

Vision 2030: India's rise as a global force in consumer electronics and durables



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The scope of this report and all data presented herewith covers white goods, including air conditioner, refrigerator, washing machine, microwave oven; television and brown goods, including kitchen appliances, variety of personal care and home appliances.

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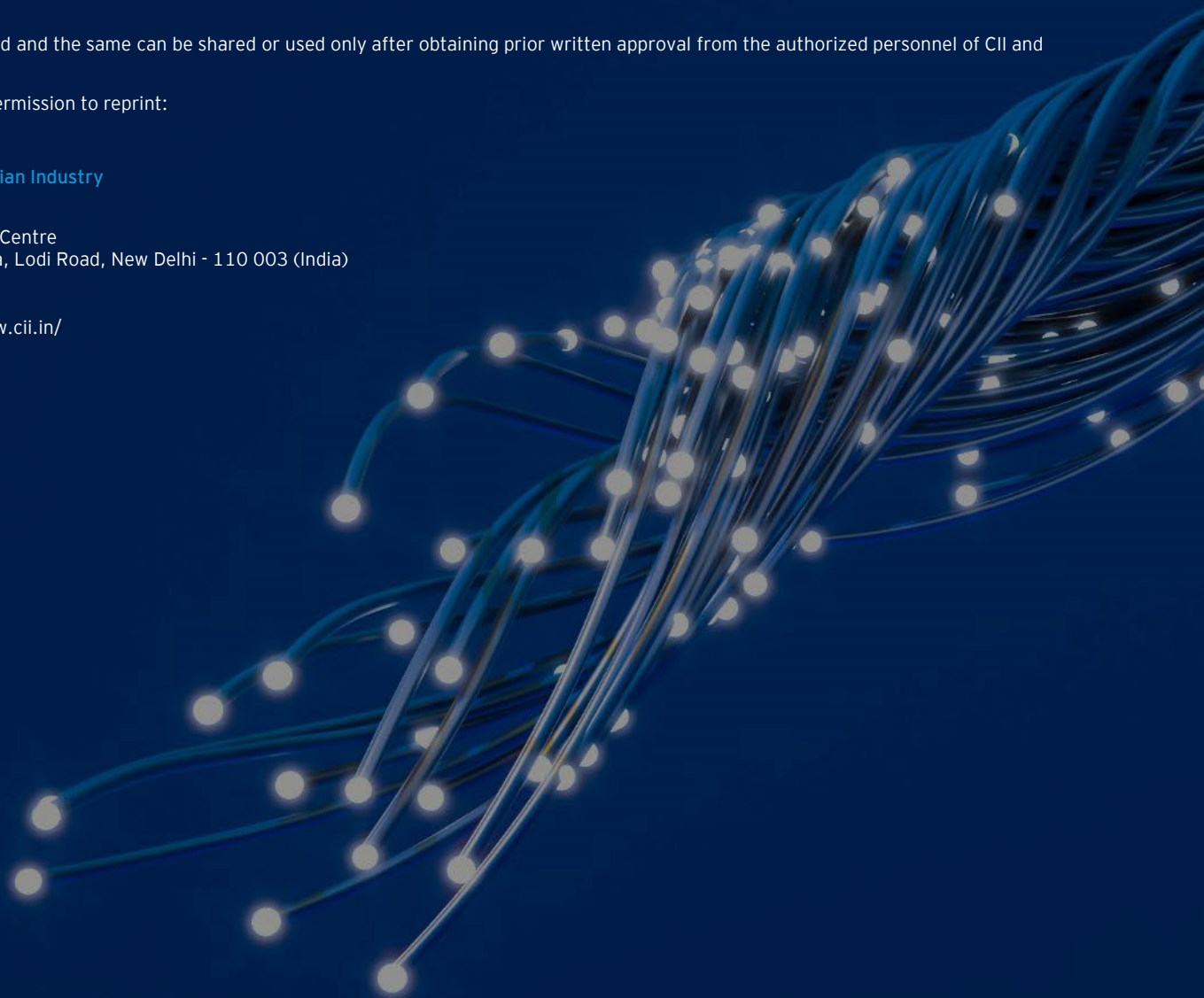
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[Confederation of Indian Industry](#)

The Mantosh Sondhi Centre
23, Institutional Area, Lodi Road, New Delhi - 110 003 (India)

Email: info@cii.in
Website: <https://www.cii.in/>





Foreword



B Thiagarajan

Chairman, CII National Committee on Consumer Electronics and Durables, and Managing Director, Blue Star Ltd.

India is the fastest-growing major market for consumer durables in the world and is expected to become the fourth-largest by 2027, with projected market size to reach INR 3 lakh crore by fiscal year 2029.

At the national level, GoI has launched ambitious schemes and programs aiming to boost competitiveness and make India a self-reliant, technologically advanced global player.

The industry is undergoing unprecedented changes driving new opportunities for industry players. Some of these changes include increasing household penetration, shift towards energy-efficient devices, IoT/connected devices, omnichannel distribution models driving deeper consumer penetration.

The next decade is expected to create multiple opportunities in the value chain for finished goods as well as buildout of an indigenous component ecosystem. With domestic scale, India's prospects of becoming a global manufacturing powerhouse hold great promise.

This report, a partnership between CII and EY, aims to identify opportunities along 4 vectors, namely 1) Spurring domestic penetration 2) Indigenization of the value chain 3) Building export competitiveness 4) Differentiating along pivotal changes in technology and sustainability.



Angshuman Bhattacharya

Partner and National Leader - Consumer Product and Retail Sector, EY Parthenon

We are delighted to collaborate with the Confederation of Indian Industry (CII) to present a thought leadership paper at the Consumer Durables Summit, embracing the theme of "Vision 2030: India's rise as a global force in consumer electronics and durables".

The Indian consumer durables sector is among the core pillars of the consumer economy, contributing ~0.6% to India's GDP in FY24 and is poised for significant growth. While the sector is ripe with opportunities, it also faces challenges related to affordability, import-dependence on key technologies and high costs of indigenization, lack of economies of scale and an under-developed vendor and support services ecosystem. Through this collaboration, we aim to highlight possible strategies for overcoming these hurdles and driving sustainable growth.

Our report underscores the importance of accelerating domestic demand and increasing indigenization along the value chain; measures which are critical to achieve a self-reliant consumer durables industry in India and building export competitiveness. We look forward to engaging with stakeholders across the sector to foster a thriving industry that aligns with the nation's development goals.



Virendra Gupta

Deputy Director General, CII

As India continues its journey toward becoming a global economic powerhouse, consumer electronics and durables sector will play a crucial role, mirroring the aspirations of an expanding middle class. The sector's growth is vital not only for economic progress but also for India's vision of self-reliance and sustainable development. It will play an important role in India's economic trajectory, generating employment opportunities, fostering entrepreneurship, and contributing to the country's vision of becoming the world's third-largest economy in the next five years.

This report, "Vision 2030: India's Rise as a Global Force in Consumer Electronics and Durables," highlights the sector's importance to the Indian economy, the challenges it faces, and the vast opportunities ahead. It presents a bold 2030 vision for accelerated industry growth through indigenization and sustainability.

In order to create a thriving environment that supports domestic growth and localization of the value chain, it is crucial to focus on infrastructure development, skill enhancement programs, and increased investment in R&D. This will allow India to foster technological advancements tailored to local needs while strengthening its appeal to international markets.

CII remains committed to supporting this sector in achieving its vision of becoming a global leader in sustainable innovation and driving India's economic growth. Through collective efforts, we can build a thriving consumer durables industry that not only meets the aspirations of India's citizens but also contributes significantly to the global market.



Preface

Amid global challenges, India stands out as a forward-looking economy with a clear vision, underpinned by its youthful demographics, technological progress and strategic policies.

The nation is set to surpass Japan and Germany, establishing itself as the world's third-largest economy by 2027.

The Indian consumer durables sector is a significant pillar supporting the country's growing economy, with a vast population aspiring to improve its standard of living. Currently, the country is experiencing a surge in demand with rising discretionary spending, evolving consumer behavior, changing climatic conditions and technological innovations driving penetration and multi-ownership.

Despite India's noteworthy position in the global consumer durables market (sixth largest as of FY24), the sector still faces challenges to realize its full potential of domestic demand as evidenced by low penetration of key white goods like ACs.

In addition, India still relies on imports for high-end and technologically advanced items. To address this, the Government of India has implemented reforms and policies to promote domestic manufacturing growth through the 'Make in India' campaign.

The vision of Atmanirbhar Bharat is particularly relevant for the consumer durables sector, as it emphasizes the need for India to scale up its manufacturing capabilities and reduce dependence on imports. However, realizing this vision requires a thorough understanding of the current landscape, the challenges faced by the industry and the opportunities that lie ahead.

One of the key areas that needs attention is the cost competitiveness of Indian-made products. When compared to global standards, there is room for improvement in terms of production efficiency and technological adoption. Furthermore, the industry must navigate through the complexities of environmental sustainability and consumer expectations. This involves promoting energy-efficient appliances, ensuring responsible disposal and recycling of electronic waste.

The government's role in sustaining policy reforms is crucial for the growth of the sector. Financial support and incentives for domestic manufacturing and R&D as well as for the adoption of modern technologies, are imperative to maintain the momentum of growth and innovation.

By harnessing technology and innovation and achieving critical scale, the sector can realize significant reductions in expenses, enhance product quality, and improve the overall competitiveness of Indian consumer durables in a global context. It is through the collective efforts of all stakeholders – manufacturers, government, retailers, and consumers – that we can drive the sector towards a future of self-reliance and global leadership.

We present this report with the hope that it will spark meaningful discussions and actions towards achieving a self-reliant consumer durables sector in India, contributing to the nation's economic growth and the well-being of its citizens.



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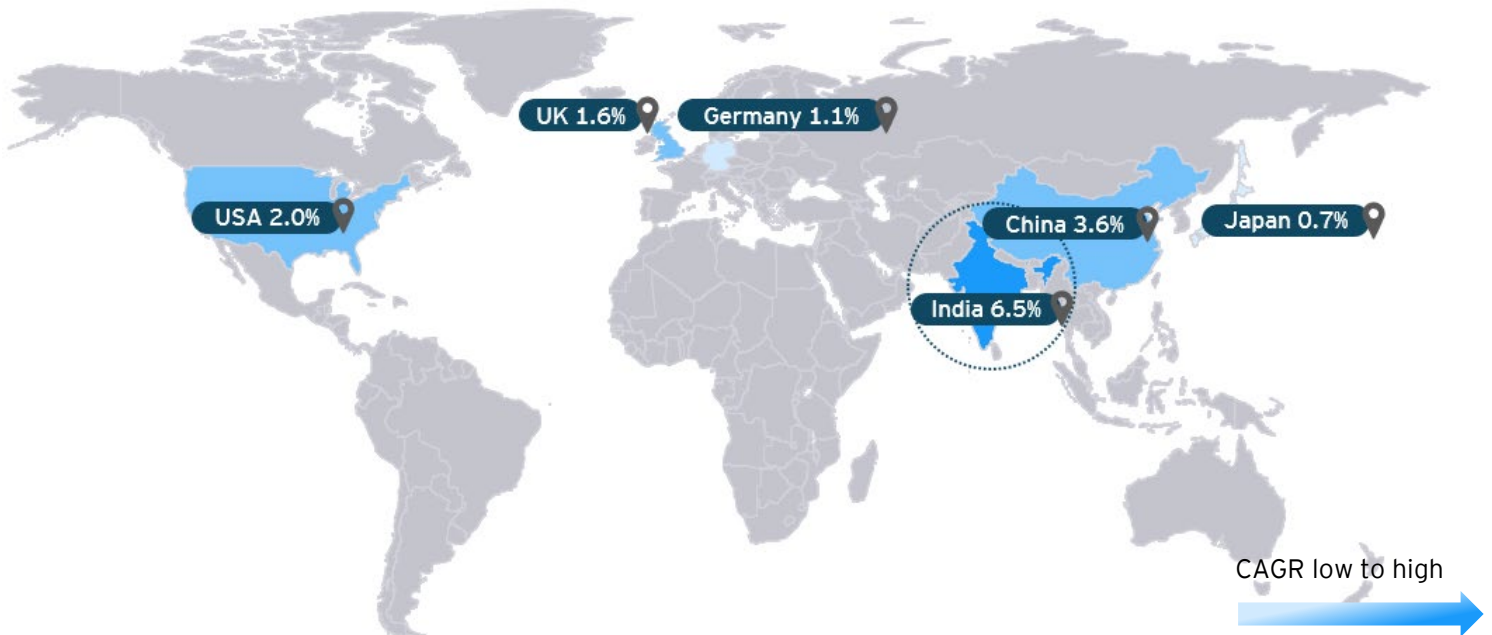
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India's emergence as an economic superpower amid global shifts

India has embarked on a transformative era, characterized by economic resilience, manufacturing innovation and inclusive development. While major global economies face geopolitical and macroeconomic disruptions, India has emerged as a progressive nation with a comprehensive economic vision, driven by favorable demographics, technological advancements and strategic policy frameworks. As the fifth-largest economy with a GDP of US\$3.6 trillion in 2023, projections indicate that India is set to surpass Japan and Germany, ascending to the position of the third-largest economy by 2027¹.

The projected growth rate of Discretionary Private Final Consumption Expenditure is expected to surpass that of Non-Discretionary Private Final Consumption Expenditure, with a compound annual growth rate (CAGR) of 12.3% compared to 10.6% from 2024 to 2029². The growing middle class in India is driving a thriving domestic market for consumer products, indicating an increase in lifestyle upgrades. The Government's thrust on indigenized value chains and export competitiveness is reflected across sectors ranging from automotive, pharmaceuticals, specialty chemicals, where India is making a mark as a reliable, competitive and differentiated manufacturer for the world.

Projected real GDP growth rate - IMF (FY24-29F, CAGR %)



Note: Data for India in fiscal year (Apr-Mar) while for other economies are in Calendar years - as per IMF World Economic Outlook Apr-24

1) World Economic Outlook (April 2024) - GDP, current prices (imf.org)

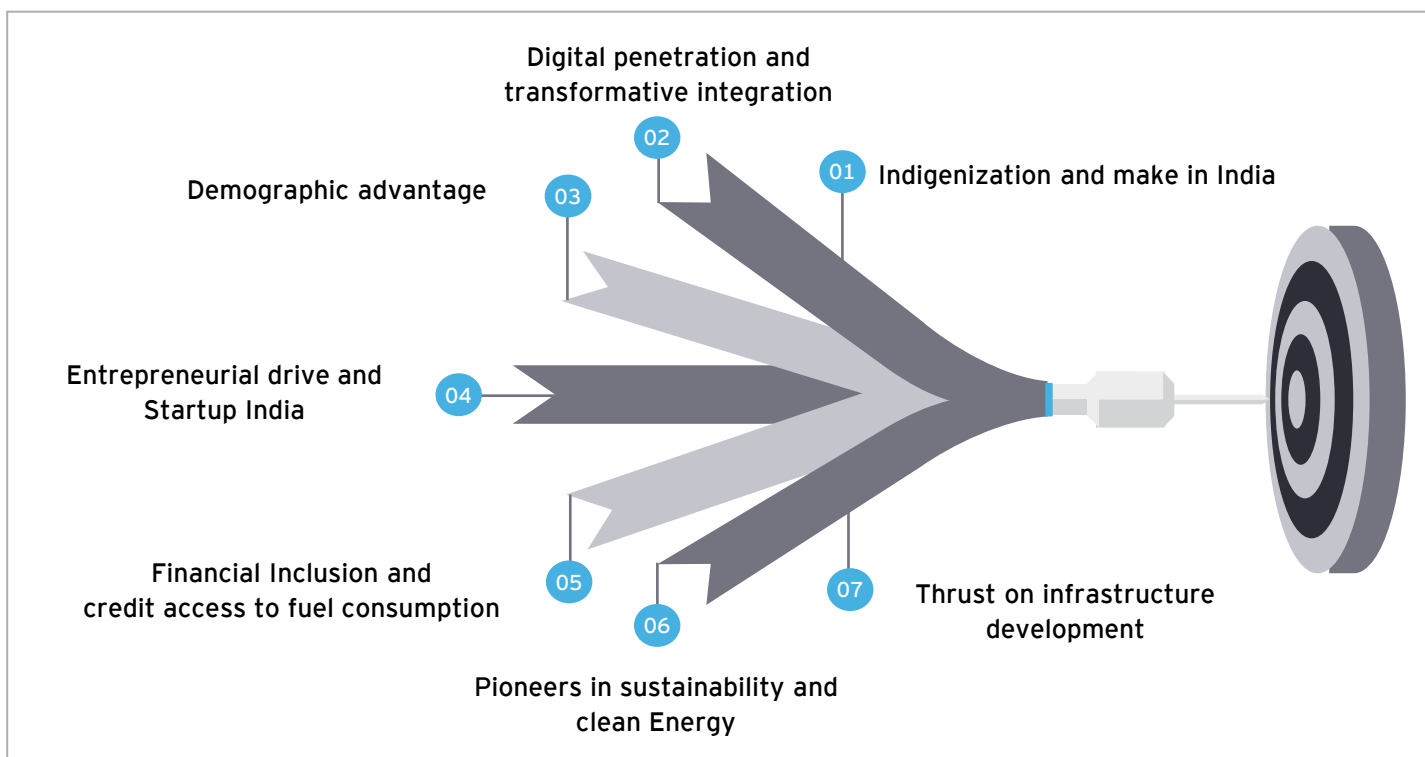
2) In-line with FY13-23 Growth Rate, MoSPI, National Accounts Statistics 2024 | Ministry of Statistics and Program Implementation | Government Of India (mospi.gov.in)



1.1 Strong fundamentals fueling India's growth story

Supportive government initiatives, such as 'Make in India' that foster domestic manufacturing prowess, are set to position India as a global design and manufacturing epicenter. Additional catalysts, such as digitization, targeted infrastructure enhancements, a burgeoning entrepreneurial

ecosystem, increased access to investment capital, and accelerated green economy pursuits are set to synergistically drive multifaceted transformations across multiple sectors in the next decade.



Indigenization and Make in India

Initiatives supporting domestic manufacturing, such as competitive direct tax rates, a streamlined indirect tax regime and incentives provided under PLI schemes spanning 14 sectors, are poised to position India as a favorable destination for foreign investment.

Additionally, the 'Make in India' program has played a crucial role in attracting substantial investments to the country. FDI equity inflow in the manufacturing sector has grown by 55%³ over the last nine financial years (2014-23), reaching US\$145 billion compared to US\$96 billion in the previous nine years (2005-14). This growth is driven by a series of reforms aimed at enhancing the ease of doing business, liberalizing the FDI policy and promoting domestic manufacturing.

3) <https://sansad.in/getFile/loksabhaquestions/annex/1714/AS258.pdf?source=pqals>



Digital penetration and transformative integration

India's **digital transformation** is propelled by the widespread adoption of mobile phones with 85.95% tele-density and 941 million⁴ broadband subscribers. The financial inclusion efforts, bolstered by advancements in fintech and the implementation of UPI for digital transactions, form the core of the 'Digital India' initiative. These will serve as the foundation for technologies like AI, blockchain, and IoT, further bolstering India's journey towards a more digitally empowered society.



Demographic advantage

With a substantial working-age population, India possesses a **demographic dividend** that presents a strategic opportunity to establish itself as a manufacturing hub, amplifying economic expansion. Additionally, with a growing young population and increasing consumption (as exemplified by GDP per capita crossing the inflection point of US\$2500⁵), India is witnessing a surge in discretionary spending, leading to higher penetration and strong double-digit growth of consumer products.



Entrepreneurial drive and Startup India

India's thriving **entrepreneurial culture** is pivotal in driving the nation's economic growth and social advancement. Supportive government policies, the surge in venture capital funding and an expanding consumer market are driving the surge of new-age companies. These start-ups have achieved prominence by offering innovative products that address the intricate needs of the Indian market at affordable prices.



Financial inclusion and credit access to fuel consumption

India's debt-to-GDP ratio of 55% remains one of the lowest among significant economies. Despite pandemic-related hurdles, gross NPAs of Indian banks have hit an all-time low of 3% as of December 2023⁶. This presents India with a great opportunity to leverage technology to enhance collaborations between e-commerce platforms, NBFCs, and banks, which can **expedite credit access** and create new avenues for **specialized credit requirements**.



Pioneers in sustainability and clean energy

India has set forth **ambitious sustainability goals** to address climate change. 'The Lifestyle for Environment (LiFE)' initiative⁷, unveiled during COP26, highlights the significance of sustainable living and has been seamlessly integrated into India's energy transition strategy. The Government of India pledged a US\$2.2 billion incentive to achieve an annual capacity of 5 million metric tons and reduce the production cost of green hydrogen by a fifth over the next five years⁸.



Thrust on infrastructure development

India's push for **infrastructure development** is focused on **improving transport and logistics connectivity**, which enables businesses to enhance their competitive advantage. Initiatives such as 'Gati Shakti' strive to improve intermodal visibility and synergies, thus reinforcing transportation efficiency. Similarly, the 'National Logistics Policy' targets to accelerate movement speed and reduce costs.

4) https://traf.gov.in/sites/default/files/PR_No.54of2024_0.pdf - as on 30th Jun 2024

5) <https://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD>

6) <https://bfsi.economicstimes.indiatimes.com/news/banking/indian-banks-gross-npas-hit-all-time-low-may-fall-below-3-by-fy24-end/108250243#:~:text=2%20min%20read-,Indian%20banks'%20gross%20NPAs%20hit%20all%20time%20low%3B%20may,%25%2D2.90%25%20by%20FY24%20end.>

7) <https://ciiblog.in/the-indian-growth-story-and-its-global-footprint/>

8) India plans \$2 billion incentive for green hydrogen industry, says report | Economy & Policy News - Business Standard ([business-standard.com](https://www.business-standard.com))

1.2 Viksit Bharat 2047: a change accelerator

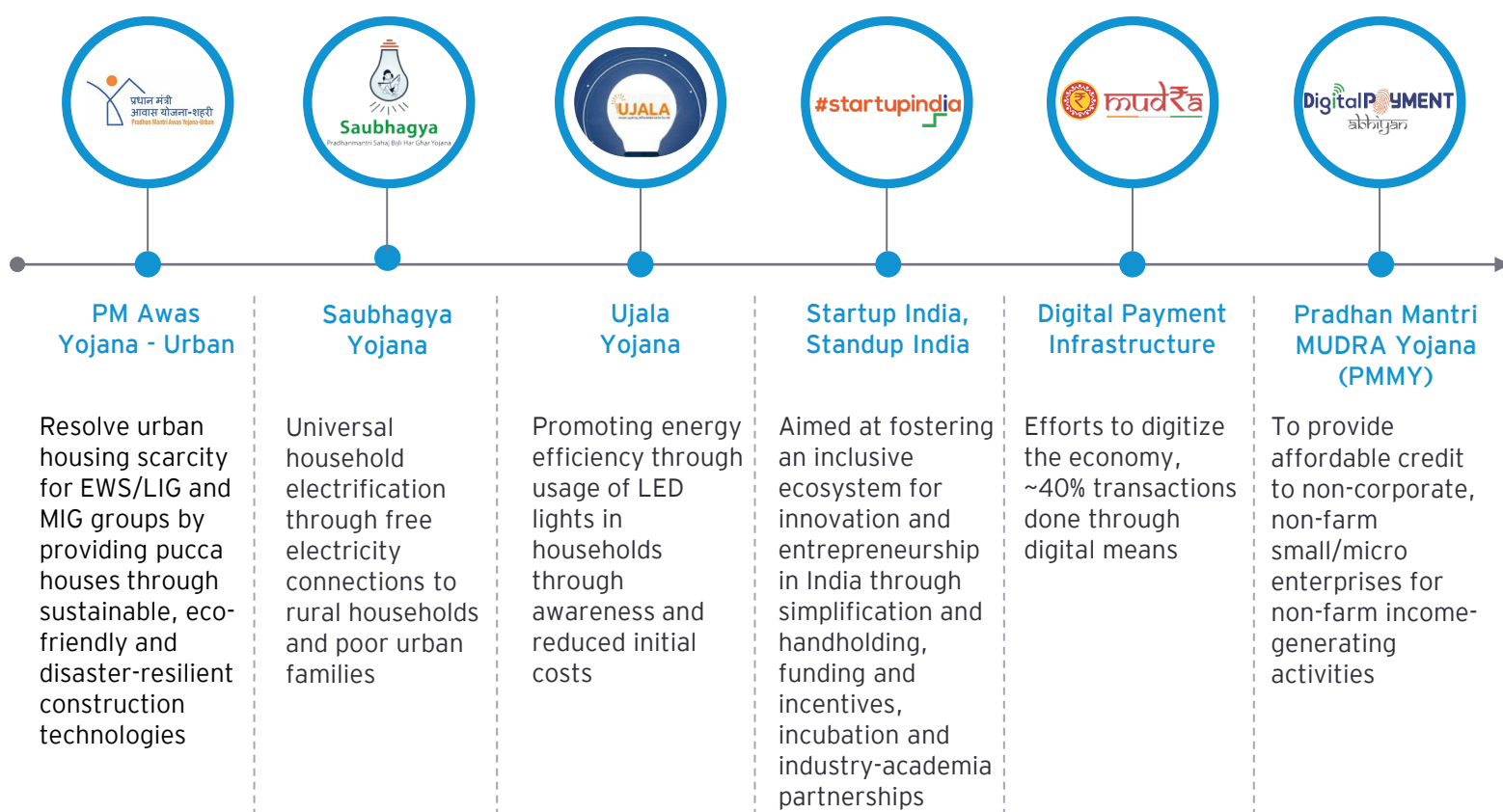
The Viksit Bharat initiative, embodies the vision of the Indian government **to evolve the nation into a developed entity by 2047**⁹. Incorporating a spectrum of development aspects such as economic prosperity, social progress, environmental sustainability, and effective governance, it endeavors to map out a holistic trajectory for India's advancement. The initiative aims at capacity building, fueling demand and building a strong, resilient economy as India commemorates its centenary of independence in 2047.

The program is set to boost electronics manufacturing capabilities, highlighted by the commencement of three semiconductor chip manufacturing facilities in Gujarat and Assam. These projects, worth INR1.25 lakh crore, are part of the "India's Techade: Chips for Viksit Bharat' initiative"¹⁰.

The initiative aims to establish a semiconductor industry in India, crucial for India's technological advancements and economic growth. Increasing investments in chip design and manufacturing, establishing semiconductor fabrication plants (fabs), and developing a semiconductor ecosystem in India will be a major step towards achieving technological self-sufficiency. It will also contribute to economic growth, job creation, and export competitiveness.

Viksit Bharat 2047 aims to transform India into a developed country focusing on economic, social, environmental and governance advancements.

Flagship schemes under Viksit Bharat



Source: <https://viksitbharatsankalp.gov.in/flagship>

9) <https://innovateindia.mygov.in/viksitbharat2047/>

10) https://www.pmindia.gov.in/en/news_updates/pm-participates-in-indias-techade-chips-for-viksit-bharat-program/

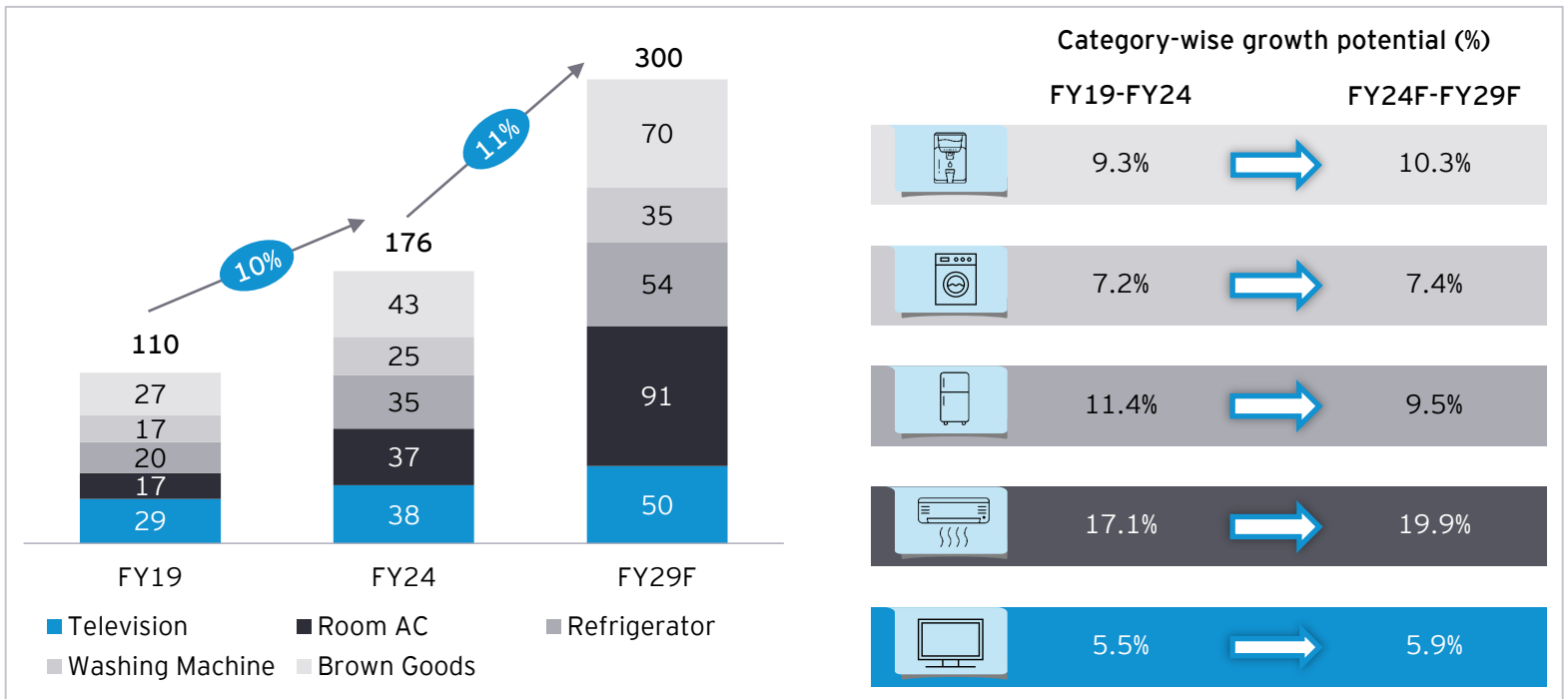
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Significance of consumer durables and electronics sector

The consumer durables sector in India contributes to ~0.6% of India's GDP, and is expected to grow at ~11% (CAGR) to reach INR 3 lakh crore by FY29. Despite the pandemic, the domestic market has experienced a growth of 10% (CAGR) during FY19-24 driven by increasing affluence, household penetration, premiumization and shorter replacement cycles.

Going forward, the growth expectation at a sector level is expected to be over 11%, but with some categories like ACs and appliances accelerating as consumers unleash discretionary spending towards household upgrades. Technological shifts towards connected and energy efficient devices are expected to drive incremental growth.

Indian consumer durables market (INR '000 Cr)



Source: Industry Reports, EY Analysis

Note: Market size in Consumer Prices; Brown Goods includes microwave oven, kitchen appliances, home appliances, personal care appliances

Voice of Industry



Over the course of the decade, the durable goods industry is projected to sustain a growth rate of 10% to 15%.

More than 70% of industry players believe rural India will outpace urban India in growth¹¹

11) CII Consumer Durable Member Survey



India is the fastest-growing major market in the world and is expected to become the fourth-largest market for consumer durables by fiscal year 2027, driven by favourable demand-side and supply-side tailwinds.

The potential is even higher if the industry viably invests upstream in the value chain in components, improving the profit pools in India. This can drive a spiral of changes reducing forex and trade dependence, generate employment, build economies of scale and scope and put India on the global export map.

Exhibit 1: Business as usual growth scenario and India's ranking

Consumer durables market size (US\$ billion)							
Countries	FY24	FY25F	FY26F	FY27F	FY28F	FY29F	FY24-29F CAGR
China	144	153	160	167	175	184	5.0%
USA	134	138	144	150	157	165	4.3%
Japan	32	33	35	36	37	40	4.0%
Germany	26	26	27	27	29	30	3.0%
United Kingdom	24	25	25	26	27	28	3.3%
India	21	24	27	29	32	36	11.2%
Others	286	303	324	348	374	401	7.0%
World	665	700	742	789	839	894	6.1%
India's rank	6 th	6 th	5 th	4 th	4 th	4 th	

Source: Industry Reports, EY Analysis

2.1 Key product trends in the industry



Premiumization and upgradation:

- ▶ Increasing share of large TVs (>32"), Fully Automatic Washing Machines, Inverter ACs, Larger Refrigerators (>270 L) frost free¹²



Growing relevance of energy efficiency and sustainability:

- ▶ Increasing demand for energy efficient and eco-friendly home appliances
- ▶ Sale of 4-5 star ACs has increased to 35% in H1CY22 vs 19% in H2CY19



Importance of aesthetics beyond functional:

- ▶ Innovative designs and colors adding aesthetic value to homes, growing trends towards customizable products



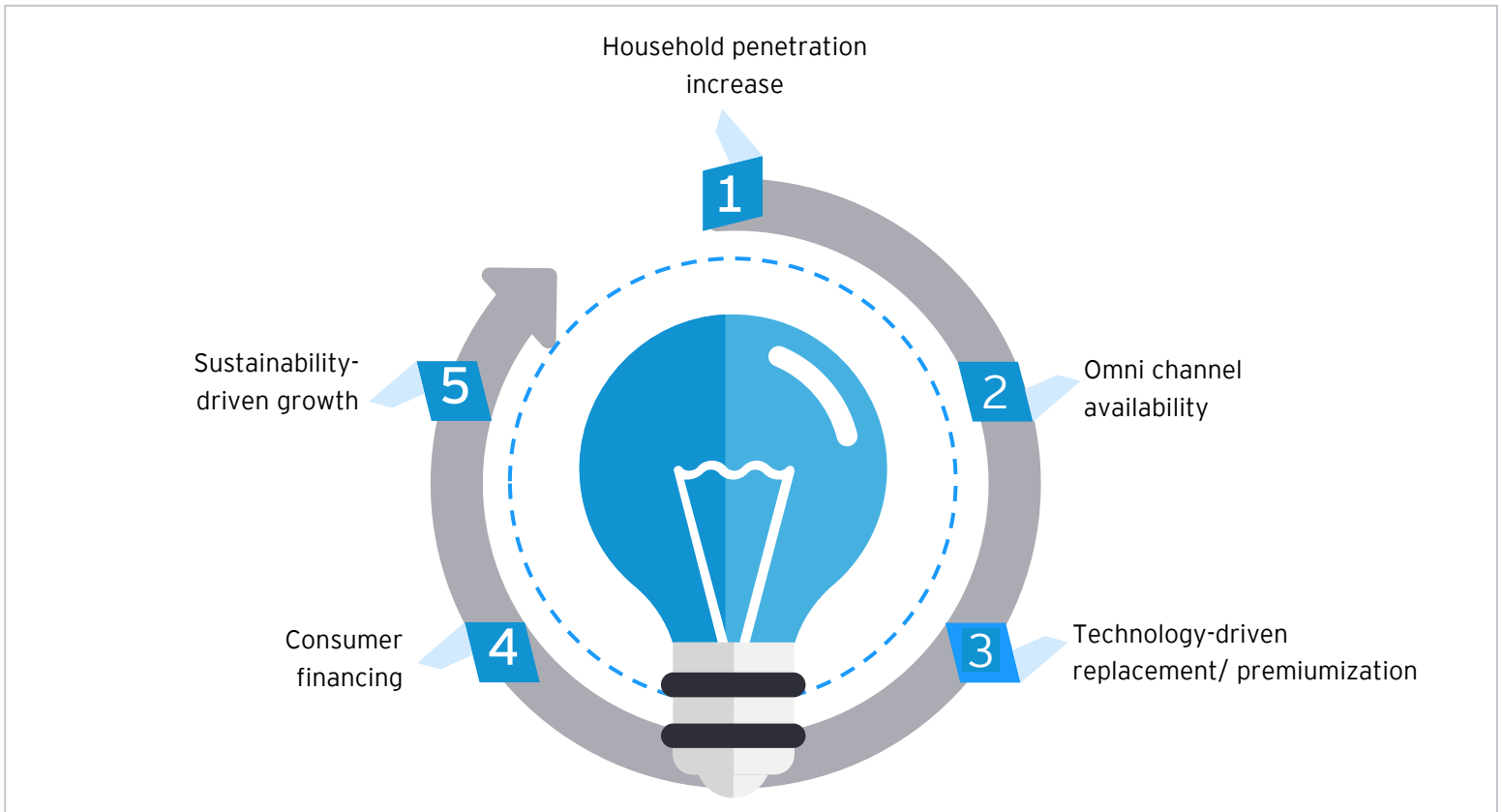
Smart and interconnected appliances:

- ▶ IoT enabled products with single point control, voice commands operability, smart adjustments are becoming popular
- ▶ Penetration of smart appliances estimated to reach ~10% by 2028 from 4% in 2023¹³

12) CRISIL Webinar on Consumer Durables - Aug 2022

13) As per Statista

2.2 Expected tailwinds and drivers for the Indian consumer durables industry



1

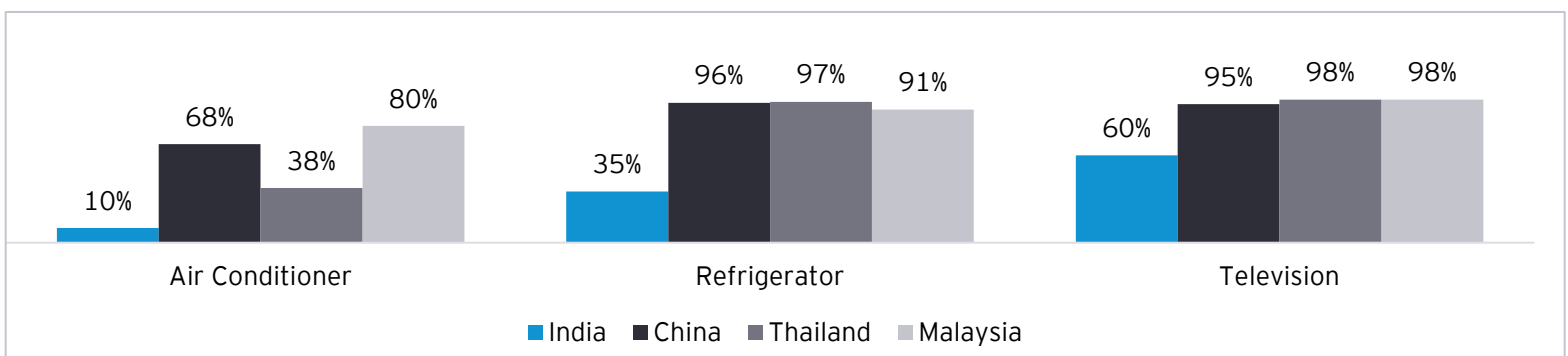


Under-indexed household penetration

Lower penetration levels for appliances compared to the global average and per capita spend in India highlight significant growth potential in domestic consumption. Household consumption has doubled in the past decade, with Monthly Per Capita Consumption Expenditure (MCPE) in rural areas rising from INR1,430 in 2011-12 to INR3,773 in 2022-23, while in urban areas, it grew from INR 2,630 to INR 6,459 over the same period.

This surge in spending, along with changing consumer preferences and habits, is fuelling the demand for appliances, as consumers are increasingly investing in premium and value-added products.

Household penetration - India vs its peers (2023)




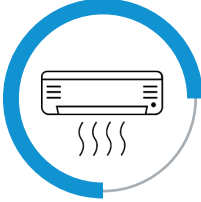
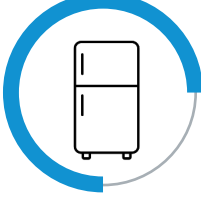


Note: Refers to CY23 for other counties, FY24 for India

Source: AC penetration estimated from IEA, TV Penetration from Asia Video Industry Association previously CASBAA, Washing Machine and Refrigerator from Euromonitor and Press Search

14) https://mospi.gov.in/sites/default/files/publication_reports/Factsheet_HCES_2022-23.pdf

Category-level growth potential

Significant headroom for growth exists in household penetration. Some trends that are expected to drive individual categories are:

Category	Trends	
 <p>Televisions</p>	<p>Household TV penetration has increased from 50% in 2018 to 60% in 2023, fueled by rising disposable incomes, rapid technological advancements, and digitalization in the television industry. This shift has driven the popularity of smart TVs, as consumers seek personalized content, on-demand services, app integration, and interactive features, enhancing their viewing experience.</p>	<p>The demand for large-screen TVs (over 32 inches) has also seen a marked increase as more Indian consumers opt to upgrade. Despite the widespread adoption of televisions, significant growth opportunities remain, driven by multiple ownership and shorter replacement cycles.</p>
 <p>Air Conditioners</p>	<p>Climate change, leading to frequent heatwaves, has made ACs a necessity rather than a luxury. This is evident in the category's growing penetration, from ~6% in 2019 to 10% in 2023. Consumers are also looking for energy-efficient versions, as the sale of 4 to 5-star ACs has grown to 35% in</p>	<p>H1CY22 versus 19% in H2CY19. Sales of 5-star inverter models with particulate air filters are expected to rise in metropolitan and urban areas, while affordable 3-star air conditioners are likely to dominate semi-urban and rural markets.</p>
 <p>Refrigerators</p>	<p>Increasing consumer demand, new features such as digital inverter systems and convertible fridges, accessible financing, and evolving consumer lifestyles are fueling demand for refrigerators in India. There is a rising preference for premium, energy-efficient models, with consumers opting for larger refrigerators (>270L frost-free), leading to increased category penetration</p>	<p>of ~35% in 2023 (up from ~30% in 2019). Government subsidies, incentives, and the 'Make in India' initiative have further boosted market supply. Features such as inverter compressors, adaptive cooling technology, and vacuum-insulated structures are expected to drive growth as consumers seek innovative cooling solutions.</p>
 <p>Washing Machines</p>	<p>Increased environmental awareness and efforts to reduce utility costs is driving a growing preference for energy-efficient and water-saving models. Moreover, the convenience and timesaving benefits is fueling demand for fully automatic machines, with sales surpassing that of semi-automatic models. With a penetration rate of <20% in 2023,</p>	<p>there is substantial growth potential in this sector. The increasing demand for advanced and eco-friendly washing machines is also driven by characteristics like inverters, front-loading designs, automatic load sensors, and magnetic motor bearings.</p>
 <p>Brown goods</p>	<p>Large kitchen appliances, water heaters, water purifiers, and dishwashers are poised for growth of 15% to 18% due to higher demand from urban areas, while established categories like mixers, juicers, small kitchen appliances, and household appliances are anticipated to experience</p>	<p>growth rates ranging from 8% to 10%. Multi-functional appliances equipped with intelligent sensors and space-efficient designs are expected to gain popularity as consumers continue to look for innovative and convenient functionalities.</p>

Source: AC penetration estimated from IEA, TV Penetration from Asia Video Industry Association previously CASBAA, Washing Machine and Refrigerator from Euromonitor and Press Search, EY Analysis

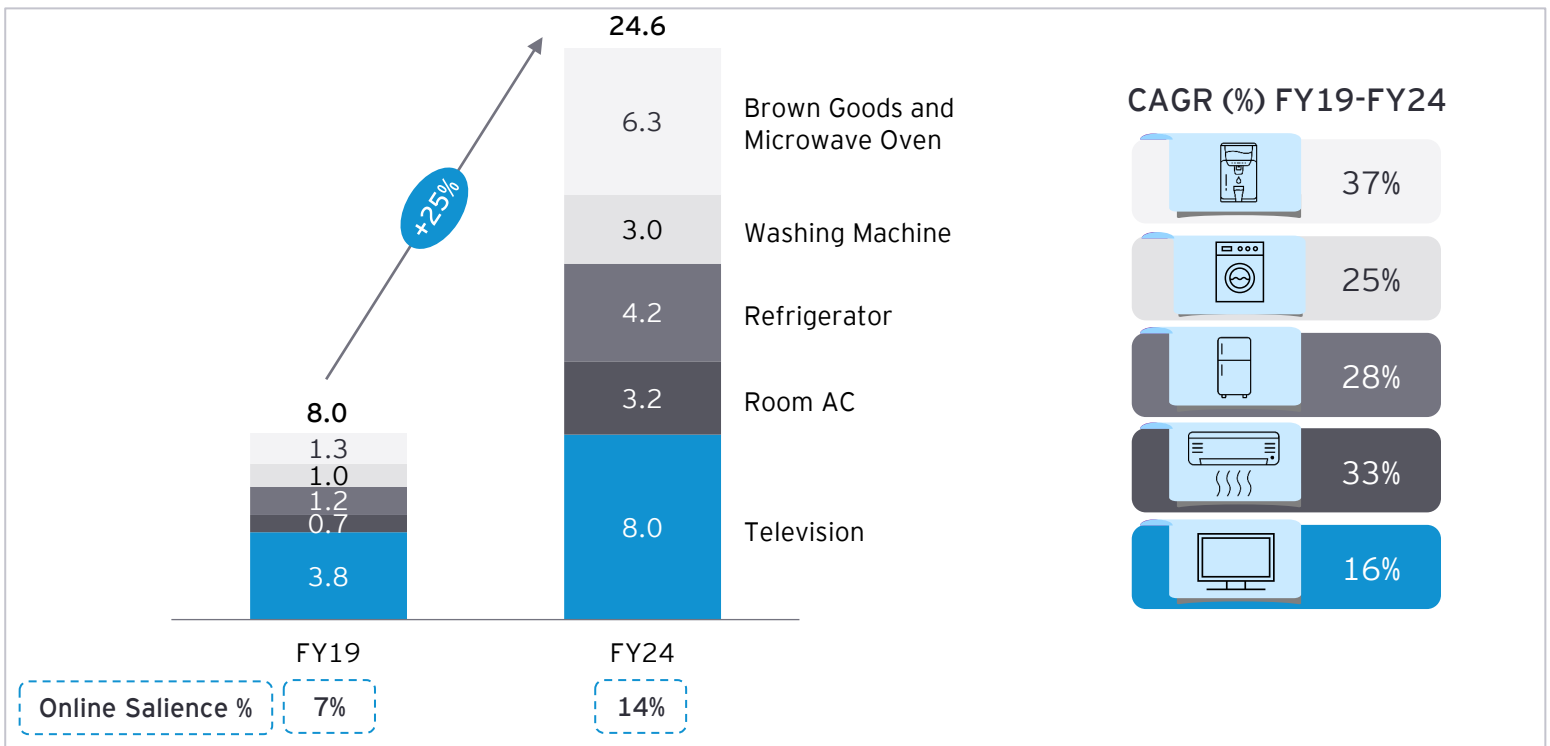


Improved availability through online channels and amplified by ONDC

India, with approximately 14% online salience, lags behind peers such as China, where online sales of consumer durables account for 60% to 70% of total retail sales. Online sales are higher for TVs (around 22%-25%) compared to major white goods like air conditioners, washing machines, and refrigerators, which have an online salience of 10% to 14%. The Government of India's ONDC initiative aims to accelerate e-commerce and benefit the entire ecosystem.

This includes enhancing the range of choices available to buyers, expanding visibility and accessibility for smaller suppliers, manufacturers, and retailers, and elevating e-commerce salience in retail from 8% in FY23 to 25% by FY25¹⁵. ONDC is positioned to drive growth in e-commerce across multiple sectors, potentially reaching US\$250 billion to US\$300 billion in gross merchandise value by 2030¹⁶.

Online consumer durables market (INR '000 Cr)



Source: Industry Reports, EY Analysis

Online channels are expected to grow sustainably driven by greater brand choice to consumers, convenience of home delivery. Developing supply infrastructure is expected to expand to tier 2 cities, tier 3 cities and rural India over the next decade.

Development of installation and after sales support networks, growth of multi brand service companies, better availability of spares and growth of a resale market are expected to add to a holistic customer experience

Voice of Industry



The importance of online channels is increasing, and could further increase penetration in the consumer durables and electronics sector

15) As per ONDC CEO -May 2023

16) <https://inc42.com/buzz/ondc-has-potential-to-generate-250-300-bn-in-ecommerce-gmv-by-2030-redseer/?ref=ondc.org>

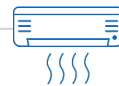
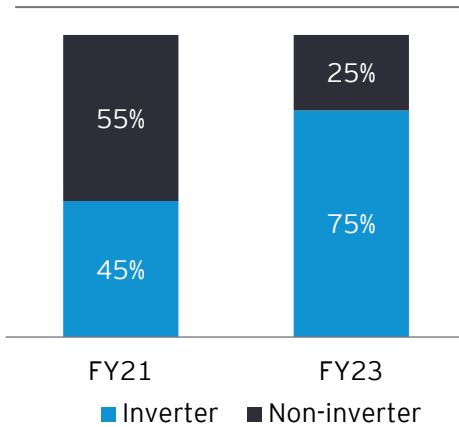


Technological innovations leading to shorter replacement cycles

Technological advancements in the industry are driving a growing demand for smart appliances, while the adoption of the latest technologies is shortening replacement cycles. For instance, the replacement cycle for televisions decreased to 6-8 years by 2023 from nine to 10 years in 2014¹⁷.

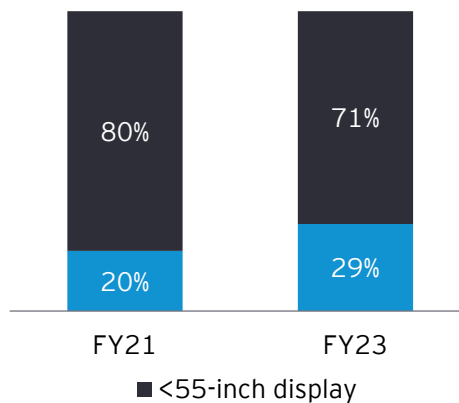
Indian consumers are upgrading to larger displays, energy and cost saving appliances. Proliferation of automated appliances is driven by the diminished need for manual intervention and growing need for convenience and connectivity in living spaces.

AC: Shift to inverter ACs



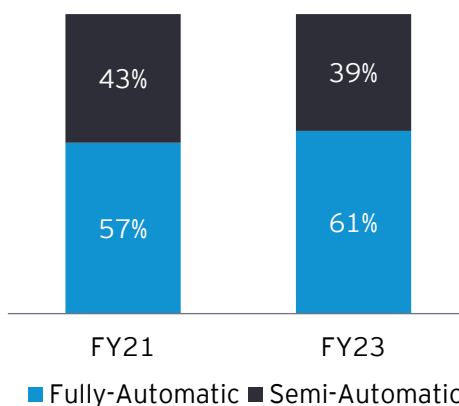
Inverter air conditioners have become the preferred option owing to reduced operational expenses, superior energy efficiency, quiet performance, and enhanced usage reliability.

TV: >55 Inch TV growing faster



Buying behavior is shifting towards larger displays, transforming living rooms into home theaters for enhanced viewing experience.

Washing machine: Increasing share of fully-automatic washing machine



Fully automatics are in demand with busier lifestyles due to limited manual interventions

17) Industry Reports, Press Search, EY Analysis

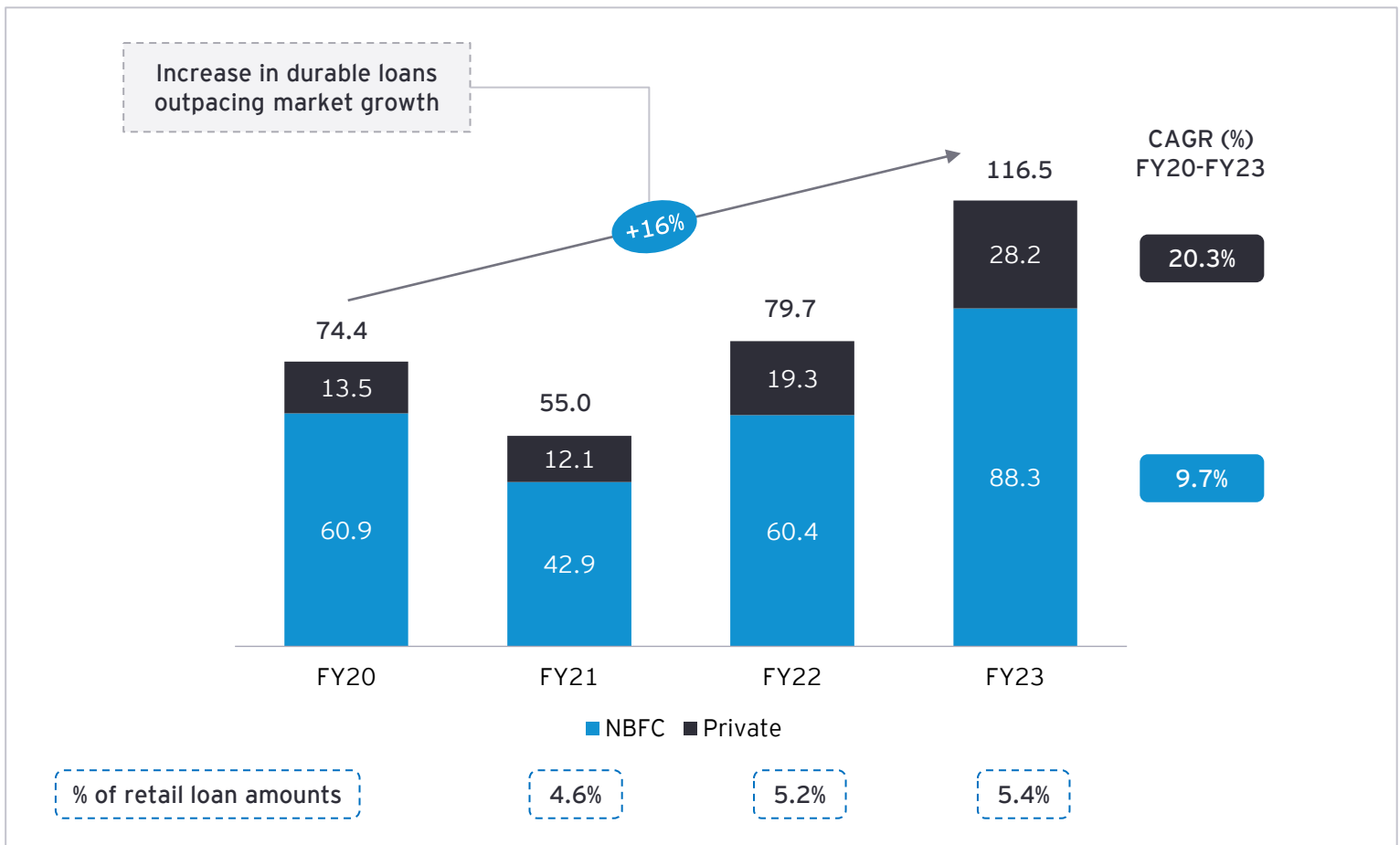


Growing consumer durables finance

The accessibility of credit and Buy-Now-Pay-Later (BNPL) options is enabling consumers to upgrade to premium appliance selections. Retailers and online platforms are forging partnerships with financial entities to provide no/low-cost EMIs, discounts, zero down-payment options, and cashback. Loans sanctioned for consumer

durables have increased from INR 74 thousand crore in FY20 to INR 116.5 thousand crore in FY23, with 55% of this growth attributed to the INR25,000+ category¹⁸. This also contributed to 45% of industry sales in 2023, a significant increase from 15% to 20% in 2018-19¹⁹.

Consumer durable loans - total sanctioned amount (INR '000 Cr)



Note: Consumer durable loans includes loans for mobile phones, laptops etc
Source: CRIF High Mark How India Lends - Credit Landscape in India FY 2023

18) <https://www.crifhighmark.com/media/3115/how-india-lends-fy2023.pdf>

19) <https://www.financialexpress.com/business/industry-with-easy-financing-credit-based-consumer-sales-double-3436335/>

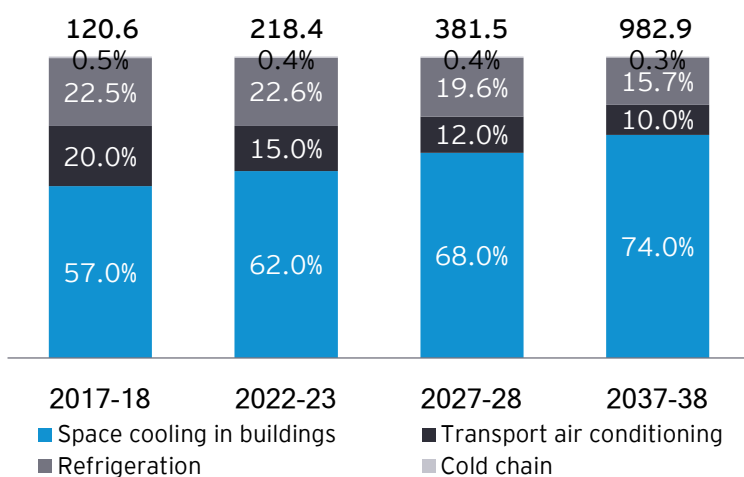


Evolving consumer preferences and India's commitment to sustainability are also providing a strong impetus for the industry. The need for embracing eco-friendly practices and sustainability-driven growth is extremely critical due to:

1 Increase in cooling demand

Rising temperatures in India are causing frequent and intense heatwaves, resulting in growth in cooling demand. It is estimated that aggregated nationwide cooling demand is projected to grow around eight times, in Tonnage of Refrigeration (TR), by FY38, with space cooling alone contributing to 11 times increase²⁰.

India's cooling demand (in tonnage of refrigeration)



2 Mounting energy and emissions burden

Comfort cooling will also lead to a surge in AC demand, further adding to the energy burden for the country. Price-sensitive consumers are likely to opt for low-cost, inefficient ACs, which currently account for 40% to 60% of peak power demand²¹. Further, AC penetration in India is projected to reach 40% by 2050, adding ~120 million ton of CO₂ emissions between 2023 and 2050. The industrial combustion and buildings (including cooling, other appliances, construction) already contribute ~850 million ton of total to 3,943-million-ton CO₂ equivalent in 2022²².

3 Strain on natural resources

Climate change is exacerbating pollution, lowering water tables and adding strain to natural resources. India, the third-most polluted country globally²³, faces severe water scarcity worsened by a rapidly growing population. In some regions, water tables have dropped by up to four meters due to excessive groundwater extraction, while 163 million Indians lack access to safe drinking water, posing significant health risks²⁴.

India's escalating demand for cooling, coupled with environmental challenges, has prompted several government initiatives.

- ▶ **The India Cooling Action Plan (ICAP)** addresses the need for sustainable cooling by enhancing energy efficiency, promoting alternative technologies and reducing refrigerant emissions. ICAP aims to cut cooling demand by 20% to 25% and refrigerant demand by 25% to 30% by 2037-38, in line with global climate targets.
- ▶ **Extended Producer Responsibility (EPR)** has also become crucial, requiring manufacturers to manage the entire lifecycle of their products, including end-of-life disposal. This pushes companies to design more recyclable and durable products and adopt responsible manufacturing methods, easing the environmental burden of e-waste.
- ▶ **BEE star rating system** plays a key role in reducing energy consumption by promoting the adoption of energy-efficient appliances by consumers. This not only lowers the energy burden on the grid, but also reduces carbon emissions.

20) <https://ozonecell.nic.in/wp-content/uploads/2019/03/INDIA-COOLING-ACTION-PLAN-e-circulation-version080319.pdf>

21) World Economic Forum

22) Emissions Database for Global Atmospheric Research (EDGAR)

23) <https://indianexpress.com/article/india/india-3rd-most-polluted-country-rankings-top-50-cities-9221968/>

24) <https://siwi.org/latest/water-crisis-india-everything-need-know/>

These initiatives, along with several others, aim to mitigate environmental concerns and amplify efforts towards innovation, driving growth for the industry.

ICAP and BEE star labeling program have stimulated innovation and investments in sustainable cooling technologies and energy-efficient devices. As the industry aligns with ICAP's goals and complies with BEE standards, companies are expanding their product lines, creating new market opportunities to drive sales growth.

Further, technology advancements have enabled product innovations, such as water purifiers containing water-saving and energy-saving features. Innovations, such as advanced filtration techniques, smart purification systems, and integration with IoT, have also gained traction.

Similarly, EPR and e-waste management policies have pushed manufacturers to adopt more sustainable practices, leading to the design and production of durable, recyclable products.

In conclusion, such industry trends have the potential to not only position India as a pioneer of sustainability but also establish technology- and innovation-driven leadership in global markets.

Voice of Industry

“

Incentivization of energy-efficient devices, especially fans, refrigerators and air conditioners, could have multi-layered benefits in managing the peak energy demand, upscaling India's technology to global levels for exports, manage trade deficit and develop local ecosystems – World Bank



2.3 Consumer durables as a driver for holistic development

A paradigm shift is underway, with a growing emphasis on health and responsible consumption among consumers actively seeking solutions to tackle the rising adversities of climate change and pollution.

There is a surge in demand for consumer appliances that provide comfort, health and safety, such as air conditioners, refrigerators, water and air purifiers, etc. This signifies a critical juncture where consumer behavior and environmental needs converge, prompting a market response that addresses immediate concerns and contributes to more sustainable and inclusive growth.

The Government of India is also fostering an ecosystem conducive to research on innovative technologies, providing subsidies for global manufacturers to set up R&D centers. The aim is to curate innovative technologies that are well-suited to address India's unique challenges, leading to process enhancements and economies of scale. Prominent companies have inaugurated their R&D centers, positioning India as a hub of technology and innovation.

Domestic production of consumer durables has the potential to achieve economies of scale, thereby facilitating widespread adoption and contributing to inclusive growth across all socioeconomic classes, aligning with the government's developmental goals, which include social security, affordability, and the enhancement of the overall quality of life.

The government's plan to construct an additional 3 crore houses under the **Pradhan Mantri Awas Yojana**²⁵, along with the expectation that over one crore homes will be equipped with solar panels under the **Pradhan Mantri Suryodaya**

Yojna²⁶— providing 300 units of free electricity each month—is likely to further stimulate demand.

The FY25 Union Budget has proposed exemption from customs duties on 25 essential minerals, including lithium, cobalt, copper, germanium, and silicon²⁷, which are used in batteries for consumer electronics, EVs, drones, and energy storage devices. This is crucial to ongoing efforts towards green energy shift and is aimed at bolstering domestic manufacturing and adoption of modern technology. In April 2024, there was a notable 25.8% year-over-year increase in electronics exports, totaling US\$2.65 billion.

These initiatives are expected to have **lasting impacts** on the country's overall GDP and forex reserves, while also positively impacting social human development indices and setting the stage for a more prosperous and equitable future for India.

Voice of Industry



India's journey to becoming an economic superpower and a developed economy is based on solid foundations and inclusive growth principles.

25) https://www.pmindia.gov.in/en/news_updates/3-crore-additional-rural-and-urban-houses-under-pmay-a-boost-for-ease-of-living-and-dignity-for-crores-of-indians-pm/

26) <https://upefa.com/pm-suryoday-yojana-apply-online/c>

27) <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2035618>

3

Value chain and level of indigenization



The consumer durables industry is highly interconnected, linking major manufacturing and consumption centers worldwide. India's consumer durables industry is large but dependent on the imports of critical raw materials and components across the value chain, with imports exceeding INR18,800 crore in FY24.

India imports components like air conditioner and refrigerator compressors primarily from China (65% to 70%), followed by Thailand (~10%), South Korea, and Germany (5% to 6% each).

It also sources integrated circuits and flat panel displays from China, Hong Kong and Taiwan.

This implies that a large part of the profit pools, employment opportunities, upstream investments, R&D and technological knowhow lie outside India. Over the last decade, finished goods imports have reduced to almost nil, but component imports are still meaningful. Creating an indigenous value chain has been foremost on the agenda of the government to generate local value addition and employment.

India's consumer durable components imports (FY24, INR crore)

TV		AC		Refrigerator		Washing Machine	
Components	INR crore	Components	INR crore	Components	INR crore	Components	INR crore
Flat Panel Display	6,643	Compressor	4,072	Compressor	2,418	Clutch, rotor, tub assembly	195
PCB and IC	1,735	SKD - outdoor unit	732	Evaporator, Condenser	229	Inverter	130
Remote controller	151	SKD - Indoor unit	710	PCB, IC, Controller	167	Damper and filter	110
Stand and assembly	135	PCB, IC, Controller	435	Door assembly	51	Display, control panel	96
Set top box	46	Evaporator, Condenser	293	Sheet Metal	22	Timer	67
Cable and antenna	45	Grooved/ Plain copper tubes	NA			Hinge and switch	36
Capacitor	41	Aluminium foils	NA			Door and lid assembly	33
						Other parts	242
Total	8,795	Total	6,241	Total	2,886	Total	909
Finished Goods Import	348	Finished Goods Import	1,257	Finished Goods Import	1,033	Finished Goods Import	448



Display constitutes ~50% of TV COGS. India is completely reliant on imports



Compressors comprise ~30% of AC BoM, ~9.5 million units imported, >80% share of local sales



~11 million units of compressor imported, contribute >70% share of local sales



Import dependence for front-load washing machine

Note: Component Imports estimated from HS Codes: a) AC: compressor 84148011 and other components 84159000 b) TV: Flat Screen Display 85241130, 85241230, 85241930, 85249130, 85249230, 85249930 and other components basis text search of HS chapter 85 c) Refrigerator: compressor 84143000 and other components 841899 d) Washing Machine: components 84509010 Imports of Refrigerant, Copper Tubes, Aluminium Foil, Metal Sheets, Motors etc components categorized in HS codes other than above are not captured and thus overall component imports are higher

FG Imports from HS codes a) AC from 841510, TV from 852872, Refrigerator from 841821, 841829, 841810 and Washing Machine from 845011, 845012, 845019, 845020 India imported INR 7.8 Bn of HFC refrigerants in FY24, down from INR 10.8 Bn in FY23 when it was placed on the restricted list

Source: Import Data by HS code - 84 and 85, EY Analysis

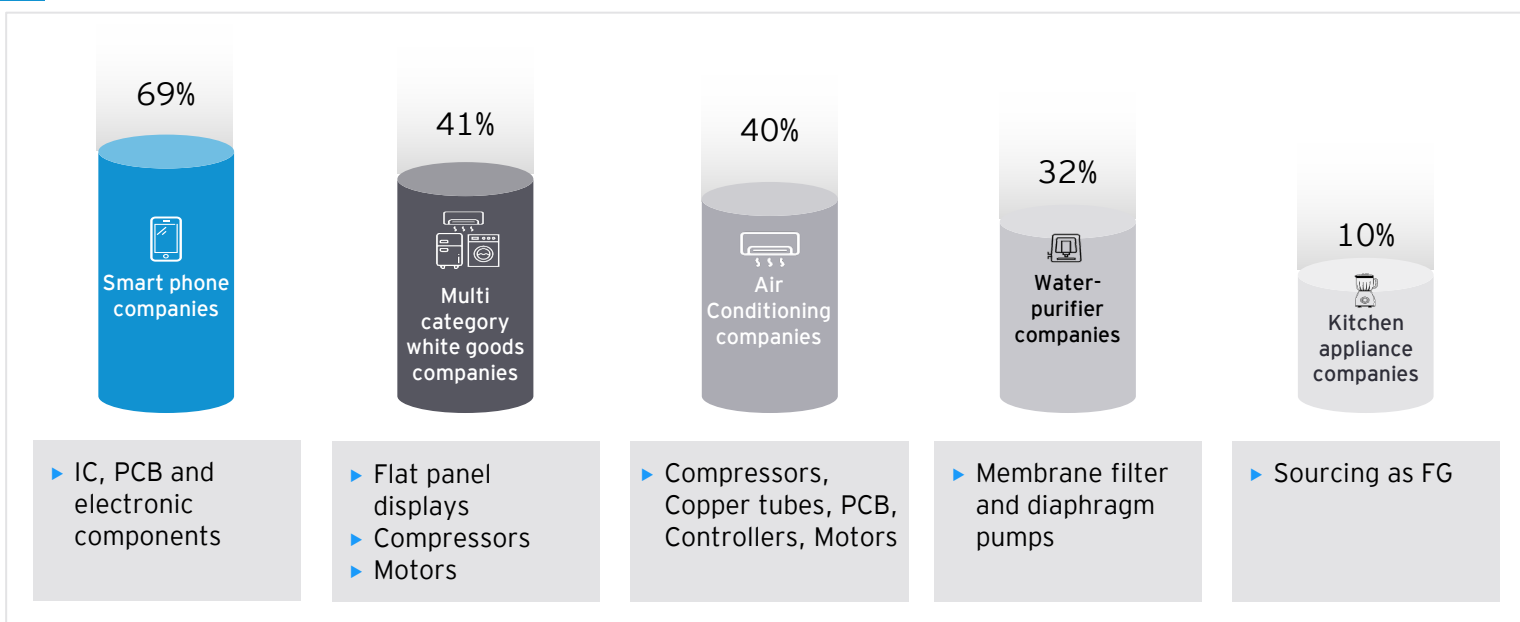
Medium import dependency High import dependency



On an average, multi-category consumer durable companies with portfolios spanning washing machines, refrigerators, air conditioners, and ovens saw imports accounting for 41% of the cost of goods in FY23. Players focused on air conditioning incurred 40% imports in their cost of goods while

water-purifier-focused players reported 32% imports in FY23. Consequently, with limited investment in domestic manufacturing, incumbents have minimal control over the value chain and lack economies of scale.

Import as % of Cost of Goods (FY23): Leading Smartphone & Consumer Durables Players



Note: 1) Foreign Exchange Outgo, Import Values (CIF) as % of Cost of Goods Sold

2) Select companies outsource manufacturing through EMS vendors, for which Imports/COGS would be under indexed

Source: MCA Filings, Annual Reports

Moreover, the dependence on imported components subjects the sector to vulnerabilities, such as currency fluctuations, trade policy shifts, and global supply chain disruptions. These risks highlight the necessity for a more holistic and self-sufficient manufacturing ecosystem within India. Such a transition will not only strengthen India's status as a global manufacturing hub, but also support the country's wider economic and strategic goals.

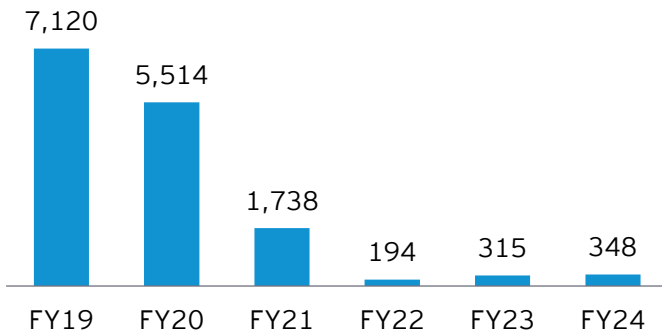
India typically assembled entry- to mid-segment finished goods locally while relying on imports for premium finished goods²⁸. However, imports of finished goods have decreased over the years due to an increase in the basic customs duty on TVs, ACs, refrigerators, and washing machines. Top four countries from where finished goods were sourced in FY24 include Thailand (48% of total finished goods imports), China (21%), Vietnam (9%) and Indonesia (7%)²⁹.

28) <https://economictimes.indiatimes.com/industry/cons-products/durables/white-goods-makers-to-turn-champions-of-make-in-india/articleshow/66743569.cms?from=mdr>

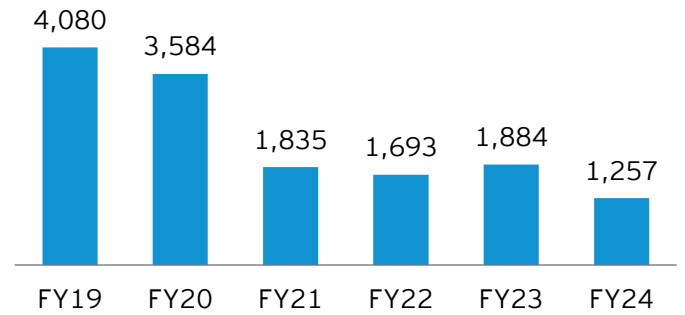
29) Ministry of Commerce and Industry, EY Analysis

India's consumer durables finished good import (FY19-24, INR crore)

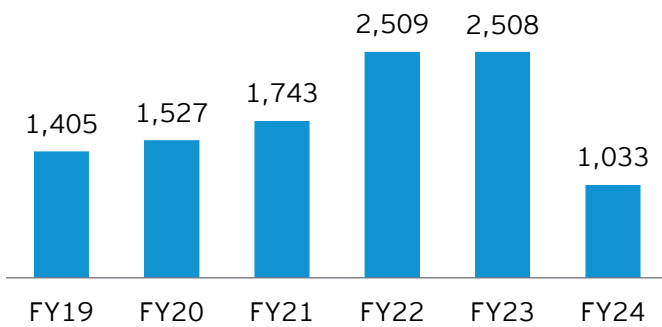
Television



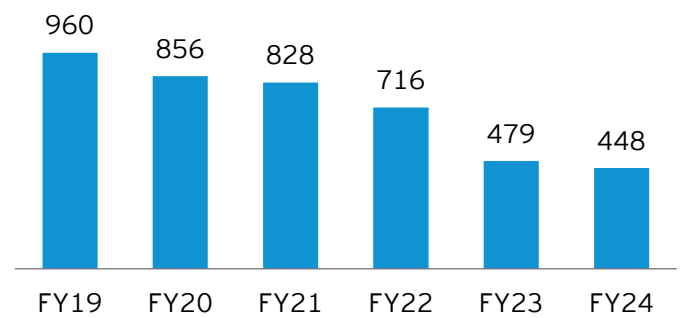
Air conditioner



Refrigerator



Washing machine



Over time, there has been a significant decline in import of finished products, paving the way for local assembly operations. Many companies, international and Indian have set up component manufacturing capacities as well, but some struggle to achieve similar cost competitiveness and efficiency as imports. The PLI schemes have been designed with specific objectives of incentivizing investment into capacities, especially upstream.

The response from companies has been mixed, due to concerns around scale, knowhow and technology availability, product performance, cost competitiveness and commercial payback models. There needs to be a category level thrust to indigenize upstream components that are critical to each value chain. For instance, the industry needs to work on specific components like compressors, refrigerant technology, BLDC motors, controllers, coils, PCBs among others

Voice of Industry



More than 80% of respondents believe imports components constitute critical parts of production. Component manufacturing needs more than fiscal incentives — there are concerns about the availability of knowhow, product technology, performance and cost competitiveness.



4

Global trade and India's position

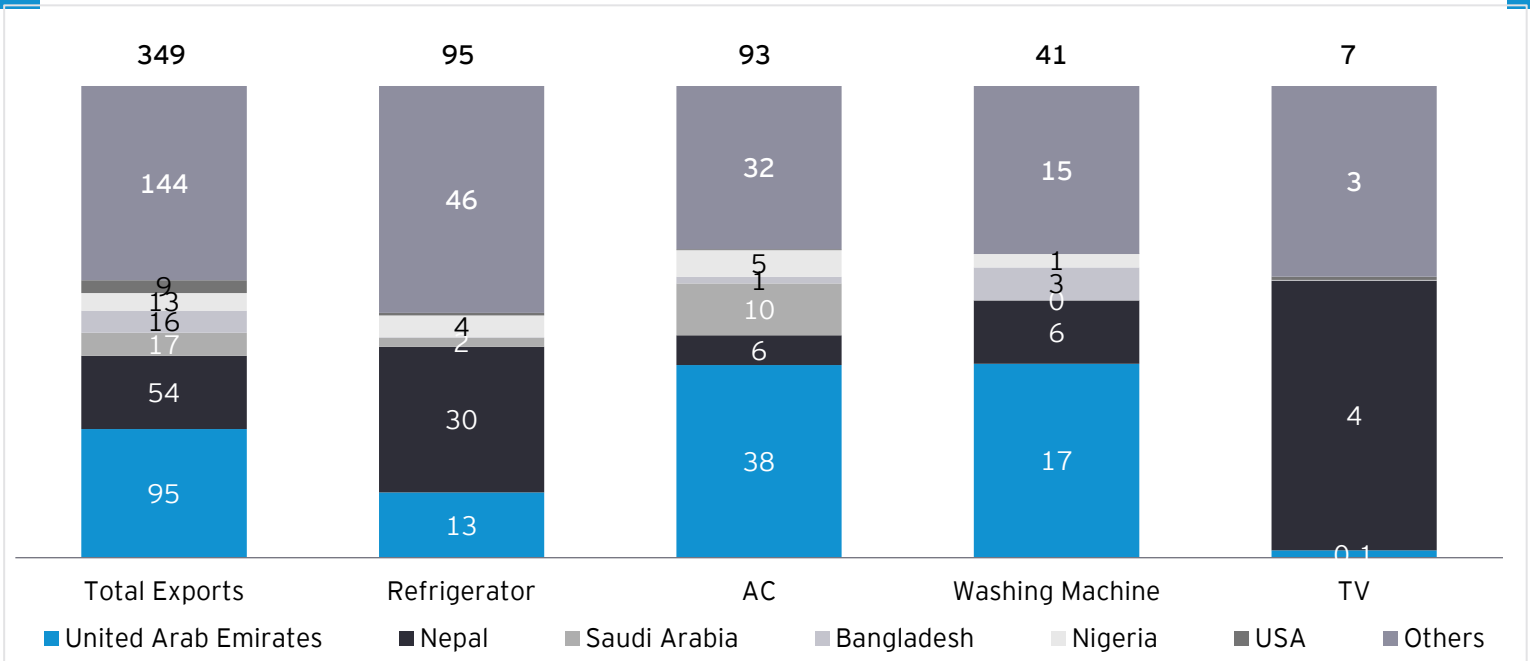


India holds the 37th position worldwide in terms of exports of consumer durables finished goods. In 2022, the value of finished goods exported by India amounted to US\$349 million, while China held a significant share of the global export market at approximately 35% with US\$59 billion worth of finished goods exports.³⁰

Of US\$349 million, India's total exports in 2022 were:

- ▶ 66% are comprised three products - refrigerator (27%), AC (27%), washing machine (12%)
- ▶ Top five nations (UAE: 27%, Nepal: 16%, Bangladesh: 5%, Saudi Arabia: 5%, Nigeria: 4%) account for US\$196 million (56%) of total India's exports.

India's export of consumer durables (finished goods) by destination (2022) (USD Mn)



Source: UN Comtrade, EY Analysis

Strong domestic focus has traditionally led companies to prioritize local markets over international expansion. This focus has often come at the expense of building a global presence and offer superior quality products that meet global quality standards. The untapped exports opportunity is significant - with India's current exports at less than 1% of China's.

Secondly, infrastructure bottlenecks, such as inefficient logistics, port congestion,

and limited warehousing facilities, have hindered the smooth flow of goods for export, leading to delays and increased costs.

Lastly, reliance on imported components adds to production costs, reducing the competitiveness of exports. Further, trade barriers, including complex customs procedures and tariffs in foreign markets, create additional hurdles to expand into global markets.

30) UN Comtrade, EY Analysis



China has an enviable share of the global consumer durables market, accounting for ~35% of exports and 30% of global consumption in 2022. China's R&D investments in electronics are estimated at 4%

to 5% of electronics production (as of 2020)³¹, compared to just 0.25% in India (as of FY21)³¹. This increasing gap is critical for India to plug if it aims to own future technologies.

Global exports of consumer durables (finished goods) (US\$ billion)

Exporting Country	2019	2020	2021	2022	CAGR 2019-2022	Rank (2022)
China	50	56	68	59	6%	1
Mexico	15	16	19	18	5%	2
Poland	8	9	12	11	10%	3
Thailand	7	8	9	9	8%	4
Germany	7	8	8	8	5%	5
India	0.25	0.23	0.31	0.35	11%	37
Others	55	56	68	61	4%	
Total	143	153	184	167	5%	

Key Highlights

China is the world leader in all categories, while Mexico and Poland have high TV exports to the US/EU respectively.

Note:

1) Data for export of Finished Goods - HS codes considered: TV: 852872 Washing Machine: 845019, 845011, 845012, 845020 Refrigerator: 841821, 841822, 841829, 841810, AC: 841510, other products include Kitchen appliances (hobs: 73211110, 73211210, coffee machine: 851671, toaster: 851672, electric kettle. Hoods: 841460, JMG: 850940 and Microwave: 851650); Home appliances (dishwasher: 842211, water heater: 851610, irons: 851640, vacuum cleaner: 850811, 850819, sewing machines: 845210. Personal care (8510 (shavers), hair dryer: 851631, 851632, 851633)

2) 2023 data not reported for major counties including Thailand, Vietnam etc and thus data shown is till CY 2022

Voice of Industry



More than 80% of surveyed participants believe Indian exports can become more competitive by creating a comprehensive manufacturing ecosystem (from components to finished goods), enhancing quality of skilled labor and further improving logistics and power infrastructure

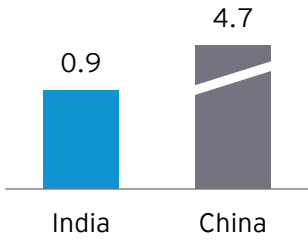
31) India - R&D Statistics at a Glance March 2023 - MoST, Consumer Electronics Production from MeITY, China CY2020- Information Technology & Innovation Foundation - Innovation Wars



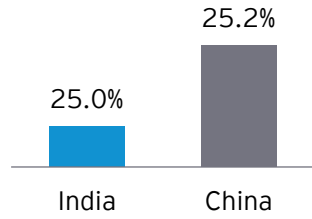
India vs. China: industry competitiveness

India better/at par

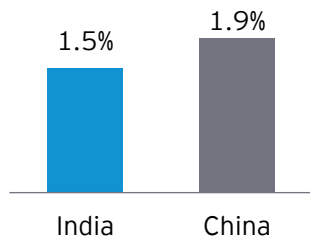
Manufacturing labour wage (FY23) (USD/hour)¹



Corporate tax rate (%) (OECD CY23)

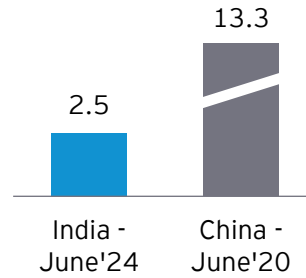


Real interest rate (%) (World Bank 2020-22 avg)

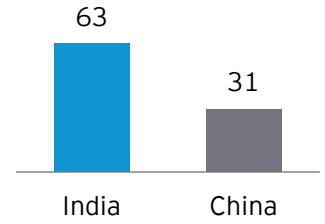


India at a disadvantage

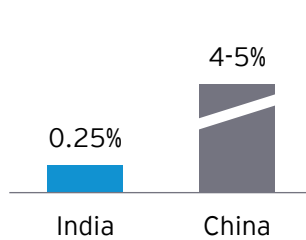
Electronics manufacturing workforce size²



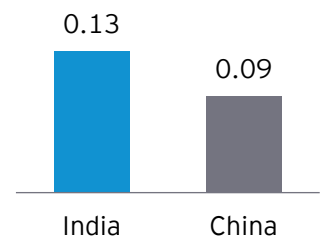
EoDB rank (#) (World Bank CY20)



R&D on electrical & electronics % of production (FY21)³



Industrial electricity price⁴ (USD/kWh) - CY23



Source:
 1) India - PLFS Annual Report FY23, NCO Code 2015 Division 8 (Machine Operators and Assemblers, assuming 200 hours per month), China from Global labour rate comparison 2) India - Press Search - MeiTY, China - ILO 2020 3) India - R&D Statistics at a Glance - MoST, Consumer Electronics Production, MeiTY, China CY2020- Information Technology & Innovation Foundation - Innovation Wars; 4) Industrial Electricity Prices from Global Petrol Prices.com

A look at factors of production point to an equalizing platform for India and China. Manufacturing labor costs in India are low, with costs around US\$0.9 per hour, versus China's US\$4.7 per hour³². India has lower industrial water usage costs and corporate tax rates. However, India faces significant disadvantages due to lack of scale (India's electronics manufacturing workforce sized at 2 million vs. 13 million+ in China³³), lower ranking for ease of doing business factors, higher industrial electricity price and lower formal skilling of workforce. The Government of India has taken several measures to upskill the blue-collar workforce, as most new production facilities require niche skills and computer knowledge to adapt to modern processes. Further, as manufacturing achieves economies of scale, it has the potential to contribute to making India a competent export hub for the rest of the world.

But there are other differentiating factors that need work from industry and government to convert India from net importer to exporter.

To close this huge gap, India needs to find differentiated positions across categories to offset the benefits of scale and scope that China possesses. Emerging areas, such as technological shifts and sustainability led shifts, are opportunities that could dislocate the global order of consumer durable manufacturers.

These dislocations would require a concerted effort to debottleneck issues in the industry, ranging from technology access, cost competitiveness, vendor ecosystems, promoting green and new technology adoption and opening export markets for Indian products

Voice of Industry



While factors of production are tilting towards India, there is a lag in technological knowhow, availability of vendor ecosystems, economies of scale and scope.

32) India - PLFS Annual Report 2023, NCO Code 2015 Division 8 (Machine Operators and Assemblers), China from Global labour rate comparison
 33) India - PLFS Survey estimates, Press Search - MeiTY, China - ILO 2020



5 Current status and challenges

5.1 Domestic demand and penetration

The household penetration of many segments of consumer durables is low. Despite large scale potable water quality issues, water purifiers have poor adoption. Despite high energy burden, 5-star products have seen limited share. Exports is limited and value chains have a high dependence on imports. Some of the constraints to be unlocked to realize the sector potential are enlisted below:



Affordability and economic viability

- ▶ Consumer durables are expensive, **especially in rural and semi-urban areas**. High upfront costs, lifecycle costs, cost of energy-efficient technologies make ownership and penetration a function of economic upgradation. There is a need for affordable devices that could drive large-scale penetration, in turn impacting scale and cost competitiveness for the industry.



Electrification/ piped water

- ▶ Rapid strides have been made on driving rural electrification, but piped and drinkable water needs a similar drive. Voltage fluctuations can damage appliances, making consumers hesitant to invest in high-value electrical products - air conditioners, refrigerators and washing machines.



Logistics inefficiencies

- ▶ Supply chain and transportation infrastructure and large distances between production centers and end markets contribute to high transportation costs.



After sales network (capacity and skills)

- ▶ Getting the right skills and network for after-sales is challenging, with alternate job avenues like e-commerce offering greater remuneration than technicians. Welfare programs for guaranteed employment are more lucrative.

Voice of Industry



There is a need to develop affordable technologies, with an overall lower lifetime costs that are suited to the lower economic segment of consumers.



5.2 Constraints to indigenization of value chains

Industry profit pools are shallow, driven by an “assembly” mindset. The industry lacks a strong local value chain generating domestic profit pools. High import reliance for raw materials, components, product technology, and patents, which drives up production costs and affects competitiveness. Key challenges within the sector that hinder localization include:



Technology dependence and high costs of indigenization

Limited local availability of advanced technologies, such as highly efficient compressors and the latest insulation materials, impacts cost of production and makes manufacturers vulnerable to global fluctuations.

Supplying countries have significant advantages of scale and scope in essential technology dependencies in motors, compressor technologies, coils, DC motors, refrigerants. India is far behind and lacks the necessary ecosystem to champion these technologies and build a local ecosystem. The support available through PLI schemes is positive but not sufficient for industry to cover this lag.



Low profit pools limiting R&D investments

Given the assembly led value chains in many categories, the profit margins are low, and companies are unable to afford serious long-term investments to develop technologies in India. **Indian companies invest less than 0.7% of their revenue in R&D as compared to global leaders, allocating 2% to 3% of their revenue to R&D³⁴.**

The public-private support ecosystem with a long-term vision that other industries like automotive, pharmaceuticals have benefitted from is lower in the case of the consumer durables and electronics industry.



Lack of economies of scale

The sector has now started generating scale but is still small in the context of global producers. While the domestic market is large, the share of the local value chain is low. This has associated disadvantages on cost competitiveness. Some of the incentive schemes have not witnessed expected traction, as industry lacks confidence to invest in local value chains, given a relative cost of manufacturing in India would still be higher than China at the current throughput levels.



Under-developed vendor ecosystem

Many manufacturers operate on a smaller scale due to limited local operations across the value chain. This leads to higher per-unit costs and less efficiency, preventing them from achieving economies of scale.

The MSME and start-up ecosystem is not integrated with big manufacturers, and this leads to dependence on global suppliers to drive technology trends.

Voice of Industry



We need to get into an investment oriented virtuous cycle, supported by close collaboration with the government to drive investment led scale and eventual cost competitiveness.

34) : MCA Filings, Annual Reports, Secondary Research, EY Analysis

6

Vision 2030



Vision 2030

To be a global leader in durables driving India's growth and pioneering sustainable innovation

Targets and goals

- ▶ The consumer durables industry is projected to grow **2.5 times**, reaching approximately **INR 5 lakh Cr**
- ▶ Create around **5 lakh** skilled jobs across the value chain
- ▶ Increase industry contribution to GDP by **1.5x**



Spurring domestic demand growth

- ▶ Increase household penetration by **1.5x-2x**
- ▶ Achieve **>50%** market share for energy efficient devices



Driving indigenous value chain

- ▶ Achieve **>60%** domestic sourcing of raw materials and components
- ▶ Employ and upskill **5 lakh** blue-collar workforce in manufacturing and after-sales network



Export competitiveness

- ▶ Target finished goods exports of **\$2.5 billion**
- ▶ Ensure **>90%** of products meet global quality and safety standards



Differentiating along tech and sustainability

- ▶ Increase R&D spend to **3%-4%** of revenues
- ▶ Target **100%** e-waste collection and recycling through formal channels
- ▶ **20%-30%** reduction in carbon emissions, commit to **net zero** timelines

Impact on economy

Consumption and GDP growth

Employment generation

Improved trade balance

Indigenization and localization

Pioneer responsible production

Implications for Industry

Revenue growth and higher profit pools

Economies of scale

Tech leadership for innovative products

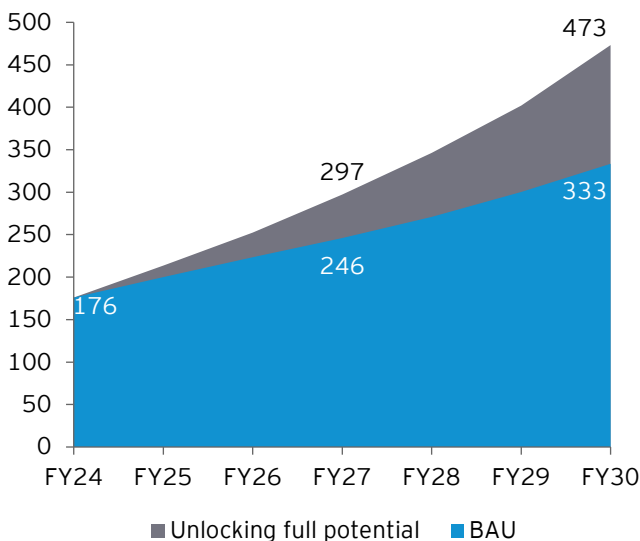
Resilient and autonomous supply chains

Exports expansion and growth



Growth vision for consumer durables in India

INR '000 Cr



CAGR
FY24-30

Unlocking Full Potential

18%

BAU

11%

Unlock Drivers

-  Increased affordability through localization and innovation
-  Critical components indigenisation
-  Pioneering sustainability
-  Owning technologies of the future
-  Develop export markets
-  Access to futuristic technologies

\$10-\$15 billion

Savings in forex reserves

1.5x

Increase in Contribution to GDP

3-5 lakh

Additional skilled jobs across the value chain



Vision 2030 envisions India as a vibrant global hub for consumer durables and electronics by capitalizing on its vast domestic market and workforce while leveraging technology and sustainability.

7

Recommendations for the industry and ecosystem stakeholders



7.1 Accelerating domestic demand and penetration



Incentivize energy-efficient adoption

Promote **ownership of energy-efficient products**, such as BLDC, star ACs, water conserving purifiers, with a cost and circularity mindset, could be incentivized through tax breaks, on-bill financing and similar measures. This has the potential to reduce energy burden and drive multi-fold circular benefits for the sector.



GST slab reconsideration to improve affordability

Some consumer durables are selectively classified as luxury items and taxed at a GST rate of 28%. However, with climate change and increasing heat waves, air conditioners have become a necessity **Harmonizing GST slabs for air conditioners in line with mobile phones** could boost affordability and drive inclusive ownership across income groups.



Investments in Cold Chain and Refrigeration

Encourage **investments in commercial refrigeration**, including retail coolers, freezers and supply chain equipment through incentivization, with the purpose of creating food supply chain efficiencies, reduce the burden of wastage and improve farm to fork profit pools from farmers, processors to consumers.



Increase penetration through govt. schemes

Leverage urban and rural housing schemes such as PMAY to **boost adoption of BLDC fans and 5-star rated products**. This can be done as part of EESL's subsidized procurement program, meeting the dual objective of widespread access and affordability.



Replacement mandates

Establish defined **replacement cycles for lower-star-appliances, with mandatory upgrades to 3-5 star-rated products** within predefined periods. Equivalent star systems may be introduced in water purifiers to reduce spurious and substandard products, and promoting high-quality-branded products, positively impacting consumer health.



Stricter safety and performance standards

Continuously strengthen BIS standards to enhance quality, safety and performance benchmarks of electrical appliances. The objective could be to align with global standards for exports and marginalize sub-standard products.



Enabling recommendations



Consensus and predictability around QCO

Develop consensus based long-term roadmap with industry for quality control order of components and materials, with due consideration to raw materials and component availability, cost competitiveness and capacities.



Technical Skill building along the value chain

Collaborate with NSDC, for skill building on manufacturing, after sales and new technologies such as IoT and AI to upgrade current programs in quality and capacity. Reduce gap with welfare programs on compensation to create the right incentive and environment for labor force participation.



Trade agreements to build domestic capabilities

Pursue with a focused sector agenda while negotiating FTAs and RTAs to forge broad-based partnerships with Japan, Korea and China, facilitating technology inflow, licensing arrangements, JVs and strategic alliances to enhance domestic capabilities in research and manufacturing.



Port infrastructure and logistics

Align port infrastructure building initiatives with a global trade corridor approach to the consumer durables and electronics sector to enable lower supply chain transaction costs for imports of components as well as export of finished goods to global markets.

7.2 Indigenization of the value chain



Targeted PLI with component-led incentives

Sharpen and refocus PLI schemes with higher incentives on specific components for deliberate indigenization of key components such as controllers, compressors, motors. Industry members should identify essential components for domestic manufacturing by segment, and work with the government to build the viability equation.



Long-term import duty transition roadmap

Build a consensus-based roadmap to drive indigenization through incentives for critical components, domestic capacity build ambition and a stepwise increase in duties for imported components. This would have a significant impact in tilting relative competitiveness of "Make in India".



ICUBE: Innovate, Incubate, Indigenize

Foster research and innovation through the start-up ecosystem and universities. Industry players to set up consortiums on critical components and technologies to work with "Startup India" to channel efforts towards specific technologies such as motors, refrigerants, compressor technology, low-cost water purifier technologies, energy-saving devices, chips and controllers, and water conservation technologies.



MSME integration with large companies

Incentivize large-scale manufacturers to mandatorily develop and MSME component supplier base. Specific targets for MSME integration and local value chain development to be part of the CSR agenda.



Targeted measures to attract investments

Targeted roadshow by industry bodies, organizations and Government stakeholders to identify and attract investments in India by large component manufacturers from Japan and Korea. Specific support to be provided to make greenfield investments or JVs with industry players



Encourage R&D in emerging tech and sustainability

Provide specific incentives for research and development in AI, IoT and connected devices, green technologies and e-waste management to establish global technology leadership and sustainability-driven differentiation.



PPP model for large durables and electronics parks

Introduce schemes for capital investment in large-scale multi use industrial parks for consumer durables and electronics. Provide viability gap funding, interest subsidy and other fiscal incentives to generate interest.

7.3 Export competitiveness



Exporting of Indian standards

Promote BIS as global standards in bilateral negotiations. In the interim, industry bodies and organizations to work with Government for alignment of BIS with global standards. Additionally collaborate with trade partners for acceptance of BIS standards for export.



Promote India as a “responsible” manufacturer

Build the brand “Made in India” with trade-friendly nations through marketing and awareness campaigns. The positioning of ‘Made in India’ to be along with new technologies and green technologies as a **“responsible producer”**.



Bilateral trade agreements and duty concessions

Include export of consumer durables and electronics products in the FTA/ RTA discussions with trade partners. Industry bodies along with organizations to develop and present business case for selected markets.



National Certification Program

Government and industry stakeholders must collaborate to establish industry-specific certification for domestic vendor ecosystem, defining clear quality, safety, and compliance requirements.

7.4 Differentiating along new technology and sustainability



Encourage “responsible” technologies

Prepare a prioritized list of green must-have technologies for India to pioneer. These include refrigerants, compressor technology, heat pump technology, low-cost purification, e waste management. Government and Industry to collaborate on accessing patents, licenses and knowhow in these areas.



Incentivize new generation technologies

Set up working committees and cells to build IoT and GenAI Centres of Excellence for the industry. Build task forces to incubate these technologies with the help of Startup India, research universities and MSMEs.

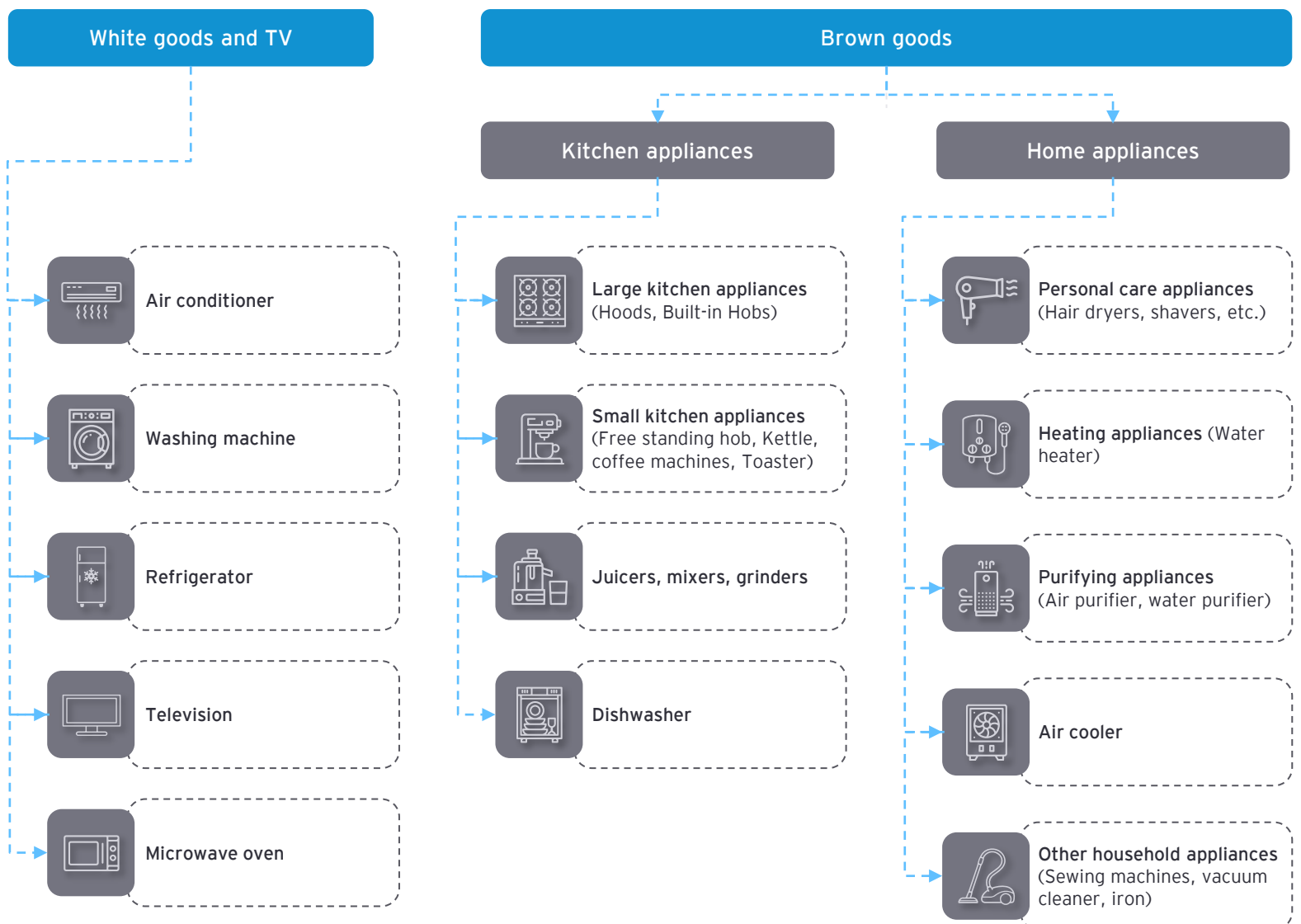
Appendix

Consumer durables product categories

The report provides an overview of white goods, including air conditioners, refrigerators, washing machines, microwave ovens, and televisions, as

well as brown goods like kitchen appliances, various personal care items, and home appliances.

Consumer durables covered in the report





Glossary

AC Air Conditioner

AI Artificial Intelligence

BEE Bureau of Energy Efficiency

BIS Bureau of Indian Standards

CAGR Compound Annual Growth Rate

CSR Corporate Social Responsibility

DC Direct Current

EMI Equated Monthly Instalments

EWS Economically Weaker Section

EPR Extended Producer Responsibility

EESL Energy Efficiency Services Limited

E-Waste Electronic Waste

FDI Foreign Direct Investment

FTA Free Trade Agreement

GDP Gross Domestic Product

GHG Green House Gases

GoI Government of India

GWP Global Warming Potential

GST Goods and Services Tax

IoT Internet of Things

ICAP India Cooling Action Plan

INR Indian Rupee

IT Information Technology

JV Joint Venture

LED Light Emitting Diode

LIG Lower Income Group

MIG Middle Income Group

MSME Micro, Small and Medium Enterprises

NSDC National Skill Development Corporation

NBFC Non-Banking Financial Companies

ONDC One Network for Digital Commerce

PLI Production Linked Incentive

PPP Public-Private Partnership

PMAY Pradhan Mantri Awas Yojana

PCB Printed Circuit Board

QCO Quality Control Order

R&D Research and Development

RTA Regional Trade Agreements

STEM Science, Technology, Engineering and Mathematics

TV Television

UPI Unified Payment Interface

Contributors

EY-Parthenon

Angshuman Bhattacharya

Partner and National Leader -
Consumer Product and Retail Sector,
EY-Parthenon

Pratik Gandhi

Partner,
EY-Parthenon

Shubham Sogani

Vice President,
EY-Parthenon

Ridhi Jain

Associate Vice President,
EY-Parthenon

Sanya Juneja

Assistant Director,
EY GDS

Nimisha Mohanan

Assistant Director,
EY GDS

CII

B. Thiagarajan

Chairman, CII National Committee on
Consumer Electronics and Durables,
and Managing Director, Blue Star Ltd.

Virendra Gupta

Deputy Director General,
Confederation of Indian Industry

Suwendu Mahapatra

Head - Manufacturing (Finished
Goods), Confederation of Indian
Industry

Afrin Shakeel

Executive, Confederation of Indian
Industry

Supported by



EY Offices

Ahmedabad

22nd Floor, B Wing, Privilon
Ambli BRT Road, Behind Iskcon
Temple, Off SG Highway
Ahmedabad - 380 059
Tel: + 91 79 6608 3800

Bengaluru

12th & 13th floor
"UB City", Canberra Block
No. 24, Vittal Mallya Road
Bengaluru - 560 001
Tel: + 91 80 6727 5000

Ground & 1st Floor
11, 'A' wing
Divyasree Chambers
Langford Town
Bengaluru - 560 025
Tel: + 91 80 6727 5000

Bhubaneswar

8th Floor, O-Hub, Tower A
Chandaka SEZ, Bhubaneswar
Odisha - 751024
Tel: + 91 674 274 4490

Chandigarh

Elante offices,
Unit No. B-613 & 614
6th Floor, Plot No- 178-178A
Industrial & Business Park,
Phase-I
Chandigarh - 160 002
Tel: + 91 172 6717800

Chennai

6th & 7th Floor, A Block,
Tidel Park, No.4, Rajiv Gandhi
Salai Taramani,
Chennai - 600 113
Tel: + 91 44 6654 8100

Delhi NCR

Ground Floor
67, Institutional Area
Sector 44,
Gurugram - 122 003
Haryana
Tel: +91 124 443 4000

3rd & 6th Floor, Worldmark-1
IGI Airport Hospitality
District Aerocity,
New Delhi - 110 037
Tel: + 91 11 4731 8000

4th & 5th Floor, Plot No 2B
Tower 2, Sector 126
Gautam Budh Nagar, U.P.
Noida - 201 304
Tel: + 91 120 671 7000

Hyderabad

THE SKYVIEW 10
18th Floor, "SOUTH LOBBY"
Survey No 83/1, Raidurgam
Hyderabad - 500 032
Tel: + 91 40 6736 2000

Jaipur

9th floor, Jewel of India
Horizon Tower, JLN Marg
Opp Jaipur Stock Exchange
Jaipur, Rajasthan - 302018

Kochi

9th Floor, ABAD Nucleus
NH-49, Maradu PO
Kochi - 682 304
Tel: + 91 484 433 4000

Kolkata

22 Camac Street
3rd Floor, Block 'C'
Kolkata - 700 016
Tel: + 91 33 6615 3400

Mumbai

14th Floor, The Ruby
29 Senapati Bapat Marg
Dadar (W),
Mumbai - 400 028
Tel: + 91 22 6192 0000

5th Floor, Block B-2
Nirlon Knowledge Park
Off. Western Express Highway
Goregaon (E)
Mumbai - 400 063
Tel: + 91 22 6192 0000

3rd Floor, Unit No 301
Building No. 1
Mindspace Airoli West (Gigaplex)
Located at Plot No. IT-5
MIDC Knowledge Corridor
Airoli (West)
Navi Mumbai - 400708
Tel: + 91 22 6192 0003

Altimus, 18th Floor
Pandurang Budhkar Marg
Worli, Mumbai - 400 018
Tel: +91 22 6192 0503

Pune

C-401, 4th floor
Panchshil Tech Park, Yerwada
(Near Don Bosco School)
Pune - 411 006
Tel: + 91 20 4912 6000

10th Floor, Smartworks
M-Agile, Pan Card Club Road
Baner, Taluka Haveli
Pune - 411 045
Tel: + 91 20 4912 6800

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CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9,000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 365,000 enterprises from 294 national and regional sectoral industry bodies.

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Confederation of Indian Industry

The Mantosh Sondhi Centre

23, Institutional Area, Lodi Road, New Delhi - 110 003 (India)

T: 91 11 45771000

E: info@cii.in | W: www.cii.in

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