



**Auto, Auto  
Components and  
Electric Vehicles**





# Global Auto, Auto Components and Electric Vehicles Industry





# Global Overview

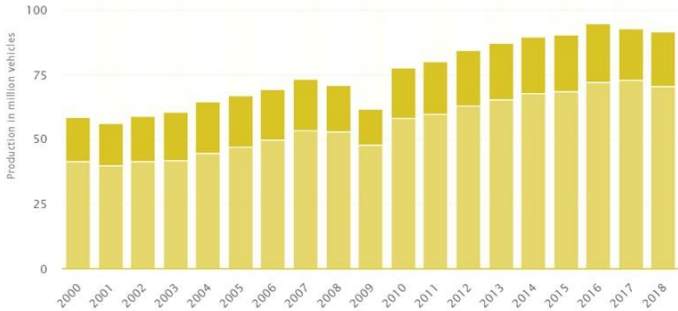
**USD 130 billion** spent in R&D  
2018\*

**45%** growth in sales in last decade

**50%** growth in profits for OEM's by 2020

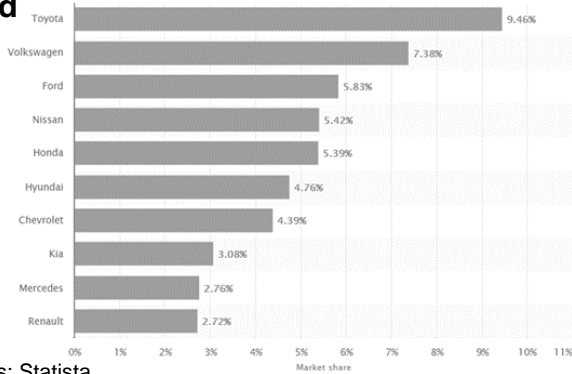
Sources: \*Zinnov - HDFC Sec Inst. Research, PwC 2020 Auto Trends, IHS Market: Automotive Industry Outlook, EY Analysis

## Estimated worldwide automobile production from 2000 to 2018 (in million vehicles)



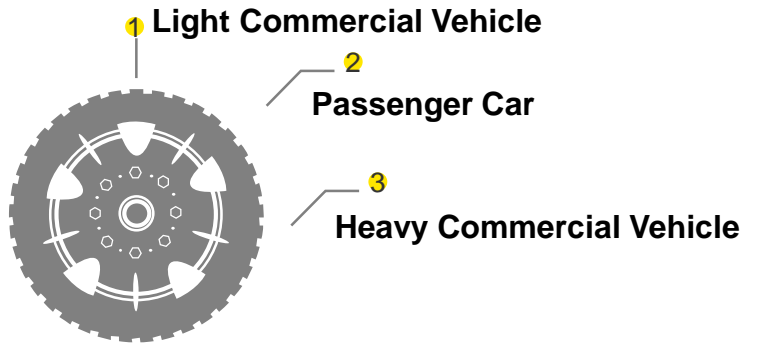
Sources: Statista

## Global automotive market share 2018, by brand

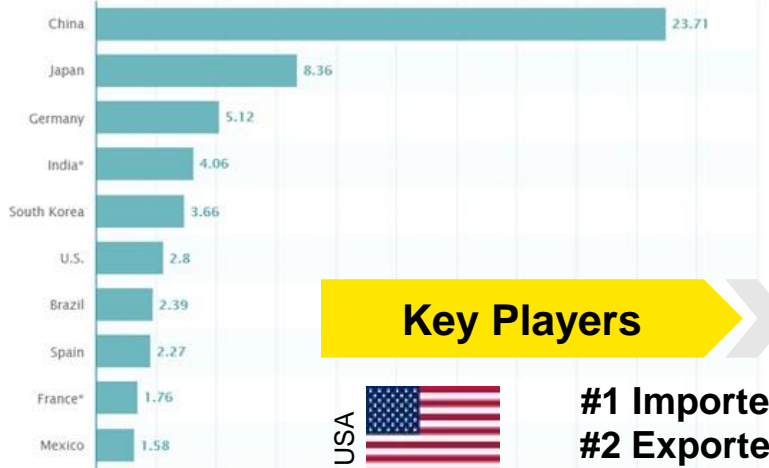


Sources: Statista

## Market Segment



## Estimated passenger car production 2018, by country (in million units)



Sources: Statista

## Key Players

USA		#1 Importer #2 Exporter
Germany		#1 Exporter #2 Importer
China		#1 Producer #6 Exporter

## Value Chain



**Raw Material**

Steel & PU (Polyurethane) are the most basic materials required for exterior and interior respectively

**Sub Components**

Tier 2 suppliers are well integrated in the supply chains of major tier 1 suppliers

**Major components**

Make major components for the OEMs Highly integrated into the supply chain of major OEMs

**Assemble components**

Few & specialized players. Most critical link in the entire value chain Implements & drives

**Point of Sale**

Have sound financial background & market presence and provide after sales support to customers


# Global Overview – Electric Vehicles (EVs)

Vehicles are evolving on two parallel tracks: 1<sup>st</sup> - advanced driver assistance systems (ADAS) and the move toward autonomous driving; 2<sup>nd</sup> - the adoption of **EVs**

## Growth in the EV market

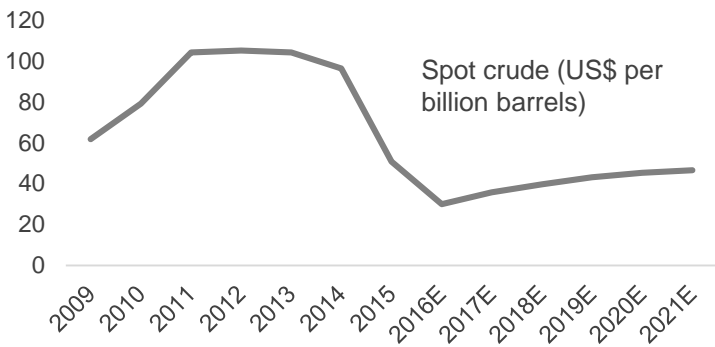
 **>20%**  
Global CO2 emissions reduction targets over the next decade

 **~70%**  
Expected reduction in battery costs over the next decade

 **~25%**  
Autonomous vehicle sales as a percentage of total vehicle sales by 2035

 **>50%**  
Annual growth in global EV charging points over the next decade

## Low oil prices are not expected to impact electric mobility over the long term



- ▶ Initial vehicle cost is a more influential driver of EV sales than oil prices.
- ▶ In addition, emission regulations will drive development and focus on EVs.
- ▶ Thus, electrification of transport will be more dependent on breakthrough in battery chemistry and related technology.

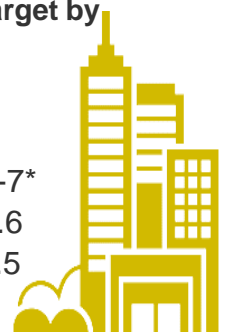
Sources: EY analysis

## Opportunities for component suppliers

-  Building a diverse portfolio of powertrains to navigate the shift towards alternate fuel technologies
-  Identifying growth markets and aligning supply chains in line with future demand split for hybrid, pure electric and fuel cell vehicles
-  Invest in components that present a higher innovation potential and a higher growth in the future
-  Strengthen partnerships and collaborations across the alternate fuel ecosystem to reduce cost and time to market for innovative technologies

## EV cumulative sales target by 2020 (in millions)

- ▶ USA 1
- ▶ China 3
- ▶ India 6-7\*
- ▶ Japan 0.6
- ▶ UK 0.5



Source: EY Research

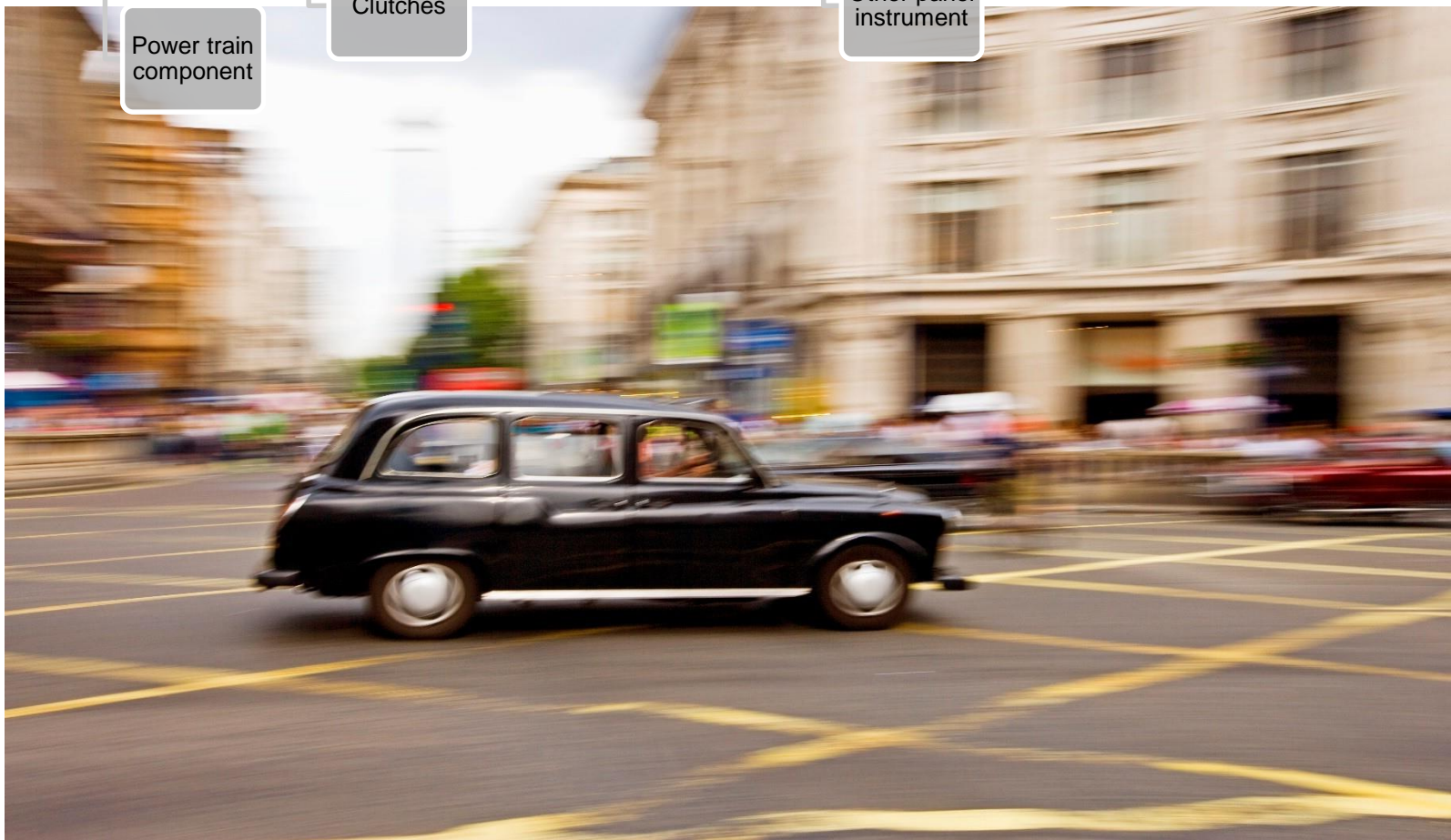
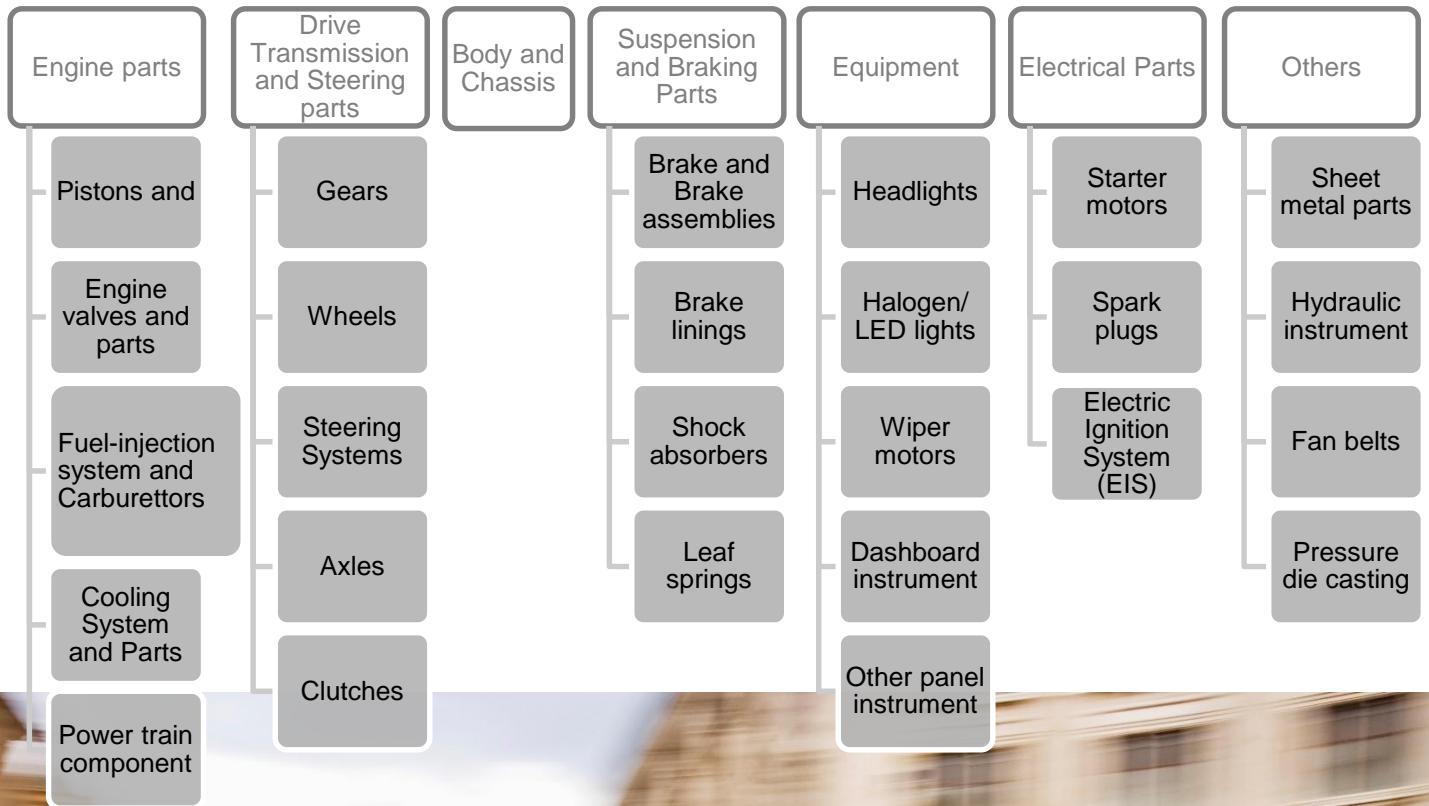
\*Includes two-wheel and hybrid vehicles



# Global Overview- Auto Components

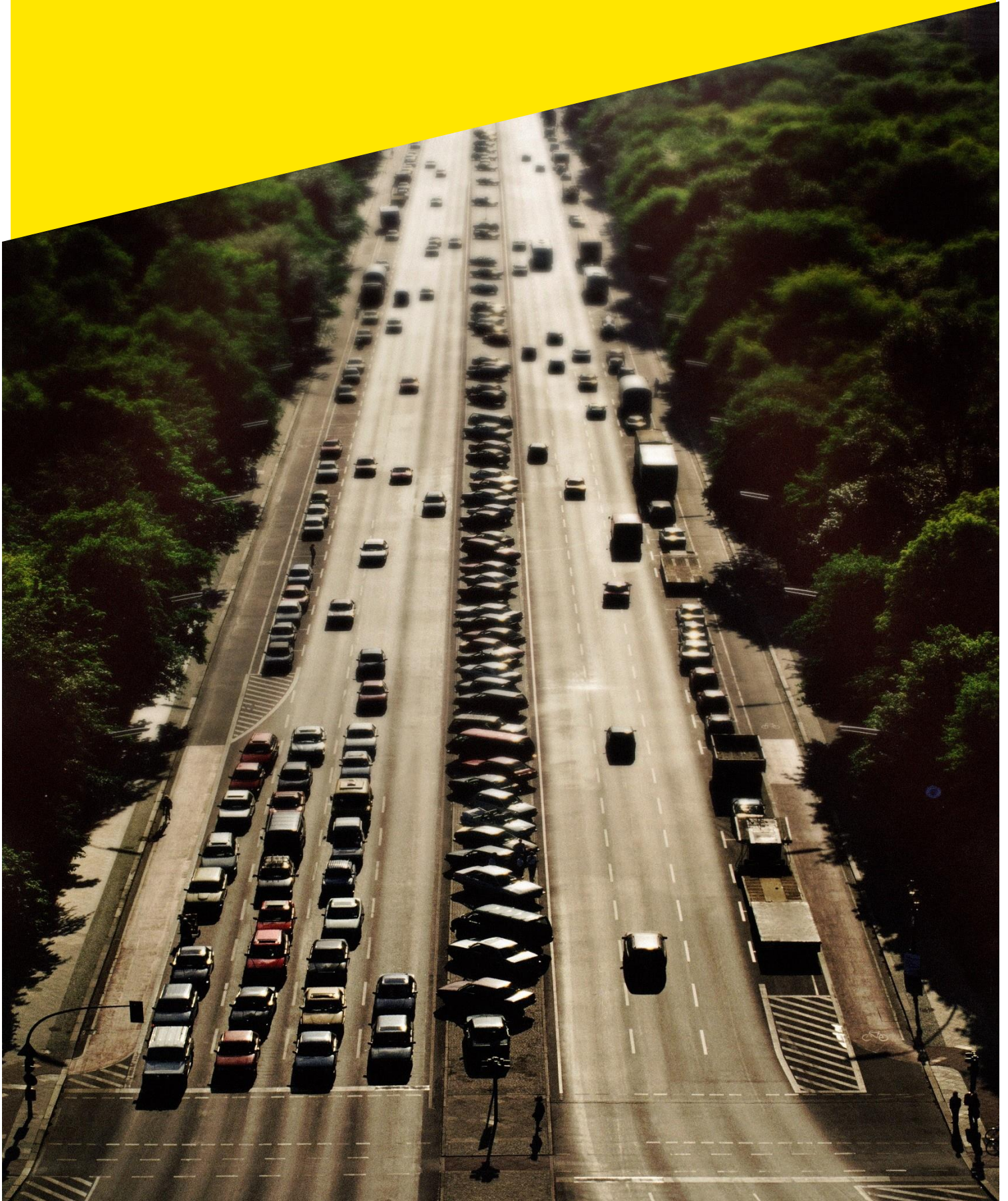
## Market Segment

Auto Components





# Auto, Auto Components and Electric Vehicles Industry in India



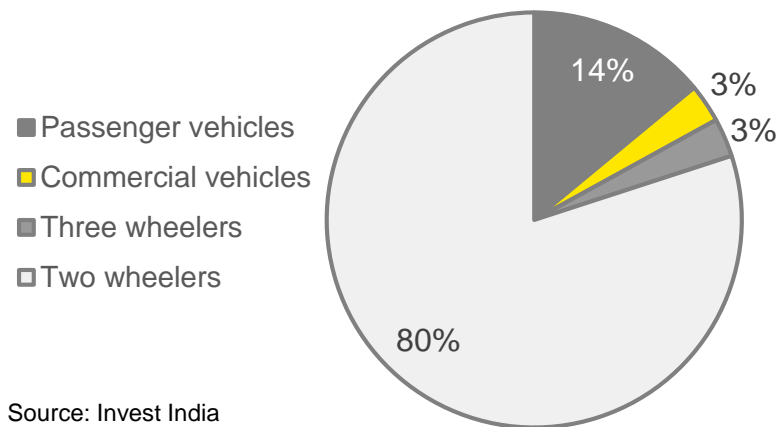


# India Overview



- ▶ Two wheelers have the biggest domestic market share in the Indian Automotive market
- ▶ Passenger vehicle production is expected to grow to 9.4 million units annually by 2026
- ▶ Commercial vehicles production is expected to grow to 2.0 million units annually by 2026
- ▶ Two wheelers production is expected to grow to 50.6 million units annually by 2026
- ▶ Three wheelers production is expected to increase to 0.95 million units by 2026

## Domestic Market Share



Source: Invest India

**In April-March 2018, overall automobile exports increased by 16.12%.**

**7%** Share in India's GDP  
**19 Mn.** Employment generated  
**40%** Share in global R&D  
**4.30%** Share in India's exports

## Foreign Direct Investment (FDI)

FDI Inflow: \$ 20.8 bn Foreign Investment in Automobile industry from 2000 to December 2018. The sector attracted \$ 17.9 bn FDI between April 2000 and September 2017; accounting for 5% of the total FDI inflows. 82% Jump in FDI between 2014 & 2016.

Source: Invest India

## Key Players



Source: Automotive Sector – Achievement report 2017, www.makeinindia.com

# India Overview



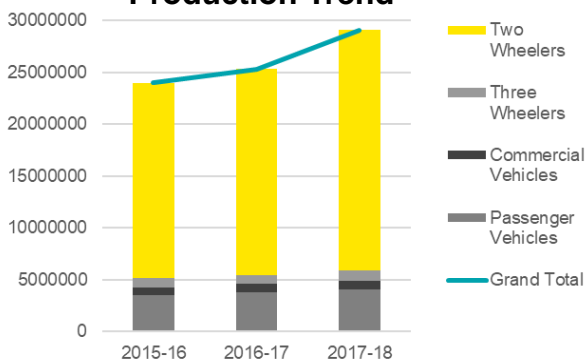
Contribution to GDP	▶ Contributes <b>7.1 %</b> of country's Gross Domestic Product (GDP)
Exports	▶ <b>16%</b> of the automobiles produced annually in 2018.* Expected to grow at CAGR of 3.05% during 2016-2026.
Annual production	▶ <b>Fourth</b> largest producer in the world with an average annual production of 29.07 million vehicles in 2018
Two wheeler production	▶ World's largest two-wheeler and three-wheeler manufacturer ▶ Two and Three Wheeler Segments registered a growth of 20.29% and 40.13% respectively in 2018
Passenger vehicle market	▶ India has the <b>fifth</b> largest passenger vehicle and <b>seventh</b> largest commercial vehicle market
Manufacturing hubs	▶ Presence of <b>four</b> large auto manufacturing hubs across the country: Delhi-Gurgaon-Faridabad in the north, Mumbai-Pune-Nashik-Aurangabad in the west, Chennai- Bengaluru-Hosur in the south and Jamshedpur-Kolkata in the east
Hybrid and Electric vehicles	▶ <b>Six million</b> -plus hybrid and electric vehicles to be sold annually, by 2020



# India Overview

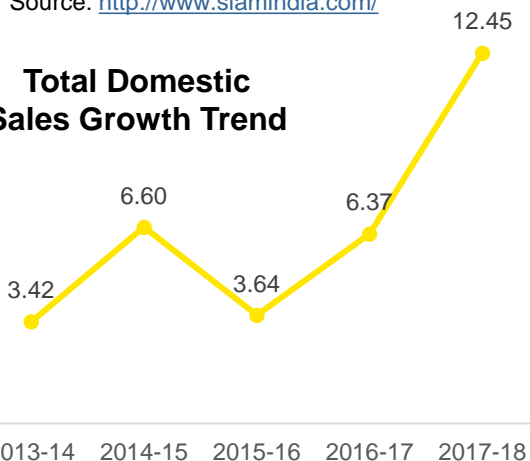


## Production Trend



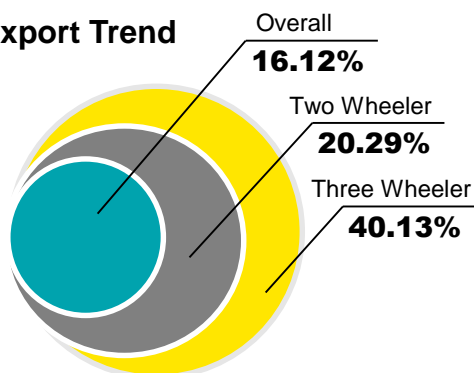
Source: <http://www.siamindia.com/>

## Total Domestic Sales Growth Trend



Source: <http://www.siamindia.com/>

## Export Trend



## Production

The industry produced a **total 29,075,605 vehicles** including Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two Wheelers and Quadricycle in April-March 2018 as against 25,330,967 in April-March 2017, registering a **growth of 14.78%** over the same period last year.

## Domestic Sales

In April-March 2018 over the same period last year:

- **Passenger Vehicles grew by 7.89%** (Passenger Cars – 3.33%, Utility Vehicle – 20.97% and Vans – 5.78%).
- **Commercial Vehicles segment grew by 19.94%** (M&HCVs – 12.48% & LCV – 25.42%)
- **Three Wheelers grew by 24.19%** (Passenger Carrier – 28.65% & Goods Carrier – 7.83%)
- **Two Wheelers grew by 14.80%** (Scooters – 19.9%, Motorcycles – 13.6%, Mopeds declined by 3.48%)

## Exports

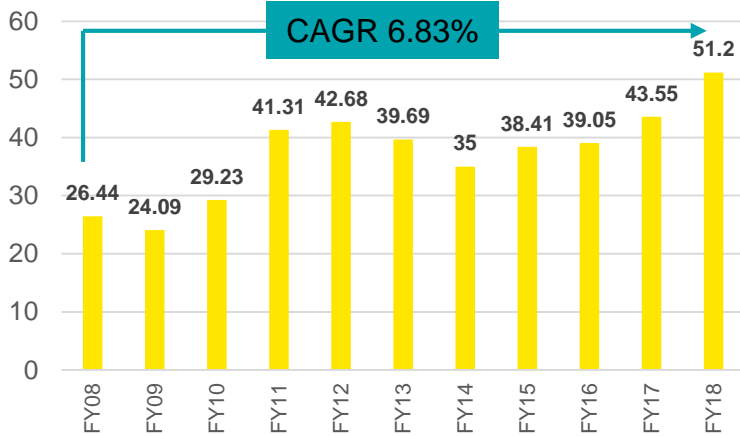
In April-March 2018, overall automobile exports increased by **16.12%**. Export of Two and Three Wheelers Segments registered a growth of 20.29% and 40.13% respectively.

The luxury car market in India is expected to grow at 25 per cent CAGR till 2020. Mercedes-Benz India and BMW Group India recorded their highest ever annual sales in 2017 at 15,330 units and 9,800 units respectively.

# Automobile Components

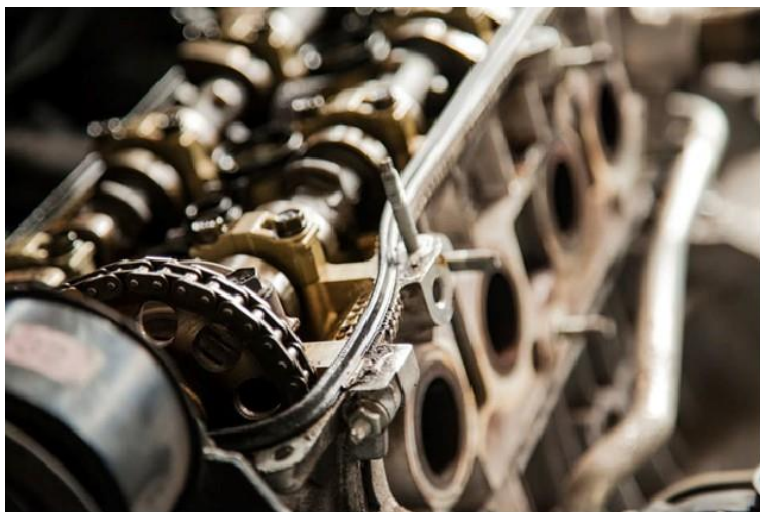


## Aggregate Turnover (US\$ bn)



Source: IBEF

Indian auto component industry is expected to register a turnover of USD 115 billion by 2020-21 and USD 200 billion by 2026.



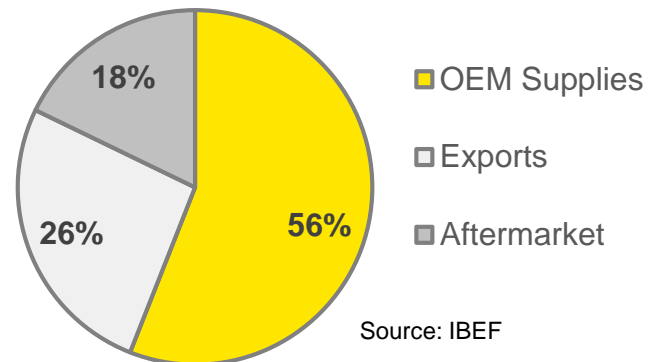
**Organised sector** - OEMs & high-value precision instruments

**Unorganised sector** - Aftermarket category & low-valued products

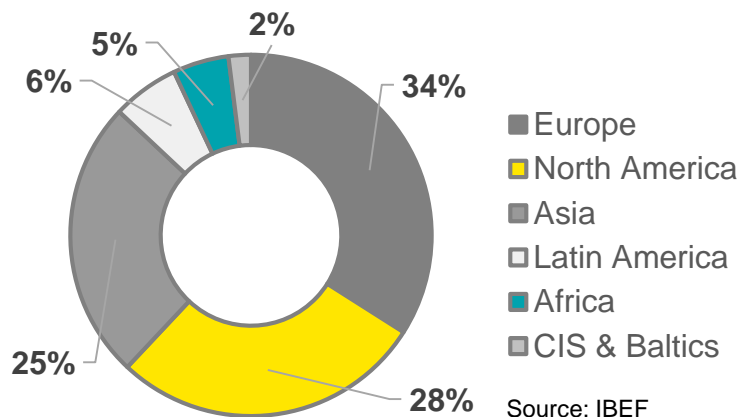
## Sector Scenario

- The auto-component industry has expanded by 18.3% to reach US\$ 51.2 billion in FY 2017-18.
- Accounts for 2.3% of India's GDP
- Set to become the 3<sup>rd</sup> largest in the world by 2025.

## Share In Industry Turnover (FY18)

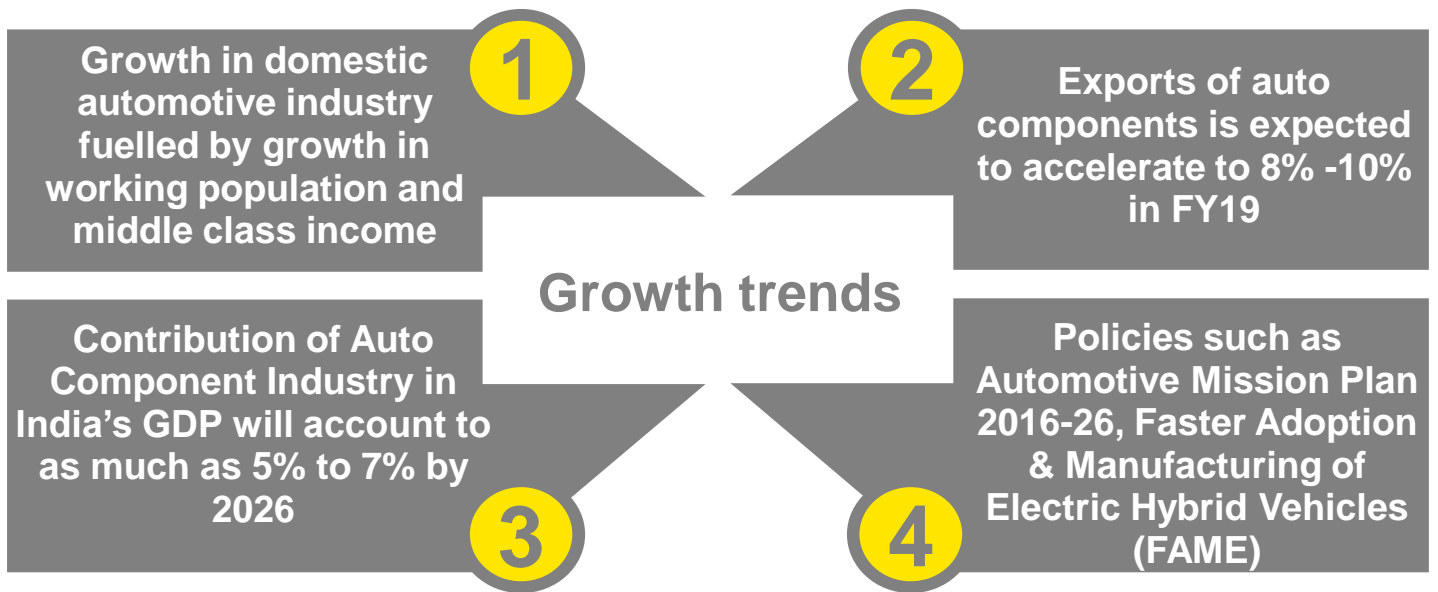


## Share In Exports By Geography (FY18)

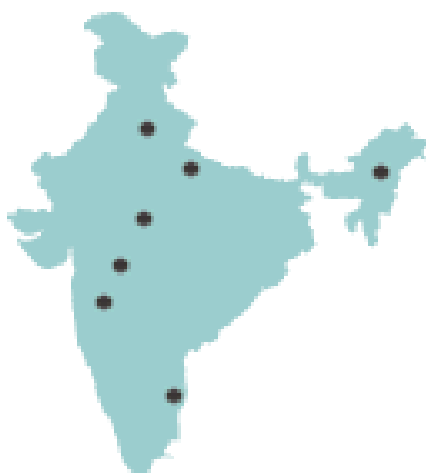




# Automobile Components



## Auto Component Clusters in India



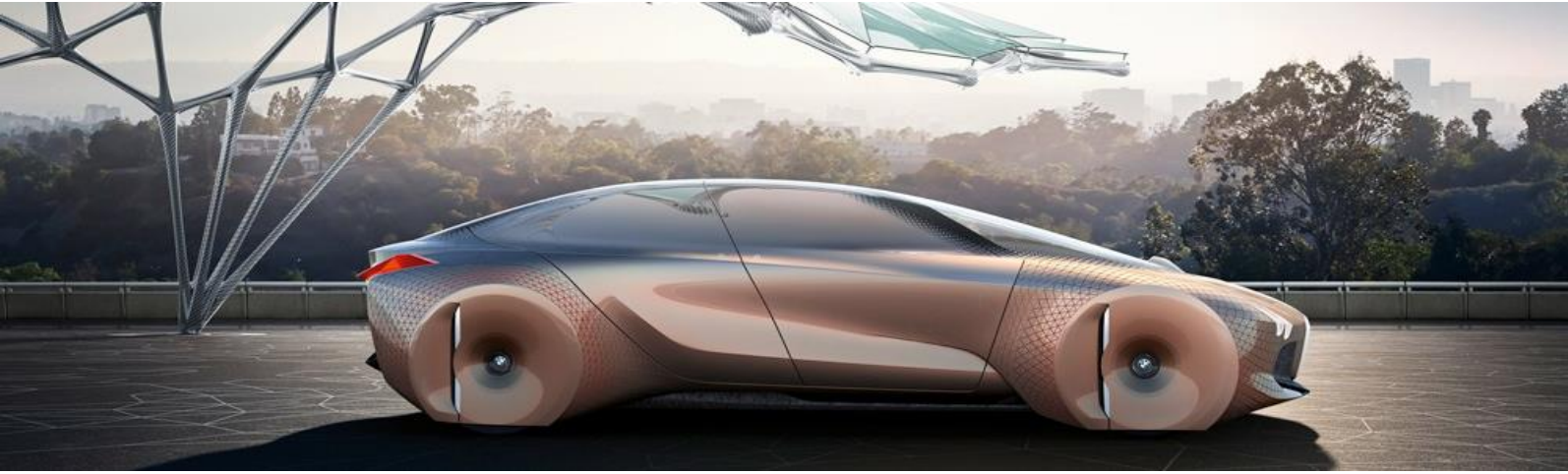
- Manesar
- Rae Bareilly
- Silchar
- Ahmednagar
- Pune
- Indore
- Chennai

## Automobile Clusters in India



- Delhi–Gurgaon–Faridabad
- Kolkata–Jamshedpur
- Chennai–Bengaluru–Hosur
- Mumbai–Pune–Nashik–Aurangabad

# Electric Vehicles



## Hybrid & Electric Vehicles

It is estimated that there will be a huge demand in India for low cost hybrid and electric vehicles (xEVs) that are suitable for short-distance urban commutes (averaging 50-100 kms per trip) and rugged enough to perform reliably in the summer and in the monsoon season in India

Government of India (GoI) has a vision to facilitate an all electric car fleet by 2030. India's energy import bill is expected to double from around USD 150 billion to USD 300 billion by 2030. The shift to EVs will also help reduce energy imports where it looks to the cut oil import bill to half by 2030

### Policy

The National Electric Mobility Mission Plan (NEMMP) 2020 is aimed at promoting electric and hybrid vehicles. The Union budget for FY 2017-18 has allocated USD 122.3 million for developing EVs

### Projects

The Department of Heavy Industry(DHI) is launching pilot projects on electric vehicles in various metros and cities all across the country

### OEMs

India's EV market maturation depends on three factors such as OEM readiness, Infrastructure readiness and customer readiness

## Key Players



BSA MOTORS



TATA MOTORS



OKINAWA SCOOTERS

Source: Grant Thornton: Electric Vehicles: Is the Indian automobile sector ready?



# Union Government Initiatives



1

## **Auto Policy**

Automatic approval for foreign equity investment up to 100% with no minimum investment criteria. Manufacturing and imports in this sector are exempt from licensing and approvals

2

## **Automotive Mission Plan 2016-26: Highlights**

Under this plan the Indian Automotive industry is to be one of the prime movers of Manufacturing sector and top job creator with 65 million additional jobs to be created in a 10 year plan

3

## **National Automotive Testing And R&D Infrastructure Project (NATRiP)**

Automatic approval for foreign equity investment up to 100% with no minimum investment criteria. Manufacturing and imports in this sector are exempt from licensing and approvals

4

## **The National Electric Mobility Mission Plan 2020 (NEMMP)**

The objective of this body is to encourage reliable, affordable and efficient xEVs (hybrid and electric vehicles) that meet consumer performance and price expectations through government-industry collaboration

5

## **Pilot Electric Vehicle Projects**

The Department of Heavy Industry(DHI) is launching pilot projects on electric vehicles in various metros and cities all across the country under the NEMMP 2020

6

## **Skill Development**

Automotive Skill Development Council (ASDC) has trained **a total of 1,21,662 people** in FY 2014-15 and 1,66,580 in FY 2015-16

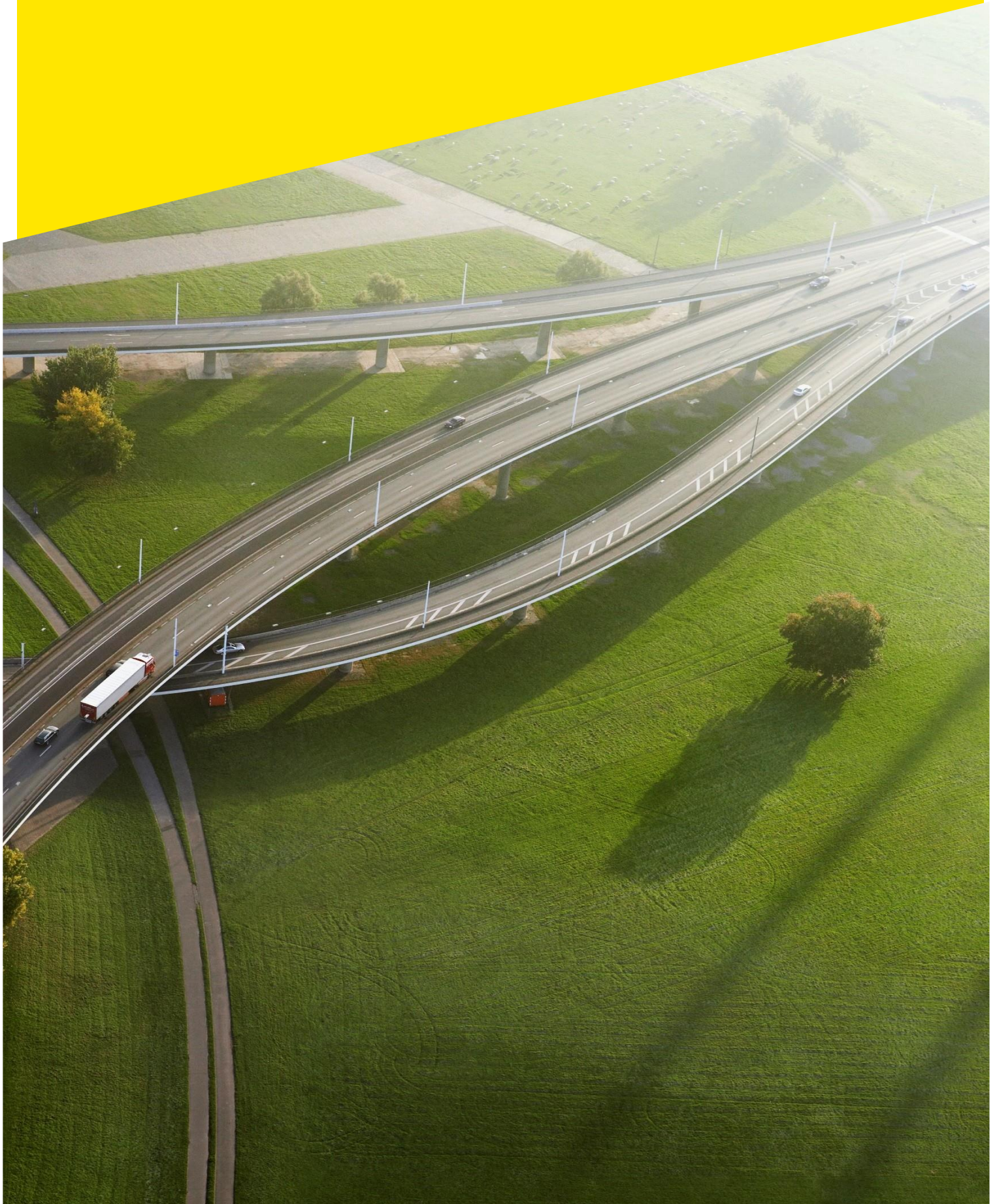
7

## **Financial Impetus to the sector**

Key provisions have been made in the 2016-17 Union budget, State incentives, R&D, area based and export incentives



# Karnataka's Auto, Auto Components and Electric Vehicles Industry






# Karnataka's Unique Advantages

**4<sup>th</sup> largest automobile producing state in the country, contributing 8.5% to the national output in the sector.**

- ▶ Karnataka is home to 7 major OEMs and more than 50 auto component manufacturers
- ▶ The Industrial Policy 2014 – 19 provides higher quantum of incentives for units in backward parts of the state, promoting inclusive growth of the state
- ▶ Automotive is one of the focus sector identified in the Industrial Policy 2014–19.
- ▶ Karnataka has a huge local market with more than 17.87 million registered vehicles in the state and connectivity to four of the top five automobile markets in the country, creating potential for automobile and component manufacturers to grow
- ▶ The automotive industry provides employment to more than 55,000 workers

Source: Economic Survey of Karnataka 2018-19



**Bengaluru retains 2<sup>nd</sup> position after Delhi with most vehicles on roads**

Source: Website as referred on 26 September 2017 <http://timesofindia.indiatimes.com/city/bengaluru/number-of-vehicles-in-bengaluru-more-than-doubles-to-70-lakh-in-10-years/articleshow/60445747.cms8>

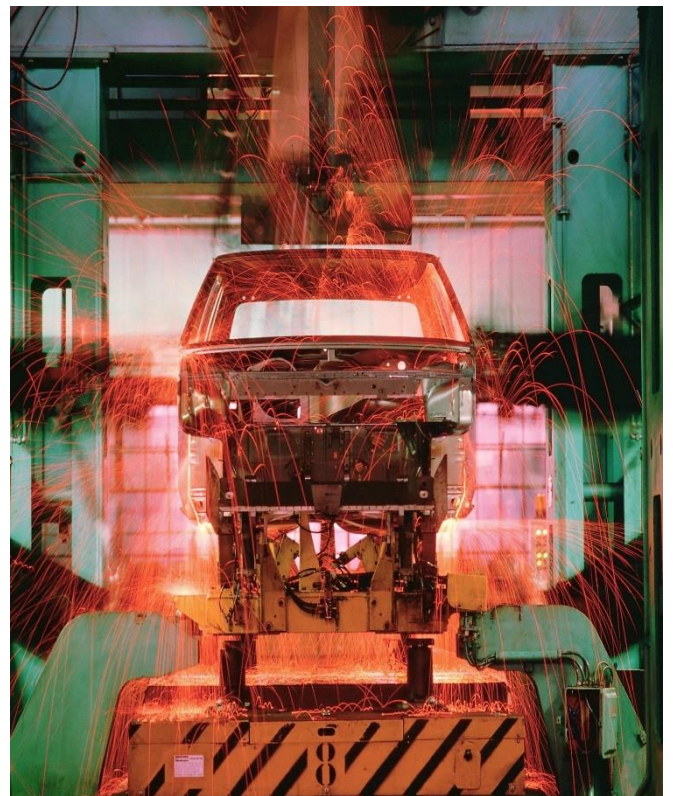
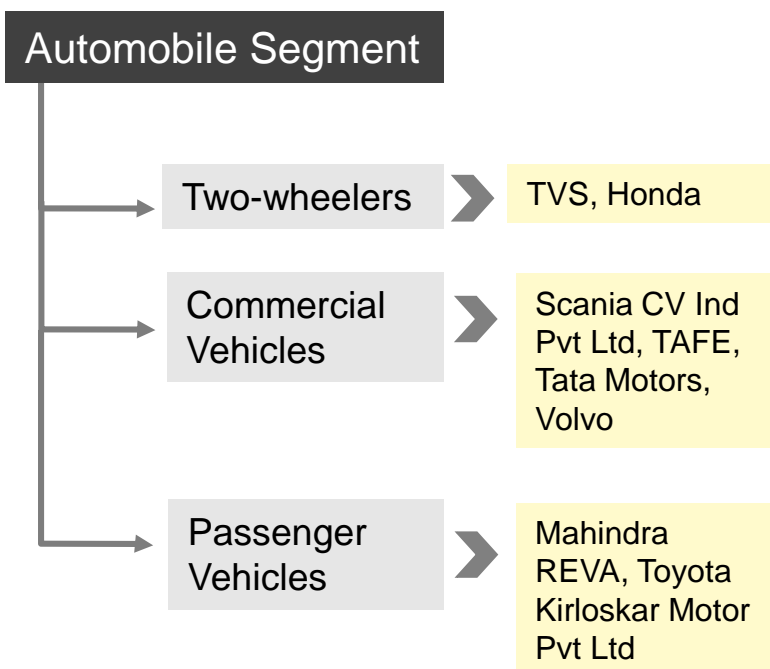
# Karnataka's Unique Advantages



The automobile industry in Karnataka holds immense potential. With the presence of the manufacturing units of prime international OEMs in the state, the industry has the potential to make its entry into the supply chain of international OEMs at the global level. This will facilitate direct export to the international market.

- ▶ Easy connectivity, to other automobile markets in the country, namely Maharashtra, Tamil Nadu, Andhra Pradesh and Gujarat
- ▶ Availability of highly skilled manpower
- ▶ Robust domestic customer base

Automotive Sector in India is classified under 4 Segment  
Karnataka is in the forefront in 3 Segments with leading– Indian and Global Players



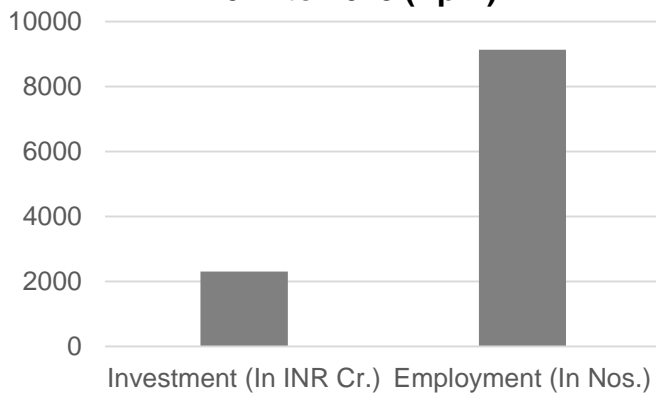


# Highlights of Automobile in Karnataka

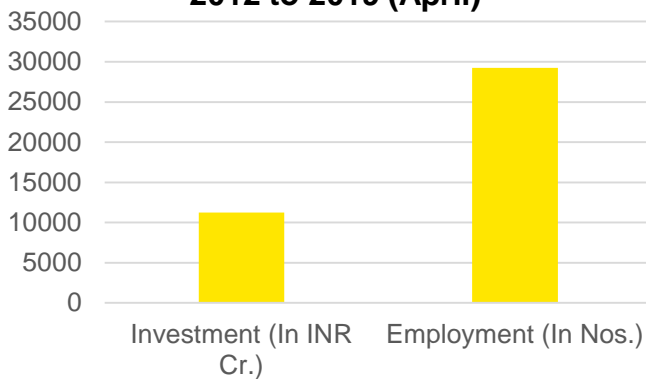
Vibrant auto industry with investments of around US\$713 million and annual reserves of US \$ 604 million

**Amount of FDI Equity inflows for Automobile Industry in the state – US\$519.07 (2015)**

**SLSWCC Approved Projects from 2012 to 2019 (April)**



**SHLCC Approved Projects from 2012 to 2019 (April)**



## Location of Automobile plants in Karnataka

- |               |                                    |
|---------------|------------------------------------|
| Mysore        | ▶ TVS Motors                       |
| Narasapura    | ▶ Honda Motorcycles                |
| Bengaluru     | ▶ Mahindra Reva Electric           |
| Bidadi        | ▶ Toyota Kirloskar Motor           |
| Jigani        | ▶ Toyota Industries Engine Limited |
| Narasapura    | ▶ Scania Commercial vehicle        |
| Doddaballapur | ▶ Tafe Tractors                    |
| Dharwad       | ▶ Tata Motors                      |
| Hoskote       | ▶ Volvo Busses                     |

Bosch inaugurated its 15<sup>th</sup> plant in November 2015, specialising in manufacturing power tools (Phase- 1) in Karnataka for which it had acquired 97 acres of land in Bidadi and invested an amount of USD 55.68 million.





# Driving Growth: Infrastructure Support



**Industrial Valve Cluster at Hubballi, Dharwad**

**Auto Cluster at Hoskote, Rural Bengaluru**

**Auto Cluster at Bidadi, Ramanagara**

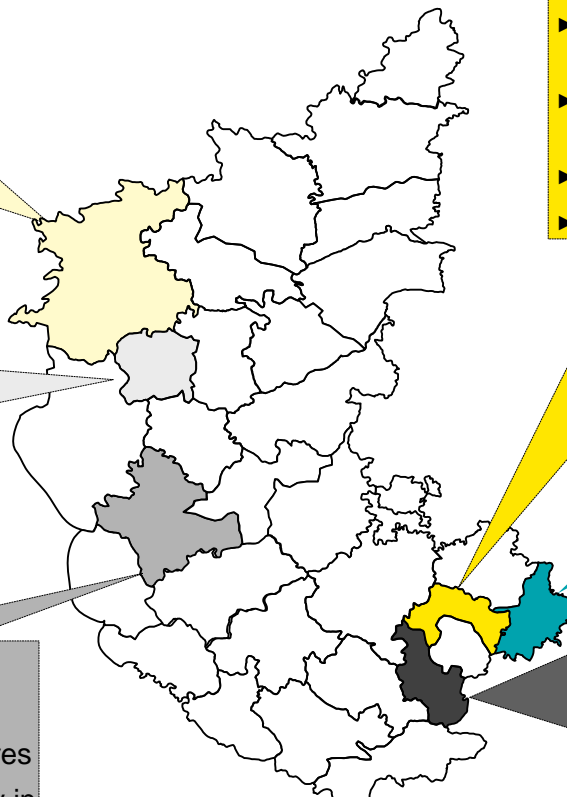
**Auto Component Cluster in Shivamogga**

**Auto Component Cluster in Belagavi**

- ▶ Auto Component Cluster
- ▶ Location – Belagavi
- ▶ Presence of Precision Engineering SEZ
- ▶ Foundry Cluster focusing MSME

- ▶ Industrial Valve Cluster
- ▶ Location – Hubballi, Dharwad
- ▶ Valves and Machinery Components are the major exportable items

- ▶ Auto Component Cluster
- ▶ Location – Shivamogga
- ▶ Auto Complex, Sagar – 4.2 acres
- ▶ Foundry is one of Major activity in the Manufacturing Sector
- ▶ Potential areas for Automobile servicing



- ▶ Auto Cluster
- ▶ Location – Hoskote, Bengaluru Rural
- ▶ KIADB Industrial estate with extent of 17 acres
- ▶ Industrial Area – 402 acres
- ▶ Automobile Parts

**Manufacturing Hubs**  
Narsapur & Vemagal Industrial Areas in Kolar District

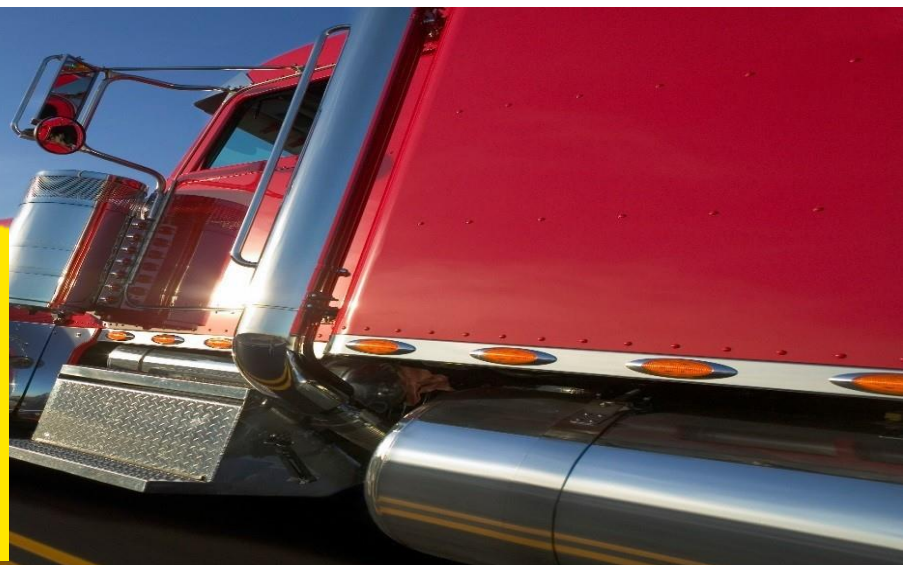
- ▶ Auto Cluster
- ▶ Location – Bidadi, Ramanagara
- ▶ Bidadi Industrial area – 1,498 acres
- ▶ Presence of Large scale players like Toyota Kirloskar Motor
- ▶ Scope for ancillary units in Automobile



# Manufacturing in Karnataka



Major Players



# Robust Policy Environment

**State  
Industrial  
Policy, 2014-  
2019**

- To incentivize and institutionalize the R&D environment for auto sector in the State.
- Fostering and supporting linkages between industry and academia for research
- State support for an incubation centre
- To set up an industry group to study and recommend measures for growth of the auto component sector in the State.
- With a view to reduce air pollution and encourage manufacture of green Hybrid

Incentives

**Additional  
Incentives**

- ▶ Electricity duty exemption is available to Ultra Mega and Super Mega projects for a period of 9 years, 8 years and 7 years in Zone 1, 2 & 3 of other than Hyderabad Karnataka Area respectively and 10 & 9 years in Zone 1 & 2 of Hyderabad Karnataka area respectively
- ▶ Interest- free loan on the Net VAT+CST paid will be made available to Ultra Mega and Super Mega projects
- ▶ Additional Package of incentives and Concessions to focused Manufacturing sector i.e., Automotive & Machine Tools (Excluding Steel and Cement) Ultra and Super Mega projects

- ▶ Highly skilled workforce available in the State owing to more that 1400 ITIs
- ▶ More than 400 R&D centres and 200 plus engineering colleges driving innovation across the State

**Skilled  
Workforce**

**Research  
and  
Development**

- ▶ Proposed Karnataka Automobile Research & innovation Centre on PPP mode
- ▶ Neilsoft Engineering Development Centre, Hubballi





# Robust Policy Environment



## EV Industrial Policy, 2017-2022

### Investment Promotion Subsidy

- ▶ Subsidy provided to MSMEs and Large, Mega, Ultra and Super Mega industries in EV
- ▶ MSME upto INR 50 lakhs
- ▶ Large, Mega, Ultra, and Super Mega industries upto INR 20 crores

- ▶ 100% Stamp Duty to be exempted for both, MSMEs and Large, Mega, Ultra and Super Mega industries
- ▶ A concessional rate of INR 1.00 per INR 1,000

### Stamp Duty & Concessional Rate

### Electricity Duty & Interest Free Loans

- ▶ 100% exemption of electricity duty / tax on electricity tariff shall be available for initial period Five years for MSMEs and Large, Mega, Ultra, and Super Mega industries .
- ▶ Interest- free loan on the Net VAT+CST paid will be made available to Ultra Mega and Super Mega projects.

- ▶ 100% of the land conversion fee for converting the land from agriculture use to industrial use will be reimbursed for MSMEs and Large, Mega, Ultra, and Super Mega industries

### Land Conversion Fees

### Subsidy for setting up ETPs

- ▶ One time capital subsidy up to 50% of the cost of ETP, subject to a ceiling of Rs. 50 lakh for MSMEs
- ▶ One time capital subsidy up to 50% of the cost of Effluent Treatment Plants (ETPs), subject to a ceiling of Rs. 200 lakh for Large, Mega, Ultra, and Super Mega industries

Electric vehicles industry is at a nascent stage in India, comprising less than 1% of the total vehicle sales, however it has the potential to grow significantly in the coming years

# Factors Influencing the Growth



▶ Wide ecosystem including OEMs, component manufacturers and R&D Centers

▶ The state has proposed initiatives like 'Karnataka Automobile Research & Innovation Centre'

▶ Creation of Free Trade Ware-housing Zone for engineering sector in the policy to further strengthen Karnataka's position in the sector

▶ The Karnataka Industrial Policy 2014-19 provides additional package of incentives Ultra Mega (INR 500 – 1000 crore) and Super Mega (> 1000 crore) projects in automotive sector

▶ Automotive Sector industries declared as public utilities under Industrial Disputes Act 1947, during the policy period

▶ Issuing Green Card to exporters to ensure easy movement of goods without the hassles of check post delays and verification of papers and documents

▶ With a view to reduce air pollution and encourage manufacture of green Hybrid and Electric Vehicles it is proposed to reduce road tax and registration tax, as indirect incentives

▶ The state has a huge local market with a robust customer base

▶ Easy connectivity and accessibility to national and international markets





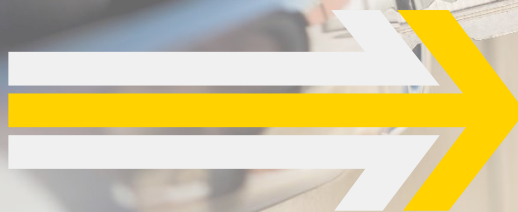
# Investment Opportunities



There is a huge potential in the automobile in Karnataka. The component industry caters to OEMs (all kinds of automobiles such as trucks, cars, SUVs, LCVs, buses, two-wheelers, and tractors) and exports.

With major international OEMs having manufacturing facilities in Karnataka, supply to them from within the country and this region in particular, has given the sector a huge impetus. Components are also being supplied across India to other OEMs from Karnataka. There is a potential to get into the global supply chain of international OEMs and a subsequent direct export to the after market and other OEMs globally.

Investment Opportunities



- ▶ Engine & Engine Parts
- ▶ Transmission & Steering Parts
- ▶ Suspension & Breaking Parts
- ▶ Equipment
- ▶ Metal Parts

**Electric vehicles (EV) industry is at a nascent stage, however it has the potential to grow significantly in the coming years with policy boost.**

**Indicating a shift towards EV, Karnataka is poised to emerge as EV Hub with opportunities in EV component Industry such as Motor, Battery, controller etc.**

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## Contact Details