AUTO COMPONENT INDUSTRY – READY FOR 'THE TRANSITION' LEVERAGING SUPERIOR GROWTH FORESIGHT TO STRENGTHEN COUNTRY COMPETITIVENESS





McKinsey&Company

Auto Component Industry – Ready for 'The Transition'

Leveraging superior growth foresight to strengthen country competitiveness

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Foreword

The Indian Auto component industry has witnessed robust 15 percent growth during the last 5 years. Driven by increase in automotive penetration across segments, the industry is expected to see double digit growth even in future.

However, Indian auto component industry should not be content with growth in domestic market, it should aspire to gain relevance in the global auto component market. With this objective, ACMA requested McKinsey & Company to conduct a detailed study of global components market and competitive landscape to identify the imperatives that can help the industry in making this transition. As the knowledge partner for the 52nd ACMA Annual session and National Conference, McKinsey conducted a detailed effort to develop a perspective on the transition needed by Indian auto component industry to become globally relevant.

We are thankful to McKinsey & Company for conducting this extensive knowledge effort and bringing an insightful perspective to this summit. We hope that you will find this document informative and useful for shaping the future of Indian auto component industry.

Acknowledgements

We thank The Auto Components Manufacturers Association of India (ACMA) for giving us the opportunity to provide our perspective on growth of auto component industry.

The theme for the 52nd ACMA Annual Session and National Conference is "Auto Component Industry: Ready for the transition". This work identifies five cornerstone imperatives for Indian auto component industry to make the transition.

McKinsey & Company is ACMA's knowledge partner in this effort, leveraging its proprietary knowledge and extensive experience gained from working with OEMs and auto component suppliers across India and globally. This effort would not have been possible without dedicated efforts of the McKinsey team consisting of Amit Gupta, Isha Singla and Gaurav Sood. We would also like to thank Delna Hataria, Rakesh Ramachandran and Nidheesh Patel for their support. Vineeta Rai for her editorial support; and Vineet Thakur and J Sathya Kumar for their support with visual aids.

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Executive Summary

The Indian Auto component industry has witnessed strong growth with an increase of 15 per cent per annum in annual revenues from FY '06 and FY '12. This growth has been fuelled by strong OEM as well as aftermarket demand and decent growth in exports. The sun is likely to continue shining on the Indian automotive sector in the coming decade as growing income demographics drive automotive penetration in India across all segments. As a result, the Indian auto component industry is expected to witness double digit growth. The domestic auto-adjacent markets like construction equipment, railways and defence are also increasing in size, opening another window of opportunity for auto component suppliers.

The global landscape is not as exciting though. As the global profit pool for OEMs shrinks, value creation for auto component suppliers, driven by product innovation, scale or cost excellence, is expected to become increasingly concentrated and challenging. Indian auto component industry is still a net-importer with imports growing at double the pace of exports over the last six years.

Indian auto component industry is at an inflection point – the industry can make a transition to become globally competitive, relevant and, potentially, a leader in select areas. It can learn from how another Asian country, South Korea, which was on a similar footing in 2000 as India is in 2011, transformed its industry via R&D driven export growth. Some Indian industries like IT and Pharma have also made similar transitions in the past.

There are five cornerstone imperatives for the auto component industry to make successful transition:

- Develop superior foresight about granular pockets of growth to place new big bets globally
- Leverage M&A to leapfrog competition especially to gain customers and build innovation capabilities
- Build R&D capabilities and collaborate with OEMs to jointly develop products
- Diversify and build capabilities to serve adjacent markets
- Collaborate with the government to increase country competitiveness

Chapter 1

Sustaining domestic industry growth in auto-components and adjacent markets

Indian auto component industry achieved strong growth of 15 percent per annum from FY '06 to FY '12 – total revenues grew from USD 19 billion to USD 43 billion. The growth was equally robust across all segments – sales to OEMs, exports and after-market. However, this was offset by imports which recorded the highest growth, from USD 3 billion in FY '06 to USD 11 billion in FY '12, an increase of 23 percent per annum.

Indian auto component industry has achieved strong growth USD billion



Domestic market growth driven by PVs, LCVs and 2w-3w; industry gaining scale



Growth in domestic market driven by PVs, LCVs and 2-3 wheelers is leading to scale for industry players. Average revenues for top 10 auto component suppliers grow by 2.5 times to USD 610 million by 2011.

1 Includes tractors and off-highway SOURCE: ACMA; web search; McKinsey Exports are growing mainly driven by growth in drive train, engine and electrical parts. India has started to become a global hub for small engines as these are increasingly being manufactured in India for exports. Major destinations for Indian exports are OEMs or tier-1 suppliers reflecting improving quality of Indian auto component products.

Exports are growing, led by growth in engine and electrical components



NOTE: FY '12 composition calculated assuming consistent CAGR SOURCE: ACMA; McKinsey

Domestic auto components is expected to continue its double digit of growth; auto-adjacent opportunities are also becoming sizeable

USD billion



Domestic auto component industry is expected to continue its double digit growth. Auto-adjacent markets in India (e.g., construction equipment, railways and defence) are also becoming sizeable, opening another window of opportunity for auto component suppliers.

SOURCE: ACMA; Planning commission; McKinsey

Chapter 2

Accelerating exports growth in the face of challenging global market

The global OEM profit pool is expected to continue shrinking due to a confluence of five forces:

- Stricter emission regulations
- Over/misaligned capacity
- Growth in emerging and developed markets
- Technological improvements
- Productivity improvements

Passing regulatory costs to customers or governments (as subsidies) and sharing of development costs among OEMs can help recover the profit pool close to current level.

Global OEM profit pool is expected to continue shrinking due to confluence of several forces; two actions for it to recover

USD billion



Three models of success for global auto-component suppliers ...



... establishing three models for
long-term success ...Product
innovationExamples• Carbon fibre body parts
• Steering systems• Steering systems• Safety systems (air-
bags, seat-belts)
• Body and structural
parts• Bumpers
• Forgings, castings

Only 14 percent of global auto suppliers have delivered above-average profitability over two consecutive economic cycles (1996-2002 and 2003-2009).

Three models of their long-term success are:

- Product innovation
- Scale
- Cost excellence

1 Cycle 1 from 1996 to 2002 and cycle 2 from 2003 to 2009

SOURCE: EIU KLEMS; MGI/PSO sector competitiveness project; McKinsey analysis; CMIE Prowess database; "The China-India Automobile Supplier Survey", McKinsey 2005 Long term value creation through product innovation and scale is expected to get concentrated from 56 percent of vehicle components (in terms of value) to 43 percent in 2020.

Short term value creation via cost excellence will by feasible in a larger 18 percent of components, by 2020.

... will become increasingly concentrated to fewer components as more components get commoditised

Segmentation of vehicle components and their fit with success models Share of vehicle cost 67

61 Product 19 innovation 12 (long-term) 31 Scale 37 (long-term) Cost 18 excellence 11 (short-term) 2010 2020E NORTH AMERICAN BASE CASE

Opportunity for Indian suppliers as cost-improvement becomes the model for value creation in higher number of components globally

SOURCE: McKinsey/OESA Vision 2020 research study

India is still a net-importer in auto-components; opportunity to be more aggressive in M&A

Share in growth; Percent



SOURCE: ACMA; McKinsey Granularity of Growth database; GoG in A&A team

Revenue growth for companies is driven by three factors

- Growth of market segments it plays in
- Acquisition of other players
- Superior play to gain market share from competitors

For a broad set of 700 large companies globally, these factors contribute 65 percent , 31 percent and 4 percent respectively to the total growth. For Indian auto component industry, these figures are 101 percent, 11 percent and -12 percent respectively.

Clearly, there is a need for domestic industry to grow net exports and to be more aggressive in M&A.

Imports grew twice as fast as exports – from USD 3 billion in 2006 to USD 11 billion in 2012, compared to USD 3 billion and USD 7 billion respectively for exports. Imports now form almost one-fourth of the domestic market; their market share increased from 16 percent in FY '06 to 23 percent in FY '12.

Imports have grown twice as fast as exports and now constitute almost one-fourth of domestic market



SOURCE: ACMA; McKinsey analysis

1 Imports are led by drive train, engine and body parts



Drive train components constitute almost half of India's imports today followed by engine parts which constitute another 26 percent. One of the major reasons behind growth in imports is unavailability of domestic capacity in some segments e.g., luxury cars, diesel engines.

SOURCE: ACMA; McKinsey

While cross-border deals by Indian auto component suppliers have come down from 22 in number and USD 53 million in size during 2007-09 to 8 in number and USD 16 million in size during 2010-12, deals by Chinese suppliers have grown from 3 in number and USD 85 million in size to 13 in number and USD 99 million in size during same periods.

2 China has leveraged M&A to access technologies/markets better than India



SOURCE: Dealogic; team analysis

Chapter 3

Industry needs a transition

Indian auto component spends just 0.41 percent of revenue on R&D compared to 1-2 percent by other existing markets like China and Brazil. Even in terms of scale, the industry doesn't have any representation in global top 50 and only three players in global top 100. Clearly, the industry needs a transition to become globally competitive and relevant.

Indian industry needs to make a transition to position itself on models of long-term success



SOURCE: EIU KLEMS; MGI/PSO sector competitiveness project; McKinsey analysis; CMIE Prowess Database; "The China-India Automobile Supplier Survey", McKinsey 2005

Indian auto component industry can learn from successful transitions by other Asian countries like South Korea



South Korea is one of the Asian countries that has been able to transform its auto component industry making it globally competitive as well as relevant. In 2000, it was close to where India is today. But now it has 7 percent share in global auto component exports, has 4 players in global top 50 and earns USD 17 billion in foreign exchange annually. Indian industry can learn from this export driven growth of South Korean auto component industry.

SOURCE: KIS value; company business reports

Industries like IT services and Pharma show that Indian companies can also become globally competitive. So why can't auto components?





SOURCE: Dealogic; Know; IBEF; Datamonitor; Bloomberg; ACMA; MaFoi Randstad survey; Prowess

Chapter 4

Five conterstone imperatives to achieve 'The Transition'

There are five imperatives for the Indian auto component industry to make the transition.

Five cornerstone imperatives for the auto-components industry

B

- Develop superior foresight about pockets of growth at granular level to place new big bets globally
 - Leverage M&A to leapfrog competition especially to gain customers and build innovation capabilities
- Build R&D capabilities and collaborate with OEMs to jointly develop products
- Diversify and build capabilities to serve adjacent markets (e.g., defence, construction, farm implements)
- Collaborate with government to increase country competitiveness



As the global auto component market grows from USD 1,092 billion in 2010 to USD 2,243 billion in 2020, five growth pockets will contribute 72 percent of growth. These are:

- Upcoming ICEs with better fuel efficiency and emission standards
- Auto electronics
- New vehicle sales in emerging and developed markets
- After market in developed countries
- Small cars, two-three-wheelers, commercial vehicles and tractors

SOURCE: IHS global insights

Regulations on fuel emission and fuel efficiency are expected to become more stringent, at a pace faster than even before.

A1 Regulations on CO₂ emission and fuel effectiveness standards for passenger cars will become increasingly stringent

Vehicle tail-pipe emissions standards



1 Corporate average fuel economy (CAFE) for passenger cars and light trucks combined.

2 Average fleet emissions, calculated values (small car segment at 157 g/km in 2002 and 147 g/km in 2007; 2015 target: 125 g/km).

3 Under discussion in 2013, revision of 95 g $\dot{C}O_2$ /km for 2020 possible.

4 Normed emissions; equivalent to 13-43 g/km in real-life driving.

SOURCE: ACEA; EU Commission; DOE; EPA; DieselNet; JAMA; ICCT; National Automotive Standardisation Technical Committee of China; team analysis

A1 Potential levers by OEMs to reduce emission have varying cost-impact trade-offs but impact only four components



OEMs have multiple levers to reduce emission with differing cost-impact trade-offs. However, all of them eventually lead to changes in four components categories:

- Power-train components
- Raw materials used for parts
- Body and wheels
- Electrical systems

Auto-electronics will grow from a market of USD 122 billion, representing 15 percent of the vehicle cost, to USD 200 billion, representing 40 percent of vehicle cost driven by consumer needs in four areas:

- Safety
- Navigation
- Entertainment
- Convenience

A2 Electronics will cover 40% of the vehicle cost by 2015 led by technological evolution in four functional areas



SOURCE: McKinsey; PTW-Hawk survey; strategy analytics



Safety Indian Indian auto software suppliers with **On-ground** existing OEM companies Countries like presence **Navigation** relationships are expected S China, Korea could be an Areas to play the and autoadvantage for are more key role; engineering competitive local players Entertainment difficult for capabilities than India relative to are uniquely auto suppliers India to compete positioned to Convenience with them play Hardware Knowledge/ **Software** Integrator manufacturer content provider provider Role

Four potential roles exist for players in auto electronics

- Hardware manufacturer
- Knowledge/contact providers
- Software provider
- Integrator

Potential area to play for

Indian auto components players

Indian auto component suppliers with existing OEM relationships and autoengineering capabilities are uniquely positioned to play integrator role.

SOURCE: Team analysis

Russian auto component market can be interesting for Indian auto component suppliers:

- It is a USD 38 billion market already and still growing
- Aftermarket constitutes 60 percent of the market
- Foreign suppliers have a huge 80 percent share of OEM supplies

A3 Russian auto-component market is large and growing; foreign components occupy 80% share in OEM segment



Share of foreign components in auto components sales to OEMs 79 76 72 65

A3

As conditions improve and market becomes attractive, increasing number of international suppliers are settingup facilities in Russia

MAGNA

Automotive cluster

Krasnoyarsk

JM 😒 Johnson Matthey

MAGNA TIIdol

lEAR

ЛGС

MOBIS

LEONI

- Localisation of components was challenging for OEMs in the past as
- -Local suppliers could not match international quality standards
- -Low volumes didn't attract international suppliers
- Increasing number of international OEMs and change in regulations have made conditions attractive for suppliers
- OEMs are actively working to attract suppliers by setting up supplier parks, supporting logistics

SOURCE: Companies Web sites; Autostat report; press search



OFEDERAL Manvis

Å MAGNA

Johnson

5 STADCO

Russia is becoming attractive for international suppliers to set-up manufacturing facilities with:

- Increasing number of international OEMs
- Recent changes in regulations
- OEMs setting-up supplier parks and supporting logistics

Global after-market is more than USD 500 billion today and still growing as number of vehicles parc and average age of vehicle parc grows. It is also the most profitable segment in auto components.

After-market – huge, growing and highly profitable



SOURCE: Datamonitor; Polk, AAIA Factbook 2005/06; DAT 2005; ZDK 2005; IFA Nürtingen; McKinsey CARE study; Freedonia Group

Parts distribution in global after-markets is





The global after market is controlled by two types of distributors, OEM aftersales units and independent distributors. Having decent scale, independent distributors, can be an interesting target for Indian auto component suppliers with a good portion of their sales coming from private label brands.

SOURCE: Expert interviews; top 40 auto chain report; distributor annual reports; internet search

India is one of the biggest consumers of 'value for money' vehicles like A-segment cars, two-wheelers, small commercial vehicles and tractors globally. Indian auto component suppliers have gained valuable experience as value for money/ vehicles have evolved in India. This experience can be leveraged by them to capture other markets which are expected to evolve in a similar fashion.

A5 India's experience as the biggest consumers of value for money vehicles ...

Percent



SOURCE: IHS Global Insight; MGI India consumption model; sales and market data; team analysis





- Inadequate public transport
- Low per-capita income making affordability and fuel-efficiency important



120 countries worldwide with population of 3.7 billion and per capita income of USD 1,000-5,000 There are 120 countries in Asia, Africa and South America with a total population of 3.7 billion having per capita income of USD 1,000-5,000 that will go through similar urbanisation as India in near future. Indian auto component suppliers can leverage their learning from Indian market to serve these markets. Current environment, with global auto component suppliers trading at decent valuations, is attractive for Indian auto component suppliers to gain access to customers/markets and acquire products/technologies via M&A.

B Current environment is attractive for Indian auto suppliers to get access to markets/customers and acquire products/technogies via M&A



Β

But success in M&A needs a change in approach

Current approach

- •We need to wait for deals to be brought to us
- Limit deal size to what I can afford
- Simple deal structures are best
- M&A has worked for IT and Pharma so it will for us

Approach going forward

- Seek opportunities proactively
- Work around size through innovative deal structures
- Structure the deal to ensure customer continuity (e.g., phasing in buying stake)
- Excellence in integration critical to create value

Auto suppliers need to change their approach to M&A. They need to be more proactive, innovative and need to give adequate importance to post-merger integration. Organisational capability of Indian suppliers in product development and R&D is weak due to low spend and insufficient management focus on R&D. Indian auto component suppliers spend just 0.4 percent of their revenue on R&D. Management at auto component suppliers also does not give adequate importance to R&D.

C Organisational capability of Indian suppliers in R&D is weak due to low spend and management focus



SOURCE: CMIE Prowess Database; "The China-India Automobile Supplier Survey," McKinsey 2005

С

... although India has all the ingredients to be an R&D hub & Indian cities feature prominently as hotspots of R&D FDI



This is despite the fact that India has all the ingredients to be an R&D hub. Indian cities feature prominently as hotspots of foreign direct investment in R&D. Even global auto component suppliers like Bosch have established R&D centers in India. There are four imperatives to strengthen the R&D capabilities of suppliers. These include growing R&D ecosystem, investing to build staff capabilities, leveraging partnerships and systematically reviewing R&D performance at regular intervals.



Grow R&D ecosystem

- Shared prototyping infrastructure
- Testing and Validation facilities
- Partnership with academia and educational institutions

B Leverage collaboration/M&A to bridge capability cap

 Collaborate with design houses in Europe, US to bridge gaps in R&D capabilities

2 Invest to build staff capabilities

- Conduct training programmes focused on application engineering techniques e.g., Finite element analysis; simulation techniques
- Hire from global talent pool (e.g., Germany, France, US, UK)

Set targets and monitor performance

- Set aspirational but realistic targets for R&D
- Use detailed KPI dashboard to monitor against targets

С

In addition, OEMs and Suppliers in India need to change their fundamental understanding of what collaboration means

Collaboration is ...

Collaboration is not ...

... ad hoc interactions with OEMs ...

... beyond the core responsibility ...

... without a clear goal ...

... and no shared costs, risks and benefits

... a set of joint strategic initiatives ...

... that are core...

... with well defined targets ...

... and shared costs, risks, benefits for both

In addition, OEMs and suppliers need to change the way they think about collaboration.

They currently think of collaboration as ad-hoc interactions without clear goals and without any sharing of costs, risks or benefits. Collaboration is just the opposite of this. Auto and auto components are highly cyclical industries. Diversification to autoadjacent markets like farm implements, defence can significantly reduce cyclicality for suppliers.

D Diversification can help suppliers reduce impact of industry cyclicality on profitability



NOTE: Average of the shown period has been used for scaling SOURCE: Prowess



Defence components could be a big opportunity for well positioned Indian suppliers in 12 main components



Defence components can be a big opportunity for Indian auto component suppliers with about USD 19-24 billion of addressable global spend and another USD 10-20 billion of offsets opportunity. 12 major defence components can potentially be supplied by Indian auto component suppliers.

1 In India in 2017

SOURCE: Teal Group, Financial statement of OEMs, expert interviews, Defence Service Estimates (several years); Report of the Thirteenth Finance Commission (2010-2015); Ministry of Defence; Union Budget (several years); Economic Survey 2009; McKinsey analysis The Government should treat auto component as a strategic sector and focus on two key areas:

- Create auto-infrastructure in partnership with the industry
- Rationalise structure of indirect taxes and incentivise select focus areas

In addition, the government should ensure level playing field for Indian auto component industry as it signs bilateral Free Trade Agreements (FTAs) with other countries.

The Government should treat auto components as a strategic sector and focus on two key areas		
Area	Potential actions	
Create infrastructure (e.g., auto parks) in partnership with the industry	 Testing and validation facilities Skilled manpower development institutes Expand road infrastructure in the country Logistics infrastructure (e.g., access roads to ports, ear marked infrastructure at ports) 	
Rationalise structure of indirect taxes and incentivise select focus areas	 Replace all indirect taxes such as excise, central sales tax, state sales tax, octroi and entry taxes with a single VAT Incentivise focus areas (e.g., exports, R&D) by providing tax incentives linked to them 	

In addition, the government should ensure level playing field for Indian auto component industry as it signs bilateral Free Trade Agreements (FTAs) with other countries



About ACMA

The Automotive Component Manufacturers Association of India (ACMA) is the apex body representing the interest of the Indian Auto Component Industry.

Its active involvement in trade promotion, technology up-gradation, quality enhancement and collection and dissemination of information has made it a vital catalyst for this industry's development. Its other activities include participation in international trade fairs, sending trade delegations overseas and bringing out publications on various subjects related to the automotive industry.

ACMA's charter is to develop a globally competitive Indian Auto Component Industry and strengthen its role in national economic development as also promote business through international alliances.

ACMA is represented on a number of panels, committees and councils of the Government of India through which it helps in the formulation of policies pertaining to the Indian automotive industry.

For Exchange of Information and especially for co-operation in trade matters, ACMA has signed Memoranda of Understanding with its counterparts in Australia, Brazil, Canada, Egypt, France, Germany, Iran, Italy, Japan, Malaysia, Pakistan, South Africa, South Korea, Spain, Sweden, Thailand, Tunisia, Turkey, UK, USA and Uzbekistan.

ACMA represents over 650 companies, which contributes more than 85% of the total auto component output in the organised sector. In the domestic market, they supply components to vehicle manufacturers as original equipment, to tier-one suppliers, to state transport undertakings, defence establishments, railways and even to the replacement market. A variety of components are being exported to OEM's and after-markets world-wide.

ACMA is inseparably linked with the auto component sector and hence forms the channel through which business contacts are established with the Indian Automotive Industry.

Further information and data on the Indian automotive industry is available on the ACMA Website: www.acma.in

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