacturing plants in Sanand, Gujarat, at an investment of US$ 62 million. It is also investing US$ 114 million for capacity addition in its Chakan plant in Maharashtra.                                                                                                                                                                                                                                           |
| **HELLA**        | HELLA is building its second manufacturing plant in Gujarat with an estimated investment of US$ 5.36 million in the first phase.                                                                                                                                                                                                                                                                                         |
| **NGK**          | NGK Technologies India Pvt Ltd., subsidiary of NGK Insulators, Ltd. was established to market automotive related & metal components across India.                                                                                                                                                                                                                                                                               |
| **TVS**          | India’s TVS Group has acquired a 90 per cent stake in Universal Components UK Ltd for US$ 19.2 million, as part of its expansion plans. Universal Components is a wholesale distributor of commercial vehicle parts. It has also signed a co-operation agreement with BMW Motorrad to develop motorcycles below 500cc segment. Looking for new overseas markets.  
                  | Lucas TVS, a joint venture (JV) between Lucas UK and TVS, is going to introduce traction motors by 2019, which will cater to the growing number of electric rickshaws and electric three-wheeler segments.                                                                                                                                                                                                                       |

**Source:** Respective Company websites, News articles, TechSci Research
KEY INDUSTRY ASSOCIATIONS
**INDUSTRY ASSOCIATIONS**

<table>
<thead>
<tr>
<th>Automotive Component Manufacturers Association of India (ACMA)</th>
</tr>
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<tbody>
<tr>
<td>6th Floor, The Capital Court,</td>
</tr>
<tr>
<td>Olof Palme Marg, Munirka,</td>
</tr>
<tr>
<td>New Delhi – 110 067, India</td>
</tr>
<tr>
<td>Phone: 91 11 2616 0315, 2617 5873, 2618 4479</td>
</tr>
<tr>
<td>Fax: 91 11 2616 0317</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:acma@acma.in">acma@acma.in</a>; <a href="mailto:acma@vsnl.com">acma@vsnl.com</a></td>
</tr>
</tbody>
</table>
USEFUL INFORMATION
GLOSSARY

- ACMA: Automotive Component Manufacturers Association of India
- CAGR: Compound Annual Growth Rate
- FDI: Foreign Direct Investment
- FY: Indian Financial Year (April to March)
  (So FY12 implies April 2011 to March 2012)
- GOI: Government of India
- INR: Indian Rupee
- OEM: Original Equipment Manufacturers
- NATRiP: National Automotive Testing and R&D Infrastructure Project
- SEZ: Special Economic Zone
- US$: US Dollar
- Wherever applicable, numbers have been rounded off to the nearest whole number
### Exchange Rates (Fiscal Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR Equivalent of one US$</th>
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<tbody>
<tr>
<td>2004–05</td>
<td>44.95</td>
</tr>
<tr>
<td>2005–06</td>
<td>44.28</td>
</tr>
<tr>
<td>2006–07</td>
<td>45.29</td>
</tr>
<tr>
<td>2007–08</td>
<td>40.24</td>
</tr>
<tr>
<td>2008–09</td>
<td>45.91</td>
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<tr>
<td>2009–10</td>
<td>47.42</td>
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<tr>
<td>2010–11</td>
<td>45.58</td>
</tr>
<tr>
<td>2011–12</td>
<td>47.95</td>
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<td>2012–13</td>
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<td>2013–14</td>
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<tr>
<td>2014–15</td>
<td>61.15</td>
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<tr>
<td>2015–16</td>
<td>65.46</td>
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<tr>
<td>2016–17</td>
<td>67.09</td>
</tr>
<tr>
<td>2017–18</td>
<td>64.45</td>
</tr>
<tr>
<td>2018–19</td>
<td>69.89</td>
</tr>
</tbody>
</table>

### Exchange Rates (Calendar Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>INR Equivalent of one US$</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>44.11</td>
</tr>
<tr>
<td>2006</td>
<td>45.33</td>
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<tr>
<td>2007</td>
<td>41.29</td>
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<tr>
<td>2008</td>
<td>43.42</td>
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<td>2009</td>
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<td>2017</td>
<td>65.12</td>
</tr>
<tr>
<td>2018</td>
<td>68.36</td>
</tr>
</tbody>
</table>

*Source: Reserve Bank of India, Average for the year*
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