CEAMA

Contents

Championing change in the Indian appliance and consumer electronics industry

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Foreword

The appliance and consumer electronics (ACE) sector offers immense growth opportunities, not only in terms of consumption but also manufacturing and job creation. That is why investments in plant and machinery have been made by several Indian and multinational companies, seizing incentives offered by government. However, steady reduction of tariffs, successive free trade agreements (FTAs) and inadequate protection of local manufacturing have not allowed domestic manufacturing in this sector to flourish to its full potential. This is amply evident from India's reliance on imports for low-volume sophisticated products as well as for spare parts and components of mass products. Reversing this trend will involve bridging the gaps that make imports more attractive than making in India.

Growth attracts investment and fuels change. Two examples may be cited to illustrate this point. Firstly, the government's pan-India energy efficiency programme named Unnat Jyoti by Affordable LEDs for All (UJALA) that encouraged the adoption of LED bulbs by bringing down their price has created scale of an unprecedented nature, resulting in extraordinary benefits to manufacturing and making India globally competitive. Secondly, differential duty on mobile handsets, imposed in 2015 and continued post GST, has led to significant investments for creating a base for large-scale assembly in India. The Phased Manufacturing Programme is designed to progressively achieve higher value addition in manufacturing.

CEAMA believes that exponential growth is possible in the ACE industry, given the low level of penetration of appliances and electronics when compared to global averages. This can drive change and make India self-reliant and globally competitive. While the industry, particularly CEAMA members, is eager to be involved in the transformative process that this sector can engender, the outcome will require a multi-pronged approach: building scale by rapidly growing domestic consumption; creating (temporary) tariff barriers for the supply base to develop; imposing safeguard duties to ring fence imports from FTA countries; applying the phased manufacturing approach in ACE; correcting aberrations in GST which threaten domestic manufacturing; and addressing the high cost of finance. Policy and incentives, which have contributed significantly to the two examples cited above, will play an important role in the case of ACE as well.

CEAMA approached PwC to prepare a report with the aim of quantifying the opportunity and the consequent economic and social benefits. **'Championing change in the Indian appliance and consumer electronics (ACE) industry'** is the result of the diligence of a dedicated team working under the able leadership of Sandeep Ladda and Sankalpa Bhattacharjya. On behalf of CEAMA, I wish to place on record our appreciation for a very informative report.

Manish Sharma
President, CEAMA

The demand for electronic products in India is set to grow significantly in the next few years, primarily driven by a strong economic outlook. The growing demand, coupled with government support for the sector has encouraged investments in the sector. India's big leap in the Ease of Doing Business rankings is testimony to the government's relentless focus on growth and reforms.

The positive demand variables can be attributed to the growing middle class population with rising disposable income and the adoption of newer and more modern technologies. These demographic advantages are making the country an attractive destination for both local and foreign electronic goods manufacturers. Going forward, the ACE industry will be further transformed by technology advancements that meet changing customer needs as it moves towards connected, smarter and faster durables. To unlock the full potential of technology-enabled transformations, it is imperative for our country to build an ecosystem of supportive regulations around the enablement of technology transfer, e-waste, and cyber and data privacy laws. A strong domestic R&D backbone supported by manufacturing competitiveness can enable the Indian ACE industry to successfully herald change.

Our report delves into the structural reforms needed to boost growth in India's ACE industry and help the government achieve its objective of net zero imports. PwC has partnered with CEAMA to bring to the fore key issues and put forward the industry's recommendations to the government and other stakeholders to overcome the disabilities in local manufacturing and provide impetus to ACE manufacturing.

I take this opportunity to express our gratitude to industry members who helped us formulate our viewpoint and actionable recommendations. I would also like to thank CEAMA and its Executive Committee for its support, especially in facilitating interactions with its members, which have been very valuable in framing this report.

I hope you find this report interesting and welcome your feedback.

Sandeep Ladda
Partner, Global TMT Tax Leader
Technology Sector Leader, PwC India

Context and methodology

- This report assesses the current state of the appliances and consumer electronics (ACE) industry in India and discusses market opportunities, challenges and recommendations that can drive industry growth.
- It covers an analysis of the following products:
  - Televisions
  - Refrigerators
  - Washing machines
  - Air conditioners
  - Microwave ovens
  - Set-top boxes
  - Mobile phones
  - Other small appliances
- For the analysis of underlying trends, PwC India relied on secondary research, along with an analysis of this underlying data.
- For the analysis of industry challenges, PwC India relied on secondary research, interviews with subject matter and industry experts, as well as the results of a survey.
- The survey was conducted with the C-suite of major ACE players through PwC's online survey-tool and aimed at identifying the key challenges and priorities of the companies in India.
- The recommendations made in this study are representative of the views of the industry and were collected through extensive interviews with key players in the Indian ACE industry.
- Sample sizes for our study:
  - Survey: 32
  - Interviews: 13

Acknowledgements

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Executive summary

PwC, in association with the Consumer Electronics and Appliances Manufacturers Association (CEAMA), is pleased to present a report on 'Championing change in the Indian appliance and consumer electronics industry'. In this report, we have attempted to provide an insight into India's consumer electronics and appliances market, focusing on the growth drivers, policies and current challenges in the supply ecosystem.

India represents a highly aspirational consumer market with a wealth of opportunities to offer the world. With an 'emerging middle class' population of more than 500 million and 65% of the population aged 35 or below, India could potentially overtake the US and become the world's second largest economy in PPP terms by 2050.[1]

While we have seen many technology transformations over the last 20 years, the mobile revolution across the country has emerged as an engine of economic growth, stimulating investment both in R&D and manufacturing. The Indian consumer has experienced the benefits of smartphones and technology in the form of productivity gains and lifestyle improvements respectively. Progressive government reforms such as Digital India, Make in India, the Jan Dhan-Aadhaar-Mobile trinity and other supportive foreign direct investment (FDI) policies are also providing fresh impetus to the ACE industry. Such reforms will also bring about intangible benefits in terms of changing the mindset of foreign investors towards India. They will lead to a change in the perception of India as a strategic partner in global value chains that adds significant value in the production cycle rather than just a low-cost manufacturing destination. The growth of the mobile industry in India is an example of such a shift in perception among foreign manufacturers.

Although the domestic market is growing, cumulative domestic value addition remains low. A limited component ecosystem, higher cost of finance and power, and inefficient infrastructure are key hurdles in overcoming the current challenges. The Indian ACE industry needs to look beyond the business-as-usual growth of approximately 10% and aim to capture export markets to make India import neutral or even a preferred export destination across every product category. This, along with higher domestic value addition, can lead the industry towards transformative growth over the next five years. This transformative growth can be supported by increasing the scale of demand, making domestic manufacturing cost-competitive compared to market leaders and providing a conducive investment environment.

Sankalpa Bhattacharjya
Partner and Leader, Deals Strategy, PwC India

1. PwC. (2014). Future of India: The Winning Leap. Retrieved from https://www.pwc.in/assets/pdfs/future-of-india/future-of-india-the-winning-leap.pdf (last accessed on 24 Oct 2017)

The Indian ACE market in the global context

Emerging markets are widely recognised as the new engines driving the growth of the global economy. According to PwC's report 'The World in 2050', the E7 economies are expected to see their share of world GDP rise from around 35% to almost 50% by 2050.[2] We are witnessing a shift in the balance of economic power from the developed world towards emerging economies such as China and India. China has already overtaken the US to become the world's largest economy in purchasing power parity (PPP) terms, while India currently occupies the third position and is projected to overtake the US by 2050.[3]

Large population and steep GDP growth over the next 5 years….

GDP and population growth
2016 –50 (P), billion USD and billion people respectively

	2016 GDP PPP* billion USD (E)	CAGR - GDP PPP, 2016–50 (P)	2016 population estimates, billion (E)	CAGR - population 2016–50 (P)
USA	18,562	2.4%	0.3	0.6%
China	21,269	3.5%	1.4	-0.1%
India	8,721	5.0%	1.3	0.7%

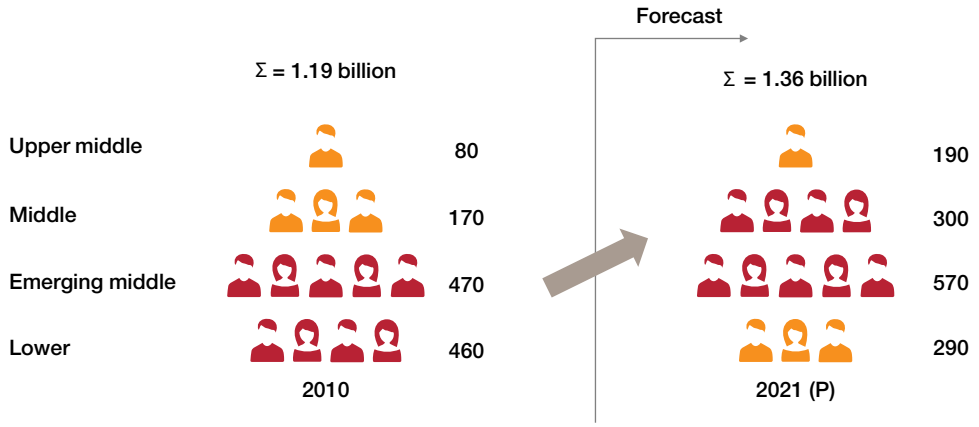
* Estimated at 2016 constant prices

Source: The World in 2050 – summary report, PwC, 2016; OECD

The size of the global middle class is expected to increase from 1.8 billion in 2009 to 3.2 billion by 2020 and 4.9 billion by 2030.[4] The developing world's 'emerging middle class' is expected to act as a critical economic and social agent shaping the industry in the coming years. A bulk of the demand is expected to come from Asia, where 66% of the global middle-class population will reside by 2030 and account for 59% of the middle-class consumption, compared to 28% and 23% respectively in 2009.[5] The next big wave of business opportunity is expected to come from developing economies such as India, where a truly global middle class is emerging.

…will cause the Indian economic pyramid to shift towards the top.

Population pyramid in India
2010–21 (P), population in millions



Source: Profitable growth for the globally emerging middle, PwC, 2012

Note: Annual Household income levels (INR) assumed: Upper middle (> 8,50,000), Middle (3,00,000–8,50,000), Emerging middle (1,50,000–3,00,000), Lower (1,50,000)

2. PwC. (2017). The World in 2050: The Long View. Retrieved from https://www.pwc.com/gx/en/issues/economy/the-world-in-2050.html (last accessed on 28 Oct 2017)
3. Ibid.
4. Pezzini, M. (2017). An emerging middle class. OECD Observer. Retrieved from http://oecdobserver.org/news/fullstory.php/aid/3681/An_emerging_middle_class.html (last accessed on 26 Oct 2017)
5. Ibid.

The rapid rate of urbanisation and the growth of a young population that is enjoying rising incomes is creating a large emerging middle class in India. This segment of the population is expected to grow by 21% over the next decade, from about 470 million people in 2010 to 570 million by 2021, constituting about 42% of the country's total population.

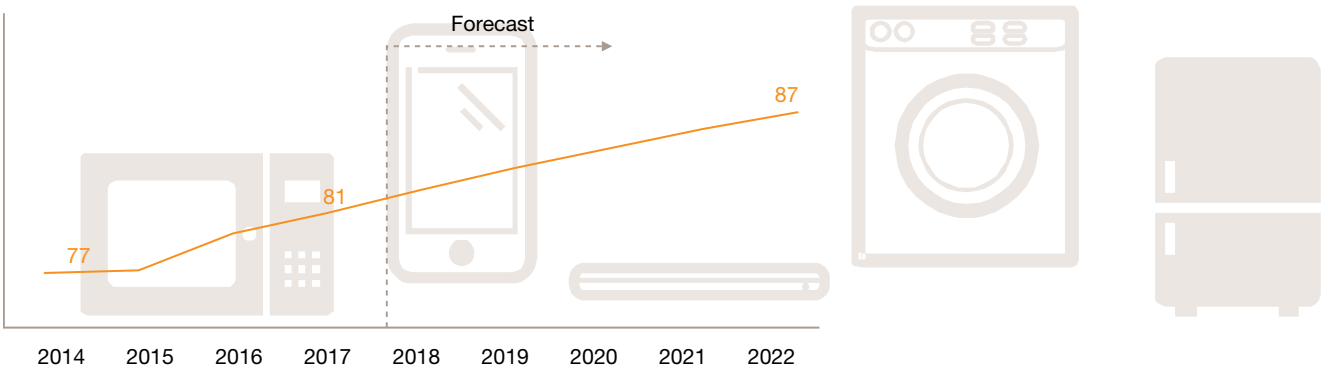
As digital access becomes more and more affordable, along with increasing product awareness and a shift in lifestyle patterns, consumer spending on electronics and home appliances could see strong growth in the next five years.

Apart from the growing income levels, the other important factors are changing consumer behaviour and evolving spending patterns. Indian consumers today are looking to improve their homes and lifestyles through global brands and experiences.

Fuelled by the falling prices of consumer electronics, these radical demographic shifts are expected to further transform the ACE market in India. The current subpar penetration levels, compared to the global average for ACE products such as air conditioners, washing machines and refrigerators, also highlights the significant headroom for future growth.

This shift will result in higher affordability of ACE products …

ACE affordability Index
2014–22 (P), Index

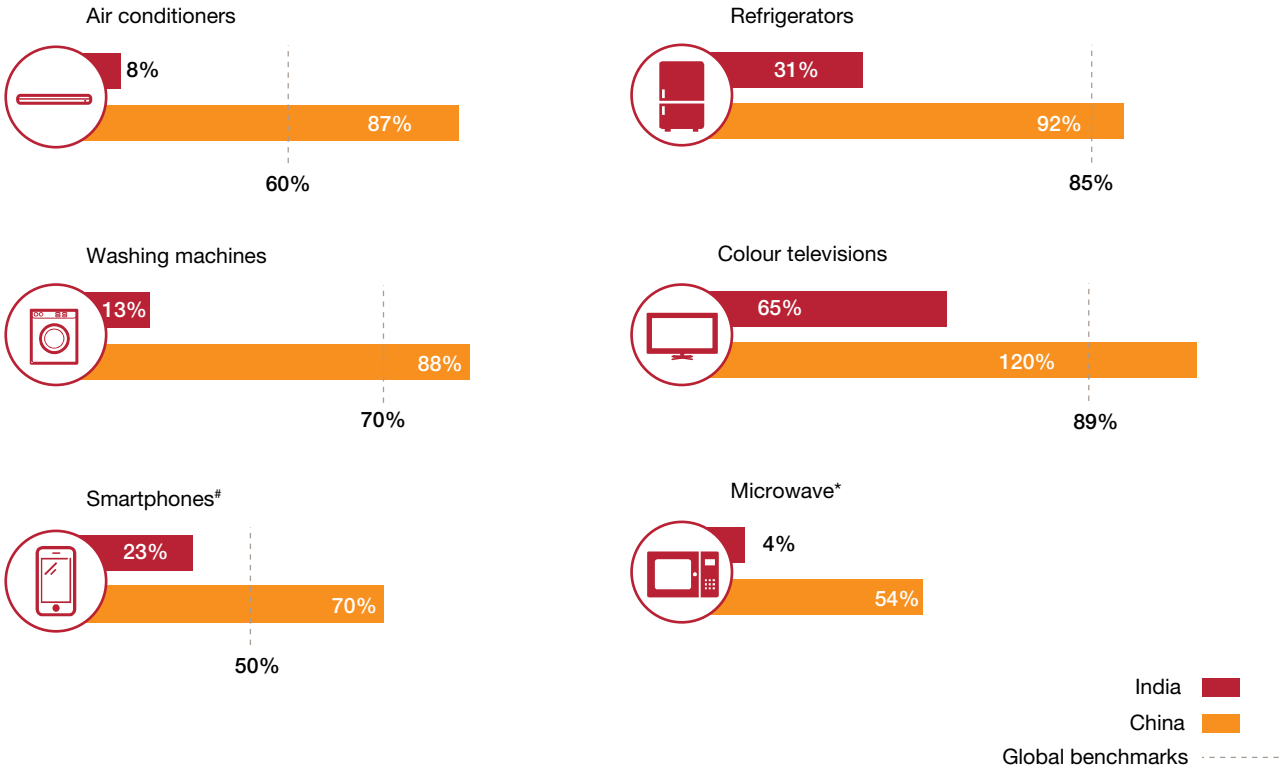


Source: MOSPI, PwC analysis

Note: The index evaluates price of 1 unit of ACE per household income, assuming household size estimates and forecasts as per 2011 census data and historical growth in per capita gross national disposable income. 1 unit of ACE assumes 3 smartphones, 1 AC, 1 TV, 1 refrigerator, 1 washing machine and 1 microwave oven

…which, along with a huge headroom for product penetration…

National household penetration of ACE
2016, percentage of both urban and rural households



Source: National Bureau of Statistics – China, Crisil, JP Morgan, industry estimates, PwC analysis, GSMA

Note: * Includes figures for urban China only
Penetration per capita

Traditionally, for many consumer electronics products, increasing market penetration has been a key driver of sales growth. There exists a significant opportunity for companies to tap the huge potential, especially in the semi-urban and rural markets of India. The government's push for infrastructure through the development of roads, rail and power supply, is helping to reduce the urban-rural divide.

Benefiting from the fast improving infrastructure, companies are looking to replicate the success of mobile phones in the white goods segment. However, today's consumers have high awareness and a strong value-for-money orientation. Multinationals worldwide are being forced to work towards building products that can trigger simple behavioural shifts, grow demand and create business value.

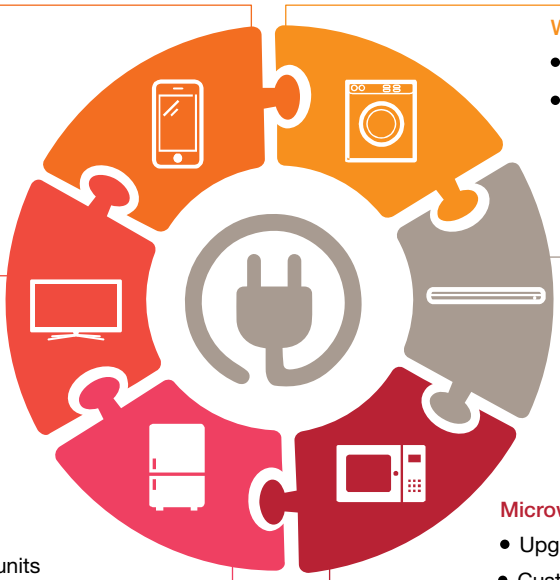
Incumbent players are realising that it is no longer important to just achieve scale but equally important to make consumption sustainable and more relevant to consumers by redesigning products and services to meet the needs of local markets. In addition, strengthening distribution and after-sales service reach will be key for ACE manufacturers in driving innovation and product development at the local level.

As spending patterns evolve and there is a shift in factors driving the purchase of electronic products, it will be imperative for companies to adopt the right strategy, and approach consumers by identifying specific areas of opportunity within each category of ACE products.

…and product-specific demand drivers…

Smartphones
- Conversion of feature phones to smartphones
- Increased penetration of mobile payments

Washing machines
- Shift from semi-automatic to automatic
- Penetration in Tier II and III towns



Televisions
- Replacement of cathode ray tubes (CRTs) with flat panel display (FPD)
- Shift to higher screen size
- Internet penetration driving demand for smart TVs

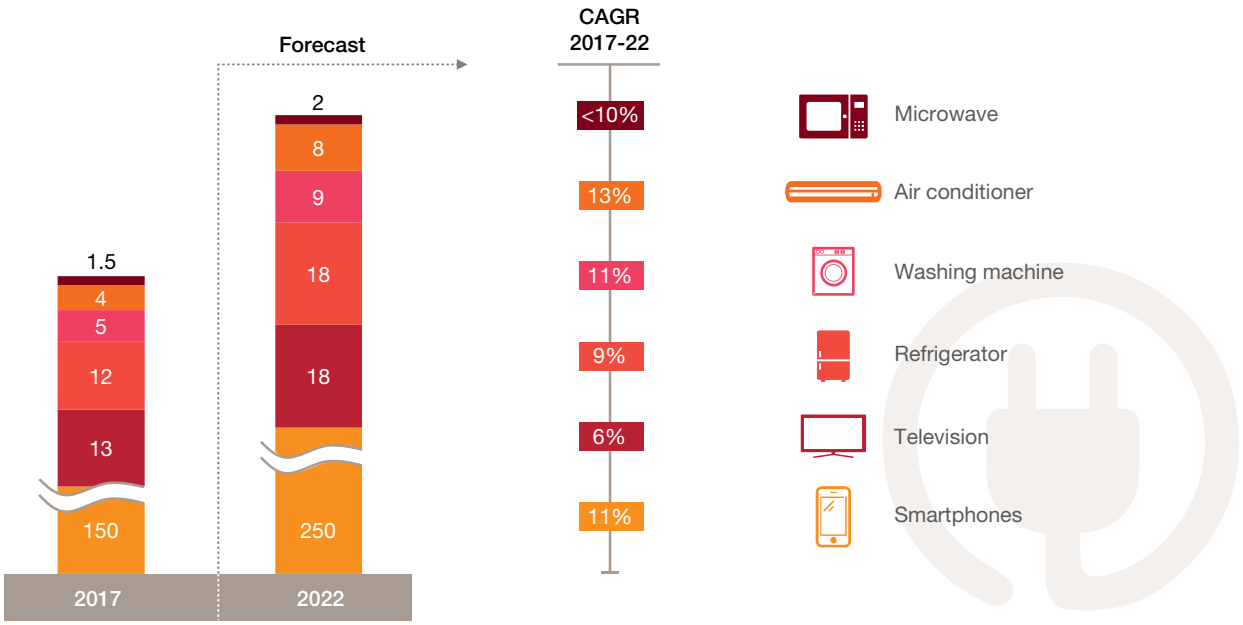
Air conditioners
- Upgrading from air coolers
- Shift to split AC
- New energy-efficient inverter technology

Refrigerators
- Replacement of old energy inefficient units
- Penetration in Tier II and III towns

Microwave ovens
- Upgrading to convection ovens
- Customer acceptance for Indian food preparation

…will lead to strong growth across all ACE product segments.

The Indian ACE market
2017-22(P), million units

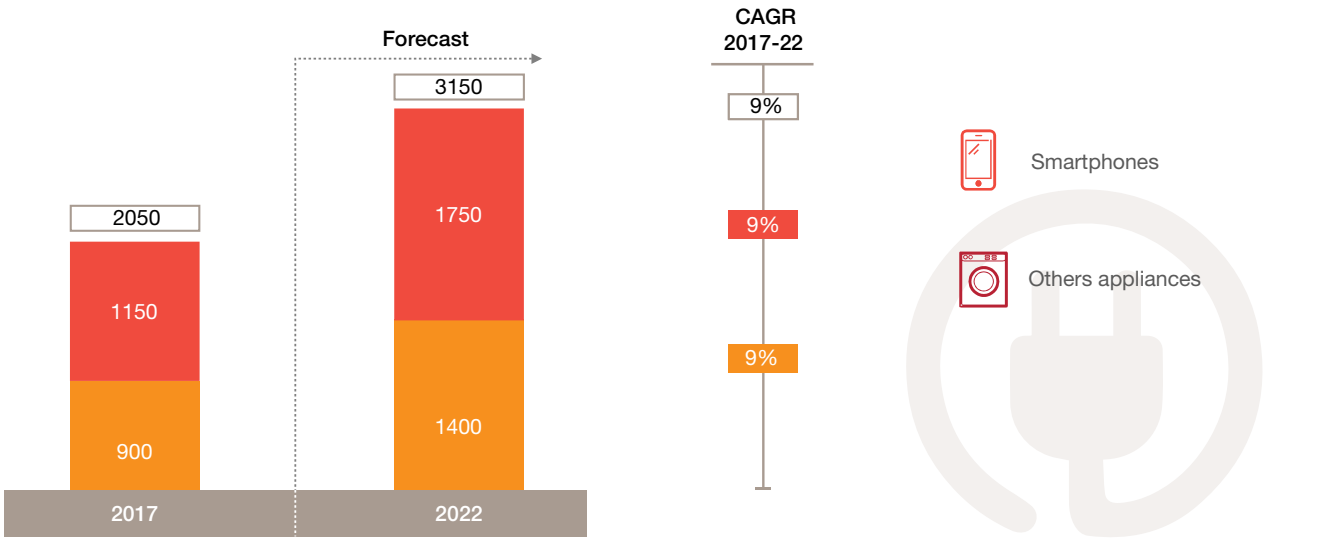


Source: Euromonitor, Crisil, Industry Estimates, PwC analysis

Note: Rounded off to the nearest million.

As a result, the Indian ACE market is expected to grow at ~9% CAGR over 5 years

The Indian ACE market
2017-22(P), INR billion



Source: Euromonitor, Crisil, Industry Estimates, PwC analysis

India's overall retail opportunity is substantial, and coupled with the demographic dividend (young population, rising standards of living and upwardly mobile middle class) and rising Internet penetration, we are seeing a strong growth in the eCommerce market. The Indian government's ambitious Digital India project is expected to boost the adoption of eCommerce in remote corners of the country. Higher financial inclusion through mobile and increasing connectivity in rural India will also lead to an increase in trade and efficient warehousing, thereby presenting a potentially large market for ACE products.

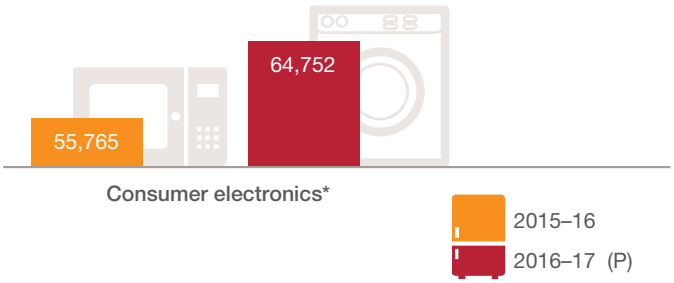
In order to tap into the potential of India's hinterland, Internet retailers are looking to further streamline their logistics and improve turnaround time to effectively cater to the growing consumer demand. With a positive transformation of India's household income profile that will further boost volumes, the ACE market is expected to grow at a compound annual growth rate (CAGR) of 9% between 2017 and 2022.

Government initiatives to unlock potential of electronics manufacturing in India

Indian ACE manufacturing has seen sharp growth over the past year. A large booming market supported by increasing disposable income, easier access to consumer financing and improved rural electrification have been the key drivers for the sector. Over the past few years, structural reforms and economic policies introduced by the government have resulted in a favourable business environment, thereby boosting domestic manufacturing. India's recent significant jump to the 100th rank from 130th on the World Bank's Ease of Doing Business index highlights the government's consistent efforts to position the country as a preferred place to do business.

The Government of India has prioritised the promotion of electronics manufacturing so as to achieve net zero imports by 2020 and is treating electronics and IT hardware as one of the key pillars of the Digital India programme. The push to electronic governance through digital reforms such as Aadhaar has triggered a surge in demand for electronic devices, smartphones and technology platforms.

Domestic production in Electronics sector
FY 2016–17 (P), crore INR



Source: Ministry of Communications and Information Technology (MeitY)

*Refrigerator, Washing machine, Air conditioner and Microwave

Recognising the high potential of the sector, the government has been introducing policies to create a more holistic and investor-friendly business environment. Policy reforms such as 100% FDI under the automatic route, no industrial license requirement and no payment of technical know-how fee and royalty for technology transfer under the automatic route have been instrumental in building a conducive investment climate.

The government has supported domestic manufacturing with multiple initiatives in the mobile phone and consumer appliances industry.

Growth pillars	Key initiatives
Reducing domestic manufacturing disabilities	• Modified Special Incentive Package Scheme (M-SIPS) • Differential duty structure through Basic Custom Duty (BCD) • Export Promotion Capital Goods (EPCG) Scheme • Preferred Market Access Policy
Promoting innovation and R&D	• Electronics Development Fund • Centre of Excellence for IoT • Electropreneur Park for start-ups
Developing skills	• Digital Saksharta Abhiyan (DISHA) • Visvesvaraya PhD Scheme for Electronics & IT • Electronic Sector Skills Council of India (ESSCI)
Enabling domestic ecosystem	• Electronic Manufacturing Clusters (EMC) • Semiconductor Policy • Electronic product testing/quality control labs • Electronics India B2B Platform

Source: MeitY

These initiatives have resulted in investments spread across the next five years in the mobile phone and appliances industry.

- South Korean consumer electronics manufacturer to invest approximately 4,900 crore INR
- German home appliances manufacturer to invest approximately 750 crore INR
- Chinese consumer electronics manufacturer to invest approximately 490 crore INR
- American home appliance manufacturer to invest approximately 200 crore INR

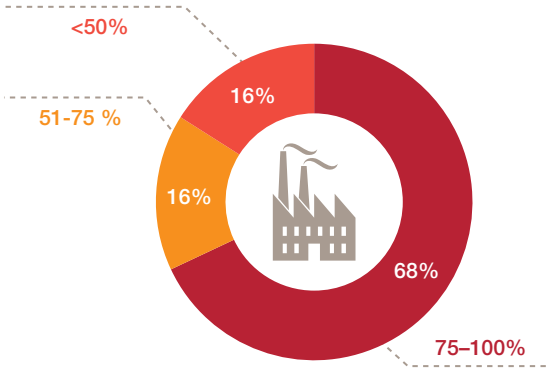
Source: News articles

As the domestic market continues to grow in the future, the industry looks forward to increased domestic manufacturing and hence value addition, thus striving to make the dream of 'net zero electronics imports' a reality.

Challenges faced by the Indian ACE industry

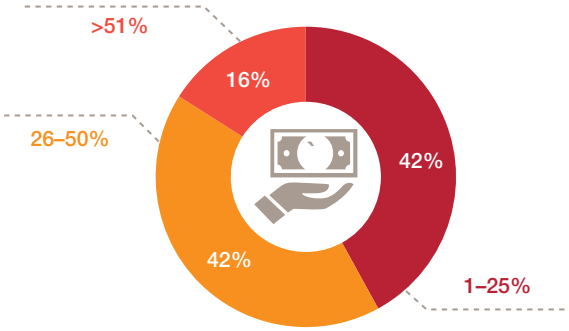
Although most products are made in India, domestic value addition remains low.

What percentage of production is manufactured/assembled domestically?



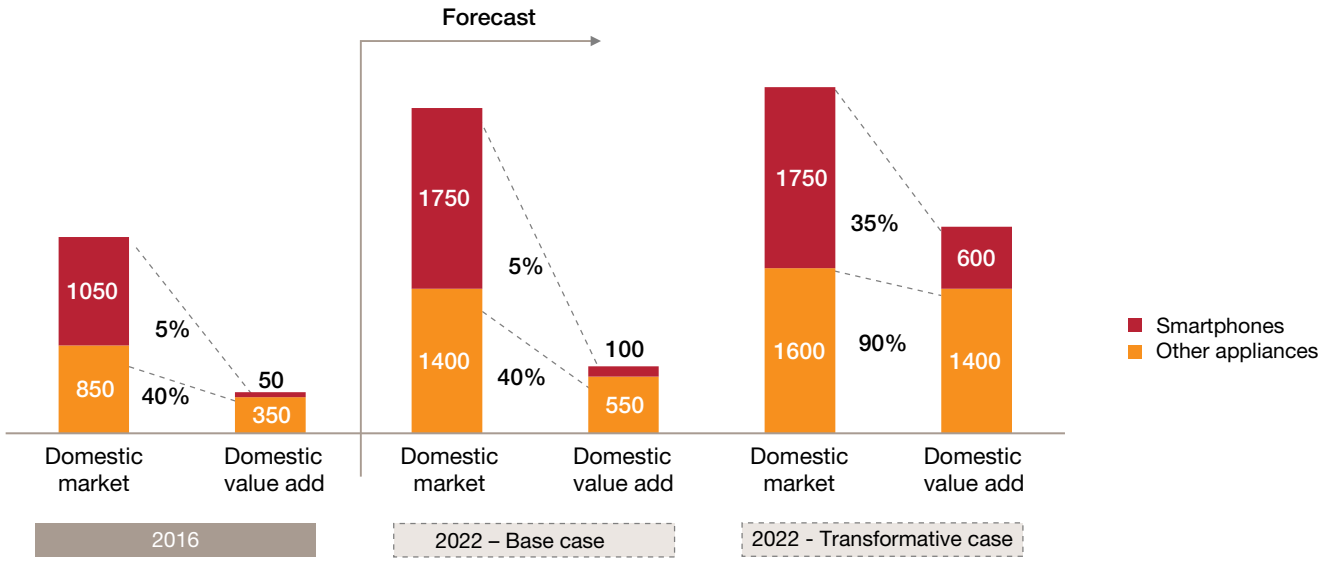
68% of the survey participants responded that the percentage of production manufactured domestically was 75–100% .

What is the overall domestic value add (as a percentage) in your production?



84% of the survey participants responded that their domestic value add was less than 50%

Domestic ACE market in India and value add
2016–22 (P), billion INR

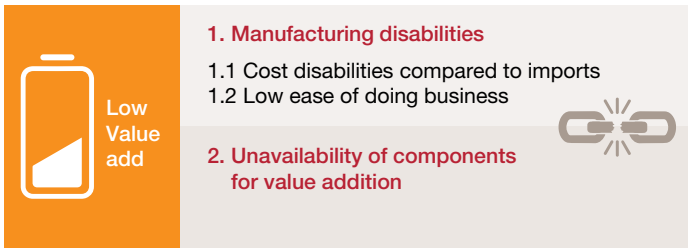


Source: Industry estimates, PwC analysis

A limited component ecosystem and manufacturing disabilities are the root causes of low cumulative value addition.

Currently, the domestic value addition component in manufacturing is approximately 40% of ACE products and 5% for smartphones.

While India has good market potential, legacy challenges could lead to muted or stagnant growth in local value add for ACE manufacturing.



Although the Indian manufacturing industry has a significant labour cost advantage, the cost of finance and power remains the key cost disability.

Comparison of Key Costs and Tax rates: India, China and Vietnam
FY 2016–17

	India	China	Vietnam
Cost of finance (prime lending rate)	9.67%	4.35%	6.96%
Cost of labour(monthly minimum wage)	110 USD	310 USD (Shenzhen)	158 USD (HCMC)
Cost of power(industrial, per kwh)	0.09 USD	0.05 USD	0.07 USD

Source: News reports, World Bank, HKTDC, PwC analysis

Logistics challenges and relatively low ease of doing business exert additional pressure on domestic manufacturing in the form of working capital and contingency costs.

Comparison of business environment: India, China and Vietnam
FY 2016–17

	India	China	Vietnam
Ease of Doing Business Rank (2017)	100	78	82
Logistics Performance Index (2016, 1 - Worst, 5 - Best)	3.42	3.66	2.98
Lead time to import and export (days)	Import – 5 Export - 4	Import – 5 Export - 3	Import – 3 Export - 4

Source: News reports, World Bank, HKTDC, PwC analysis

Taxation-related concerns

The indirect tax structure for the country has been completely overhauled with the introduction of GST on 1 July 2017. Historically, the indirect tax structure in India was fairly complex, with multiple indirect taxes levied at different points of time (such as excise duty on manufacture, sales tax on sales and service tax on provision of services). Now, all the major indirect taxes are subsumed under GST and only one tax, namely GST, will apply on all transactions. The introduction of GST also promised various other benefits such as increase in input tax credits due to a liberal credit mechanism, efficiencies in logistics management due to the abolition of various check posts and possible reworking of the distribution network, lower compliance costs, etc. All these benefits will support the growth of the industry.

As with any major tax reform, there are initial teething troubles with the implementation of GST:

- **Determination of tax treatment:** The tax treatment of some transactions requires more clarity:
  - Part replacement in warranty: Clarification is required that part replacement under warranty does not require any reversal of credit, so that future disputes can be avoided.
  - Non-warranty repairs and part replacements: It is unclear whether they are to be taxed as supply of goods or services or both separately, and it is hence difficult to determine the applicable rate of tax.
  - Various marketing and sales promotion schemes: There is some lack of clarity and operational issues with respect to deductions from taxable turnover in case of marketing and sales promotion schemes launched by OEMs.
- **Compliance issues:**
  - In the case of procurements made from unregistered persons, the registered person is required to make payment of GST to the government under the reverse charge mechanism. While this requirement leads to tremendous procedural and operational issues for registered persons, there is largely no revenue gain for the government, since the credit of such tax paid under reverse charge is available in almost all the cases and hence, it is largely revenue neutral. While the government has suspended this requirement till 31 March 2018, the industry has requested for the removal of this cumbersome requirement.
  - Another concern on the compliance front pertains to e-way bills, which is intended to be implemented on a pan-India basis from 1 April 2018. Considering the experience on e-way bills in the VAT regime and due to the increase in compliance, the industry is rather apprehensive about e-way bill provisions and has strongly recommended that these provisions not be introduced.
  - Lastly, taxpayers have faced various issues with respect to compliances on the GSTN portal. The government has already formed a Group of Ministers to focus on the issues relating to GSTN, and this measure should help in resolving the issues at the earliest.
- **Anti-profiteering provisions:** The GST Act has a provision that requires companies to pass on any reduction in the rate of tax on goods or services or benefit of input tax credit to recipients by way of reduction in prices. However, the mechanism to determine the amount which needs to be passed on has not yet been prescribed. In the absence of such a mechanism, it becomes difficult for companies to take pricing decisions. The industry has urged the government to issue guidelines for complying with anti-profiteering provisions at the earliest.

Clarity on the above issues would enable the industry to move ahead with certainty.

In an endeavour to patronise and propel its star project, 'Make in India', besides the various structural and policy initiatives, the government also introduced certain direct tax reforms in the three consecutive finance budgets subsequent to the unveiling of Make in India.

These direct tax reforms include reduction in the rate of income tax on royalty and fees for technical services from 25% to 10%, reduced corporate tax rate of 25% for all new manufacturing companies incorporated from 1 April 2016, introduction of patent box regime, clarification on the availability of additional depreciation, relaxation of conditions for deduction in respect of employment of new workmen, and most significantly, extending the benefit of investment-linked deduction to semiconductor wafer fabrication manufacturing units, etc., to name a few.

While the above have helped, in order to drive the Make in India initiative, it is imperative to reposition India as a value-add partner in the global manufacturing value chain and not just a low-cost manufacturing hub. This will require the government, in addition to facilitating economy pricing, to embolden and incentivise R&D and innovation

The following are the top three hot spots that may help in not just addressing the current gap but also unleashing the manufacturing potential in India:

- **Incentivising the spend on scientific research**

Currently, the Income-tax Act, 1961 (Act) provides weighted tax deduction of 150%[6] of expenditure incurred by a specified company[7] on scientific research in the in-house R&D facility approved by the DSIR. This needs further incentivisation:

- The weighted tax deduction could be restored back to 200% from the current 150%. Additionally, the sunset date of 1 April 2021 post which the deduction will be limited to the amount of expenditure could be dropped.
- The ambit of expenditure eligible for deduction could be widened to include the following:
  - Expenditure on outsourced R&D activities
  - Expenditure incurred on infrastructure solely used for R&D

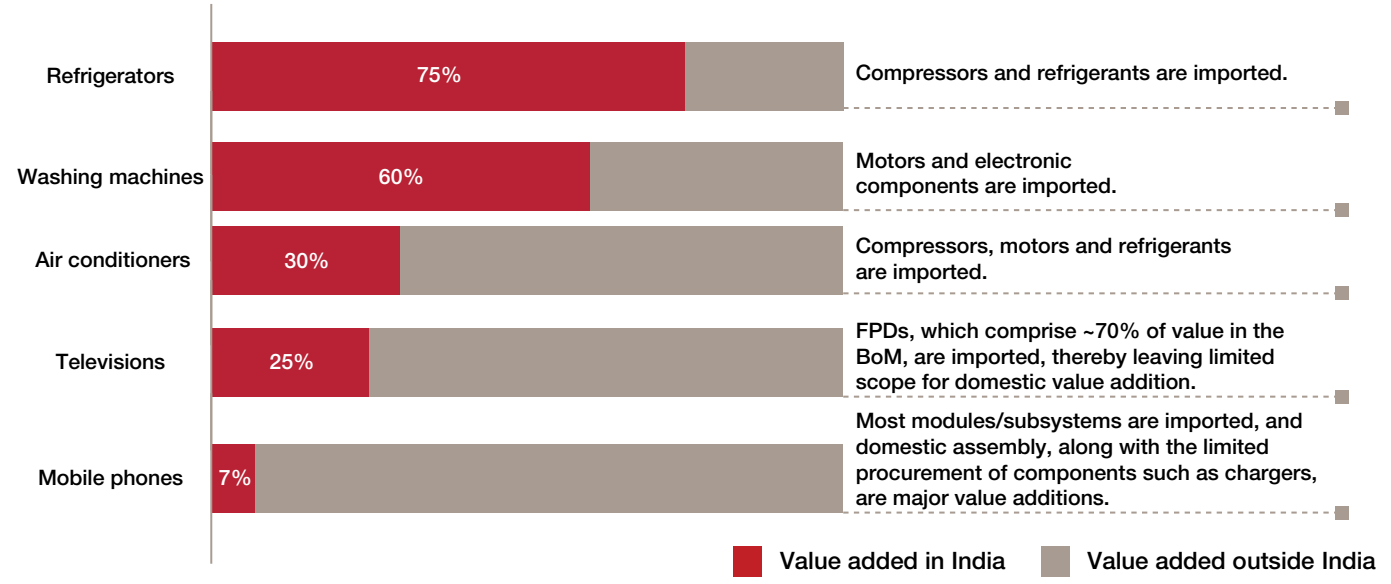
- **Envisaging cost efficiency for foreign technology transfers**

Cognisant of the high costs involved in licensing of foreign technology and also the much-needed strategic aid that such technologies can provide at this time to the Indian consumer electronics vertical, the government had reduced the income tax rate on royalty and fees of technical services from 25% to 10%. To give further impetus to cross-border technology transfers, the income tax rate on royalty and fees for technical services for manufacturing units could be brought down to zero.

- **Extending the scope of the investment-linked incentive**
  - The existing deduction for capital expenditure under the act to semiconductor wafer fabrication units could be enhanced to weighted deduction of 150% given the extent of capital intensiveness.
  - The above could be extended to consumer electronic manufacturing as well.

LCD panels, compressors and BLDC motors are key components that we must make in India.

Approximate bill of material (BoM) value addition/domestic procurement in India 2016-17



Source: News reports, industry estimates, PwC analysis

Note: BLDC: Brushless DC motors, FPD: Flat panel display

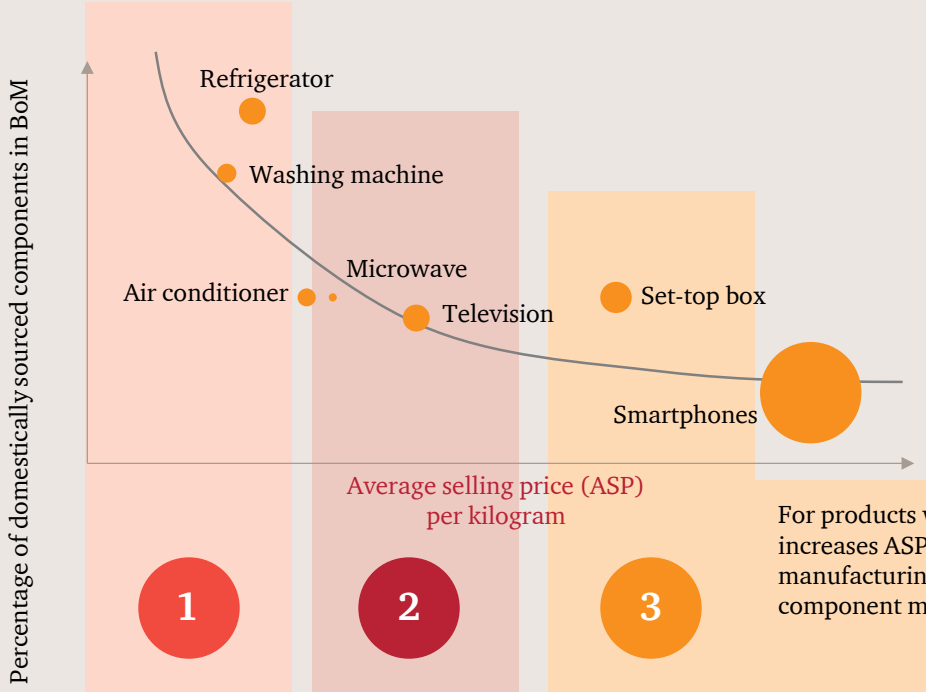
6. 200% up to FY 2016–17.

7. Engaged in the business of biotechnology, manufacture or production of any article/thing (other than those specified in the Eleventh Schedule).

Increasing cumulative value add in India

An assessment of ACE products reveals the need for multiple strategies.

Comparison of ACE products
2017



For products with high electronics content, which increases ASP/kg, duty differentials and/or phased manufacturing plans along with incentives for component manufacturing are needed.

Television, microwaves and air conditioners comprise the middle tier by weight to ASP ratio, and hence have a limited natural logistics barrier which can be overcome at the end product level by lowering manufacturing costs, or at the component level (such as LCD panels and compressors)

Due to their higher weight and volume per unit selling price, refrigerators and washing machines have a natural logistics barrier that protects domestic manufacturing.

Case study 1: Smartphones

Back in 2012, the demand for smartphones in India was consistently rising; however, domestic manufacturing and value add were negligible. Smartphones, due to their higher ASP per unit weight, lacked a natural logistics barrier. As a result, India imported more than 130 million units of smartphones in 2012.

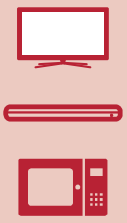
The Government of India introduced a duty differential in 2015, which created a barrier for end product value addition outside India. Multiple mobile phone companies invested in India and started assembling end products. Indian production of mobile phones went up from 60 million units in FY15 to 110 million units in FY16.

During the period of September 2015-October 2016, 38 new mobile handset manufacturing units have been established with a total manufacturing capacity of 20.7 Million units per month, and as a result generated employment of 38,300 direct jobs.[6] Also, in addition it is estimated to have generated approx. 1,50,000 indirect jobs.

Case study 2: Set-top boxes

Like mobile phones, set-top boxes saw a rise in demand post the announcement of the digitisation policy. Initiatives such as reclassification of set-top boxes as telecom network equipment allowed domestic manufacturing to become more competitive by availing of tax exemptions.

However, set-top boxes lack a natural logistics barrier against offshore value addition for end products. This exposed the domestic market and led to imports of 50 million units in FY16 and 17. Post GST, with a higher rate of 18%, imports are expected to become more competitive.



To increase value addition in products such as microwave ovens and ACs, whose components may not have a natural logistics barrier, the following two actions are needed:

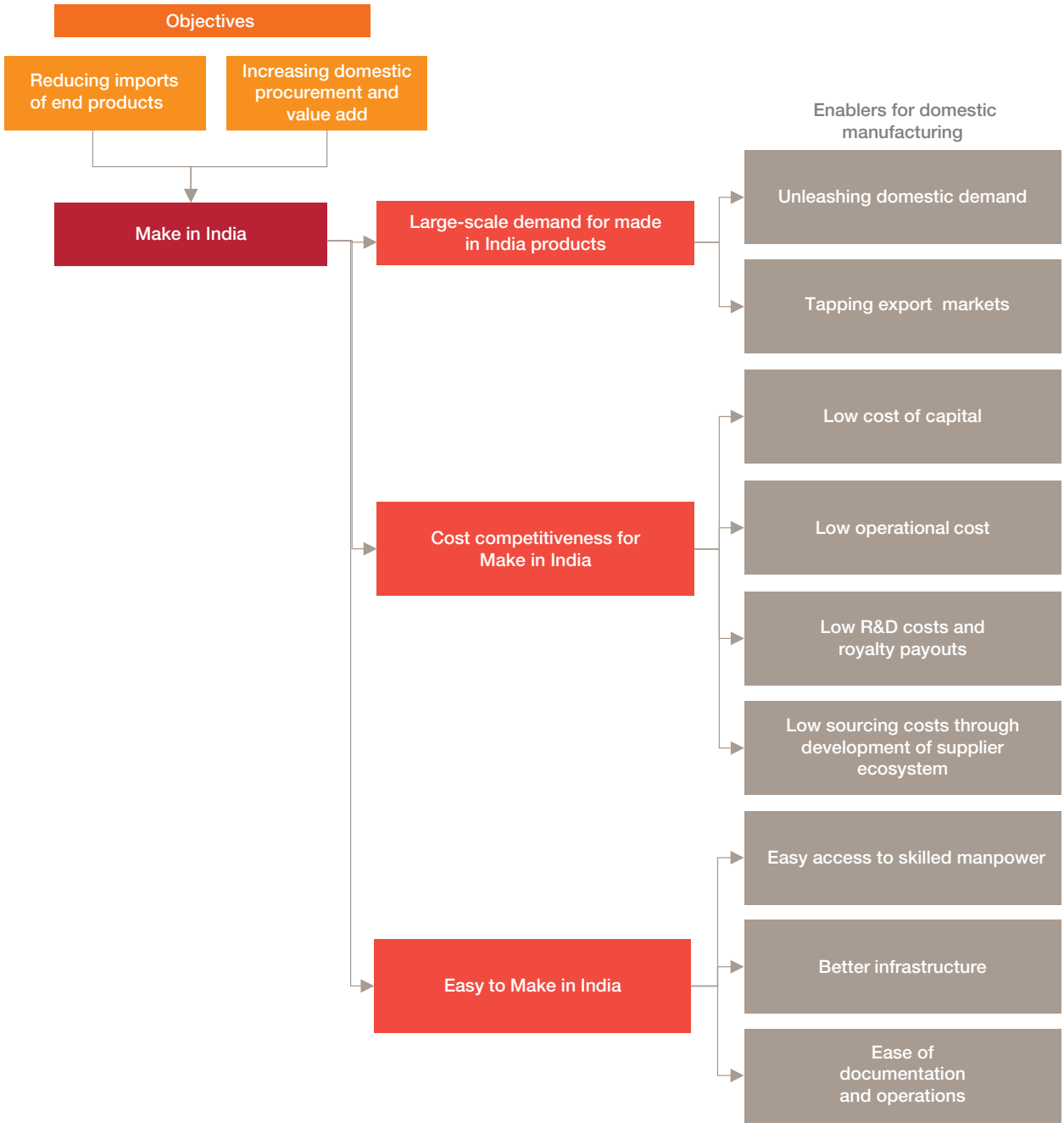
- Make domestic manufacturing competitive by either providing incentives or creating a duty differential with respect to imports.
- Increase scale to justify investment in components.

Although value addition in refrigerators and washing machines is high, components that need a high capital investment for manufacturing (such as actives) may continue to be imported unless the domestic market provides a significantly large scale that can help the high capital investments break even early.

6. Ministry of Electronics & Information Technology, Electronics & IT Sector Achievements Report November 8, 2016. Retrieved from http://www.makeinindia.com/documents/10281/114126/Electronics+%26+IT+Sector+-+Achievement+Report.pdf (last accessed on 1st Nov 2017)

For domestic manufacturing to flourish in the ACE industry, India needs three critical enablers.

- **Creating large-scale demand:** A large market that provides benefits through economies of scale is needed to create a business case for domestic manufacturing.
- **Improving cost competitiveness:** However, such a domestic manufacturing set-up can be sustained only if profitable returns on investment are generated. Profitability can be driven by either low cost of capital or lower operational costs. Lower input cost will also lead to domestic manufacturing becoming cost-competitive and commanding a higher share in both the domestic and export markets.
- **Ease of doing business:** Finally, investments for such manufacturing set-ups will come in only when the ease of investing and doing business in India is improved.



Source: PwC analysis

Industry speak

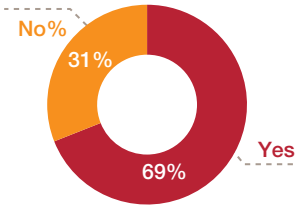
The Indian ACE industry recognises the need for the above three enablers, and believes that significant reform is required in order to achieve each of them.

What will drive growth in the ACE sector?

Large-scale demand for made in India products

> *The most pressing challenge today is driving increase in demand.*
>
> *– An Indian ACE and smartphone manufacturer*

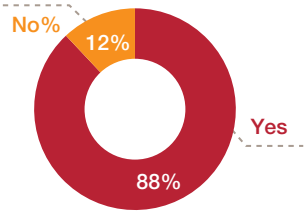
Do you think initiatives that drive domestic demand are needed in India?



Cost competitiveness to make in India

> *The high cost of finance, power and logistics makes domestic manufacturing less competitive by 7–8%.*
>
> *– A leading domestic component manufacturing company*

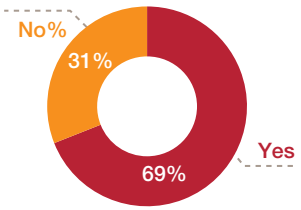
Do you think domestic manufacturing is at a disadvantage compared to imports?



Easy to make in India

> *Ease of doing business is a continuous evolution based on the current Indian and global market conditions…*
>
> *– A leading Indian ACE manufacturer*

Do you think ease of doing business needs to be improved further?



Success stories

We have seen these three enablers in action across the globe and also in other Indian manufacturing sectors.

	Create large- scale demand.	Make domestic manufacturing cost-competitive.	Make domestic manufacturing easy.
China's ACE sector	• China launched a domestic programme in multiple provinces (such as Shandong, Henan and Sichuan) which provided 13% subsidies on TVs, refrigerators and mobile phones. • China also provided export incentives such as 50% tax exemption on exports of 70% of production by foreign invested enterprises.	• The Chinese government provided a number of incentives, including cash grants, equity infusions, direct subsidies and VAT refunds to domestic manufacturers. • The government also provided tax incentives (50% concession for 3 years) to encourage advanced technology transfers.	• China has flexible labour laws that facilitate subcontracting, hire and fire policies in SEZ, and 10-hour work days. • China created special manufacturing zones that also have residential facilities, and invested in infrastructure and skill development.
Vietnam's ACE sector	• A bilateral trade agreement with the US, FTAs with the EU, South Korea, and the Eurasian Economic Union led by Russia, as well as closer integration with ASEAN, have allowed Vietnam to tap the huge export demand.	• The Vietnamese government offers incentives such as land rent reductions and import-duty exemptions. • The government also provided corporate income tax (CIT) breaks for companies working in the high technology sector and/or in high-tech zones.	• With access to a convenient industrial park, including well-developed amenities and strong connectivity for port evacuation, MNCs have invested and engaged in building local capacities by training workers.
Indian automotive sector	• Post-liberalisation, the new automobile policy introduced by the government in June 1993 contained measures such as delicensing, automatic approval for foreign holding in Indian companies and commitment to indigenisation schedules.	• Import of technology or technological upgrade on royalty payment of 5% without any duration limit and lump sum payment of 2 million USD were allowed under the automatic route. • Besides, the full exemption from basic customs duty and special countervailing duty (CVD) with concessional excise duty or CVD of 6% on some parts of hybrid vehicles was extended to specified additional items. • Reduction of excise duty to 40% and of import duties on completely knocked-down (CKD) and completely built-up (CBU) units to 50% and 110% respectively.	• The Core Group on Automotive Research & Development (CAR) was set up to identify priority areas for research and development (R&D). • National Automotive Testing and R&D Infrastructure Project was a USD 388.5 million initiative which aimed at creating a state-of-art and dedicated testing, validation and R&D infrastructure across the country. • Automotive Mission Plan (AMP), 2006-2016 aimed to make India a global automotive hub, with special emphasis on the export of small cars, MUVs, two- and three-wheelers and auto components.

Vietnam is emerging as a leading ACE manufacturing destination following government initiatives across these three enablers.

China has long been an irreplaceable electronics manufacturing hub that has attracted numerous global electronics companies to set up manufacturing operations in the country. For a decade, the global logistics industry for electronics has been driven through China and its neighbours, which mostly involved China receiving the electronic components needed to assemble complete products that were then exported to global markets. However, today, manufacturing investment is starting to dry up in China as labour costs are on the rise. Gradually, multinational companies are looking to relocate their manufacturing facilities to other low-cost countries in the region, such as Vietnam.

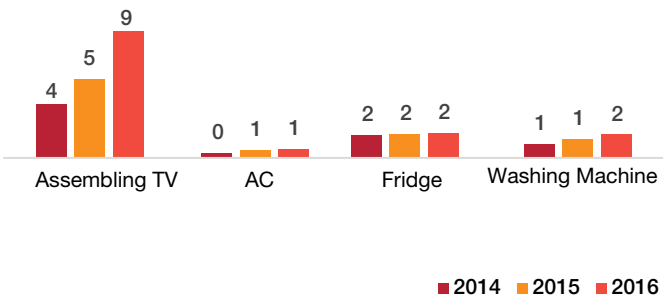
Vietnam's proximity to China and low labour costs when compared to its regional peers (such as China and Thailand) are supporting the growth of the country's manufacturing ecosystem and paving the way for it to become a major electronics exporter in the region. Furthermore, the country's young population and expanding middle class make it a strong domestic market for consumer goods.

The Vietnamese government has followed a model of incentivising large anchor MNCs even in the absence of local supply chain capabilities. The focus of the government has been on introducing new measures to attract investment across priority sectors such as infrastructure and manufacturing of high-tech products.

Vietnam's component and parts industry has benefited from the government-owned Saigon Industry Corporation (CNS) semiconductor fab that began operations in 2016, and there is scope for further investments as the fab expands and moves towards the production of newer semiconductor technologies. The country was ranked 20th globally for imports of semiconductor manufacturing equipment in the 2016.[8]

However, for Vietnam to cement its position as Asia's next manufacturing hub, the country needs to improve domestic competitiveness and further strengthen its local value proposition.

Domestic ACE manufacturing in Vietnam
2014–16, million units



Source: CEIC, PwC analysis

Recognising this opportunity, the Vietnamese government has put in place a supporting industries (SI) policy framework with the aim of upgrading the capabilities of local enterprises as well as enabling them to enter global markets. According to the World Bank, in order to facilitate linkages between foreign investment and the domestic ecosystem, some key focus areas include improving inter-ministerial coordination, facilitating information flow and contact between domestic and foreign-owned firms, and providing targeted support to strengthen domestic talent.[9]

As Vietnam continues to expand its presence across global value chains, such state-led support programmes will not only help attract more foreign investment but also create jobs and trading opportunities for local suppliers.

8. U.S. Department of Commerce, International Trade Administration and Industry & Analysis. (2016). 2016 Top Markets Report – Semiconductors and Related Equipment. Retrieved from https://www.trade.gov/topmarkets/pdf/semiconductors_top_markets_report.pdf (last accessed on 24 Oct 2017)

9. World Bank Group. (2017). Vietnam: Enhancing enterprise competitiveness and SME linkages. Working paper. Retrieved from https://www.openknowledge.worldbank.org/handle/10986/28488 (last accessed on 24 Oct 2017)

Recommendations

The following are some proposed actions under each of the enablers that will help the Indian ACE industry usher in change.

I. Create large-scale demand.	

Unleashing domestic demand	• Expand scope of Preferential Market Access (PMA) to air conditioners, LCD TVs and speakers.
	• Separate products into multiple categories by price points, consumer need and energy efficiencies.
	• Consider creating a multi-layer GST structure (similar to cars) to reduce the tax on cheaper and energy-efficient goods. (1)
	  - Reduce effective GST on cheaper (less than 15,000 INR) and energy-efficient goods (four stars and above) to 12%.
	  - Reduce maximum applicable GST for the category from 28% to 18%.
	• Encourage easy consumer finance.

Tapping export markets	• Reduce paper work for exports through online forms and implement faster automated processing. • Consider increasing Merchandise Exports from India Scheme (MEIS) incentive from 2% to 5%, for high domestic value added products, available for ACE products and models. (2) • Expand FTA coverage with export attractive geographies such as Africa.

1. Presently, almost all ACE products attract GST @28%. However, to encourage the consumption of these products and to meet the aspirations of the general public at large, the government should consider revising the GST rates on ACE products to 18%. The Government should also consider giving additional tax relief to entry-level products (such as small TVs, mobile phones below a specific price, etc.) and also to energy-efficient products (products having a four star rating and above) by taxing them at a lower rate of 12%. This practice is already followed in the determination of GST rates of cars, where the small cars and hybrid cars are taxed at lower rates than big cars.
2. Presently, the export incentives under the MEIS are granted @2% for a majority of the products. To encourage exports from this sector and to make India an electronics export hub, the industry urges that the rate of incentive under the MEIS be increased to 5% on all the ACE products.

II. Make domestic manufacturing cost-competitive.	
Low cost of capital	• Provide loans to start-ups and SMEs at reduced rates of interest. • Create a venture fund for investment in IoT and display technologies.
Low operational cost	• Provide training subsidies to companies hiring and training employees on ACE manufacturing. • The import duty on components that are not made in India may be brought down for a specific period, say 3-5 years, by which time, the local industry can also gear up to make such products. • Create a phased manufacturing plan for ACE products (similar to mobile phones) in which incentives will be linked to domestic value addition in India. • Keep the incentives available to the companies manufacturing goods in the excise free zones at same level under GST. (1)
Low R&D costs and royalty payouts	• Consider incentivising the spend on scientific research. • Envisaging cost efficiency for foreign technology transfers.
Low sourcing costs through development of supplier ecosystem	• Revise the semiconductor policy to attract investments in semiconductor fabs. Along with capital incentives already in place, provide operational incentives through interest cost subvention and weighted tax deductions / investment linked incentive to make the internal rate of return (IRR) attractive for investors. • Provide special packages to attract investments in high-value components such as LCD and LED panels and compressors. • Create standards for smaller appliances and components to ensure good quality supplier ecosystem development.
Duty differential	• The government could consider protecting the interests of the domestic industry by excluding ACE products from future FTAs, especially Regional Comprehensive Economic Partnership (RCEP). (2) • The government can assess levy of safeguard duty on imports made from countries where there are FTAs. • The government may consider increasing the rates of basic customs duty on imports of finished goods made from countries with whom we do not have FTAs.

1. Many original equipment manufacturer (OEMs) had set up manufacturing facilities in hilly states, where they were enjoying area-based excise incentives in the form of excise exemption/refund. Such incentives have been discontinued under the GST regime. The government recently announced a scheme for grant of budgetary support to these units. As per the scheme, budgetary support in the form of 58% of the Central GST (CGST) component paid in cash by such units is granted. This marks a reduction in the quantum of incentives since in the excise regime, such units were eligible to get a refund of 100% of the excise duty paid in cash. This reduction in incentives will force manufacturers to increase prices, resulting in the products becoming costly for end consumers. This would reduce the demand for products and impact businesses adversely. To support the industry, the government should consider revisiting the quantum of incentives offered under the budgetary support scheme and grant 100% of the CGST component paid in cash as budgetary support.
2. The local industry is concerned about import of goods from countries with which India has entered into a free trade agreement (FTA). Considering the well-developed manufacturing ecosystem and scale of manufacturing in these countries, the imports are impacting the domestic industry adversely. To encourage the growth of the industry in India, the government is requested to take steps to consider excluding ACE products from the product lists for the new FTAs which are negotiated, especially in the case of the RCEP.

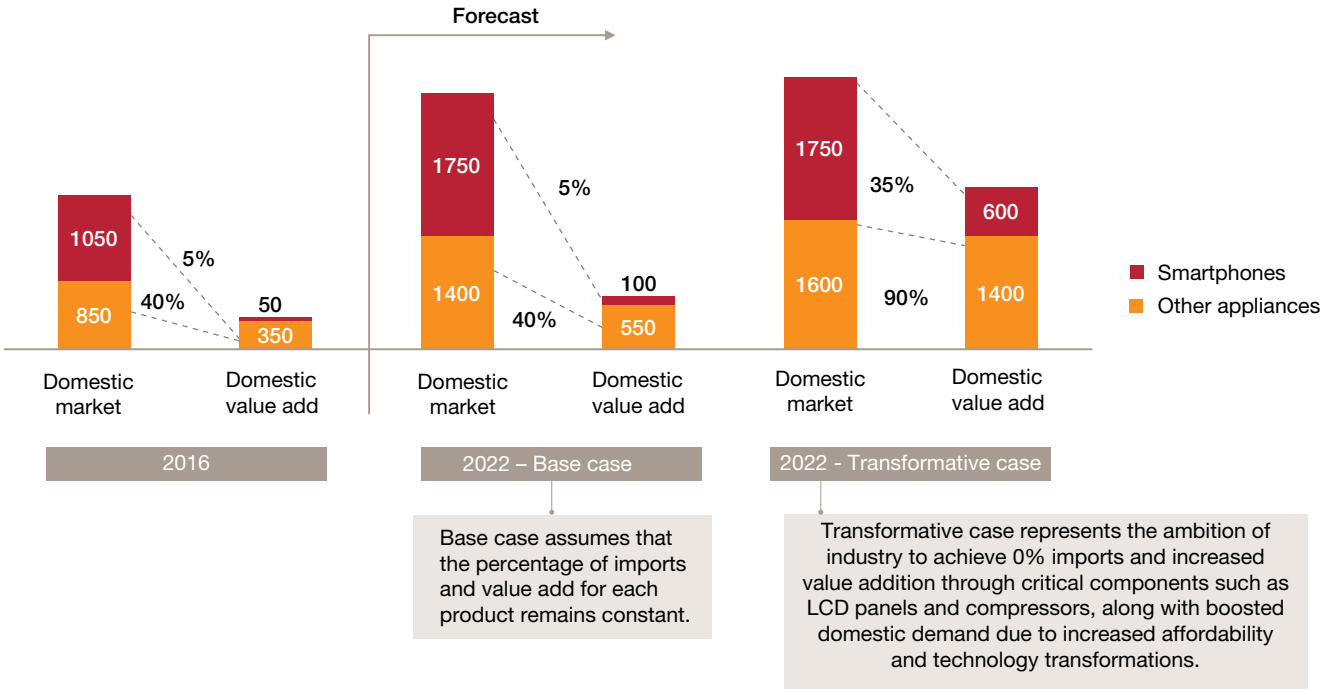
III. Make domestic manufacturing easy.	
Easy access to skilled manpower	• Amend labour laws to provide relaxations through: - Flexible multiple shift operations - Hiring women in multiple shifts • Create residential facilities, canteens, schools and recreation zones for employees near electronic manufacturing clusters. • Create centres of excellence for display technologies and IoT. • Encourage set-up of new design institutes.
Better infrastructure	• Provide better connectivity through roads and railways to reduce transit time and logistics costs on key industrial corridors. • Create plug and play facilities with ready approvals and basic facilities. • Debottleneck key ports (such as JNPT and Chennai) by increasing capacity and efficiencies.
Ease of documentation and operations	• Open online portal for any government application (such as starting a business, obtaining approvals and incentives, taxation). • Create a strong intellectual property rights (IPR) framework for IoT. • Relax collection target from 30% in E-Waste (Management) Rules, 2016, and increase this gradually over the next 10 years. • Reduce upward revision steps in the standards and labelling programme for energy efficiency.

Conclusion

The ACE manufacturing sector will play a key role in India's development as the nation becomes more urban and industrialised. With support from the government, the Indian ACE industry aspires to increase the local value add by 2x–3x. This increase in value addition, apart from direct contributions to the country in the form of taxation, is expected to attract further investments from global players, thereby providing jobs to a broad spectrum of workers and spurring income growth across different segments of society. Due to rising labour costs in alternative markets such as China and large domestic demand, global companies are turning their attention towards India as the next manufacturing destination. With a boost to domestic value addition, the number of jobs can increase by more than 1.5–2x as compared to the base case growth of 1x.

As other growing economies confront a rapidly greying population, India's young population will not only offer a large consumer market but also fulfil the demand for a skilled global workforce. With the right set of policies and regulatory framework, India can provide a clear and stable business environment that can facilitate growth in the Indian ACE industry. While support from the government is important, the onus is on companies to grow responsibly and foster innovation across the ACE industry.

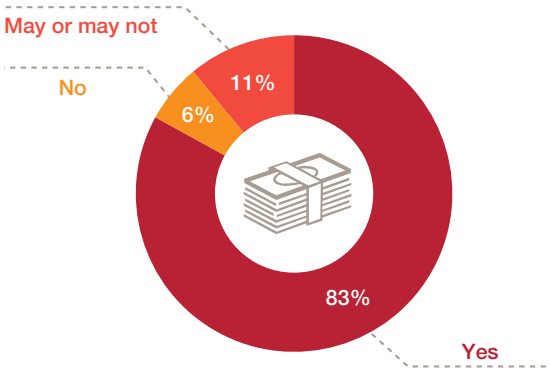
Future of the domestic ACE market in India and level of value addition
2016–22 (P), billion INR



Source: Industry estimates, PwC analysis

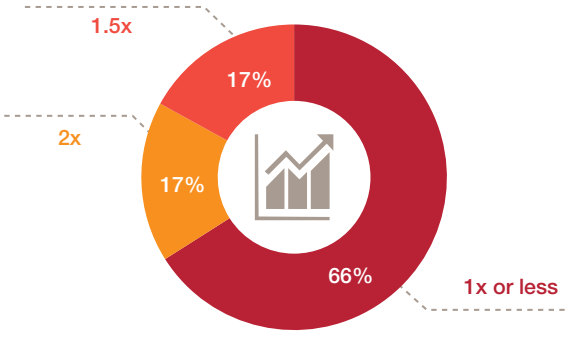
Industry voice on ACE outlook

Are you planning to invest/invest further in India?



83% of survey participants responded that their company has plans to invest further in India

Expected increase in jobs as industry grows 2x



34% of survey participants responded that they expect jobs to increase by more than 100%

About CEAMA

Consumer Electronics and Appliances Manufacturers Association (CEAMA) was established in 1978 and is an all-India, not-for-profit body representing the consumer electronics, home appliances and mobile handset industry with members that include multinationals like Bosch-Siemens, Haier, Hitachi, LG, Panasonic, Samsung, and Whirlpool as well as domestic brands like Godrej, Intex, Onida and Videocon. It also has among its members several OEMs of appliances, electronics, mobile handsets, set-top boxes and small appliances, and a host of small and medium-scale entrepreneurs. CEAMA's primary aim is to enhance the development of the sector it represents through sustainable engagement with stakeholders, among whom the government is key.

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