Infomerics Analytics & Research

CIN: U74999DL2020PTC369018

Flat No.108, Golf Apartments, Sujan Singh Park New Delhi – 110 003
iar@infomerics.com, Phone: +9111 41410243, 4141 0244

Plastic Packaging & EPC Industry

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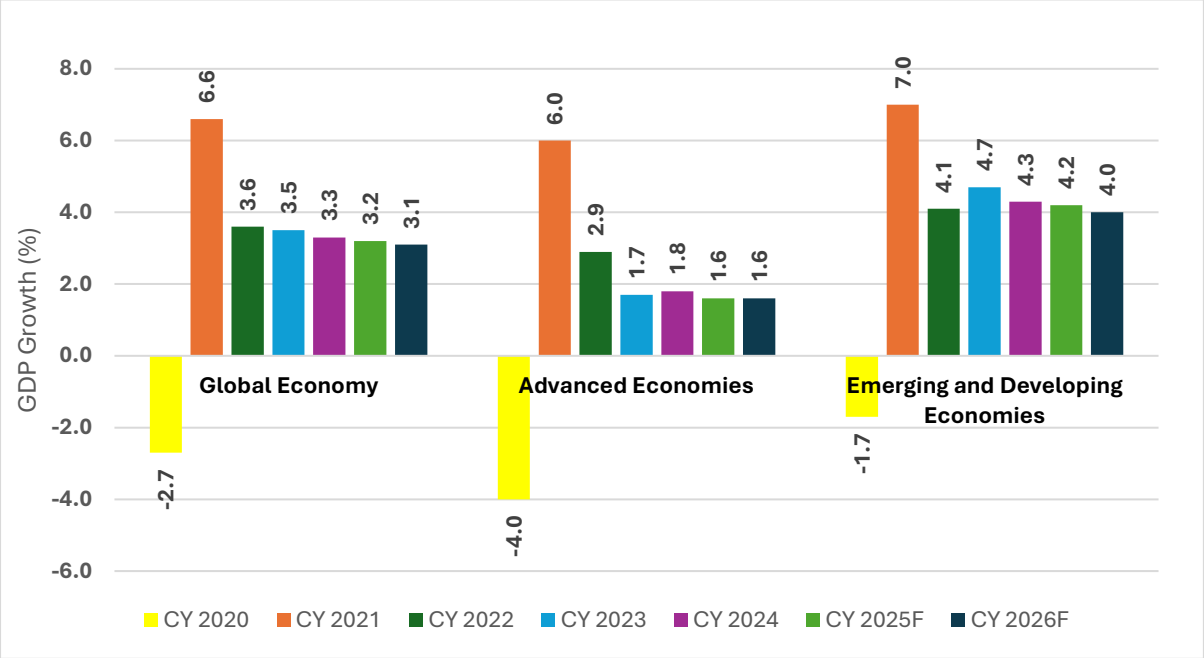
1. Global Economic Outlook

The global output is expected to grow by 3.2% in CY 2025, down from 3.3% in CY 2024, and moderating to 3.1% in CY 2026. This deceleration reflects a combination of lingering trade tensions, policy uncertainties, and region-specific structural challenges.

Global inflation is expected to ease, with headline inflation forecast at 4.2% in CY 2025 and 3.7% in CY 2026, supported by tighter monetary policies in advanced economies, improving labour market conditions, and the gradual resolution of supply-side disruptions. Global trade growth is set to moderate to 3.6% in CY 2025 and further to 2.3% in CY 2026, reflecting the impact of elevated trade barriers and geopolitical instability.



F – Forecast, Source – IMF World Economic Outlook October 2025

Note: Advanced Economies and Emerging & Developing Economies are as per the classification of the World Economic Outlook (WEO). This classification is not based on strict criteria, economic or otherwise, and it has evolved over time. It comprises of 40 countries under the Advanced Economies including the G7 (the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada) and selected countries from the Euro Zone (Germany, Italy, France etc.). The group of emerging market and developing economies (156) includes all those that are not classified as Advanced Economies (India, China, Brazil, Malaysia etc.)

Advanced Economies are projected to slow, with GDP growth at 1.6% in CY 2025 and CY 2026. The United States is expected to expand by 2.0% in CY 2025 and 2.1% in CY 2026, supported by resilient consumer spending despite fiscal and trade pressures. The Euro Area faces

subdued growth at 1.2% in CY 2025, with Germany at 0.2% and France at 0.7%, amid lingering trade disruptions and domestic challenges. Japan's growth is forecast at 1.1% in CY 2025, reflecting weak domestic demand, while the United Kingdom is projected to grow at 1.3%.

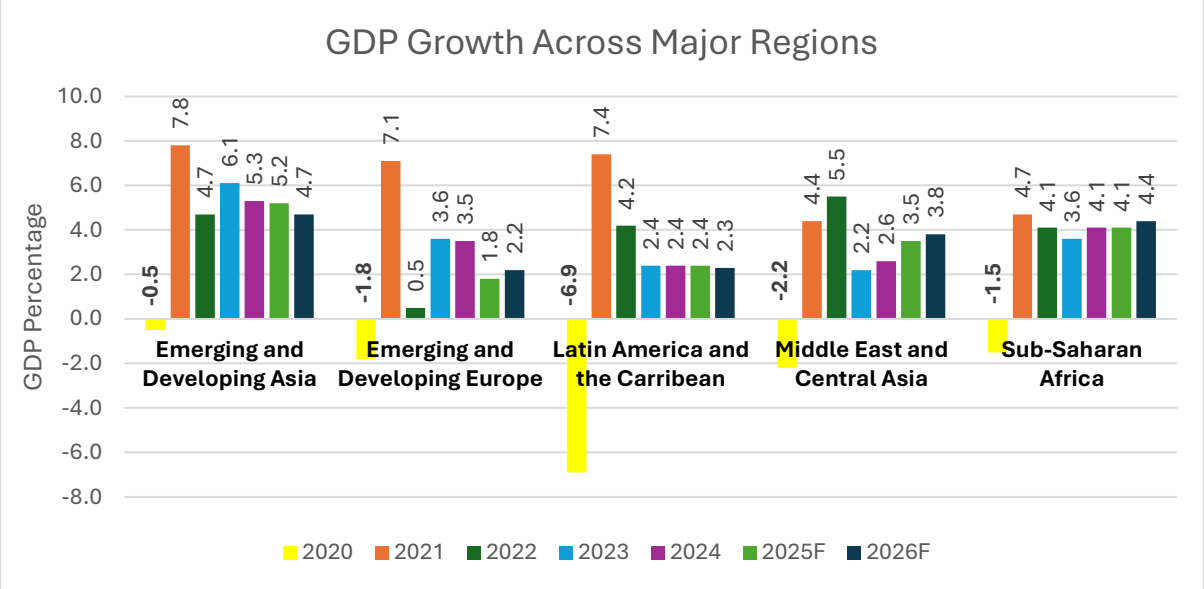
Emerging Markets and Developing Economies are expected to maintain moderate expansion, with GDP growth of 4.2% in CY 2025 and 4.0% in CY 2026. China's growth is projected at 4.8% in CY 2025, slightly higher than previously expected, constrained by real estate sector weakness and soft consumer demand. India is projected to grow at 6.6% in CY 2025 and 6.2% in CY 2026, driven by robust rural consumption, infrastructure investment, favourable demographics, and digitalisation. Other key economies, including Brazil (2.4%) and Russia (0.6%) in CY 2025, are expected to grow more slowly amid structural and geopolitical challenges.

Global commodity prices are anticipated to remain volatile. Oil prices are projected to decline by 12.9% in CY 2025, following a 1.8% decline in CY 2024, before recovering moderately in CY 2026. Non-fuel commodities are expected to increase by 7.4% in CY 2025, driven by agricultural and industrial demand.

Overall, the global economic outlook indicates slowing growth, easing inflation, and continued uncertainty due to geopolitical tensions and trade fragmentation. Nevertheless, India stands out as a relative growth leader among major economies, supported by macroeconomic stability, demographic advantages, and continued investment-led expansion.

1.1 GDP Growth across Major Regions

GDP growth across major global regions—including Europe, Latin America & the Caribbean, Middle East & Central Asia, and Sub-Saharan Africa—continues to display varied trajectories. While some regions are stabilizing post-pandemic, others remain challenged by structural and cyclical issues. The global outlook presents a mixed scenario, with emerging economies continuing to outperform advanced economies.



Source-IMF World Economic Outlook October 2025 update

In Emerging and Developing Asia, growth is projected to moderate from 5.3% in CY 2024 to 5.2% in CY 2025, before slightly declining to 4.7% in CY 2026. India is expected to grow at 6.6% in CY 2025, supported by resilient rural consumption and sustained infrastructure investments, up from 6.5% in CY2024. In contrast, China's growth is anticipated to decelerate to 4.8% in CY2025, amid persistent real estate concerns and subdued domestic demand.

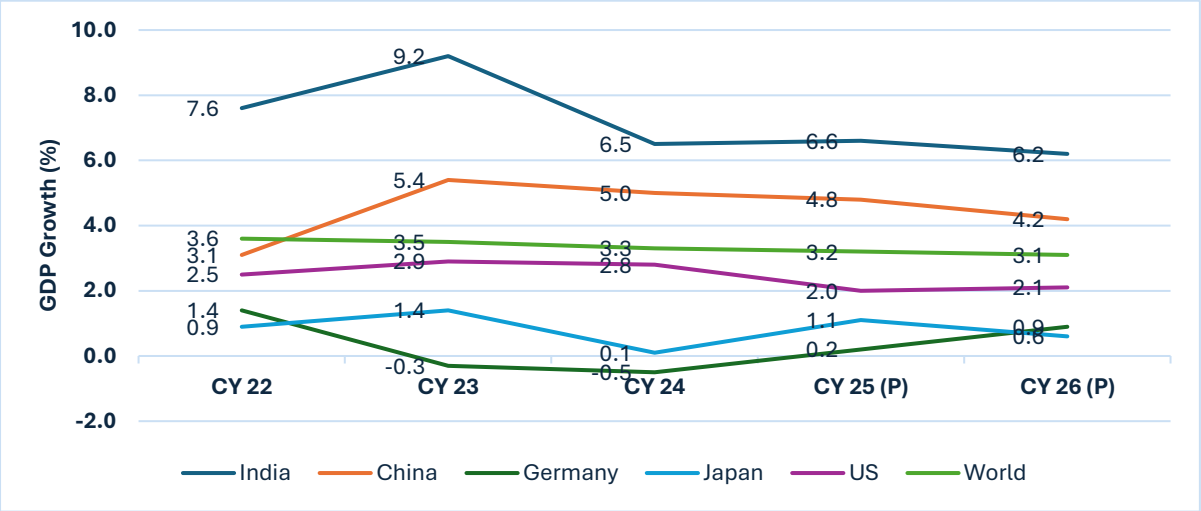
Sub-Saharan Africa is projected to grow at 4.1% in CY 2025, maintaining the same pace as CY 2024, with growth expected to accelerate slightly to 4.4% in CY 2026. This gradual improvement is being supported by better weather conditions and more efficient supply chain operations.

In the Middle East and Central Asia, the economy is forecasted to expand at 3.5% in CY 2025, up from 2.6% in CY 2024, and further strengthen to 3.8% in CY 2026, driven by stabilization in oil production and ongoing economic reforms.

For Latin America and the Caribbean, modest growth of 2.4% is forecast for CY 2025, unchanged from 2.4% in CY2024, with a slight moderation to 2.3% in CY2026, reflecting stable yet subdued economic momentum supported by stronger macroeconomic management across key economies.

Emerging and Developing Europe remains subdued, with growth estimated at 1.8% in CY 2025, down from 3.5% in CY 2024, expected to rise modestly to 2.2% in CY 2026. The region continues to face structural manufacturing challenges, particularly in major economies like Germany.

India and Top 4 Global Economies GDP Growth Forecast



Note: P = Projections, Source: IMF World Economic Outlook October 2025 update

Overall, while global growth is expected to remain steady at 3.2% in CY 2025, regional disparities persist, influenced by a combination of domestic challenges, external geopolitical tensions, and fluctuating commodity prices.

2. India's Macroeconomic Scenario

2.1 Gross Domestic Product (GDP)

India's real GDP has shown a glittering growth at 8.2% in the second quarter (Q2) of FY26 compared to the growth rate of 5.6% during Q2 of FY25, whereas nominal GDP has witnessed a growth rate of 8.7% in Q2 of FY 2025-26.

In its latest Economic Outlook, the OECD noted that India remains one of the fastest-growing major economies, supported by strong investment activity and resilient services. OECD highlighted that India's GDP is projected to grow by 6.7% in fiscal year 2025-26, 6.2% in 2026-27 and 6.4% in 2027-28. Despite some likely impact of the US tariff on Indian exports, private consumption will be supported by rising real incomes as inflation remains soft and low consumption/indirect taxes (GST). Going forward, investment will be sustained by declining borrowing costs and strong public capital expenditure. Current low headline inflation is projected to gradually converge towards the 4% target. Notably, India's Headline Inflation drops to 0.25 % in October 2025.

India's Economic Growth Momentum Remains Strong - Surpassed USD 4 Trillion.

In June 2025, India became the fourth-largest economy in the world and retained its position as the fastest-growing major economy. The country is projected to become the world's third largest economy by 2030, with an estimated GDP of USD 7.3 trillion.
Source: PIB, Press Release - India Becoming an Economic Powerhouse posted on June 16, 2025

India achieved a significant milestone by overtaking Japan to become the *third most powerful nation in the Asia-Pacific region*, as per the Asia Power Index 2024. India's overall score rose to 39.1, reflecting a 2.8-point increase from the previous year, driven by growing influence across economic, military, and diplomatic dimensions.
Source: PIB, Press Release - India becomes 3rd Most Powerful Nation in Asia, Surpasses Japan in Asia Power Index posted on September 24, 2024

Key factors behind India's rise include its strong economic performance, expanding and youthful workforce, and increasing strategic engagement across the region. India's Economic Capability improved significantly, supported by its position as the world's third-largest economy in terms of purchasing power parity (PPP). Additionally, a notable increase in its Future Resources score highlights the demographic advantage that is expected to sustain its growth trajectory in the coming years.

2.2 Gross Value Added (GVA)

Real GVA in Q2 of FY 2025-26 is estimated at ₹44.77 lakh crore, against ₹41.41 lakh crore in Q2 of FY 2024-25, registering a growth rate of 8.1%. Nominal GVA in Q2 of FY 2025-26 is estimated at ₹77.69 lakh crore, against ₹71.45 lakh crore in Q2 of FY 202425, showing a growth rate of 8.7%.

Quarterly Estimates of GVA at Basic Prices for Q2 (July-September) 2025-26 (at 2011-12 Prices) (₹ Crore)

Sector	GVA at Basic Price									
	2023-24		2024-25		2025-26		Percentage Change Over Previous Year			
							2024-25		2025-26	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
1. Primary Sector	**6,24,534**	**5,22,188**	**6,38,065**	**5,40,666**	**6,55,701**	**5,57,501**	**2.2**	**3.5**	**2.8**	**3.1**
1.1 Agriculture, Livestock, Forestry & Fishing	5,40,008	4,56,998	5,47,919	4,75,765	5,68,374	4,92,623	1.5	4.1	3.7	3.5
1.2. Mining & Quarrying	84,526	65,190	90,146	64,901	87,327	64,878	6.6	-0.4	-3.1	-0.04
2. Secondary Sector	**10,89,237**	**11,27,299**	**11,82,833**	**11,72,416**	**12,65,896**	**12,67,823**	**8.6**	**4.0**	**7.0**	**8.1**
2.1. Manufacturing	6,56,922	7,05,592	7,06,798	7,20,846	7,61,394	7,86,670	7.6	2.2	7.7	9.1
2.2. Electricity, Gas, Water Supply & Other Utility Services	96,203	1,00,019	1,05,981	1,02,970	1,06,470	1,07,519	10.2	3.0	0.5	4.4
2.3. Construction	3,36,112	3,21,688	3,70,054	3,48,601	3,98,032	3,73,634	10.1	8.4	7.6	7.2
3. Tertiary Sector	**21,78,681**	**22,63,703**	**23,26,433**	**24,27,523**	**25,42,237**	**26,51,589**	**6.8**	**7.2**	**9.3**	**9.2**
3.1 Trade, Hotels, Transport, Communication & Services related to Broadcasting	6,53,847	7,13,765	6,89,172	7,57,326	7,48,348	8,13,369	5.4	6.1	8.6	7.4
3.2 Financial, Real Estate & Professional Services	10,55,657	10,47,187	11,25,793	11,22,890	12,32,476	12,37,877	6.6	7.2	9.5	10.2
3.3 Public Administration, Defence & Other Services*	4,69,176	5,02,752	5,11,468	5,47,308	5,61,413	6,00,343	9.0	8.9	9.8	9.7
GVA at Basic Prices	**38,92,452**	**39,13,191**	**41,47,331**	**41,40,606**	**44,63,834**	**44,76,914**	**6.5**	**5.8**	**7.6**	**8.1**
Net Taxes	**2,77,663**	**3,41,615**	**2,94,333**	**3,52,981**	**3,24,789**	**3,86,426**	**6.0**	**3.3**	**10.3**	**9.5**
GDP@	**41,70,114**	**42,54,806**	**44,41,664**	**44,93,587**	**47,88,623**	**48,63,340**	**6.5**	**5.6**	**7.8**	**8.2**

* Public Administration, Defence & Other Services category includes the Other Services sector i.e. Education, Health, Recreation, and other personal services @GDP (Production/Income Approach) = GVA at Basic Price + Net Taxes on Products

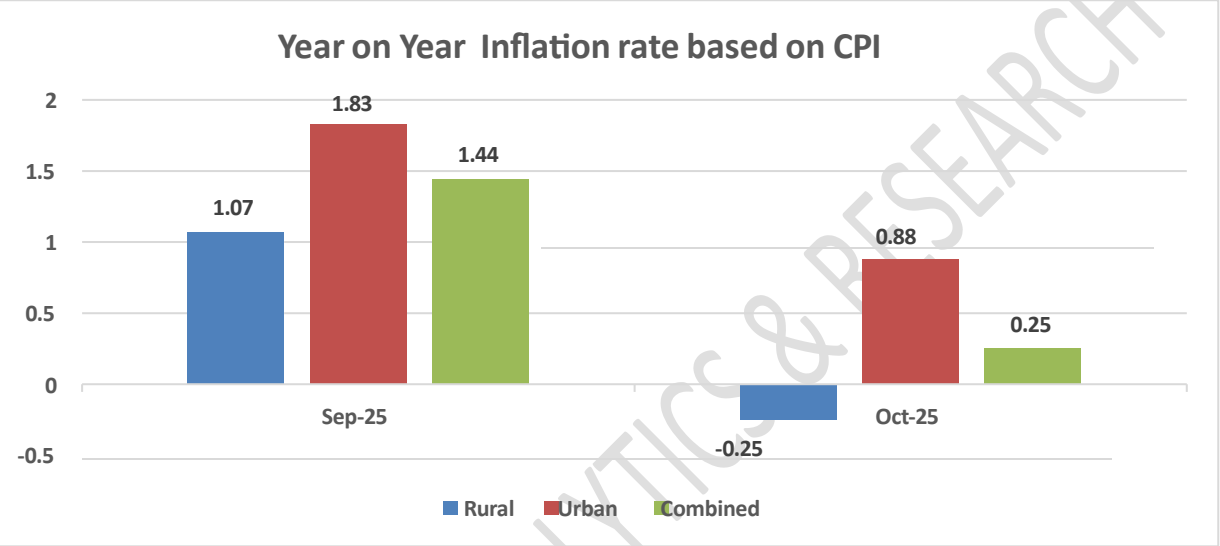
Major Highlights:

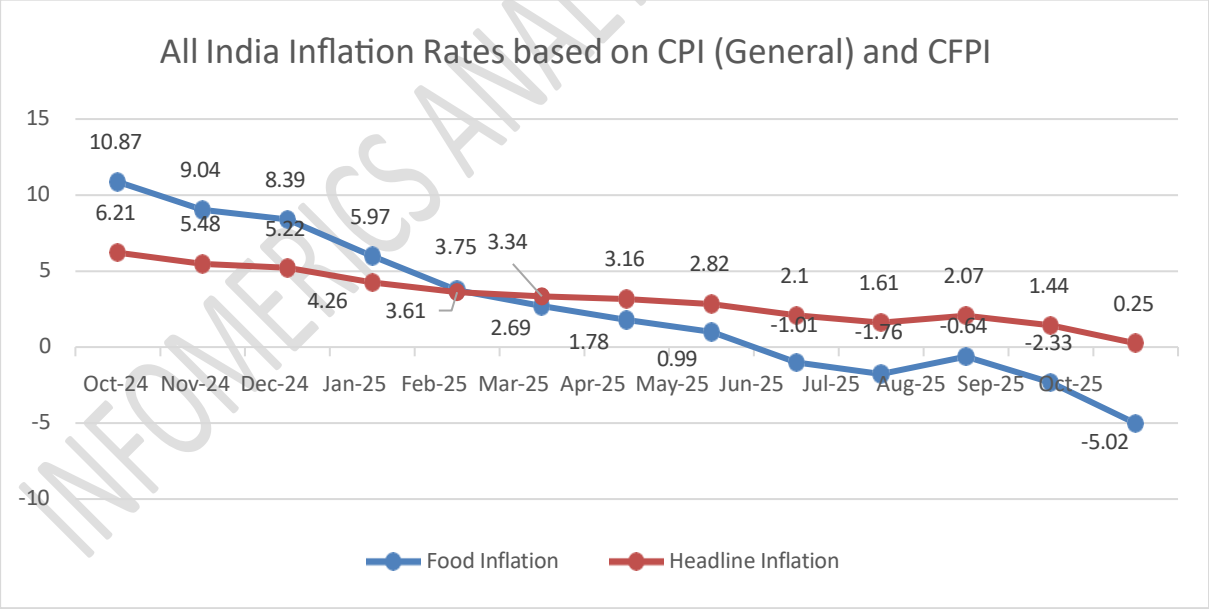
- Real GDP has been estimated to grow by 8.2% in Q2 of FY 2025-26 against the growth rate of 5.6% during Q2 of FY 2024-25.
- Nominal GDP has witnessed a growth rate of 8.7% in Q2 of FY 2025-26.
- The Secondary (8.1%) and Tertiary Sector (9.2%) has boosted the Real GDP growth rate in Q2 of FY 2025-26 to rise above 8.0%.
- Manufacturing (9.1%) and Construction (7.2%) in the Secondary Sector, has registered above 7.0% growth rate at Constant Prices in this quarter.
- Financial, Real Estate & Professional Services (10.2%) in the Tertiary Sector has sustained a substantial growth rate at Constant Prices in Q2 of FY 2025-26.
- Agriculture and Allied (3.5%) and Electricity, Gas, Water Supply and Other Utility Services Sector (4.4%) has seen moderated Real growth rate during Q2 of FY 2025- 26.
- Real Private Final Consumption Expenditure (PFCE) has reported 7.9% growth rate during Q2 of FY 2025-26 as compared to the 6.4% growth rate in the corresponding period of previous financial year.

2.3 Consumer Price Index (CPI)

CPI is at its lowest level

Year-on-year (YOY) inflation rate based on All India Consumer Price Index (CPI) for the month of October 2025 over October 2024 is 0.25% (Provisional). There is decrease of 119 basis points in headline inflation of October 2025 in comparison to September 2025. It is the lowest year-on-year inflation of the current CPI series.



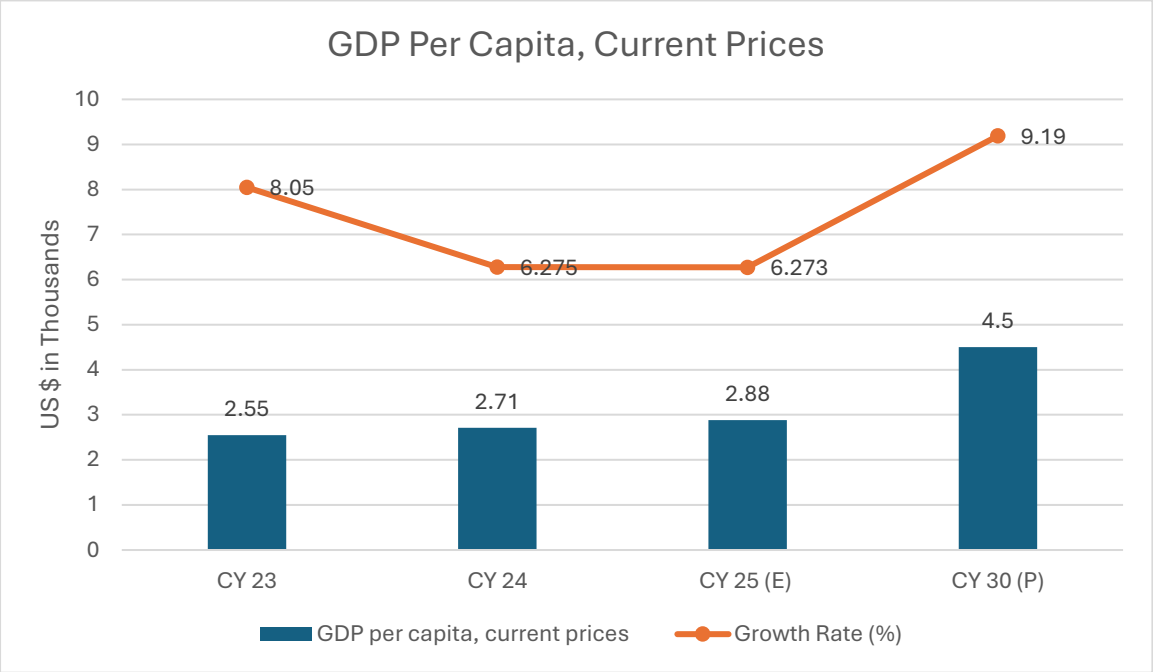


Source: MOSPI, GOI

The decline in headline inflation and food inflation during the month of October 2025 is mainly attributed to full month's impact of decline in GST, favorable base effect and to drop in inflation of Oils and fats, Vegetables, Fruits, Egg, Footwear, Cereals and products, Transport and Communication etc.

2.4 India Per Capita GDP Forecast

Per capita GDP growth for India is estimated at 9.19 % CAGR between CY2025-CY2030. Increased individual incomes are expected to create additional discretionary spending, which may be beneficial for the sector.



Note: E = Estimated, P = Projected

Source: IMF Data Mapper, World Economic Outlook April 2025, India, GDP Per Capita

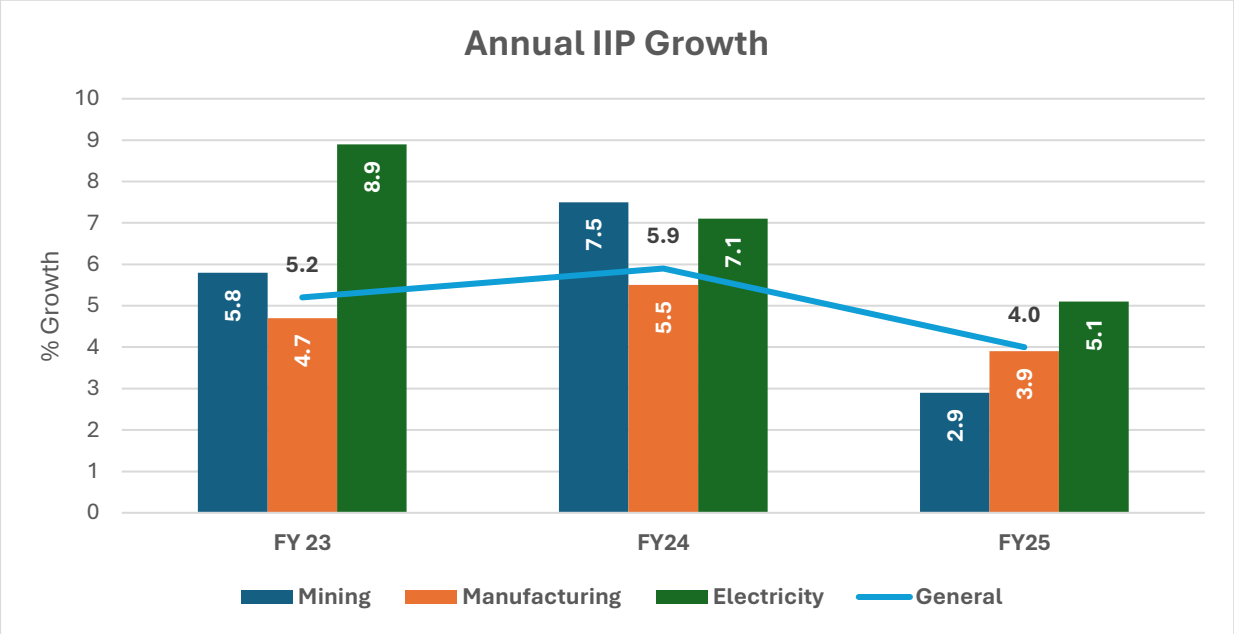
2.5 Index of Industrial Production (IIP) Growth Trends:

As per the Index of Industrial Production (IIP), the industrial sector grew by 4.0% in FY 2025, moderating from 5.9% in FY 2024 and 5.2% in FY 2023. This deceleration in overall IIP growth in FY 2025 reflects a softening of industrial momentum amidst global headwinds and tighter financial conditions.

Among key components:

- **Manufacturing** (which holds a 77.6% weight in IIP) registered a slower growth of 3.9% in FY 2025, compared to 5.5% in FY 2024 and 4.7% in FY 2023.
- **Mining** growth also moderated sharply to 2.9% in FY 2025 from 7.5% in FY 2024 and 5.8% in FY 2023.
- **Electricity** growth remained relatively stable at 5.1% in FY 2025, slightly down from 7.1% in FY 2024 and significantly lower than 8.9% in FY 2023.

This slowdown indicates tightening domestic demand and spillover effects from a weaker global industrial cycle.



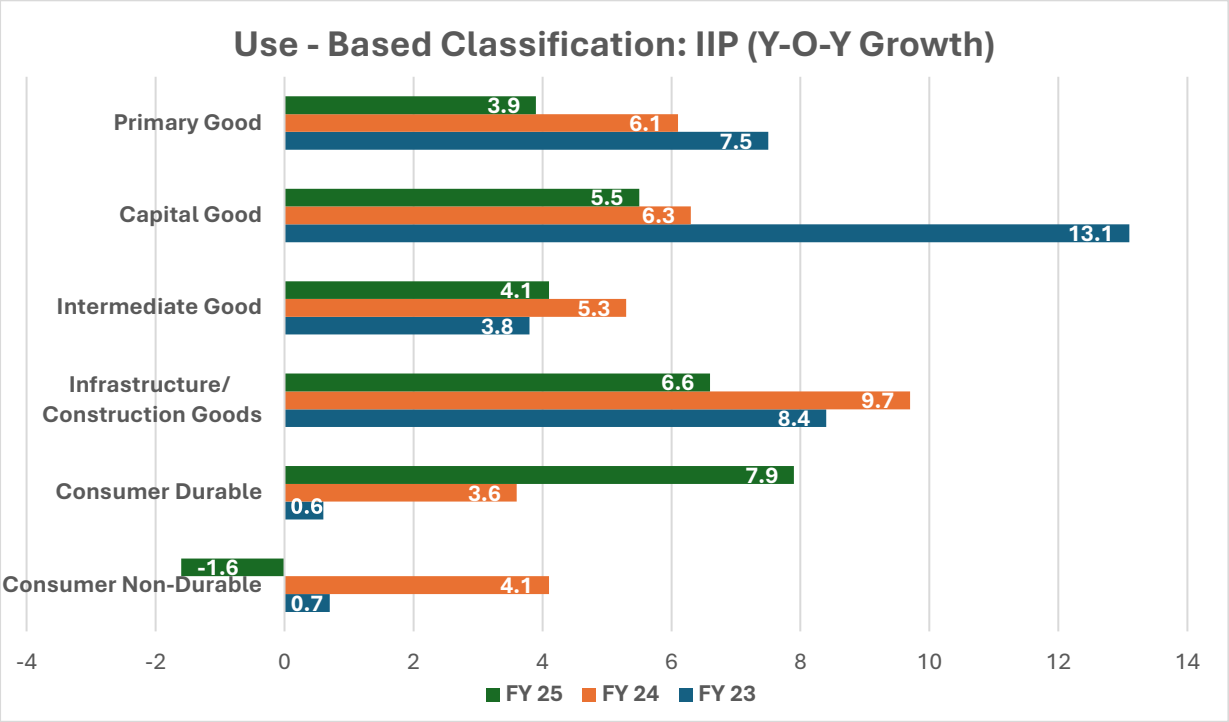
Source: Ministry of Statistics & Programme Implementation (MOSPI)

Latest IIP data in Oct'25 remains a tad low amid less activity during festival times

The Index of Industrial Production (IIP) slows a tad at 0.4% during Oct'25 due to less working days available amid festivals. The growth rates of the three sectors, Mining, Manufacturing and Electricity for the month of October 2025 are (-) 1.8 percent, 1.8 percent and (-) 6.9 percent respectively. Lower demand in October 2025 and subsequent decline in electricity generation was driven by extended rainfall season and comfortable ambient temperature across multiple States/UTs.

Source: Quick Estimate of Index of Industrial Production and Use-Based Index for the Month of October 2025, MOSPI, December 01, 2025 Release

Use-Based Classification Trends:



Source: Ministry of Statistics & Programme Implementation (MOSPI)

According to the use-based classification:

- Capital Goods segment growth slowed to 5.5% in FY 2025, down from a high of 13.1% in FY 2023 and 6.3% in FY 2024, indicating a reduction in investment momentum.
- Primary Goods also witnessed slower growth at 3.9%, compared to 6.1% in FY 2024 and 7.5% in FY 2023.
- Intermediate Goods rebounded modestly to 4.1% in FY 2025, up from 3.8% in FY 2023, although still lower than 5.3% in FY 2024.
- Infrastructure/Construction Goods slowed to 6.6% in FY 2025 from 9.7% in FY 2024 and 8.4% in FY 2023, pointing to softening construction and infrastructure activity.
- Consumer Durables grew significantly by 7.9%, rebounding from 3.6% in FY 2024 and 0.6% in FY 2023, indicating improved demand in consumer electronics and appliances.
- In contrast, Consumer Non-Durables contracted by 1.6% in FY 2025, reversing the 4.1% growth in FY 2024, likely reflecting subdued rural and essential goods demand.

  The divergence in growth across segments suggests an uneven industrial recovery in FY 2025. While certain consumer categories have rebounded, investment-related and primary sectors remain under pressure.

The latest growth rates of IIP as per Use-based classification in October 2025 over October 2024 are (-)0.6 percent in Primary goods, 2.4 percent in Capital goods, 0.9 percent in Intermediate goods, 7.1 percent in Infrastructure/ Construction Goods, (-) 0.5 percent in Consumer durables and (-)4.4 percent in Consumer non-durables. Based on use-based classification, top three positive contributors to the growth of IIP for the month of October 2025 are Infrastructure/ construction goods, Intermediate goods and Capital goods.

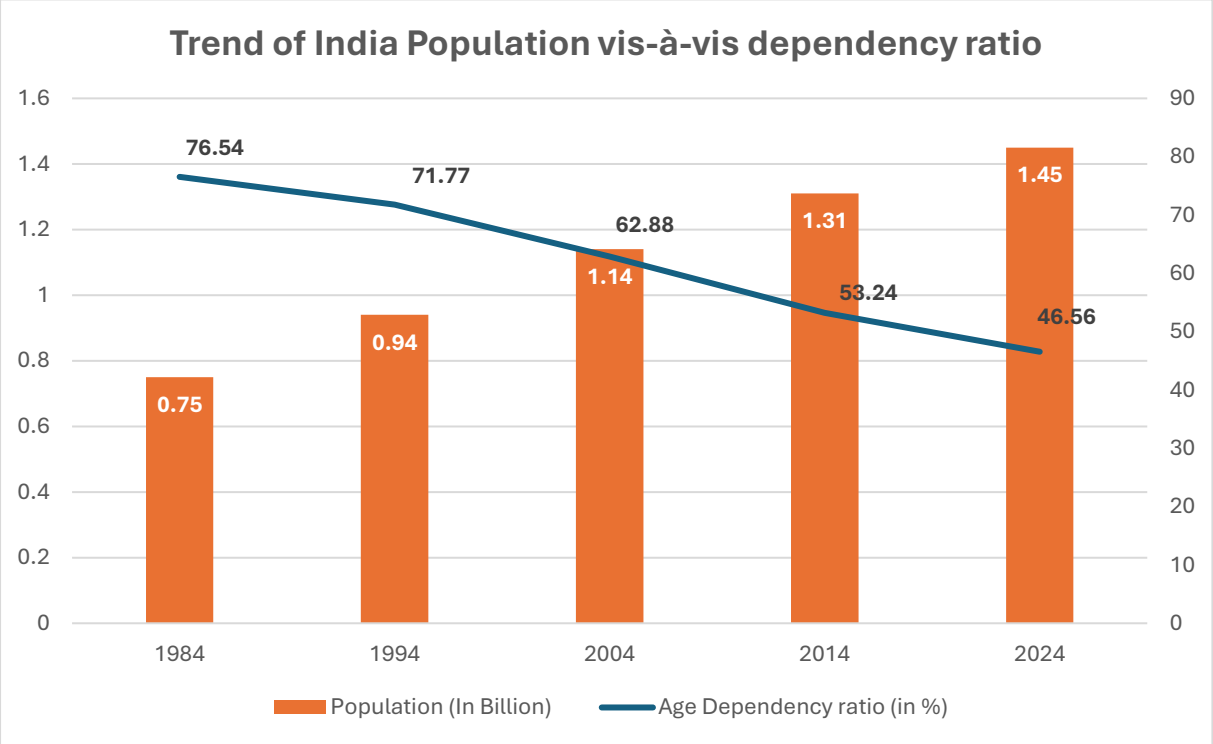
2.6 Overview on Key Demographic Parameters

2.6.1 Population growth and Urbanization

India's economic trajectory and consumption dynamics are closely tied to its demographic shifts. According to the World Bank, India's population expanded from approximately 0.75 billion in 1984 to 1.45 billion in 2024, consolidating its position as the world's most populous nation. This growth underlines the emergence of a vast labour force and consumer base, essential for driving sustained economic progress.

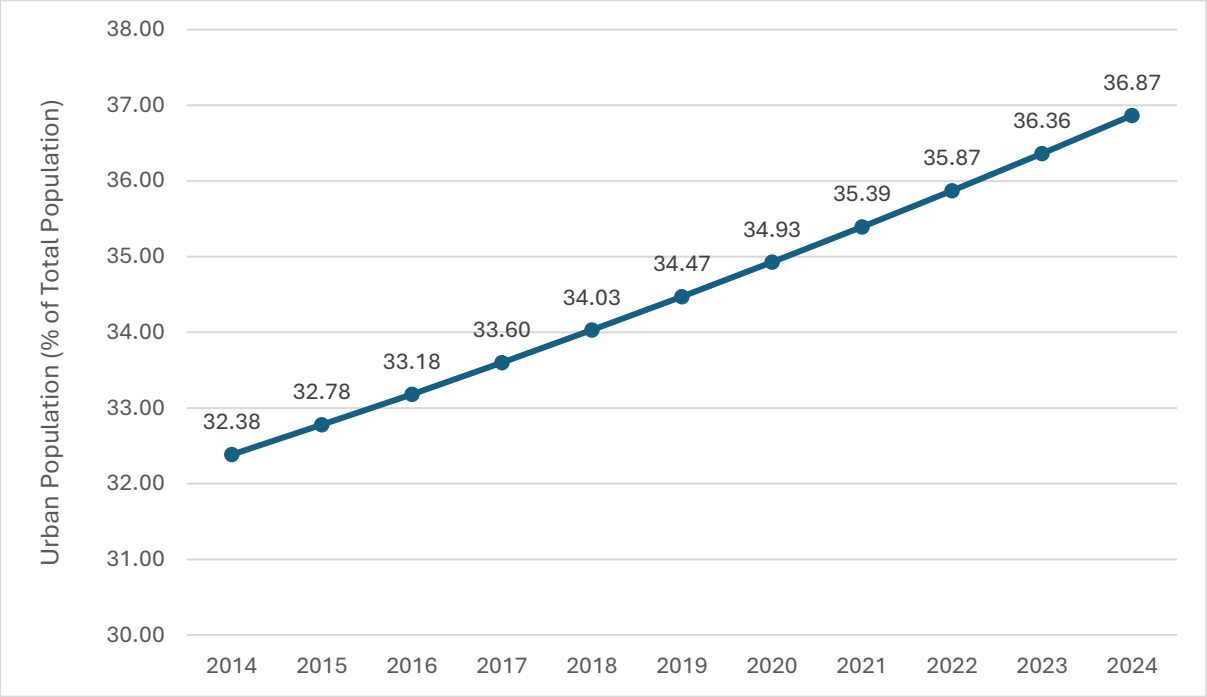
A key demographic indicator—the age dependency ratio—has witnessed a steady decline over the last four decades. From a high of 76.54% in 1984, it reduced to 71.77% in 1994, 62.88% in 2004, and 53.24% in 2014, before reaching a low of 46.56% in 2024. This downward trend signifies that for every 100 working-age individuals, there are now fewer than 47 dependents, compared to over 76 dependents in the mid-1980s. Such a shift reflects a growing share of the working-age population, unlocking India's demographic dividend—a critical driver of productivity, savings, and investment.

Together, the rising total population and declining dependency ratio provide a dual advantage: a larger workforce capable of supporting economic activity and a lower demographic burden, which allows for higher disposable incomes and consumption growth. These demographic fundamentals form a strong backbone for India's long-term economic and private consumption expansion.



Source: World Bank Database, Infomerics Analytics & Research

Urbanization Trend in India



Source: World Bank Database

Urbanization, too, is transforming India's socio-economic fabric. The urban population rose from 424.96 million in 2014 (32.38% of total population) to 522.93 million in 2023 (36.36%), and further to approximately 534.91 million in 2024 (36.87%), according to World Bank estimates. This rapid growth in urban areas underscores the need for sustainable urban planning, investment in infrastructure, and development of smart cities to accommodate and benefit from the shifting population dynamics.

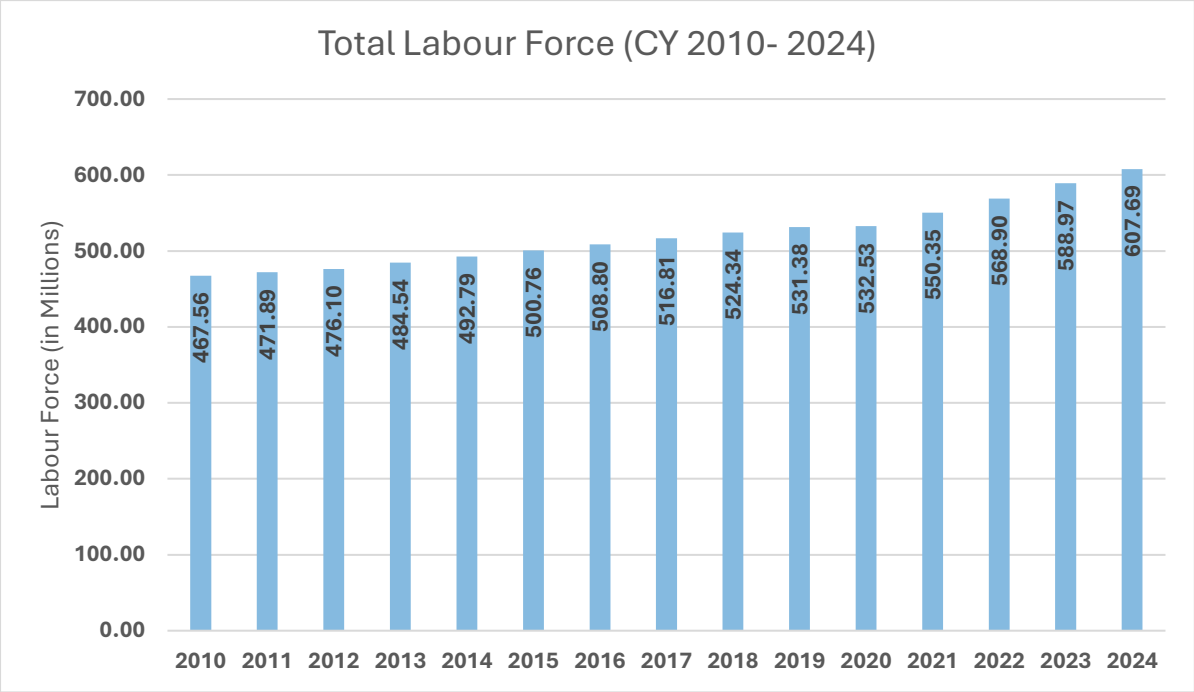
2.6.2 Labour Force in India

India's labour force has experienced significant growth over the past decade. In 2010, the total labour force was approximately 467.56 million. By 2024, this number had increased to 607.69 million, reflecting a Compound Annual Growth Rate (CAGR) of 1.89% over the 14-year period.

This upward trend underscores the expanding working-age population and the country's ongoing economic development. However, it also highlights the need for effective employment policies to ensure that the growing labour force is adequately absorbed into productive sectors.

The labour force participation rate (LFPR) has also seen fluctuations, influenced by various socio-economic factors. As of 2024, the LFPR stood at 45.1%, indicating the percentage of the working-age population that is either employed or actively seeking employment.

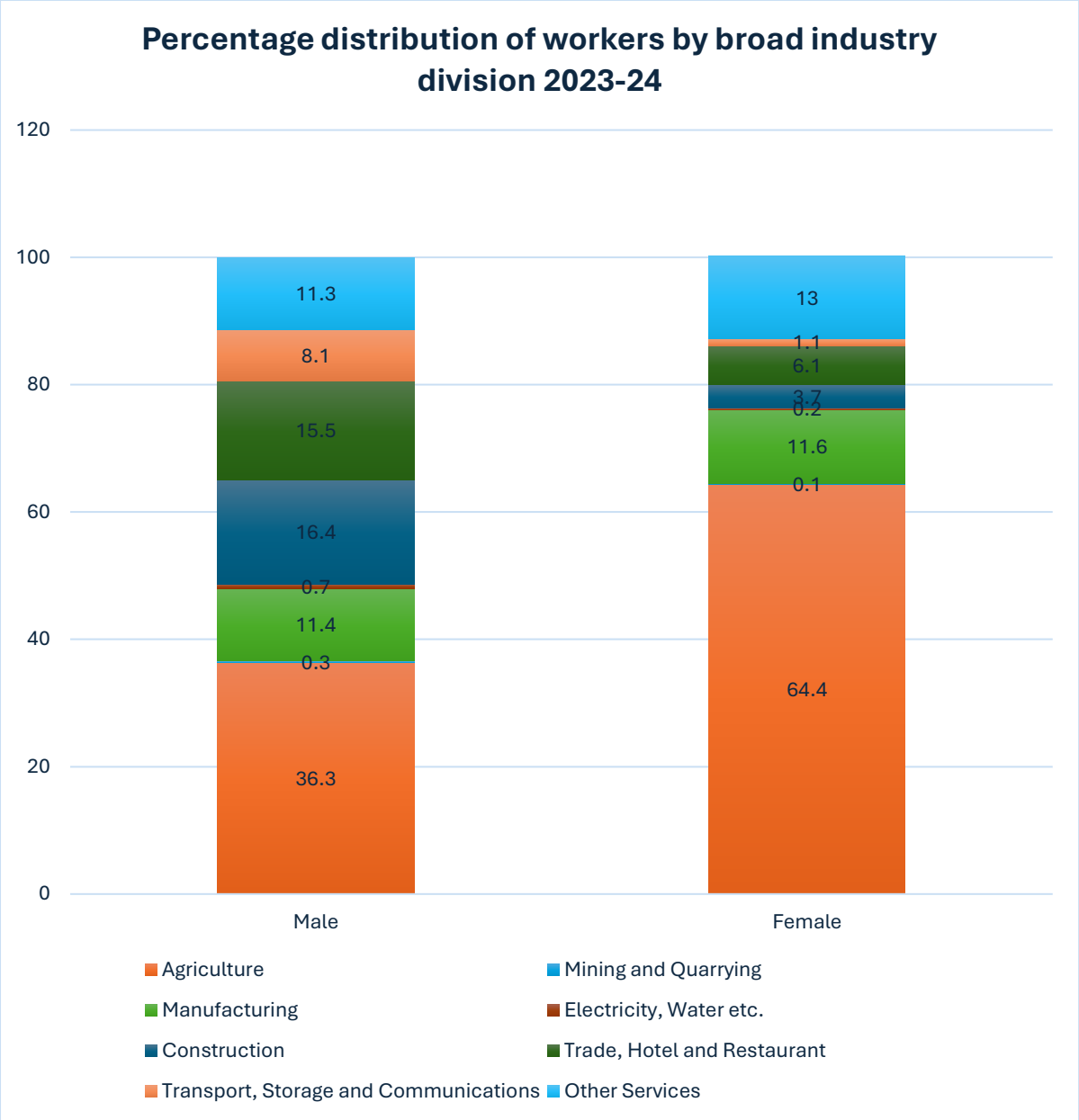
These statistics emphasize the importance of implementing strategies that not only create employment opportunities but also enhance the quality and inclusivity of jobs across different sectors of the economy.



Source: World Bank Database

2.6.3 Breakdown of Employment by Sector

According to the Periodic Labour Force Survey (PLFS) 2023–24, the employment distribution across various sectors exhibits distinct gender-based patterns. A significant portion of male workers are engaged in agriculture, followed by notable participation in construction, manufacturing, and trade-related activities. In contrast, female workers are predominantly employed in agriculture, with considerable involvement in manufacturing and other services sectors. While female representation in trade and construction is lower compared to males, Additionally, a substantial proportion of employed women are self-employed, often contributing as unpaid helpers in household enterprises or operating small businesses, indicating a reliance on informal employment avenues.

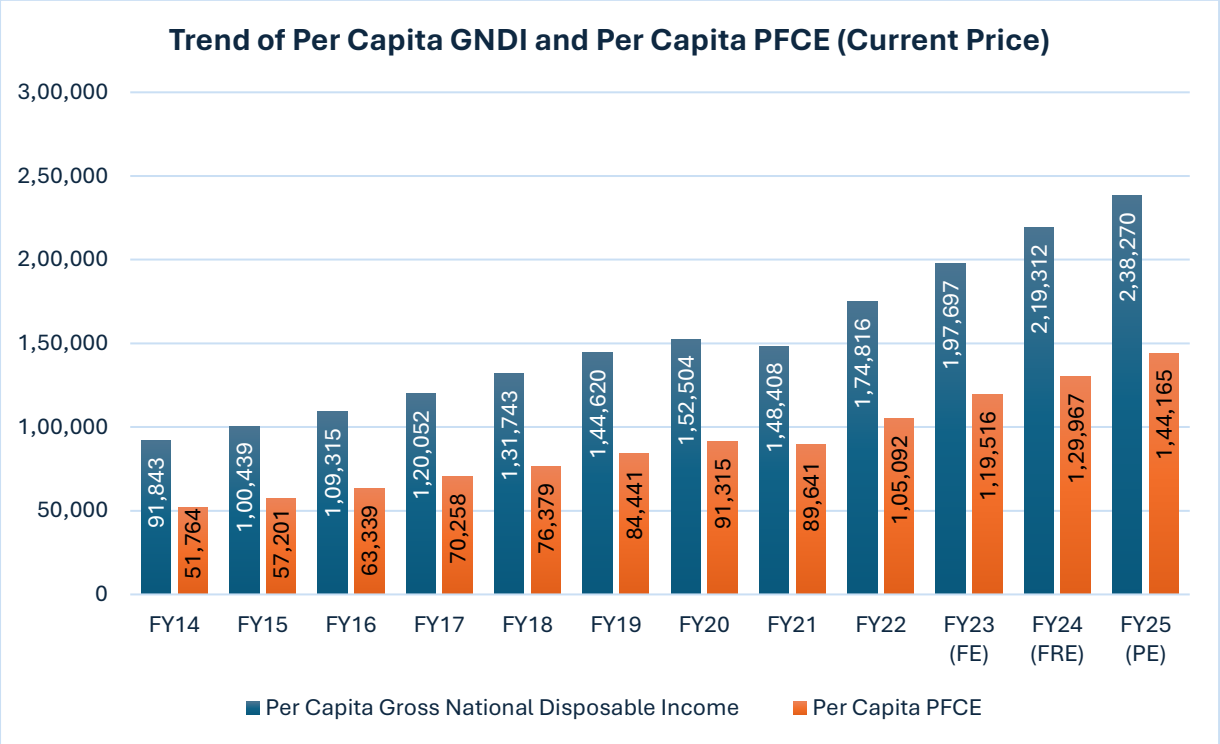


Source: Annual Report 2023-24, Periodic Labour Force Survey

2.6.4 Disposable Income and Consumer Spending

Gross National Disposable Income (GNDI) represents the total income available to a nation's residents for consumption and saving after accounting for income transfers with the rest of the world. In FY24, Per capita GNDI grew by 10.9%, followed by a moderate growth of 8.6% in FY25. This steady increase indicates that households and businesses had more income at their disposal, which is critical for supporting both consumption and savings—key components of economic resilience and expansion.

The rise in GNDI has translated into higher consumer spending, as reflected in the growth of Private Final Consumption Expenditure (PFCE), which measures the total value of goods and services consumed by households. Per Capita PFCE grew by 8.7% in FY24 and further accelerated to 10.9% in FY25, highlighting strong consumer confidence and robust domestic demand.



Note: Data mentioned is in INR, FE – Final Estimates, FRE – First Revised Estimates, PE – Provisional Estimate; Source: PIB, *Provisional estimates of GDP 2024-25 released on May 30th, 2025*

2.7 Union Budget FY25-26 Highlights

The Union Budget FY 2025–26, presented by Finance Minister Nirmala Sitharaman, introduces a comprehensive set of measures aimed at stimulating economic growth, enhancing infrastructure, and fostering inclusive development. With a focus on sectors such as agriculture, MSMEs, infrastructure, innovation, and exports, the budget seeks to create a conducive environment for sustained economic expansion.

- **Capital Expenditure and Infrastructure Development**
  The government has earmarked a substantial ₹11.21 lakh crore (3.1% of GDP) for capital expenditure in FY 2025–26. This allocation is directed towards infrastructure projects, including rural development, manufacturing, and skill-building initiatives. Notably, the Urban Challenge Fund has been established with a corpus of ₹1 lakh crore, aimed at financing 25% of the cost of bankable urban infrastructure projects, thereby promoting sustainable urban development.
- **Support for MSMEs**
  Recognizing the pivotal role of Micro, Small, and Medium Enterprises (MSMEs) in India's economic landscape, the budget introduces several measures to bolster this sector. The Credit Guarantee cover has been enhanced to ₹10 crore, unlocking ₹1.5 lakh crore in additional funding for MSMEs over the next five years. Additionally, the establishment of a Fund of Funds with a ₹10,000 crore corpus aims to provide equity support to startups and potential MSMEs, focusing on high-growth sectors such as electronics and renewable energy.
- **Tax Reforms and Disposable Income**
  To stimulate consumption and investment, the budget introduces significant tax reforms. The tax-free income threshold has been raised to ₹12 lakh, and the new tax regime offers reduced rates for higher income brackets. These changes are expected to increase disposable income, thereby encouraging higher savings and investment among the middle class.
- **Focus on Agriculture and Exports**
  The budget prioritizes agriculture as a key engine of development, with increased allocations for agricultural credit and initiatives aimed at enhancing productivity. Furthermore, measures to promote exports include the reduction of customs duties on select goods and the introduction of policies to facilitate easier market access for Indian products.
- **Urban Development Initiatives**
  A significant increase in the budget allocation for the Ministry of Housing and Urban Affairs to ₹96,777 crore reflects the government's commitment to urban development. Key initiatives include the establishment of the Urban Challenge Fund, enhanced loans under the PM SVANidhi scheme, and substantial provisions for the Pradhan Mantri Awas Yojana

and Urban Rejuvenation Mission, all aimed at improving urban infrastructure and living standards.

The Union Budget FY 2025–26 presents a balanced approach to economic growth by addressing immediate consumption needs and laying the foundation for long-term sustainability. Through targeted investments in infrastructure, support for MSMEs, tax reforms, and sector-specific initiatives, the budget aims to foster an inclusive and resilient economy. These measures are expected to create new opportunities for financial institutions, as the growing demand for investment products will provide avenues for expansion and innovation in the financial services sector.

2.8 Concluding Remarks about Macroeconomic Scenario

FED has softened the benchmark interest rate by 25bps to the range of 3.50%-3.75% as expected by majority of the market in Dec'25. The RBI has also reduced its policy rate, namely repo rate by 25 bps to bring it down from 5.50 to 5.25 bps, amid robust Q2FY26, 8.2% real GDP growth and lowest retail inflation at 0.25 in India. A Fed rate cut is expected to channelise FII inflows to India and help in easing the ongoing pressure on INR. In fact, the Real Effective Exchange Rate (REER) for which INR was thought to have been overvalued previously, has softened in recent periods, thus INR is moving in the right direction to correct its fundamentals though possibly at a slight stretch as RBI is struggling a lot to maintain the "volatility in the INR movement" as the Governor tried to clarify the market. Nonetheless, many other emerging market economies (EMs) are also facing pressure on their currencies. Notably, Central Banks (CBs) of many countries have accumulated their gold holdings amid this turbulent time, after the "Trump Tariff "factor and geopolitical tensions have injected heightened uncertainties in the global economy.

IMF recently reclassified India's "de facto" exchange rate regime as a "crawl-like arrangement", two years after branding it "stabilised", indicating that RBI is allowing a measured flexibility, a managed float, where RBI primarily intervene to check excessive volatility in the INR and/or to manage the liquidity situation. India's strategic position as a manufacturing hub is further strengthened by government initiatives, a skilled labour force, and a dynamic startup ecosystem, all of which bolster the country's economic outlook. The ongoing reforms and focus on innovation are enabling India to seize emerging opportunities, making it a growing player in the global manufacturing landscape. In addition, several high-frequency growth indicators—such as the Purchasing Managers' Index (PMI), E-way bills, bank credit, toll collections, and GST collections—have shown a positive trajectory in FY25. These factors are expected to further support the investment cycle and strengthen India's economic resilience in the coming years.

3A. Industry Overview – Plastic Packaging Industry

3A.1 Introduction

As global consumption patterns evolve, the plastic packaging industry has become a critical enabler of modern trade, logistics, and consumer convenience. This industry encompasses a broad range of packaging solutions such as rigid containers, bottles, jars, trays, caps, closures, pouches, and bags, catering to sectors such as food & beverages, pharmaceuticals, personal care, household products, agriculture, and industrial goods.

Plastic packaging products are primarily manufactured using materials like Polyethylene (PE), Polypropylene (PP), Polyethylene Terephthalate (PET), Polystyrene (PS), Polyvinyl Chloride (PVC), and multi-layer composites. These materials are prized for their lightweight nature, durability, chemical resistance, barrier properties, and recyclability. Common packaging formats include bottles, jars, tubs, drums, crates, flexible pouches, and thermoformed trays, designed to meet specific functional and marketing requirements.

The industry has evolved from producing simple containers to highly engineered solutions that enhance product safety, shelf life, and consumer convenience. Innovations include tamper-evident closures, vacuum-sealed containers, anti-microbial coatings, and reusable or stackable designs that optimize storage and transportation efficiency. Companies are increasingly integrating automation, smart labelling, digital printing, and QR/NFC-enabled packaging to support branding, traceability, and end-to-end supply chain visibility.

Sustainability has emerged as a major driver, with firms investing in recyclable resins, bio-based plastics, lightweighting, and closed-loop manufacturing. Regulatory mandates, such as bans on single-use plastics and the implementation of Extended Producer Responsibility (EPR), are accelerating the shift toward eco-friendly alternatives, driving innovation in compostable, reusable, and high-recovery plastic packaging solutions.

Emerging markets such as India, China, Mexico, and Vietnam are becoming prominent hubs for plastic packaging production due to competitive manufacturing costs, abundant raw material supply, and favourable trade policies. Strategic collaborations between global brands, packaging converters, and recycling technology providers are fostering growth, expanding product offerings, and strengthening market reach.

3A.2 Market segmentation for Plastic Packaging Industry

The plastic packaging industry in India is diverse and multifaceted, catering to a wide range of end-use sectors through various product types, materials, and applications. Market segmentation is primarily based on material type, packaging format, and end-use industry. Each segment exhibits distinct demand drivers, technological requirements, and regulatory considerations.

Segmentation Category	Sub-Segments / Details
1. Types of Material	• Polyethylene (LDPE, LLDPE, HDPE) • Polypropylene (PP) • Polyester (PET) • Polyvinyl Chloride (PVC) • Polystyrene (PS) • Nylon, Ethylene Vinyl Alcohol (EVOH)
2. Types of Packaging	• Pouches (Stand-up, Zipper, Spouted) • Bags & Sacks (Retail, Garbage, industrial) • Wraps (Cling, Shrink, Stretch) • Laminates (Multi-layer)
3. Technology used	• Blow Moulding • Extrusion (Blown & Cast) • Printing (Digital / Flexographic) • Lamination (Solvent-less/Solvent-based)
4. End-Use Industry	• Food & Beverage • Pharmaceuticals • Personal Care & Cosmetics • Homecare Products - Industrial Applications • Agriculture • Retail & E-Commerce • Others

Detailed Overview of the segments

1. **By Types of Material**

The flexible packaging industry utilizes a wide range of polymer-based materials, each offering distinct performance characteristics and end-use applications. The major material types include:

- **Polyethylene (PE):**

Polyethylene is one of the most extensively used materials in flexible packaging owing to its cost-effectiveness, flexibility, and excellent moisture barrier properties. It is available in multiple variants:

a) **Low-Density Polyethylene (LDPE)**
Characterized by softness and flexibility, LDPE is commonly used for squeeze bottles, film wraps, and laminations.

b) **Linear Low-Density Polyethylene (LLDPE)**
Offers superior tensile strength and stretchability, making it suitable for stretch films and heavy-duty bags.

c) **High-Density Polyethylene (HDPE)**
Provides rigidity and strength, making it ideal for packaging applications requiring durability, such as pouches and containers.

- **Polypropylene (PP)**
Polypropylene, particularly Biaxially Oriented Polypropylene (BOPP), is preferred for its high clarity, tensile strength, and moisture resistance. It finds extensive usage in snack food, confectionery, and tobacco packaging due to its excellent printability and aesthetic appeal.
- **Polyester (PET)**
Polyethylene Terephthalate (PET) is valued for its high tensile strength, dimensional stability, and transparency. Biaxially Oriented Polyester (BOPET) films are widely utilized across food, pharmaceutical, and industrial packaging segments owing to their superior oxygen and moisture barrier properties, as well as thermal stability.
- **Polyvinyl Chloride (PVC):**
PVC offers good shrink characteristics and clarity, making it suitable for applications such as blister packs and shrink sleeves. However, its usage in flexible packaging has witnessed a gradual decline due to environmental and recyclability concerns.
- **Polystyrene (PS)**
These materials are used in specialized applications where unique performance attributes are required. Polystyrene (PS) provides high transparency and rigidity
- **Nylon, Ethylene Vinyl Alcohol (EVOH)**
Nylon (Polyamide) offers excellent puncture and abrasion resistance; and EVOH is used as a co-extruded layer in food packaging due to its exceptional gas barrier properties, thereby extending product shelf life.

2. <u>By Types of Packaging</u>
The plastic packaging market comprises a diverse range of product formats designed to meet the functional and aesthetic requirements of various end-use industries.

- **Pouches**
constitute one of the fastest-growing segments within flexible packaging, encompassing stand-up, zipper, and spouted variants. These formats offer enhanced convenience, resealability, and superior shelf appeal, making them increasingly preferred in the food, beverage, and personal care sectors. Their lightweight nature and efficient material utilization contribute to cost-effectiveness and sustainability in modern retail packaging.

- **Bags and Sacks**
  Represent a large-volume segment catering to retail, grocery, courier, and industrial applications. This category includes garbage bags, courier bags, and heavy-duty sacks used for commodities such as rice, fertilizer, and cement. These formats are valued for their strength, tear resistance, and adaptability to bulk handling and transportation.
- **Wraps (cling films, shrink wraps, and stretch films)**
  Serve critical roles in product bundling, pallet wrapping, and food preservation. Their flexibility and ability to provide a protective barrier against moisture, dust, and contaminants make them indispensable for logistics, warehousing, and food service operations.
- **Laminates**
  Comprise multi-layer structures that combine different materials to deliver enhanced performance characteristics such as improved barrier protection, heat resistance, and extended shelf life. Owing to these attributes, laminates are widely used in food, pharmaceutical, and high-value consumer packaging where product safety and preservation are paramount.

3. <u>By Technology</u>

The plastic packaging industry utilizes a range of advanced technologies to address the diverse requirements of end-use sectors such as food and beverages, pharmaceuticals, personal care, and industrial goods.

- **Blow Moulding**
  It is primarily used for producing hollow packaging products such as bottles, containers, and drums. The process involves inflating a heated plastic preform inside a mould, with major variants including extrusion, injection, and stretch blow moulding. This technology enables the manufacture of lightweight, durable, and cost-efficient packaging suitable for liquids, oils, and chemical applications.
- **Extrusion (Blown and Cast)**
  It forms the backbone of film and sheet production. Blown extrusion is used for manufacturing films employed in bags, wraps, and multilayer flexible packaging, offering strength, versatility, and scalability. Cast extrusion provides superior thickness uniformity, optical clarity, and dimensional control, making it suitable for applications requiring precision and visual appeal.
- **Digital and Flexographic Printing**
  These are integral to enhancing branding, product identification, and consumer engagement. Flexographic printing supports high-speed, large-volume production, while digital printing enables short-run, customized, and on-demand packaging. Increasing use of barcodes, QR codes, and variable data printing is also facilitating the development of smart and traceable packaging formats.

- **Lamination**

  Involves combining multiple material layers using solvent-based or solvent-less adhesive systems to achieve enhanced strength, barrier protection, and print quality. It is extensively applied in food, pharmaceutical, and premium consumer goods packaging where extended shelf life, protection, and aesthetics are critical.

4. **By End Use Industry**

The plastic packaging industry caters to a diverse range of end-use sectors, each characterized by distinct material, performance, and regulatory requirements.

- **Food & Beverage**

  This remains the largest end-use segment, accounting for a significant share of demand for flexible and rigid plastic packaging. The sector requires moisture-proof, hygienic, and oxygen-barrier materials suitable for snacks, dairy products, ready-to-eat meals, frozen foods, and beverages. Lightweighting, extended shelf life, and visual appeal are key drivers influencing material selection and innovation in this segment.

- **Pharmaceuticals**

  It represents a critical application area where high-barrier laminates and specialized films are used to ensure product integrity, tamper resistance, and contamination prevention. Plastic packaging is utilized for sachets, blister packs, strip packaging, and medical pouches, meeting stringent quality and safety standards.

- **Personal Care and Cosmetics**

  It relies on flexible and aesthetically appealing packaging formats for products such as shampoos, lotions, wipes, and face masks. Demand is driven by rising disposable incomes, brand differentiation, and premiumization, leading to innovations in texture, finish, and dispensing convenience.

- **Homecare Products**

  It utilizes robust and spill-proof packaging solutions for detergents, disinfectants, floor cleaners, and surface care products. The focus is on strength, chemical resistance, and ergonomic design to enhance usability and safety.

- **Industrial Applications**

  It encompasses films and containers for automotive components, electrical goods, building materials, and agrochemicals. These applications require high mechanical strength, puncture resistance, and protection from moisture, dust, and static discharge.

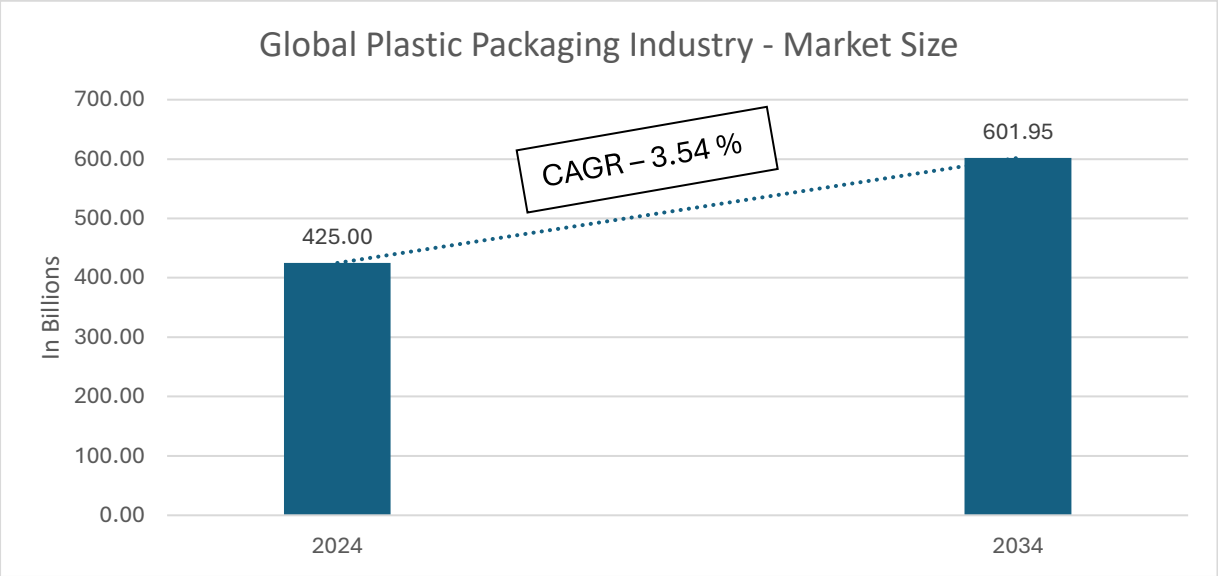
- **Agriculture**

  It employs plastic packaging and films such as mulch films, silage wraps, and seed bags designed for UV protection, controlled degradation, and enhanced crop productivity. Sustainable and biodegradable variants are increasingly being adopted in this segment

- **Retail and E-Commerce**
  This represents a rapidly expanding segment driven by the growth of online shopping and logistics. Demand is rising for courier bags, tamper-evident pouches, and branded packaging solutions that provide durability, security, and visual branding for last-mile delivery.
- **Others**
  These include niche sectors such as textiles, stationery, and specialty industrial goods. Demand in these areas is characterized by customization, functional attributes such as anti-static or heat-sealable properties, and branding requirements of small and medium enterprises.

3A.3 Global Market Size and Growth

The Global plastic packaging market was valued at approximately USD 425 billion in FY 2024 and is projected to reach around USD 601.95 billion by FY 2034, registering a CAGR of 3.54% during FY2024–FY 2034.



Source: Infomerics Analytics & Research

This growth is primarily driven by rising demand from e-commerce, food and pharmaceutical packaging, and logistics, supported by efficient global supply chains and expanding use of plastics in infrastructure, automotive, and industrial applications. Increasing adoption of lightweight, durable, and recyclable materials further strengthens the sector's growth momentum worldwide.

Regional Insights

Asia-Pacific

Remains the undisputed engine of market growth, driven by rapid industrialization, organized retail expansion, and the deepening penetration of e-commerce. China continues to lead in production and consumption, but stricter waste-import regulations and carbon-neutrality pledges are prompting local manufacturers to enhance recycling and circularity infrastructure. Meanwhile, emerging economies such as India, Vietnam, and Indonesia are witnessing accelerated gains as multinational companies diversify sourcing across ASEAN nations to reduce geopolitical and supply-chain dependencies.

North America

Shows consistent and sustainable growth, underpinned by strong demand from the pharmaceutical, fresh produce, and logistics sectors. Increasingly complex state-level plastic waste legislation is spurring innovation in recyclable and mono-material packaging. Canada's upcoming nationwide Extended Producer Responsibility (EPR) framework is also expected to catalyze partnerships and investments in advanced recycling solutions.

Europe

Continues to play a leading role in defining global packaging standards through its stringent sustainability mandates. The region's EPR rules, tethered-cap directives, and recycled-content requirements have accelerated technological advancements in material science, lightweighting, and chemical recycling. Rising energy and labor costs are driving process automation, while Eastern Europe is attracting reshoring investments as converters seek cost-efficient, proximity-based production hubs**.**

Latin America and the Middle East & Africa

Exhibit selective but promising growth pockets. In Latin America, expanding agrifood exports and rising consumption in personal care and beverages are boosting demand for barrier and flexible packaging solutions. In the Middle East, integrated petrochemical value chains support resin exports, while Africa's emerging single-use plastic bans are creating opportunities for lightweight, recyclable, and high-barrier packaging.

3A.4 Global Market Trends

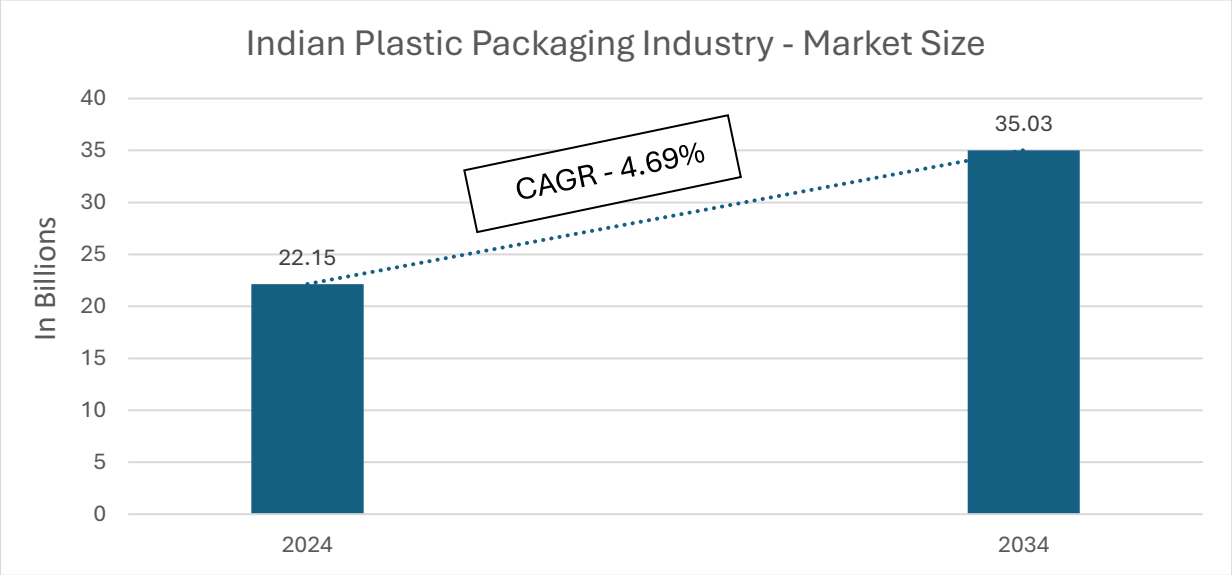
The plastic packaging industry is undergoing significant transformation, driven by regulatory shifts, technological innovation, evolving consumer preferences, and changing global trade dynamics. Manufacturers are increasingly focusing on sustainability, material efficiency, and design optimization to balance environmental responsibility with cost competitiveness. Additionally, the expansion of e-commerce, advancements in smart packaging, and heightened demand from food, pharmaceutical, and personal care sectors are reshaping industry priorities. The following key trends are influencing the future trajectory of the sector:

- **Sustainability & Circular Economy**
  Growing regulatory mandates—such as Extended Producer Responsibility (EPR) and restrictions on single-use plastics—alongside rising consumer awareness, are accelerating the shift toward recyclable, biodegradable, and compostable materials. The industry is witnessing greater adoption of recycled polymers (including rPET and post-consumer resins) and innovations in designing packaging for recyclability. Efforts to integrate circular economy principles are also aimed at reducing landfill waste and improving resource recovery.
- **Growth of Flexible & Lightweight Packaging**
  Flexible packaging formats such as pouches, bags, wraps, and laminates continue to gain prominence due to their material efficiency, convenience, and logistics advantages. Lightweighting—achieved through downgauging and structural optimization—enables reduced material usage and transportation costs while maintaining functional performance, thereby enhancing sustainability and profitability.
- **Rise of E-Commerce & Omnichannel Retail**
  The expansion of online and omnichannel retail has driven demand for protective, tamper-evident, and logistics-friendly packaging solutions. Packaging is now designed not only for shelf appeal but also for transit durability and end-user convenience. Secondary packaging such as shipping boxes, liners, and cushioning materials is becoming increasingly critical in ensuring product safety and enhancing the unboxing experience.
- **Demand for High Barrier, Specialty & Smart Packaging**
  End-use industries including food, pharmaceuticals, and personal care are emphasizing high-barrier and specialty packaging that ensures extended shelf life, hygiene, and product protection. Innovations in active and antimicrobial packaging are gaining traction to meet these needs. Concurrently, smart packaging technologies incorporating QR codes, RFID tags, and embedded sensors are enabling traceability, authenticity verification, and consumer engagement.
- **Regulation & Policy Pressure**
  Governments and regulatory bodies are enforcing stricter norms on plastic usage, waste management, and recyclability standards. Measures such as single-use plastic bans, limits on plastic scrap imports and exports, and compliance standards for food-contact materials are reshaping the operating environment. Recent frameworks like the Plastic Waste Management Rules and their subsequent amendments have further accelerated the transition toward sustainable packaging solutions.
- **Raw Material & Cost Pressures**
  Volatility in crude oil prices, disruptions in global supply chains, and dependence on polymer imports—particularly LDPE, PET, and PP—have resulted in fluctuating raw material costs. These challenges are prompting the industry to prioritize material efficiency, expand domestic polymer production, and explore recycled or bio-based a

alternatives to stabilize input costs and ensure long-term resilience.

3A.5 Indian Market Size and Growth Forecast

The Indian plastic packaging market was valued at approximately USD 22.15 billion in FY 2024 and is projected to reach around USD 35.03 billion by FY 2034, registering a CAGR of4.69% during FY 2024–FY 2034. Flexible packaging accounts for nearly two-thirds of total market value, driven by its lightweight nature, material efficiency, and cost advantages.



Source: Infomerics Analytics & Research

This growth trajectory underscores the sector's strong fundamentals, supported by increasing investments in packaging technology, product innovation, and sustainable material development.

The industry's expansion is also attributed to the proliferation of flexible packaging formats such as pouches, films, laminates, and shrink wraps, which are replacing traditional rigid packaging due to their superior barrier properties, reduced material usage, and enhanced design flexibility. Additionally, government initiatives promoting the "Make in India" and "Atmanirbhar Bharat" missions have strengthened domestic manufacturing capabilities, creating opportunities for both upstream resin producers and downstream packaging converters.

While the food and beverage segment continues to dominate overall demand—accounting for a significant share of total plastic packaging consumption—emerging sectors such as e-commerce, personal care, and pharmaceuticals are increasingly contributing to market growth. Moreover, the transition toward eco-friendly and recyclable plastic materials, spurred by tightening environmental regulations and growing consumer awareness, is shaping the future direction of the industry.

3A.6 Industry Value Chain Analysis

1. **Raw Material Procurement**

   The value chain in the Indian Plastic packaging industry begins with the procurement of base raw materials, primarily comprising polyethylene (PE), polypropylene (PP), polyester (PET), aluminium foil, adhesives, inks, and in some cases, bioplastics. The selection and quality of these inputs directly impact the mechanical strength, barrier properties, and recyclability of the final packaging material. Sourcing is a mix of domestic procurement from petrochemical firms and global imports, particularly for specialty films or aluminium laminates. Backward integration is common among larger players who maintain in-house extrusion, ink formulation, and adhesive coating lines to ensure consistency, cost control, and formulation flexibility.

2. **Manufacturing**

   The manufacturing stage includes a series of integrated processes such as film extrusion or lamination, metallization, printing (flexographic, rotogravure, or digital), slitting, pouching, and converting. Depending on the final application, packaging formats may undergo value additions like resealable zippers, spouts, or laser scoring. High-speed automated machines ensure precision and scalability, while stringent quality checks are deployed to comply with FSSAI, pharma-grade, or export specifications. Technological advancements such as high-barrier mono-material films, solventless lamination, and recyclable structures have improved production efficiency and environmental compliance.

3. **Branding & Packaging**

   With increased competition and direct-to-consumer (D2C) engagement, branding and packaging aesthetics have gained strategic importance. Beyond structural integrity, packaging now conveys attributes such as sustainability (recyclable, compostable), health safety (BPA-free, food-grade), convenience (resealability, microwave compatibility), and product differentiation. Labels often highlight certifications, product claims, and usage instructions. Brand owners are also demanding minimalist, sustainable, and digitally interactive packaging (e.g., QR codes for traceability). Premium FMCG and personal care brands invest heavily in customized packaging that enhances shelf appeal and reinforces brand identity.

4. **Distribution**

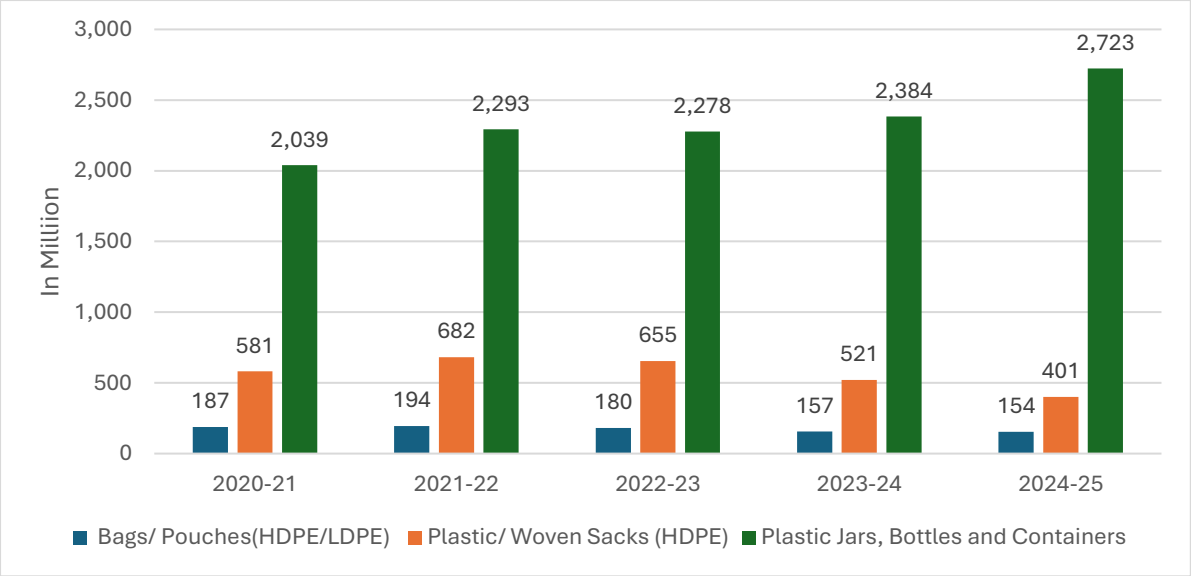
   The distribution of flexible packaging materials in India is facilitated through a multi-channel network. This includes direct sales to bulk buyers such as FMCG, pharmaceutical, and agro-input manufacturers, as well as B2B dealers and packaging converters who cater to MSMEs and smaller brands. Additionally, online B2B platforms and export agents

support global trade, while OEM supply chains are aligned with multinational brands or private-label programs. With the growing prominence of e-commerce and direct-to-consumer models, flexible packaging suppliers are increasingly working with fast-moving brands that require agile, small-batch, and customized packaging solutions. Efficient logistics, warehousing, and just-in-time delivery capabilities are critical for meeting short turnaround times and ensuring continuity in packaging supply.

5. **End Consumer**

The final users of plastic films packaging are highly diverse, spanning multiple sectors. FMCG brands utilize these materials for snacks, ready-to-eat foods, dairy, frozen foods, and beverages. Pharmaceutical companies rely on plastic films for blister foils, medical-grade laminates, and unit-dose sachets. Personal and home care brands use them for shampoo sachets, face wipes, and detergent packs, while e-commerce retailers employ plastic films for courier bags and protective films. Additionally, agri-input companies utilize these materials for seed pouches, fertilizer bags, and pesticide sachets, reflecting the widespread applicability and essential role of plastic films in various industries. Consumer preferences for sustainability, convenience, and hygiene continue to shape demand across all segments. The growth of urban households, QSR chains, and rural consumption is further broadening the scope of end-use applications for flexible packaging in India.

3A.7 Production Trends



Source: CMIE, Data presented on dual scales — bags and pouches (In Kg); woven sacks, plastic jars, and containers (In Numbers).

The production of plastic packaging materials in India has exhibited a sustained upward trajectory, supported by robust end-user demand, capacity expansion across organized manufacturers, and progressive alignment with regulatory and sustainability frameworks. Production of Bags and Pouches (HDPE/LDPE) remained broadly stable, declining

marginally from 187 million kg in FY 2020–21 to 154 million kg in FY 2024–25. This moderation reflects the industry's structural transition toward thinner gauge materials and recyclable alternatives, consistent with the Government's Extended Producer Responsibility (EPR) and green-packaging mandates.

In contrast, Plastic/Woven Sacks (HDPE) witnessed cyclical moderation—from a peak of 682 million units in FY 2021–22 to 401 million units in FY 2024–25. The post-pandemic normalization and increasing substitution by alternative bulk packaging formats in cement, fertilizer, and agrochemical sectors have contributed to this adjustment.

Meanwhile, Plastic Jars, Bottles, and Containers demonstrated sustained growth, increasing from 2,039 million units in FY 2020–21 to 2,723 million units in FY 2024–25. This growth was primarily driven by strong consumption across FMCG, beverage, pharmaceutical, and personal care segments, coupled with rising e-commerce penetration and preference for durable.

3A.8 WPI of Plastic Packaging Goods: Base Year 2011-12

Year	Plastic bag	Plastic bottle	Plastic box/ container	Plastic tape	Plastic tank	Plastic films
2011-12	100	100	100	100	100	100.0
2012-13	108.2	103.2	103.3	104.7	107.9	105.1
2013-14	120.5	107.5	113.4	111.1	117	113.9
2014-15	126	106.1	117.5	111.6	120.8	116.2
2015-16	118	102.1	113.2	108.9	120.7	111.8
2016-17	116.6	99.7	111.8	109.6	121.2	110.3
2017-18	121.4	101.2	117.8	108.2	123.4	107.4
2018-19	125.5	105.3	123.1	111.8	122.8	111
2019-20	117.6	103.6	117.5	112.1	118.6	109.2
2020-21	121.8	105	123.5	116.2	117	113.7
2021-22	144.9	109.5	136	133.1	124.1	130.4
2022-23	146.7	115.3	145.2	132	134.1	134.7
2023-24	135.1	111.2	146.4	126.5	130.2	125.1
2024-25	136.5	110.6	153.7	133	132.5	124.8

Source: CMIE

Plastic bags experienced a peak in WPI during 2022–23, indicating a period of overpricing, but the index has since declined to 136.5 in 2024–25. This decline signals a stabilization of prices and a return to more predictable market trends, highlighting the balance between demand and supply in the packaging segment.

Plastic Bottles and Containers have recorded comparatively higher WPI growth, reaching 110.6 and 153.7 respectively by 2024–25. This reflects increasing value addition, rising

demand in beverages, personal care, and processed food sectors, and the premium associated with specialized or durable packaging solutions.

Plastic Tapes and Tanks exhibited steady increases in WPI, with indices rising to 133 and 132.5 respectively. This trend underscores their importance in logistics, storage, and industrial applications, where functional utility drives pricing trends more than aesthetic or retail considerations.

Plastic films have shown steady growth in WPI, rising from 100 in 2011–12 to 124.8 in 2024–25, reflecting consistent demand from sectors such as food, pharmaceuticals, consumer goods, and industrial packaging. The gradual increase indicates that plastic films remain a core material in the packaging industry, with moderate cost pressures and widespread utilization across multiple applications.

3A.9 Trade Dynamics

India's trade performance in plastic plates, sheets, film, foil, and strip non-cellular and not reinforced, laminated, supported or similarly combined with other materials, reflects the evolving competitiveness of the domestic plastic packaging value chain. These products constitute essential intermediate materials used across flexible and semi-rigid packaging applications, including pouches, laminates, shrink sleeves, and industrial wraps.

Metric	FY24	FY25	Growth (%)
Exports (USD Million)	1212.36	1395.91	15.14%
Imports (USD Million)	1823.50	1790.25	1.82%
Trade Balance	(611.14)	(394.34)	35.48%*

*Improvement in trade deficit
Source: MEIDB, Infomerics Analytics & Research

India's exports stood at USD 1,395.91 million, marking a 15.14% year-on-year increase driven by higher overseas demand for value-added laminated and metallised film structures. Imports, on the other hand, declined marginally by 1.82% to USD 1,790.25 million, indicating moderation in inbound shipments of high-performance specialty films and growing domestic substitution. Consequently, the trade deficit narrowed by 35.48%, improving from USD 611.14 million in FY 2024 to USD 394.34 million in FY 2025.

The improvement in trade balance underscores expanding local manufacturing capacities in BOPP, BOPET, and PE-based flexible films, supported by backward integration and policy initiatives under *'Make in India'* and *plastic sustainability programmes*. Continued investments in specialty coatings, advanced film lines, and recyclable mono-material

packaging is expected to further reduce import dependence while broadening India's export footprint.

Top Export Destinations

Major Countries	FY 2025	Market Share (%)
USA	255.36	18.29%
UK	75.73	5.43%
UAE	55.66	3.99%
MEXICO	51.47	3.69%
ITALY	48.73	3.49%
OTHERS	908.96	65.12%
TOTAL	1395.91	100.00%

Top Import Sources

Major Countries	FY 2025	Market Share (%)
CHINA	850.19	47.49%
USA	153.15	8.55%
VIETNAM	139.79	7.81%
THAILAND	124.22	6.94%
KOREA	95.55	5.34%
OTHERS	427.35	23.87%
TOTAL	1790.25	100.00%

Source: MEIDB, Infomerics Analytics & Research

United States remained the leading export destination, accounting for 18.29% of total shipments, followed by the United Kingdom, United Arab Emirates, Mexico, and Italy. The broad export base, with over 65% of exports distributed across diverse geographies, reflects India's widening global market reach and competitiveness in converted film structures for food, consumer, and industrial packaging.

On the import front, China continued to dominate with 47.49% share, followed by Vietnam, Thailand, and South Korea. Imports primarily comprised high-barrier and coated specialty films that require advanced manufacturing technologies. The marginal decline in overall imports, however, signals import substitution through rising domestic capacities in BOPP/BOPET production and technological upgradation by Indian converters.

India's evolving trade structure thus points toward a transition from import dependence to self-reliance, supported by capacity expansion, innovation, and quality enhancement in film and laminate manufacturing

Polyethylene Resins (LDPE & HDPE): Critical Raw Materials Driving the Plastic Packaging Industry

Polyethylene resins, primarily Low-Density Polyethylene (LDPE) and High-Density Polyethylene (HDPE), are among the most critical raw materials used in the production of plastic packaging products in India. These resins form the foundation of the country's flexible and rigid packaging industry, catering to applications across food and beverages, consumer goods, pharmaceuticals, agriculture, and industrial products.

LDPE is characterized by its flexibility, transparency, and excellent moisture resistance, making it ideal for packaging applications such as laminates, pouches, carry bags, agricultural films, and liners. Conversely, HDPE offers superior rigidity, chemical resistance, and tensile strength, making it a preferred material for rigid packaging, including bottles, containers, drums, and

caps. Together, LDPE and HDPE ensure a balance of performance, durability, and cost-effectiveness that underpins India's growing packaging ecosystem.

Over the past five years (FY 2020–2025), the combined production of LDPE and HDPE has shown moderate fluctuations, reflecting both demand-side shifts and feedstock availability. Production levels have ranged from 187,658.8 thousand tonnes in FY 2020 to 153,906.4 thousand tonnes in FY 2025, indicating cyclical moderation due to volatility in crude-linked raw material prices and periodic capacity maintenance shutdowns. The decline in output from FY 2023 onward highlights the industry's sensitivity to global polymer market trends and domestic supply constraints.

On the trade front, India remains a net importer of LDPE, reflecting its limited domestic production capacity relative to consumption needs. In FY 2025, LDPE exports stood at USD 32.95 million, while imports were significantly higher at USD 399.74 million, resulting in a notable trade deficit. The deficit underscores the dependence on overseas suppliers, particularly for specialized film-grade LDPE, which continues to witness strong demand from the flexible packaging and agricultural sectors. As domestic petrochemical capacities expand and downstream integration projects materialize, India is expected to gradually reduce its import reliance over the medium term.

3B. Industry Overview – EPC Industry

3B.1 Introduction

The EPC industry comprises a broad spectrum of technical, professional, and project-execution services that integrate multidisciplinary expertise across the design, procurement, construction, installation, commissioning, and lifecycle management of large-scale industrial and infrastructure assets. The scope of EPC services typically includes conceptual, basic, and detailed engineering; project planning and management; global procurement and vendor coordination; construction and fabrication; installation and commissioning support; and long-term operations and maintenance.

EPC providers play a foundational role across oil and gas, energy and utilities, marine infrastructure, heavy industries, petrochemicals, renewable energy, transportation, defence, and large-scale industrial construction, enabling the timely, safe, and cost-effective delivery of mission-critical capital projects. The strategic significance of EPC services continues to increase globally, supported by rising investment in port-led and maritime infrastructure, expanding energy and industrial development programmes, the shift towards renewable asset creation, and the broader growth of large-scale infrastructure initiatives.

Successful execution in the EPC segment requires advanced capabilities, high-skill manpower, robust project-management systems, and strict adherence to applicable safety, environmental, and regulatory standards. These factors collectively reinforce the importance of EPC firms as key enablers of industrial and infrastructure expansion across global markets.

3B.2 Market Segmentation

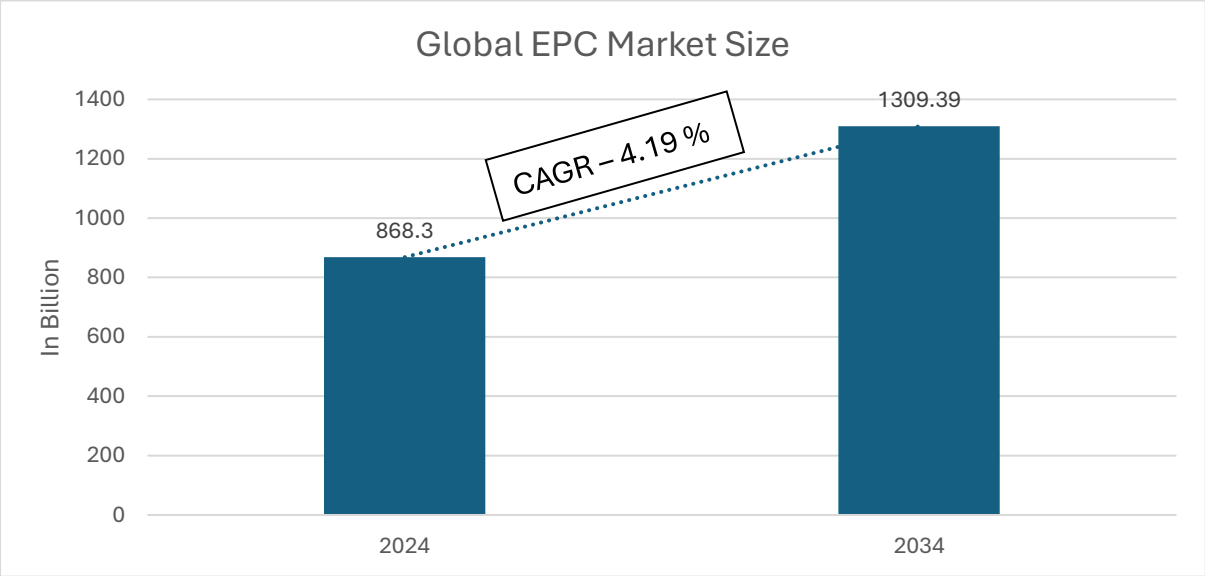
The EPC industry can be segmented across service offerings, project categories, end-use industries, contracting structures, and geographical markets. These segments collectively define the scope, demand drivers, and competitive dynamics of EPC service providers.

Segmentation Category	Segments	Description
1. By Service Type	Engineering Services	Conceptual design, feasibility studies, FEED, detailed engineering, modelling.
	Procurement Services	Global sourcing of equipment/materials, vendor development, logistics, contract management.
	Construction Services	Civil, mechanical, electrical, instrumentation works; installation, erection, commissioning.
	Project Management Services	Planning, scheduling, cost control, safety & quality governance, risk management.
	O&M / AMC Services	Operations, maintenance, overhaul, long-term service agreements.
	Turnkey EPC Delivery	End-to-end delivery from engineering to commissioning under single responsibility.
2. By Project Type	Industrial Projects	Manufacturing plants, cement units, food processing, warehouses & logistics facilities.
	Energy & Power Projects	Thermal, nuclear, solar, wind, hydro, substations, T&D infrastructure.
	Oil, Gas & Petrochemical Projects	Refineries, petrochem plants, LNG, gas processing, pipelines, storage terminals.
	Infrastructure Projects	Roads, highways, metros, airports, ports, bridges, urban infrastructure.
	Water & Wastewater Projects	Desalination, water treatment (WTP), sewage/effluent treatment (STP/ETP), distribution networks.

	Metals & Mining Projects	Steel plants, smelters, pellet plants, mineral processing & material handling systems.
3. By End-Use Industry	Power & Utilities	Generation, T&D, grid modernisation, renewable energy projects.
	Oil & Gas	Upstream, midstream and downstream infrastructure and processing facilities.
	Industrial Manufacturing	Automotive, textiles, electronics, engineering goods, FMCG, chemicals.
	Metals & Minerals	Mining, steel, non-ferrous metals, cement manufacturing.
	Water & Wastewater	Urban water supply, industrial effluent treatment and recycling.
	Transportation & Urban Infrastructure	Roads, metros, aviation, ports, logistics hubs, smart city projects.
4. By Contracting Model	EPC (Turnkey)	Single-responsibility model covering engineering, procurement & construction.
	EPCM	Contractor manages engineering, procurement & construction; execution by subcontractors.
	LSTK (Lump Sum Turnkey)	Fixed-price turnkey model with high contractor risk.
	BoQZ Item-Rate Contracts	Payments linked to actual quantities executed; common in public infrastructure.
	Design-Build (DB)	Integrated design-and-build model under one contract.
	PPP / BOT / BOOT Models	Build–operate concession-based models used in infrastructure & utilities.

3B.3 Global Market Size and Growth

The Global EPC market was valued at approximately USD 868.3 billion in FY 2024 and is projected to reach around USD 1309.39 billion by FY 2034, registering a CAGR of 4.19% during FY 2024–FY 2034.



Source: Infomerics Analytics & Research

The growth trajectory of the EPC industry is driven by sustained investments in port infrastructure, maritime trade expansion, and defence-related capital programs. Increasing cargo volumes and port-modernization initiatives are supporting large-scale upgrades of harbours and coastal logistics infrastructure, creating continued demand for civil construction, dredging, and associated EPC works. Simultaneously, the strengthening of maritime and naval security infrastructure is prompting investment in coastal facilities, base infrastructure, and related defence assets, reinforcing EPC requirements across the sector. In parallel, the rehabilitation and life-extension of aging industrial and energy infrastructure in domestic and international markets is generating opportunities for retrofitting, refurbishment, and asset-upgrade projects. This growth trajectory underscores the sector's strong fundamentals, supported by these long-term structural drivers.

3B.4 Indian EPC Industry

Introduction

The Indian EPC industry encompasses a wide range of technical, professional, and project-execution services focused on the design, procurement, construction, installation, commissioning, and lifecycle management of large-scale industrial and infrastructure assets. Typical EPC scopes include conceptual, basic, and detailed project design; project planning and management; global procurement and vendor coordination; construction and fabrication; installation and commissioning support; and long-term operations and maintenance services. EPC providers in India play a foundational role in sectors such as oil and gas, energy and utilities, marine infrastructure, heavy industries, petrochemicals, renewable energy, transportation, defence, and large-scale industrial construction—enabling the timely, safe, and cost-effective delivery of mission-critical capital projects. The strategic significance of EPC services in India is increasing, supported by the expansion of energy development, rising investments in infrastructure, the shift toward renewable assets, and the growth of maritime and industrial project activity. The segment requires strong execution frameworks, high-skill manpower, and strict compliance with applicable safety, environmental, and regulatory standards defined by relevant authorities.

EPC Lifecycle process

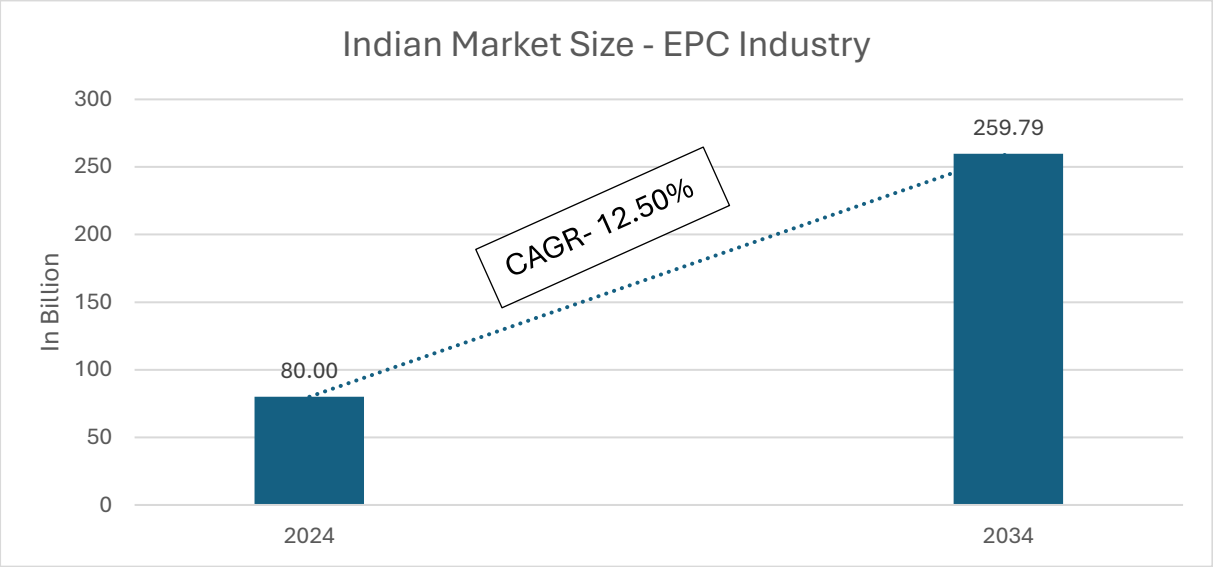
The Engineering, Procurement, and Construction (EPC) lifecycle follows a structured, end-to-end project delivery framework that integrates technical design, material sourcing, construction, commissioning, and handover. EPC contractors assume full responsibility for project execution—from concept to completion—ensuring single-point accountability, cost control, quality assurance, and adherence to timelines.

1. **Project Conceptualization & Feasibility -** This initial stage includes understanding client requirements, conducting preliminary site surveys, evaluating technical options, and preparing feasibility analyses covering cost estimates, environmental impact, and project timelines. EPC companies also develop risk assessments and high-level project execution strategies.
2. **Front-End Engineering Design (FEED) -** At this stage, EPC contractors undertake detailed engineering planning, including process design, mechanical layouts, electrical and instrumentation schematics, and structural configurations. FEED defines technical specifications, equipment capacities, material requirements, and compliance with national and international codes.
3. **Detailed Engineering -** Once FEED is finalized, contractors carry out detailed engineering work for all system components. Deliverables include 3D modelling, piping and instrumentation diagrams (P&IDs), equipment lists, bill of materials (BOM), fabrication drawings, civil and structural designs, and project-specific datasheets.

4. **Procurement & Supply Chain Management -** The procurement phase involves sourcing long-lead equipment, raw materials, specialized components, and services. EPC companies manage vendor selection, global sourcing, quality inspections, logistics coordination, contract management, and inventory control. Advanced EPC players use digital procurement systems for real-time tracking and performance control.
5. **Construction, Fabrication & Installation -** This phase includes site preparation, civil works, equipment erection, mechanical installation, electrical cabling, control system setup, pipeline laying, and structural assembly. EPC contractors coordinate multiple subcontractors, manage large workforces, ensure compliance with safety standards, and track construction milestones through project management tools.
6. **Testing, Commissioning & Quality Assurance -** After installation, systems undergo rigorous testing—mechanical integrity tests, electrical & instrumentation checks, system integration tests, and trial runs. The commissioning team ensures the plant or facility operates at designed efficiency and meets performance guarantees. Quality assurance and statutory inspections are critical at this stage.
7. **Project Handover & Documentation -** Once performance testing is successful; the EPC contractor hands over the completed project to the client. Handover includes as-built drawings, operational manuals, safety documentation, warranty certificates, and training modules for plant operations.

3B.5 Indian Market Size and Growth

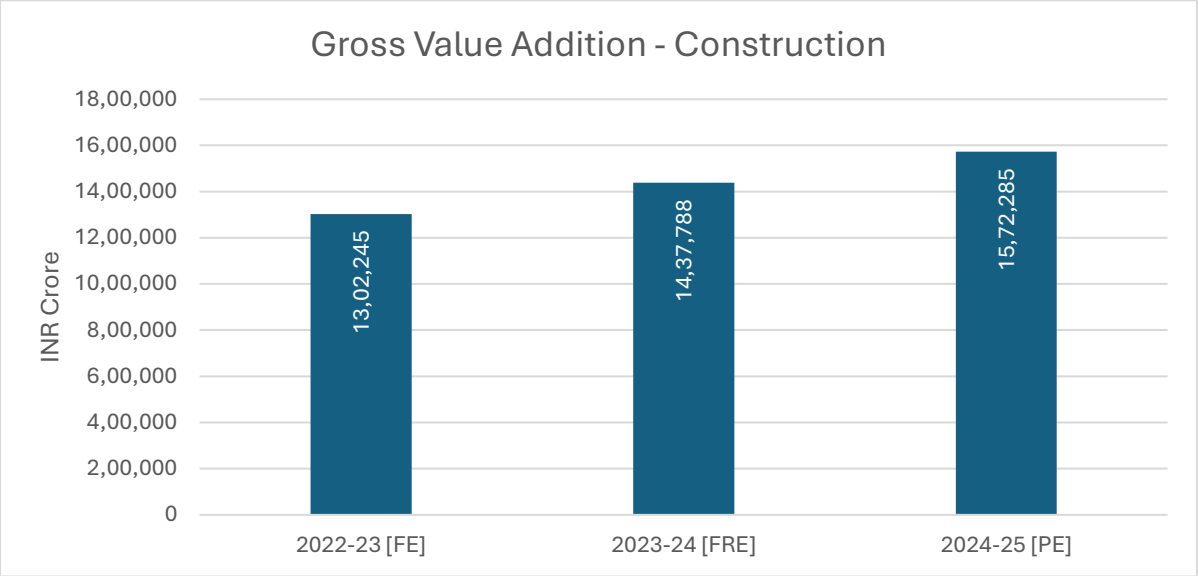
The Indian EPC market was valued at approximately USD 80.00 billion in FY 2024 and is projected to reach around USD 259.79 billion by FY 2034, registering a CAGR of 12.50% during FY 2024–FY 2034.



Source – Infomerics Analytics & Research

It is reflecting strong expansion driven by government infrastructure initiatives, urbanization, and increased private sector participation. Diversification across sectors such as transportation, energy, and urban development, along with adoption of advanced construction technologies, is expected to enhance efficiency and project execution. While the high growth outlook is promising, it remains sensitive to factors like cost overruns, regulatory delays, and financing challenges. Overall, the industry is poised for significant contribution to India's infrastructure-led economic growth over the next decade.

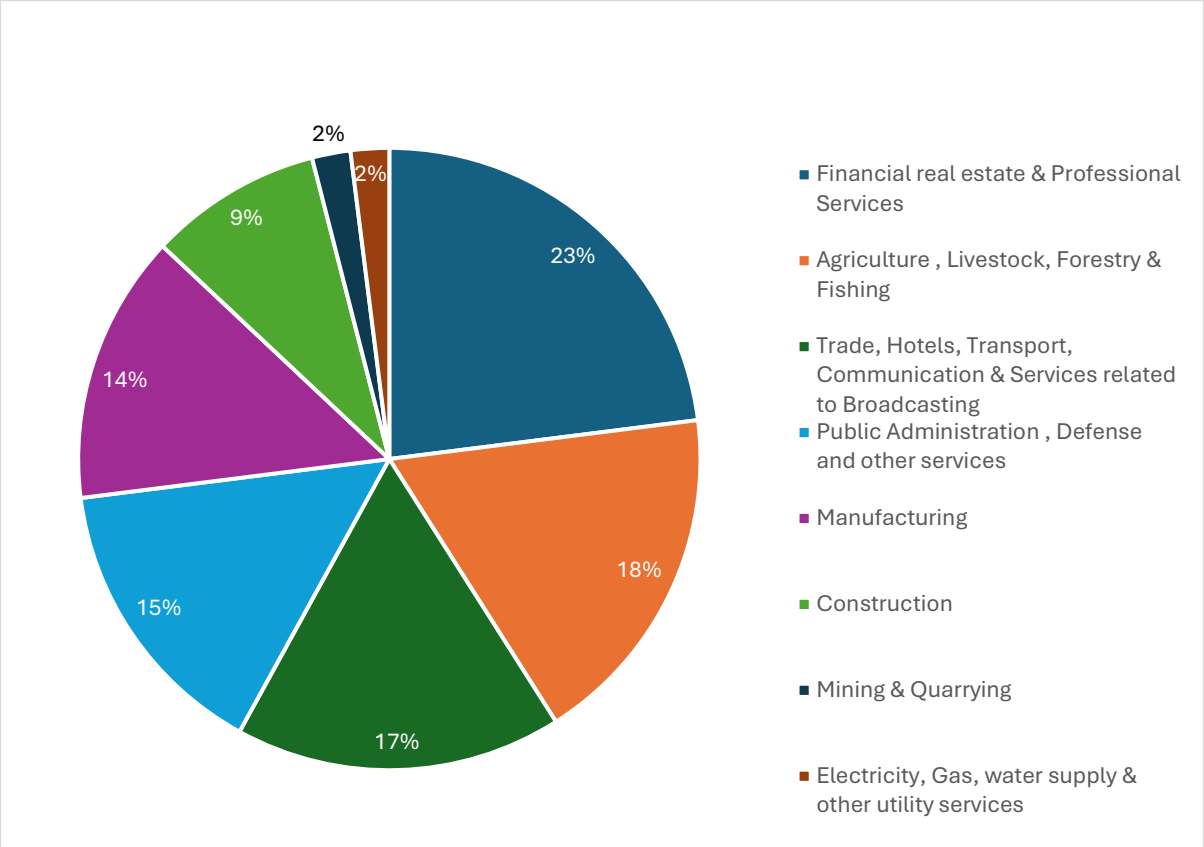
3B.6 Gross Value Addition – Construction (INR Crore)



Source – Ministry of Statistics & Programme Implementation, (FE – Final Estimate, FRE – Final Revised Estimate, PE – Provisional Estimates)

The provisional estimates of Gross Value Added (GVA) for the construction sector at basic prices (2011-12 prices) indicate a consistent upward trajectory over the period 2022-23 to 2024-25. In 2022-23, the construction sector recorded a GVA of ₹13,02,245 crore. This is projected to increase to ₹14,37,788 crore in 2023-24, reflecting a year-on-year growth of approximately 10.4%. The upward momentum continues in 2024-25, with the GVA estimated at ₹15,72,285 crore, translating to a growth of about 9.4% over the previous year. This steady growth highlights the robust expansion of the construction sector, underpinned by rising infrastructure development, increased real estate activity, and government initiatives aimed at boosting housing and urban development projects. The sector's performance is indicative

3B.7 Sectoral Composition of Nominal GVA in FY 2024-25



Source - Ministry of Statistics & Programme Implementation

In FY 2024-25, the construction sector contributed 9% to India's nominal GVA, highlighting its role as a key driver of infrastructure development and economic growth. While this share is smaller compared to dominant sectors like Financial, Real Estate, and Professional Services (23%) or Agriculture (18%), it underscores the sector's importance in supporting urbanization, housing, and large-scale projects. The construction sector's contribution reflects ongoing investments in residential, commercial, and public infrastructure, positioning it as a critical enabler of both employment and allied industries such as cement, steel, and real estate. Despite being smaller in GVA terms, its multiplier effect on the broader economy makes construction a pivotal sector for sustained economic expansion.

4A. Market Dynamics- Plastic Packaging Industry

4A.1 Growth Drivers

The plastic packaging industry is driven by evolving consumer demand, rapid e-commerce growth, and rising sustainability regulations. Increasing use in food, pharma, and consumer goods, along with advancements in high-barrier materials, recyclable packaging, and smart printing technologies, continues to shape market expansion. The following matrix outlines key growth drivers and their relative impact over short-, medium-, and long-term horizons.

Market Drivers and Impact Assessment

(All values represent directional impact based on industry estimates and qualitative analysis)

Driver	1–2 Years	3–4 Years	5–7 Years
1. Surge in e-commerce and last-mile delivery packaging demand	**High**	**High**	**Moderate**
2. Rising demand for retort pouches and high-barrier films in F&B packaging	**Moderate**	**High**	**Moderate**
3. Growing adoption of sustainable, mono-material films due to EPR and green regulations	**Low**	**Moderate**	**High**
4. Expansion in pharmaceutical and biologics flexible packaging (e.g., cold-chain, blister)	**Moderate**	**High**	**High**
5. Investments in digital printing and smart packaging for cosmetics and branding	**Low**	**Moderate**	**High**
6. Urbanization-driven shift to convenience formats (stand-up, resealable, easy-peel)	**Moderate**	**High**	**High**
7. Increasing penetration of organized retail and modern trade channels	**Moderate**	**High**	**High**
8. Technological advancements in recycling and circular economy initiatives	**Low**	**Moderate**	**High**
9. Rising export opportunities in food processing and pharmaceuticals	**Moderate**	**Moderate**	**High**

Source – Infomerics Analytics & Research

Detailed Driver Commentary

1. **Surge in e-commerce and last-mile delivery packaging demand**

   The exponential growth of e-commerce and doorstep delivery services has led to a sustained rise in demand for durable, flexible, and lightweight packaging films. LDPE and LLDPE are the preferred materials for courier bags, stretch wraps, and protective air-

cushion films due to their high tensile strength, puncture resistance, and sealability. These polymers ensure safe handling across multiple distribution points and offer cost efficiency for bulk shipments, making them indispensable to modern logistics and retail supply chains.

2. **Rising demand for retort pouches and high-barrier films in food & beverage packaging**
   The global food and beverage (F&B) industry is witnessing growing demand for retort pouches, vacuum-sealed bags, and high-barrier laminates that extend product shelf life. LDPE and LLDPE layers are integral to these structures, providing heat-seal strength, flexibility, and moisture barrier properties while maintaining transparency. With the expansion of the ready-to-eat meals, frozen food, and snack categories, usage of LDPE/LLDPE-based laminates is expected to rise steadily across both domestic and export-oriented food packaging segments.
3. **Growing adoption of sustainable, mono-material films due to EPR and green regulations**
   Stricter Extended Producer Responsibility (EPR) mandates and evolving environmental regulations have prompted a shift toward mono-material films that are recyclable and environmentally compliant. LDPE and LLDPE are ideal for this transition, as they allow the creation of mono-polyethylene structures that maintain performance while simplifying recycling. Many global packaging converters are now replacing multilayer films with all-PE (all polyethylene) laminates to comply with green regulations and meet brand-owner sustainability goals.
4. **Expansion in pharmaceutical and biologics flexible packaging**
   The pharmaceutical and biologics industries increasingly rely on flexible polyethylene films for applications such as cold-chain bags, blister film liners, IV pouches, and medical sachets. LDPE and LLDPE offer excellent purity, chemical resistance, and flexibility, making them suitable for sterile and temperature-sensitive packaging. As global healthcare logistics expand—especially in vaccines, injectables, and diagnostic kits—the use of medical-grade LDPE and LLDPE films is expected to rise in tandem.
5. **Investments in digital printing and smart packaging for cosmetics and branding**
   Packaging is evolving from a functional medium to a branding and communication platform. LDPE and LLDPE films are increasingly used in digitally printed pouches, shrink sleeves, and smart packaging for cosmetics, personal care, and premium food products. These polymers provide smooth printing surfaces, flexibility, and compatibility with high-speed printing and lamination technologies, enabling superior visual appeal and product differentiation. The rise of QR-coded and interactive packaging further enhances their application potential.
6. **Urbanization-driven shift to convenience formats (stand-up, resealable, easy-peel)**
   Rising urbanization, nuclear family structures, and on-the-go lifestyles are accelerating demand for convenient packaging formats such as stand-up pouches, resealable zippers, and easy-peel films. LLDPE and LDPE are widely used in these applications due to their soft

touch, seal integrity, and flexibility. They enable consumer-friendly designs while ensuring barrier performance and cost-effectiveness. This shift toward portable and reusable packaging formats is expected to sustain long-term demand for LDPE/LLDPE-based films.

7. **Increasing penetration of organized retail and modern trade channels**
   The rapid expansion of supermarkets, hypermarkets, and quick-commerce platforms is fuelling demand for standardized, visually appealing, and durable plastic packaging formats suitable for bulk display and consumer convenience.
8. **Technological advancements in recycling and circular economy initiatives**
   Emerging recycling technologies such as chemical recycling and improved segregation infrastructure are expected to boost the use of recycled resins in primary packaging, supporting sustainability and compliance with EPR mandates**.**
9. **Rising export opportunities in food processing and pharmaceuticals**
   India's growing food processing and pharmaceutical exports are driving the need for internationally compliant, high-barrier, and tamper-proof packaging solutions that meet global quality and safety standards.

4A.2 Challenges

The plastic packaging industry faces multiple structural and operational challenges arising from evolving regulations, raw material volatility, and sustainability pressures. Implementation of EPR norms, high capital costs for recycling infrastructure, and inefficiencies in waste collection systems continue to weigh on margins and compliance efforts. The following matrix highlights key challenges and their expected impact across short-, medium-, and long-term periods.

Market Challenges and Impact Assessment

(All values represent directional impact based on industry estimates and qualitative analysis)

Challenges	1–2 Years	3–4 Years	5–7 Years
1. Regulatory uncertainty and EPR implementation complexities	**High**	**High**	**Moderate**
2. Volatility in raw material prices and supply chain disruptions	**High**	**High**	**Moderate**
3. Capital-intensive sustainability transition and recycling infrastructure gaps	**High**	**High**	**High**
4. Margin pressures from FMCG price sensitivity and retailer consolidation	**Moderate**	**High**	**High**
5. Lack of uniform collection and segregation systems for flexible waste	**High**	**High**	**High**
6. Limited awareness and technical barriers to sustainable packaging adoption	**High**	**Moderate**	**Low**

Source- Infomerics Analytics & Research

Detailed Overview of Challenges

1. **Regulatory uncertainty and EPR implementation complexities**

   Frequent amendments and ambiguities in environmental policies, including the Plastic Waste Management Rules and Extended Producer Responsibility (EPR) mandates, create compliance challenges for packaging manufacturers. Variations in state-level enforcement and the absence of standardized recyclability classifications increase legal and operational risks. The lack of robust collection and segregation systems further compounds these difficulties, making regulatory uncertainty a high-impact constraint in the short to medium term. Some stabilization is expected as frameworks mature and uniform implementation improves.

2. **Volatility in Raw Material Prices and supply chain disruptions**

   The plastic packaging sector remains heavily dependent on petrochemical derivatives such as polyethylene (PE) and polypropylene (PP), which are directly linked to crude oil price movements. Fluctuations in global crude markets, coupled with geopolitical uncertainties and logistics disruptions, contribute to volatility in raw material costs and delivery

timelines. These challenges significantly impact margins in the near term, though strategic sourcing, supplier diversification, and long-term contracts can help mitigate exposure over time.

3. **Capital-Intensive sustainability transition and recycling infrastructure gaps**
   The shift toward recyclable mono-material packaging, biodegradable alternatives, and advanced recycling facilities demands substantial capital investment. Small and mid-sized manufacturers, operating in a price-sensitive market, often lack access to such funds. Additionally, India's limited recycling infrastructure—particularly for multi-layer packaging—restricts scalability. As regulatory pressures for sustainable packaging intensify, this challenge will remain high impact in the short to medium term before easing as infrastructure matures and technology costs normalize.
4. **Margin Pressures from FMCG Price Sensitivity and Retailer Consolidation**
   Intense pricing pressure from large FMCG and organized retail players continues to squeeze margins across the packaging value chain. Buyers increasingly expect improved print quality, design flexibility, and sustainable formats without proportionate cost increases. With limited pricing power and rising input costs, manufacturers face structural margin compression—especially in high-volume, low-margin categories. This challenge is expected to persist over the medium to long term.
5. **Lack of Uniform Collection and Segregation Systems for Flexible Waste**
   India continues to rely on imports for several high-barrier and specialty packaging materials such as metallized laminates and PVDC-coated substrates, primarily sourced from China, South Korea, and Southeast Asia. This dependence exposes the sector to currency fluctuations, import restrictions, and trade policy shifts. While domestic capacity additions are underway, this constraint will likely remain moderate in the near term and ease gradually as local production capabilities strengthen.
6. **Limited awareness and technical barriers to sustainable packaging adoption**
   Among small and regional FMCG, food processing, and pharmaceutical players, awareness and willingness to pay for sustainable packaging remain limited. Many brands continue to prioritize cost competitiveness over environmental compliance. Additionally, biodegradable and compostable materials currently face performance challenges in terms of strength, barrier properties, and product compatibility. Over the long term, increasing regulatory enforcement, R&D progress, and consumer awareness are expected to reduce this gap.

4B. Market Dynamics- EPC Industry

4B.1 Growth Drivers

The EPC Industry is witnessing sustained growth driven by strong policy support, rapid urbanisation, and rising private and public investment across infrastructure, residential, and commercial segments. The Pre-Engineered Buildings (PEB) segment is gaining momentum, supported by industrial expansion, the rise of e-commerce, and the growing adoption of modular, steel-based construction solutions. Advancements in technology, sustainability-focused design, and the push for faster project execution continue to strengthen the long-term outlook for both the construction and PEB sectors.

Market Drivers and Impact Assessment

(All values represent directional impact based on industry estimates and qualitative analysis)

Driver	1–2 Years	3–4 Years	5–7 Years
1. Upgradation of Port Infrastructure and Coastal Logistics under Government Programs	High	High	High
2. Expansion of Renewable Energy Infrastructure	High	High	High
3. Strengthening Maritime and Naval Security Infrastructure	High	High	High
4. Oil & gas redevelopment cycles	Moderate	High	High
5. Power-sector utility infrastructure upgrades	Moderate	Moderate	High
6. Development of Defence and Strategic Infrastructure under National Programs	High	High	High
7. Infrastructure Development Driven by Urbanisation and Industrialisation	High	High	High
8. Construction of Smart Cities and Integrated Urban Systems	Moderate	High	High
9. Industrial Growth Across Manufacturing, Power, and Petrochemicals	Moderate	High	High

Source: Infomerics Analytics & Research

Detailed Driver Commentary

1. **Upgradation of Port Infrastructure and Coastal Logistics under Government Programs**
   Under government-led programs like Sagarmala and PM Gati Shakti, India is investing heavily in upgrading ports, coastal terminals, and logistics corridors. These projects require marine civil engineering for dredging, quay wall construction, jetty extension, breakwater design, and harbour protection. Offshore engineering firms play a critical role in both design and execution phases. The emphasis on smart ports and deep-draft facilities also drives demand for advanced underwater engineering and construction.

2. **Increasing Focus on Offshore wind energy projects and renewable transition**
   Large-scale solar parks, onshore wind projects, and grid-integration infrastructure continue to drive EPC demand for civil works, substations, transmission systems, and balance-of-plant development.
3. **Strengthening Maritime and Naval Security Infrastructure**
   India's increasing maritime security concerns, geopolitical sensitivities in the Indian Ocean Region (IOR), and the modernization of the Indian Navy have driven demand for marine defences engineering services. Engineering companies support vessel design, retrofitting, weapon platform integration, and maintenance of surveillance and naval support vessels. These contracts often require high specialization, adherence to defence standards, and secure infrastructure.
4. **Oil & gas redevelopment cycles**
   Ageing offshore fields in India require redevelopment to boost recovery rates, driving medium-term EPC demand. As operators focus on enhanced oil recovery and facility modernization, the need for offshore structural upgrades, subsea systems, and platform refurbishment will rise significantly over the next 3–7 years.
5. **Power-sector utility infrastructure upgrades**
   Modernization of transmission lines, coastal substations, and interconnection systems is accelerating with higher renewable penetration. While short-term demand is moderate, large-scale grid strengthening and offshore evacuation systems will drive high EPC activity in the long term.
6. **Development of Defence and Strategic Infrastructure under National Programs**
   Government-led initiatives for defence estates, test facilities, logistics bases, and strategic infrastructure corridors are generating sustained EPC requirements across civil, mechanical, and utilities construction.
7. **Infrastructure Development Driven by Urbanisation and Industrialisation**
   Rapid urban expansion and industrial corridor development in emerging economies continue to underpin EPC demand across transportation, public infrastructure, utilities, and industrial facilities.
8. **Industrial Growth Across Manufacturing, Power, and Petrochemicals**
   The expansion of capital-intensive industries, including manufacturing, power generation, and petrochemicals, requires integrated EPC services for plant construction, expansion, and modernisation.
9. **Construction of Smart Cities and Integrated Urban Systems**
   The global push towards smart cities and digitally integrated urban infrastructure is creating incremental EPC opportunities in transport systems, utilities, and multi-sector infrastructure integration.

4B.2Challenges

Despite strong macroeconomic and policy tailwinds, the EPC Industry faces several structural and operational challenges that may impact scalability, execution timelines, and profitability. The table below presents a directional assessment of key market restraints

Market Challenges and Impact Assessment

(All values represent directional impact based on industry estimates and qualitative analysis)

Restraint	1–2 Years	3–4 Years	5–7 Years
1. High Capital Intensity and Long Payback Periods	High	High	Moderate
2. Strict Environmental and Regulatory Norms	Moderate	High	High
3. Weather-Related Operational Risks	Moderate	Moderate	Moderate
4. Rapid Technological Change	Moderate	High	High
5. Supply Chain Disruptions	Moderate	High	High

Source- Infomerics Analytics & Research

Detailed Overview of Challenges

1. **High Capital Intensity and Long Payback Periods**
   EPC projects require substantial upfront investment in construction, equipment, materials, and project-management resources. These high capital requirements, combined with long project execution and revenue-recognition cycles, create financial pressure—particularly for mid-sized EPC companies with limited balance-sheet strength. Delays or cost escalations can further extend the payback period, affecting liquidity and financial stability.
2. **Strict Environmental and Regulatory Norms**
   EPC operations are subject to extensive environmental, safety, and regulatory compliance obligations, which vary by geography and project type. Securing approvals for construction, land use, emissions, and safety standards can significantly extend project timelines. Any changes in regulatory frameworks or delays in obtaining clearances can increase project costs, impact execution schedules, and expose EPC companies to penalties or legal risks
3. **Weather-Related Operational Risks**
   EPC projects are exposed to weather-dependent construction conditions, including heavy rainfall, cyclones, extreme temperatures, and seasonal disruptions. These factors can slow down on-site activities, damage partially completed structures, impact logistics and material movement, and create safety hazards. Such weather-related interruptions often lead to time overruns and additional cost burdens for contractors.

4. **Rapid Technological Change**

   EPC companies must continually adapt to evolving construction technologies, digital project-management tools, and modern engineering methods. Failure to upgrade capabilities can result in inefficiencies, reduced competitiveness, and execution bottlenecks. At the same time, the integration of new technologies may require significant investment, specialized training, and restructuring of existing workflows, increasing operational complexity.

5. **Supply Chain Disruptions**

   EPC projects depend on reliable procurement of equipment, machinery, and bulk construction materials. Disruptions caused by logistics constraints, supplier delays, import restrictions, or geopolitical events can directly impact project timelines and cost structures. Since EPC contracts are often time-bound and performance-linked, supply chain uncertainty poses a material execution and financial risk.

5. PESTEL Analysis of the Industry

The PESTEL framework provides a structured assessment of the external macro-environmental factors that influence the industry's operating landscape. It examines the political, economic, social, technological, environmental, and legal dimensions that collectively shape industry performance, regulatory evolution, and strategic direction. This analysis enables a comprehensive understanding of the opportunities and challenges impacting market stability, investment potential, and long-term sectoral growth.

5A. Plastic Packaging Industry

Factor	Key Insights and Implications
Political	• The Indian government supports local packaging manufacturing through initiatives like Make in India and PLI schemes. • Ban on single-use plastics and other waste rules are pushing companies to make more eco-friendly products. • Import duties on some packaging materials help Indian manufacturers compete against cheaper imports. • Trade deals with countries like UAE and Australia are opening new export opportunities. • Some state-level rules on plastic waste and recycling may differ, adding complexity for manufacturers.
Economic	• Growing sectors like FMCG, e-commerce, and pharma are increasing demand for flexible packaging. • Prices of raw materials like plastic change often, which can affect manufacturing costs. • Small packaging companies benefit from government credit schemes that help them grow. • Currency changes and dependence on imports for special films and inks can impact profits. • Exporters benefit from government incentives like RoDTEP.
Social	• Consumers want safe, easy-to-use, and hygienic packaging, especially for food and personal care items. • There's a trend toward ready-to-eat meals, snacks, and single-use packaging due to busier lifestyles. • Online shopping and home delivery are increasing demand for durable courier bags and pouches. • People, especially in cities, prefer eco-friendly and recyclable packaging. • Packaging design and quality influence brand image and customer trust.

Technological	• New packaging materials like mono-material films and biodegradable plastics are becoming popular. • Technologies like QR codes, digital printing, and smart labels help improve traceability and customer interaction. • Modern factories use automation, robotics, and solventless lamination for better quality and efficiency. • Companies are using ERP software and D2C tools to manage inventory and reach customers directly. • These technologies are important for meeting the expectations of global brands.
Environmental	• New rules and public demand are encouraging companies to use recyclable and sustainable packaging. • Non-recyclable materials like multi-layer laminates face more restrictions. • Big brands want green packaging with low environmental impact. • Companies need to focus on energy saving, reducing waste, and getting eco-certifications to win large contracts. • Reducing the environmental footprint of packaging is now a business priority.
Legal	• Packaging for food and medicine must follow FSSAI, BIS, and CPCB safety standards. • Exporters need to meet international packaging laws like FDA (USA) and EU safety norms. • The Consumer Protection Act requires proper labelling, recyclable symbols, and truthful product claims. • Greenwashing (misleading eco-claims) can lead to penalties. • Companies must also protect their designs, materials, and trademarks to stay competitive.

5B. EPC Industry

Factor	Key Insights and Implications
Political	• Large-scale government infrastructure programs (e.g., Bharatmala, Sagarmala, Smart Cities, PM Gati Shakti) continue to generate a strong pipeline of EPC projects across transportation, utilities, industrial facilities, and logistics networks. • Policies promoting industrial corridor development and warehousing expansion support accelerated adoption of PEB systems in manufacturing and logistics infrastructure. • Stable policy frameworks around renewable energy, urban development, and industrial expansion strengthen long-term visibility for EPC and PEB contractors. • Incentives for domestic manufacturing and localisation encourage EPC players to source structural steel and PEB components domestically, improving competitiveness.
Economic	• EPC demand is closely aligned with GDP growth, capital expenditure cycles, and industrialisation trends, leading to increased project activity during periods of economic expansion • Rising investment in sectors such as power, manufacturing, and logistics boosts the use of PEB technology due to its cost efficiency and faster project turnaround. • Fluctuations in raw material prices, particularly steel, directly impact EPC and PEB project margins, influencing bidding strategies and contract structuring. • Cumulative FDI inflows USD 60,529 million (till March 2024, DPIIT). • Access to financing and public–private partnership (PPP) models plays a critical role in enabling large infrastructure and industrial EPC projects.
Social	• Rapid urbanisation and rising demand for industrial facilities, warehouses, and commercial structures drive EPC activity and accelerate adoption of PEB-based construction solutions. • Increasing expectations around worker safety, compliance, and site-level monitoring have encouraged EPC players to adopt safer and more standardised construction techniques, including prefabricated PEB components. • Growing community and stakeholder engagement requirements in large EPC projects necessitate enhanced transparency, environmental responsibility, and CSR participation. • Changing lifestyle and consumption patterns continue to drive demand for logistics, warehousing, retail, and manufacturing infrastructure, strengthening EPC and PEB demand.

Technological	• Adoption of Building Information Modelling (BIM) enhances design accuracy, reduces rework, and improves coordination across EPC and PEB project workflows. • Increasing use of modularisation and pre-engineered building systems improves construction speed, quality consistency, and cost efficiency in large industrial and logistics projects. • Digital project-management platforms and drones for surveying, progress tracking, and site monitoring enhance execution efficiency and safety. • Advancements in steel fabrication, structural modelling, and automated production lines are improving the precision, durability, and scalability of PEB systems.
Environmental	• Stringent environmental regulations around emissions, waste management, and material usage influence EPC firms to adopt greener construction practices and efficient resource utilisation. • PEB structures support sustainability goals due to reduced material wastage, recyclability of steel, and lower site-level environmental impact compared to traditional construction. • Increasing focus on energy-efficient and climate-resilient infrastructure strengthens demand for modern EPC solutions that incorporate low-carbon materials and design standards. • Environmental approvals and compliance processes can influence project timelines, requiring EPC players to integrate environmental impact assessments early in the planning stage.
Legal	• EPC contracts typically involve complex risk-allocation mechanisms, including liquidated damages, performance guarantees, and stringent delivery obligations, influencing project management and financial exposure. • Regulatory requirements around construction safety, labour laws, and environmental clearances shape project execution frameworks and compliance costs. • Standardisation initiatives in industrial and logistics facilities encourage greater acceptance of certified PEB systems that meet national construction norms. • Dispute resolution mechanisms, contractor liabilities, and contract-enforcement laws materially impact EPC project viability and sector risk management.

6. Government Initiatives and Policy Support

The Government of India has introduced a range of regulatory, infrastructural, and sustainability-oriented initiatives intended to strengthen domestic manufacturing capabilities and enhance the overall industrial ecosystem. These measures are focused on fostering innovation, improving resource efficiency, and encouraging long-term investment across diverse sectors. Collectively, such initiatives are expected to support the development of a more sustainable, competitive, and self-reliant industrial framework within the country.

6A. Plastic Packaging Industry

Various Initiatives taken by the government for Plastic Packaging Industry are:

1. **Make in India & Atmanirbhar Bharat Abhiyan**
   The Make in India and Atmanirbhar Bharat initiatives aim to promote domestic manufacturing and reduce dependence on imports of plastic resins, intermediates, and finished goods. By offering simplified regulations, tax incentives, and supporting indigenous production, these frameworks encourage capacity expansion and localization of polymer manufacturing, moulding, and packaging operations. The resulting enhancement in domestic value addition contributes to employment generation and strengthens India's self-reliance in the plastics sector.
2. **Plastic Parks Scheme (Department of Chemicals & Petrochemicals – DCPC)**
   The Plastic Parks Scheme is designed to create integrated manufacturing hubs equipped with modern infrastructure, testing, and training facilities. Co-funded by the Central Government (up to INR 40 crore per park), these clusters enable scale efficiencies, technology adoption, and participation of MSMEs. By providing shared infrastructure and promoting cluster-based production, the scheme enhances competitiveness, reduces costs, and supports overall growth in the plastic manufacturing ecosystem.
3. **National Policy on Petrochemicals (NPP), 2007**
   The National Policy on Petrochemicals seeks to promote value addition in polymers and downstream plastic processing. It encourages domestic polymer production (LDPE, HDPE, LLDPE), develops human resources in polymer science, and supports research, innovation, and green polymer technologies. By strengthening raw material security and integrating the entire plastic value chain, the policy underpins sustainable growth and enhances India's competitiveness in both petrochemical and finished plastic products.
4. **Extended Producer Responsibility (EPR)**
   under Plastic Waste Management Rules, 2022 The EPR framework drives circular economy practices and mandates environmentally responsible manufacturing. It establishes recycling and reuse targets for producers and brand owners, incentivizes recycled content

and biodegradable plastics and enables compliance tracking via the CPCB EPR portal. The policy promotes adoption of recyclable mono-material films (LDPE/LLDPE), development of waste collection networks, and sustainable packaging designs, laying the foundation for a circular plastics economy in India.

5. **Startup India and MSME Development Schemes**

   These initiatives aim to empower MSMEs and startups in the plastic processing and recycling segments by providing financial support, technology upgradation, and skill development. Schemes such as the Credit Guarantee Fund for MSMEs, Technology Upgradation Fund, and skill development programs strengthen grassroots manufacturing capacity, support small converters, and foster entrepreneurship in sustainable plastics, moulding, and recycling technologies, thereby enhancing overall sectoral growth.

6B. EPC Industry

Various Initiatives taken by the government for EPC Industry are:

1. **Sagarmala Programme**

   The Sagarmala Programme serves as one of the most critical EPC-driven national initiatives, focused on port-led development and large-scale infrastructure creation across India's coastline. The programme emphasises modernization of existing ports, development of new terminals, enhancement of coastal connectivity, and establishment of coastal economic zones, all of which generate significant EPC opportunities in civil works, logistics infrastructure, and industrial development. By targeting logistics cost reduction and strengthening maritime trade efficiency, Sagarmala continues to drive substantial demand for EPC contractors involved in designing, constructing, and commissioning port and coastal infrastructure assets.

2. **Smart Cities Mission**

   The Smart Cities Mission focuses on the urban transformation of 100 Indian cities through technology-enabled governance, improved infrastructure, and sustainable design. The programme has attracted significant public and private investment in transportation networks, digital infrastructure, water supply, and waste management. By promoting integrated planning and greenfield development, it has expanded opportunities for engineering, procurement, and construction (EPC) players and accelerated adoption of modern project management and prefabricated construction technologies.

3. **PM Gati Shakti National Master Plan**

   The National Infrastructure Pipeline represents a comprehensive multi-sector investment framework driving long-term EPC demand across transportation, power, industrial, and logistics infrastructure. With a substantial allocation towards ports, roads, urban development, energy systems, and public utilities, NIP provides a robust pipeline of EPC contracts across both greenfield and brownfield projects. Its emphasis on accelerating infrastructure delivery, improving national connectivity, and supporting industrial growth

positions NIP as a foundational catalyst for EPC project creation, ensuring sustained visibility and scale for EPC players over the medium to long term.

4. **Production Linked Incentive (PLI) Scheme for Manufacturing and Allied Sectors**
   The PLI scheme, covering sectors such as electronics, automobiles, renewable energy, and pharmaceuticals, has triggered extensive industrial infrastructure expansion. Beneficiary enterprises are increasingly deploying PEB systems for their manufacturing plants due to faster project turnaround, structural reliability, and design flexibility. This policy has indirectly positioned the PEB industry as a preferred partner in the creation of new manufacturing ecosystems across India.
5. **National Logistics Policy (NLP)**
   Introduced in 2022, the National Logistics Policy aims to modernise India's logistics ecosystem through the development of multi-modal logistics parks, integrated warehouses, and supply-chain digitisation. The initiative directly supports the PEB sector by driving demand for large, efficient, and cost-optimised steel-based storage and distribution facilities. The policy's emphasis on sustainable and rapid-deployment infrastructure aligns closely with the core strengths of the PEB industry.

7. Technology and Digital Transformation in the Industry

Technological progress and digital innovation are reshaping the industrial landscape, driving modernization and improved performance across sectors. Advancements in digital systems, connectivity, and automation are fostering greater efficiency, adaptability, and integration. Collectively, these developments are enabling a more resilient, future-ready, and competitive industrial ecosystem.

7A. Plastic Packaging Industry

Various Technological and Digital Transormation in the Plastic Packaging Industry are:

1. **Artificial Intelligence**
   AI is utilized to optimize material usage. For instance, Amazon uses its machine learning models to optimize packaging dimensions without wasting excess material. This has reduced 24% shipment damage and 5% shipping costs.
2. **Internet of Packaging**
   IoT integrates with digital technologies to enhance product transparency, supply chain efficiency, and consumer engagement. The rise of e-commerce and a focus on supply chain efficiency have led companies to adopt IoP solutions. This resulted in reported 30% reduction in supply chain costs due to improved visibility and control.
3. **3D Printing**
   3D printing in packaging is largely driven by the increasing demand for customized and sustainable packaging solutions. Asia currently dominates the 3D printed packaging market due to the region's burgeoning FMCG sector.
4. **Cloud Computing**
   In the packaging industry, cloud-based allow companies to reduce IT overhead while providing real-time data access. Such platforms analyze product attributes and order data in real time to optimize packaging.
5. **Augmented Reality (AR)**
   AR- enhanced packaging increases average engagement time from 30 seconds to over 2 minutes. Consumers' interaction rises up to 40% with AR features. Moreover, brands are utilizing AR to increase the recall rate from 10% to 70%.
6. **Connectivity Technologies**
   RFID tags enable smarter tracking solutions. By embedding RFID tags, brands are able to better track packages and products.

7B. EPC Industry

Various Technological and Digital Transormation in the EPC Industry are:

1. **Building Information Modelling (BIM)**
   BIM is revolutionizing offshore construction and port engineering by allowing multidisciplinary teams to collaborate using intelligent 3D models, which reduces design errors and project delays.
2. **Cybersecurity for Digital EPC Ecosystems**
   As EPC operations become digitally integrated, companies are strengthening cybersecurity protocols to safeguard engineering models, OT systems, procurement data, and project networks from cyber threats. Essential for large infrastructure and critical industrial assets.
3. **Advanced Project Management and Scheduling Platforms**
   EPC firms are increasingly adopting integrated digital project-management systems that enhance planning accuracy, track real-time progress, improve resource allocation, and strengthen cost and schedule control across large capital projects.
4. **Drones and Remote Monitoring Tools for Construction Sites**
   Unmanned aerial systems are being deployed for site surveys, progress tracking, safety inspections, and materials monitoring, enabling EPC companies to reduce manual effort, improve accuracy, and enhance project-site visibility.
5. **Pre-Engineered Building (PEB) Systems for Faster Industrial Construction**
   The adoption of pre-engineered building systems is gaining traction across industrial, warehousing, logistics, and commercial infrastructure projects, as EPC companies leverage factory-fabricated structural components to accelerate construction timelines, improve quality consistency, reduce on-site labour requirements, and achieve cost efficiencies. The increased use of PEB structures supports rapid deployment of facilities while maintaining stringent safety and performance standards.

8. Competitive Landscape – Plastic Packaging & EPC Industry

The industrial landscape is undergoing rapid transformation, driven by technological innovation, evolving regulations, sustainability priorities, and changing consumer expectations. These shifts are reshaping market dynamics, fostering greater competition, and encouraging differentiation through product innovation, efficiency, and responsible business practices.

8A. Plastic Packaging Industry

This section provides an overview of the plastic packaging industry, focusing on the structural and competitive dynamics that define its global landscape. It examines the key competitive strategies, barriers to entry, and market consolidation trends shaping the sector, along with the critical factors influencing competition and industry performance. The analysis aims to highlight how evolving market conditions, technological advancements, sustainability imperatives, and regulatory developments collectively determine the strategic positioning of industry participants and the overall direction of market growth.

Key Factors Shaping Competition are:

1. **Manufacturing Infrastructure and Supply Chain Capabilities**
   The growing demand for packaged goods, including bottles, containers, jars, and pouches, has highlighted the importance of robust manufacturing facilities and reliable supply chains. Companies with modern plants, advanced moulding technologies, and efficient distribution systems can better meet demand fluctuations. Government support through industrial corridors and logistics hubs further strengthens supply chain efficiency.
2. **Regulatory Compliance and Sustainability**
   Plastic packaging players must comply with the Plastic Waste Management Amendment Rules, 2023, which emphasize recyclable, biodegradable, and mono-material packaging solutions. Compliance requires investment in sustainable materials, innovative designs, and recycling partnerships. Adapting quickly to these regulations provides a competitive advantage, as sustainability increasingly drives consumer and corporate preferences.
3. **Strategic Partnerships with Brands and Retailers**
   Collaboration with FMCG, pharmaceutical, and e-commerce companies is critical for stable demand and product customization. Packaging manufacturers offering integrated services—from design and production to delivery—can secure long-term contracts, provide tailored solutions, and strengthen client relationships.
4. **Geographic Reach and Market Penetration**
   Extensive distribution networks allow companies to reduce lead times, optimize logistics costs, and support just-in-time deliveries. Firms with strong local and regional presence

are better equipped to service multiple sectors across India, ensuring timely availability of packaging products.

5. **Digital and Technological Integration**
   The adoption of digital tools, automation, AI-enabled quality control, and real-time supply chain tracking is enhancing operational efficiency. Smart packaging solutions, such as tamper-evident and easy-to-use formats, improve product safety, traceability, and appeal to end consumers.
6. **Service Differentiation and Value-Added Solutions**
   To stand out in a competitive market, companies increasingly offer value-added services such as custom packaging design, branding support, sustainable material consultation, and supply chain optimization. These services enhance customer satisfaction and foster loyalty with both upstream (raw material suppliers) and downstream (brand owners, retailers) stakeholders.

Competitive approaches adopted by leading players in the plastic packaging sector:

1. **Product and Material Innovation**
   Manufacturers are focusing on high-performance and sustainable films, such as mono-material, recyclable, and high-barrier laminates. Use of LLDPE and metallocene resins enhances strength, saleability, and downgauging, enabling thinner yet durable packaging. Innovation in functional coatings, antimicrobial, and biodegradable layers supports applications in food, healthcare, and hygiene sectors.it Improves product differentiation and access to premium and export markets.
2. **Sustainability and Circular Economy Integration**
   Environmental compliance under the Plastic Waste Management Rules (2022) and EPR mandates is driving the adoption of recyclable and eco-friendly packaging. Leading firms are integrating recycled resins, waste collection systems, and green packaging portfolios to meet regulatory and customer expectations with global sustainability norms.
3. **Digitalization and Automation**
   To remain competitive, companies are adopting Industry 4.0 tools, including IoT-enabled machinery, AI-based quality control, and ERP systems. Automation across extrusion, printing, and lamination processes enhances efficiency, reduces waste, and ensures consistent product quality.
4. **Integration Across the Value Chain**
   Companies are pursuing backward integration into resin compounding and masterbatches to ensure raw material stability, as well as forward integration into pouching, printing, and packaging design for higher value capture.
5. **Customization and Client Collaboration**
   Leading converters engage in joint product development with FMCG, pharmaceutical, and e-commerce clients. Co-created packaging solutions, such as LLDPE-based resealable and stand-up pouches, address consumer convenience and sustainability requirements.

6. **Strategic Alliances and Market Diversification**
   The industry is witnessing consolidation through mergers, acquisitions, and partnerships with global suppliers and equipment makers. Export-oriented players are expanding into Asia, Africa, and the Middle East, supported by PLEXCONCIL and DGFT incentives.
7. **Regulatory Compliance & Quality Assurance**
   Players are investing to meet India's Plastic Waste Management Amendment Rules (2023) and applicable state regulations, ensuring traceability and audit readiness. Compliance with FSSAI, pharma-specific packaging guidelines, and certifications enhances credibility and reduces regulatory risk.
8. **Value – Added Ecosystem Services**
   Beyond packaging, vendors provide branding support, packaging consultancy via IIP, and track-and-trace solutions using smart packaging technology. AR-enabled packaging experiences, QR-based loyalty schemes, and freshness sensors enhance brand interaction and consumer awareness.

Key barriers to entry include:

1. **High Capital Intensity and Technological Investment**
   Setting up an integrated plastic packaging facility requires significant investment in extrusion, lamination, printing, and converting machinery. Modern lines use advanced technology such as multi-layer blown film extruders, automated moulding, and digital printing, which are capital-intensive and often imported. This raises the initial entry cost and makes it difficult for small or new players to compete with established manufacturers who already operate at economies of scale**.**
2. **Raw Material Dependence and Price Volatility**
   Polyethylene resins (LDPE, LLDPE, HDPE, PP) are petrochemical derivatives, with prices linked to global crude oil trends. New entrants face challenges in securing stable and cost-effective raw material supply, as established firms often have long-term procurement contracts or captive supply from refineries. This dependence on volatile global feedstock markets creates margin pressure and increases the risk for new participants**.**
3. **Established Customer Relationships and Brand Loyalty**
   Large consumer goods, pharmaceutical, and e-commerce companies prefer long-term partnerships with reliable packaging suppliers that can ensure consistent quality, supply reliability, and innovation capability. For new entrants, gaining access to these clients often requires years of trust-building, audit approvals, and performance history. This entrenched customer base of leading incumbents forms a strong relational barrier to entry.
4. **Economies of Scale and Cost Competitiveness**
   Existing players operate high-volume plants with integrated operations—from polymer conversion to printing and pouch formation—allowing them to achieve low per-unit costs. New entrants operating at smaller capacities face higher production costs, limiting their ability to match competitive pricing or absorb raw material fluctuations.

5. **Rapid Technological Change and Innovation Pressure**
   The industry is evolving rapidly toward sustainable, recyclable, and mono-material packaging solutions. New entrants must invest in R&D, material science expertise, and equipment upgrades to meet the changing requirements of brand owners and EPR regulations. Failure to innovate quickly can make new players technologically obsolete, adding to the entry barrier.
6. **Working Capital and Supply Chain Complexity**
   Packaging manufacturing is working-capital intensive, with long credit cycles, large inventory requirements, and dependency on continuous raw material availability. Establishing efficient procurement, warehousing, and distribution systems requires significant operational experience, further limiting entry by new firms
7. **Environmental and Social Compliance Costs**
   Post-2022 sustainability regulations mandate that packaging producers implement waste collection, register under CPCB's EPR portal, and meet annual target.

key trends driving consolidation across the Plastic Packaging Sector:

1. **Mergers and Acquisitions**
   Leading packaging companies are pursuing acquisitions and strategic alliances to expand capacity, strengthen supply chains, and broaden market reach. Consolidation is concentrated in rigid and flexible formats, where scale and logistics efficiency create competitive advantage. Global players are also investing in India to leverage its fast-growing consumer market.
2. **Integration Across the Value Chain**
   Companies are strengthening integration across the value chain to enhance efficiency and cost control. Backward integration into resin compounding and mould design ensures quality and input stability, while forward integration into labelling and printing enables end-to-end packaging solutions. Such integrated operations support compliance, speed, and sustainability.
3. **Private Equity and Institutional Capital**
   The sector is attracting growing interest from private-equity funds, infrastructure investors, and strategic conglomerates. Investment preference is given to companies with automated plants, diversified client portfolios, and sustainability roadmaps. Capital is also being directed toward expanding recycled-resin capacity and developing green packaging innovations, supporting modernization and industry consolidation.
4. **Technological and Sustainability Partnerships**
   Domestic producers are forming alliances with global machinery and material suppliers to introduce lightweighting, bio-based polymers, and advanced barrier technologies. These collaborations also facilitate EPR compliance systems, life-cycle traceability, and waste-to-resin initiatives, enhancing technical capabilities and aligning Indian players with global sustainable-packaging supply chains.

8B. EPC Industry

This section provides an overview of the EPC (Engineering, Procurement and Construction) industry, focusing on the structural and competitive dynamics that influence its global operating landscape. It examines the key competitive strategies, barriers to entry, and consolidation trends that define the EPC ecosystem, along with the principal factors shaping competition and overall sector performance. The analysis highlights how evolving market conditions, advancements in project-delivery technologies, sustainability imperatives, and regulatory developments collectively guide the strategic positioning of EPC participants and the long-term direction of industry growth.

Key Factors Shaping Competition across the sector:

1. **Engineering and Project-Execution Capability**
   The ability to deliver complex, large-scale projects efficiently and reliably remains the most critical differentiator in the EPC industry. Firms with strong engineering depth, disciplined execution systems, and proven delivery track records consistently secure competitive advantage.
2. **Breadth of Integrated EPC Service Offerings**
   Companies that provide end-to-end services—from design and procurement to construction, installation, and commissioning—are preferred for turnkey contracts, as they reduce interface risks and offer clients a single-point accountability structure.
3. **Adoption of Pre-Engineered Building (PEB) and Modular Construction Systems**
   EPC players leveraging PEB and modular construction technologies can accelerate project timelines, improve quality consistency, and reduce on-site labour requirements, strengthening competitiveness in industrial, warehousing, and logistics infrastructure segments.
4. **Supply Chain Strength and Procurement Efficiency**
   Effective procurement, strategic sourcing, and strong supplier networks are central to maintaining cost competitiveness and mitigating risks from raw material price volatility, logistics delays, and vendor performance constraints.
5. **Technological Adoption and Digital Project-Delivery Tools**
   The use of BIM, digital project-monitoring platforms, automated construction tools, and drones enhances design accuracy, reduces rework, and improves execution efficiency. Digital maturity increasingly determines competitive positioning in large-scale EPC contracts.

Competitive approaches adopted by leading players in the EPC sector:

1. **Sectoral Specialisation and Technical Expertise**
   Leading construction enterprises are building expertise across verticals such as healthcare, education, logistics, manufacturing, and transport infrastructure. Firms with advanced capabilities in structural steel fabrication, MEP systems, and sustainable design standards

have strengthened their positioning in both conventional and pre-engineered building (PEB) projects.

2. **Enhancing Execution Scale Through Multi-Site and Multi-Sector Capabilities**
   Leading EPC companies expand their presence across industrial, infrastructure, power, and urban development segments, enabling them to diversify order books, balance project cycles, and compete for larger, multi-location contracts that require extensive execution capacity.
3. **Strengthening Financial Capacity and Balance Sheet Resilience**
   Top EPC players focus on maintaining strong working-capital discipline, securing long-term banking relationships, and improving bonding capacity. This financial strength allows them to participate in high-value tenders, absorb project-cycle volatility, and meet stringent client qualification norms
4. **Prioritising Operational Excellence and Standardised Project Management Systems**
   Companies differentiate themselves through rigorous project-planning frameworks, strong HSE practices, and standardised construction methodologies. These operational systems reduce rework, improve predictability, and enhance performance across complex EPC engagements.

Key barriers to entry include:

1. **High Capital Intensity and Working-Capital Requirements**
   EPC companies must maintain significant liquidity to manage long project cycles, procurement advances, performance guarantees, and retention money requirements. The need for strong balance-sheet capacity creates a substantial barrier for new entrants without established banking relationships or working-capital strength.
2. **Scale and Complexity of Project-Execution Capabilities**
   Large EPC contracts require integrated planning, multi-site coordination, procurement reliability, and disciplined project-management systems. The operational complexity and execution risk associated with industrial, infrastructure, and utility projects limit entry for firms lacking mature execution frameworks and multi-disciplinary capability.
3. **Technological and Design Capability Requirements**
   Modern construction increasingly relies on advanced digital tools and engineering systems such as Building Information Modelling (BIM), computer-aided detailing, and IoT-enabled project management. In the PEB domain, high-precision design and fabrication technologies are essential for structural integrity and efficiency. The lack of such digital and design readiness limits competitiveness and project eligibility.
4. **Dependence on Established Supply Chain and Vendor Ecosystems**
   EPC delivery depends on reliable access to steel, cement, structural components, plant equipment, and specialised subcontractors. New entrants without long-standing supplier relationships face procurement delays, cost disadvantages, and higher execution risk, impacting their ability to compete in large tenders.

5. **Stringent Contractual, Performance, and Risk-Allocation Structures**
   Execution of complex steel and infrastructure projects requires engineers, welders, and erection specialists trained in modular fabrication and on-site assembly. Limited availability of skilled manpower and the need for continuous workforce training represent major operational challenges, especially for firms without established human resource systems.

key trends driving consolidation across the EPC Sector:

1. **Rising Project Scale and Complexity**
   Infrastructure and industrial projects are increasingly larger, more integrated, and technically complex, favouring EPC companies with strong balance sheets, multidisciplinary capabilities, and the ability to manage end-to-end project delivery. Smaller firms often partner with or are acquired by larger players to meet qualification thresholds.
2. **Need for Stronger Financial Capacity and Risk Absorption**
   Given the high working-capital requirements, long project cycles, and fixed-price contractual structures in EPC, firms with limited financial resilience face challenges in sustaining operations. This financial pressure encourages mergers and acquisitions as companies consolidate to strengthen capital bases and improve bonding capacity.
3. **Expansion of Integrated and Multi-Sector Service Offering**
   Clients increasingly prefer EPC partners capable of delivering integrated solutions across engineering, procurement, construction, commissioning, and maintenance. This preference encourages larger players to acquire specialised contractors or merge with complementary firms to broaden capabilities and reduce interface risks.
4. **Shift Toward Standardisation, Modularisation, and PEB-Based Construction**
   The industry's move toward modular construction and pre-engineered building (PEB) systems favours firms with manufacturing scale, advanced fabrication facilities, and established design capabilities. Consolidation enables companies to achieve economies of scale in fabrication, expand capacity, and strengthen competitiveness.
5. **Digital Transformation and Technology Upgradation Requirements**
   EPC projects increasingly require advanced project-management platforms, automation, and digital integration. Smaller firms lacking the capacity to invest in such technologies often seek consolidation with larger players to remain competitive and meet client expectations for transparency and execution efficiency.
6. **Competitive Bidding Pressure and Margins Compression**
   Intense price competition in public and private sector EPC tenders exerts pressure on margins, making it difficult for mid-sized firms to operate independently. Consolidation helps companies pool resources, leverage shared capabilities, and improve bid competitiveness.

9. Financial Performance Analysis – Raj Poly Pack Limited & its subsidiary Active Proengineers Private Limited

Incorporated in 2021 and headquartered in Ahmedabad, Raj Polypack Limited is a public limited company engaged in the manufacturing of high-performance plastic packaging films. The company specializes in producing HMDE and LDPE plastic rolls, plastic carry bags, printed bags, and customized flexible packaging solutions used across retail, FMCG, construction, agriculture, engineering, and electronics industries. With an installed capacity operating at 90% utilization, the company supplies fully customizable and cost-efficient packaging products to long-term industrial and retail clients across India.

The subsidiary company "Active Pro Engineers Pvt Ltd" incorporated in 2023, functions as a turnkey solution provider in the pre-engineered building (PEB) and heavy structural steel segment. Headquartered in Ahmedabad with a dedicated manufacturing facility in Kheda offering an annual capacity of 30,000 MT, the subsidiary delivers end-to-end services that include steel design, engineering, manufacturing, supply, and on-site execution. Its operations cater to a wide range of sectors such as industrial buildings, warehousing, logistics, automotive, retail, ports, airports, power plants, healthcare, commercial complexes, and railway infrastructure.

Together, the parent entity and its subsidiary focus on scaling manufacturing capacity, expanding product offerings, and strengthening technological capabilities to support future growth and position themselves as a competitive player in India's plastic packaging and industrial solutions space.

9A Financial Performance Analysis- Raj Poly Pack

The financial performance analysis of Raj PolyPack Limited uses standalone financial statements for FY 2023 and FY 2024, as the company reported independently during these years. For FY 2025, the assessment is based on consolidated financials, reflecting the company's integration of its subsidiary, Active Pro Engineers, following the completion of consolidation on 8 August 2024. This approach ensures that the analysis accurately captures the company's operational and profitability trends across FY 2023 to FY 2025, while accounting for the structural shift in its reporting framework.

*Figures are in INR lakhs (*Except for ratios and percentages*)*

Key Indicators	Raj PolyPack Limited		
	FY 2023 Standalone	FY 2024 Standalone	FY 2025 Consolidated
Total Operating Income	963.06	1484.46	5360.15
Total Income	963.66	1487.71	5363.65
EBITDA	24.09	110.56	507.84
EBITDA Margin (%)	2.50	7.45	9.47
PAT	14.47	84.02	359.90
PAT Margin (%)	1.50	5.65	6.71
Current Ratio (Times)	1.55	1.36	1.31
Tangible Net worth	20.89	104.91	468.05
Total Debt	215.34	477.19	1048.40
Debt Equity Ratio (Times)	10.31	4.55	2.24
ROCE (%)	19.02	26.44	44.89
Return on Net worth (%)	138.54	133.58	125.63

Source: Audited Financials as provided by the company

Formula Used:

- EBITDA: Total Operating Income - Operating Expenses (excluding Depreciation & Amortisation, Interest, and Taxes)
- EBITDA Margin: (EBITDA/Total Operating Income) *100
- PAT Margin: (Profit after Tax/Total Income) *100
- Current Ratio: Current Assets /Current Liabilities
- Tangible Net Worth: Share Capital + Reserve & Surplus – Intangible Assets -Deferred Tax Assets – Misc Expenditure not written off – Revaluation Reserves
- Return on Net Worth (RONW): (Profit After Tax /Average Tangible Net Worth) *100
- Total Capital Employed: Fixed Assets + Intangible Assets +Net Working Capital

- Return on Capital Employed (ROCE): (Earnings before Interest & Taxes/Average Capital Employed) *10

The financial performance of Raj PolyPack Limited over FY 2023 to FY 2025 reflects an improvement in scale of operations and profitability, supported by increased production capacity and operational efficiencies.

The Company's Total Operating Income increased from INR 963.06 lakh in FY 2023 to INR 1,484.46 lakh in FY 2024, and further to INR 5,360.15 lakh in FY 2025, indicating a strong scale-up in business activity. Total Income showed a similar upward trend, rising from INR 963.66 lakh in FY 2023 to INR 1,487.71 lakh in FY 2024, and subsequently reaching INR 5,363.65 lakh in FY 2025.

This momentum contributed to a marked improvement in operating performance, with EBITDA increasing from INR 24.09 lakh in FY 2023 to INR 110.56 lakh in FY 2024, and significantly to INR 507.84 lakh in FY 2025. Correspondingly, the EBITDA Margin strengthened from 2.50% to 7.45%, and further to 9.47%, reflecting enhanced cost efficiency and better operating leverage as the company scaled its operations.

Profit After Tax (PAT) increased from INR 14.47 lakh in FY 2023 to INR 84.02 lakh in FY 2024, reaching INR 359.90 lakh in FY 2025. The PAT Margin also strengthened from 1.50% in FY 2023 to 5.65% in FY 2024 and 6.71% in FY 2025, indicating enhanced profitability driven by improved capacity utilization and operational efficiencies.

On the balance sheet front, the Company's Tangible Net Worth increased from INR 20.89 lakh in FY 2023 to INR 104.91 lakh in FY 2024, and further to INR 468.05 lakh in FY 2025, supported by retained earnings and business expansion. Total Debt increased from INR 215.34 lakh to INR 477.19 lakh and INR 1,048.40 lakh across FY 2023–FY 2025; however, the Debt-to-Equity Ratio improved significantly, declining from 10.31 times in FY 2023 to 4.55 times in FY 2024 and 2.24 times in FY 2025, indicating strengthening of the capital structure despite rising borrowings.

Liquidity remained stable, with the Current Ratio at 1.55 times in FY 2023, 1.36 times in FY 2024, and 1.31 times in FY 2025, reflecting a moderate but consistent liquidity position. Returns continued to remain strong, with ROCE improving from 19.02% to 26.44% and 44.89% over FY 2023–FY 2025, demonstrating efficient deployment of capital. RONW remained robust at 138.54%, 133.58%, and 125.63%, supported by sustained profitability.

Overall, the financial performance across the three-year period reflects healthy revenue expansion, improved operating margins, stronger profitability, and a significantly strengthened capital structure, with the consolidated FY 2025 results offering a comprehensive view of the Company's expanded operational scale.

9B Financial Performance Analysis- Active Proengineers Private Limited (Subsidiary)

The financial performance analysis of Active Proengineers Private Limited presents an overview of its operational and profitability trends over FY 2024 to FY 2025.

Figures are in INR lakhs (Except for ratios and percentages).

Key Indicators	Active Proengineers Private Limited	
	FY 2024	FY 2025
Total Operating Income	211.71	1125.57
Total Income	211.71	1125.57
EBITDA	16.89	153.97
EBITDA Margin (%)	7.98	13.68
PAT	2.64	93.59
PAT Margin (%)	1.25	8.31
Current Ratio (Times)	0.71	1.09
Tangible Net worth	12.64	116.21
Total Debt	73.60	307.21
Debt Equity Ratio (Times)	5.82	2.64
ROCE (%)	9.05	49.10
Return on Net worth (%)	41.77	145.27

Source: Audited Financials as provided by the company

During the period under review, the Company demonstrated a significant improvement in its operational and financial performance. The Total Operating Income increased substantially from INR 211.71 lakhs in FY 2024 to INR 1,125.57 lakhs in FY 2025, reflecting a growth of over 430%, primarily on account of expanded business operations and higher project execution. Correspondingly, EBITDA grew from INR 16.89 lakhs in FY 2024 to INR 153.97 lakhs in FY 2025, with the EBITDA margin improving from 7.98% in FY 2024 to 13.68% in FY 2025, indicating enhanced operating efficiencies and better cost management.

Profit after Tax (PAT) witnessed a remarkable turnaround, increasing from INR 2.64 lakhs in FY 2024 to INR 93.59 lakhs in FY 2025, translating into a PAT margin expansion from 1.25% in FY 2024 to 8.31% in FY 2025. The improvement in profitability was driven by higher scale of operations and improved margins. The current ratio improved from 0.71 times to 1.09 times, reflecting better liquidity management.

The Company's balance sheet strengthened notably during the period. Net worth rose sharply from INR 12.64 lakh in FY 2024 to INR 116.21 lakh in FY 2025, driven by improved profitability and higher retained earnings. In line with this, the Return on Net Worth improved significantly

from 41.77% in FY 2024 to 145.27% in FY 2025, reflecting strong value creation for shareholders.

Total debt increased from INR 73.60 lakh in FY 2024 to INR 307.21 lakh in FY 2025; however, the debt-equity ratio improved materially, reducing from 5.82x to 2.64x, signalling a stronger capital structure and better solvency. Further, Return on Capital Employed (ROCE) rose from 9.05% to 49.10%, indicating substantial enhancement in operational efficiency and effective utilization of capital. Overall, FY 2025 marked a period of robust growth and financial consolidation for the Company, supported by a strong improvement across all key performance indicators.

10. Peer Benchmarking – Raj Poly Pack Limited & its subsidiary Active Proengineers Private Limited

10A. Raj Polypack Limited

For Peer Comparison of Raj Polypack Limited, we have chosen the following companies—Jindal Poly Films Limited and Polyplex Corporation Limited. These peers have been selected based on the alignment of their product portfolios, their established market presence, and their operational scale within the polymer-based films and flexible packaging segment.

- **Jindal Poly Films Limited**

  Jindal Poly Films Limited, incorporated in 1974, is part of the B.C. Jindal Group and ranks among India's largest producers of flexible packaging films. Headquartered in Bulandshahr, Uttar Pradesh, the company manufactures BOPET, BOPP, and CPP films, along with metallized, coated, and thermal lamination films used across packaging, lamination, and industrial applications. It also produces non-woven fabrics catering to hygiene and medical sectors. With exports to more than 100 countries, Jindal Poly Films continues to expand its capacity and develop high-barrier and recyclable film solutions to meet global market requirements.

- **Polyplex Corporation Limited**

  Polyplex Corporation Ltd. (Polyplex), incorporated in 1984, is a leading global producer of polyester (PET) films with the seventh-largest installed capacity worldwide. Headquartered in Uttar Pradesh, the company manufactures BOPET, BOPP, Blown, and Cast Polypropylene (CPP) films under its Sarafil brand for flexible packaging and industrial applications. With operations in six countries and exports to 85 nations, Polyplex continues to strengthen its global presence through high-barrier, specialty, and recyclable film solutions tailored to modern sustainability requirements.

Peer Benchmarking – Financial performance analysis

The following table presents a comparison of key financial indicators of Raj Polypack Limited, Jindal Poly Films Limited and Polyplex Corporation Limited

Figures are in INR lakhs (Except for Ratios and percentages).

Key Indicators (in INR Lakhs)	Raj Polypack Limited	Jindal Poly Films Limited	Polyplex Corporation Limited
Total Operating Income	5360.15	533493.54	688518.48
Total Income	5363.65	574236.64	698056.44
EBITDA	507.84	26830.67	69602.39
EBITDA Margin (%)	9.47	5.03	10.11
PAT	359.90	11501.05	35771.54
PAT Margin (%)	6.71	2.00	5.12
Current Ratio (Times)	1.31	3.15	2.78
Tangible Net worth	468.05	381190.64	376320.09
Total Debt	1048.40	451361.77	356498.59
Debt Equity Ratio (Times)	2.24	1.18	0.95
ROCE (%)	44.89	0.93	5.56
Return on Net worth (%)	125.63	6.03	9.84

Source: Company filings and publicly available financial data

The financial position of Raj Polypack Limited in FY 2025, when compared with Jindal Poly Films Limited and Polyplex Corporation Limited, reflects a smaller operating scale but demonstrates strong profitability and efficient capital utilisation.

The peer comparison highlights a significant difference in scale, with Jindal Poly Films Limited and Polyplex Corporation Limited operating at a substantially larger revenue base compared to Raj Polypack Limited. Total Operating Income for Raj Polypack stood at INR 5,360.15 lakh, while Jindal Poly Films reported INR 5,33,493.54 lakh and Polyplex Corporation reported INR 6,88,518.48 lakh, reflecting the dominant size of the latter two players.

Despite its comparatively modest scale, Raj Polypack demonstrated strong operating performance. The EBITDA Margin of 9.47% is higher than the 5.03% reported by Jindal Poly Films and remains competitive against Polyplex Corporation, which recorded 10.11%. The PAT Margin of 6.71% also exceeds the 2.00% posted by Jindal Poly Films and is broadly comparable to Polyplex Corporation's 5.12%, underscoring efficient cost management and healthy profitability relative to size.

In terms of liquidity, Raj Polypack reported a Current Ratio of 1.31 times, lower than Jindal Poly Films at 3.15 times and Polyplex Corporation at 2.78 times. This indicates tighter working capital management compared to the peers' more comfortable liquidity positions. Tangible Net Worth at INR 468.05 lakh remains significantly smaller than the strong equity bases of the larger companies.

The overall leverage profile varies significantly across the peer set. Raj PolyPack recorded a Debt-Equity Ratio of 2.24 times, which is higher than Jindal Poly Films at 1.18 times and Polyplex Corporation at 0.95 times. For Raj PolyPack, this level of leverage is consistent with its position as a smaller, fast-growing company that is actively expanding capacity and strengthening its operational scale. The higher ratio primarily reflects a lean equity base and growth-driven capital requirements, both of which are typical in the early stages of an emerging company's expansion cycle.

Return ratios remain a key strength for Raj Polypack. Its Return on Capital Employed of 44.89% is significantly above Jindal Poly Films at 0.93% and Polyplex Corporation at 5.56%, highlighting higher capital productivity. Similarly, Return on Net Worth stands at 125.63%, compared with 6.03% for Jindal Poly Films and 9.84% for Polyplex Corporation, demonstrating strong earnings generation relative to net worth.

Overall, while Raj Polypack operates on a much smaller scale compared to its peers, it exhibits strong profitability and capital efficiency, whereas the larger companies reflect stronger liquidity, deeper balance-sheet strength, and more diversified operations.

10B. Active Proengineers Private Limited

For peer comparison of Active Proengineers Private Limited, we have chosen the following companies—M&B Engineering Limited and E Pack Prefab Technologies Limited. These peers have been selected based on the alignment of their product portfolios, their established market presence, and their operational scale within the pre-engineered building (PEB) and heavy structural steel segment.

- **M&B Engineering Limited**

  M&B Engineering Limited, incorporated in 1995, is engaged in providing comprehensive engineering, procurement, and construction (EPC) solutions with a focus on infrastructure and industrial projects. The company undertakes civil construction, mechanical erection, structural fabrication, and electrical instrumentation works across sectors such as oil and gas, petrochemicals, power, and heavy industries. Headquartered in India, M&B Engineering has established itself as a reputed mid-sized EPC player known for timely project execution, quality assurance, and safety standards. The company continues to expand its presence across industrial, commercial, and infrastructure projects while leveraging its in-house engineering expertise and diversified client base.

- **E Pack Prefab Technologies Limited**

  E Pack Prefab Technologies Limited, incorporated in 1999, is one of India's leading manufacturers of prefabricated building solutions and pre-engineered structures. The company offers end-to-end turnkey solutions including design, manufacturing, supply, and installation of prefabricated structures for applications across industrial sheds, commercial buildings, warehouses, and cold storage facilities. Headquartered in Greater Noida, Uttar Pradesh, E Pack Prefab operates state-of-the-art manufacturing facilities equipped with advanced machinery for fabrication and panel production. With a strong focus on innovation, energy efficiency, and rapid construction technologies, the company has developed a diversified clientele across both public and private sector projects in India and overseas.

Peer Benchmarking – Financial performance analysis

The following table presents a comparison of key financial indicators of Active Proengineers Private Limited, M&B Engineering Limited and E Pack Prefab Technologies Limited.

Figures are in INR lakhs (Except for ratios and percentages).

Key Indicators	Active Proengineers Private Limited	M&B Engineering Limited	E Pack Prefab Technologies Limited
Total Operating Income	1125.57	98855.43	113391.72
Total Income	1125.57	99688.91	114049.14
EBITDA	153.97	12637.64	11779.39
EBITDA Margin (%)	13.68	12.78	10.39
PAT	93.59	7704.75	5932.22
PAT Margin (%)	8.31	7.73	5.20
Current Ratio (Times)	1.09	1.38	1.42
Tangible Net worth	116.21	30414.80	34976.90
Total Debt	307.21	9175.07	24749.55
Debt Equity Ratio (Times)	2.64	0.66	0.71
ROCE (%)	49.10	43.94	32.57
Return on Net worth (%)	145.27	50.66	33.92

Source: Company filings and publicly available financial data

In comparison with its listed peers, Active Proengineers Private Limited has demonstrated strong profitability and return metrics, albeit on a smaller operational scale. During FY 2025, the Company reported Total Operating Income of INR 1,125.57 lakh, as compared to INR 98,855.43 lakh by M&B Engineering Limited and INR 1,13,391.72 lakh by E Pack Prefab Technologies Limited. While the scale of operations remains relatively modest, its margins and efficiency indicators reflect robust financial performance.

The Company recorded an EBITDA margin of 13.68%, higher than M&B Engineering Limited at 12.78% and E Pack Prefab Technologies Limited at 10.39% indicating superior operating efficiency and cost management at its current scale. Further, the PAT margin of 8.31% compares favourably with 7.73% for M&B Engineering Limited and 5.20% for E Pack Prefab Technologies Limited, reflecting efficient expense control and strong overall profitability.

From a balance sheet perspective, the Company reported a current ratio of 1.09 times, marginally lower than the peer benchmarks of 1.38 times and 1.42 times, suggesting adequate

but relatively tighter short-term liquidity. The debt-equity ratio stood at 2.64 times, which is significantly higher than 0.66 times for M&B Engineering Limited and 0.71 times for E Pack Prefab Technologies Limited, driven by a smaller equity base and greater reliance on borrowings to support operations.

In terms of return indicators, the Company outperformed the peer set with a Return on Capital Employed of 49.10% and a Return on Net Worth of 145.27%. This compares with 43.94% and 50.66% for M&B Engineering Limited and 32.57% and 33.92% for E Pack Prefab Technologies Limited, respectively. These ratios highlight efficient capital utilisation and strong value creation despite a comparatively smaller operating base.

11. Company's Positioning & SWOT Analysis

Raj Polypack Limited is positioned as a fast-growing, integrated manufacturing enterprise operating across two complementary business verticals—flexible plastic packaging films and engineered steel building solutions—enabling a diversified yet synergistic presence in industrial and consumer application markets. Within the packaging segment, the Company focuses on high-performance HMHD and LDPE films, plastic rolls, carry bags, printed and customized packaging solutions, catering to retail, FMCG, construction, agriculture, engineering, and electronics sectors. Operating at high-capacity utilization and supported by a customer base built on recurring industrial demand, the Company aims to strengthen its competitiveness through product customization, cost efficiency, consistent quality, and scalable manufacturing capabilities.

Its subsidiary, Active Proengineers Private Limited, enhances the Group's positioning by providing an end-to-end offering in the pre-engineered building (PEB) and heavy structural steel domain, with integrated capabilities in design, engineering, fabrication, supply, and on-site project execution. Through its facility in Kheda with an annual capacity of 30,000 MT, the subsidiary caters to sectors such as industrial buildings, warehousing, logistics, automotive, retail, airports, ports, power, healthcare, and large infrastructure projects. The combined platform of Raj Polypack and its subsidiary enable the Group to participate in both consumption-linked demand cycles (through packaging) and infrastructure-led growth opportunities (through PEB and structural steel).

The Group's financial trajectory reflects expanding operations, improved margins, and strengthening capital structure, supported by better operating leverage and disciplined resource utilization. With a focus on capacity enhancement, technology adoption, customer-centric product development, and expansion into high-growth segments, Raj Polypack aims to establish itself as a competitive and scalable player within the domestic packaging ecosystem while simultaneously building a differentiated presence in engineered steel building solutions.

SWOT Analysis

Strengths (Internal / Competitive Advantages)	Weaknesses (Internal / Limitations)
✔ **Advanced Manufacturing Automation** Raj PolyPack Limited has invested in modern extrusion and converting machinery, enabling efficient, high-quality, and cost-effective production. Automation minimizes manual dependency and enhances consistency in product output, supporting the Company's competitiveness within the flexible packaging sector. ✔ **Diversified Business Portfolio** The Group operates across two complementary industries —flexible packaging and construction engineering through its subsidiary, Active Proengineers Private Limited. This diversification reduces dependence on a single revenue stream and allows the Group to benefit from growth across both packaging and infrastructure segments. ✔ **Technical Expertise** Active Pro Engineers brings in-house capabilities in design, fabrication, and pre-engineered building construction. These technical competencies strengthen the Group's ability to undertake industrial, commercial, and prefabricated projects efficiently. ✔ **Focus on Sustainability and Quality** Raj PolyPack emphasizes the use of recyclable materials, quality assurance systems, and energy-efficient practices that align with India's push toward sustainable industrial development and responsible manufacturing. ✔ **Agile Project Execution** Both entities operate with lean management structures, allowing quicker decision-making and efficient handling of small to mid-scale orders. This agility enhances customer satisfaction and operational flexibility in dynamic market conditions.	❌ **Limited Market Track Record** Raj PolyPack, being a relatively new participant in the packaging industry, and Active Pro Engineers, incorporated in 2023, are still in the process of establishing long-term market credibility, client relationships, and a broader distribution footprint. ❌ **Exposure to Raw Material Price Volatility** The Group's profitability is sensitive to fluctuations in key input materials — polymers for packaging and steel for fabrication — both of which are linked to global commodity price movements. ❌ **Working Capital Intensity** Both the packaging and construction businesses involve extended receivable cycles and milestone-based payments, resulting in a higher working capital requirement that can affect liquidity if not managed prudently. ❌ **Limited Export Presence** Raj PolyPack's operations remain primarily domestic, restricting access to diversified foreign markets and limiting insulation against local demand variations. ❌ **Smaller Operational Scale in Construction** Active Pro Engineers currently operates on a modest project scale, which limits its eligibility for large public or industrial infrastructure contracts dominated by established EPC and PEB players.

Opportunities (External / Market Realities)	Threats (External / Sector Challenges)
Expanding End-Use Sectors Rapid growth in FMCG, e-commerce, logistics, and infrastructure is expected to sustain demand for both flexible packaging materials and pre-engineered building systems, offering strong growth visibility for the Group. **Government Policy Support** Schemes such as *Make in India*, *PLI*, and *PM Gati Shakti* are promoting domestic manufacturing, logistics expansion, and infrastructure development — directly benefiting both Raj PolyPack and Active Pro Engineers. **Sustainable Solutions** Evolving consumer and regulatory focus on recyclable and energy-efficient materials presents an opportunity to develop advanced packaging films, eco-friendly laminates, and sustainable prefabricated construction systems. **Diversification Synergy** The Group's presence across packaging and construction allows cross-sector learning in design, materials handling, and process optimization — improving overall efficiency and market adaptability. **Entry into Emerging Markets and Industrial Corridors** With industrial clusters and smart cities being developed across India, both entities can leverage their expertise to expand into new regions and attract institutional and B2B clients.	**Environmental and Regulatory Challenges** The plastic packaging industry faces growing regulatory restrictions on single-use plastics, EPR compliance, and recycling mandates, which may increase operational costs and compliance requirements for Raj PolyPack. **Intense Industry Competition** Both packaging and construction sectors are highly fragmented, with organized and unorganized players driving pricing pressure and reducing margins. **Commodity Disruptions** Dependence on imported polymers and steel exposes operations to supply chain delays, shipping constraints, and global price volatility. **Economic and Demand Cyclicality** lowdown's in consumer demand, infrastructure investment, or government spending can impact order flow, particularly for Active Pro Engineers in the industrial construction segment. **Technological and Sustainability Risks** Failure to adapt quickly to emerging materials, energy-efficient systems, or sustainable product norms may erode competitiveness in both industries over time.

12. Future Outlook

India's plastic packaging and EPC industries are poised for sustained growth, supported by rising consumption, rapid urbanisation, and expanding infrastructure investments. The plastic packaging market, valued at USD 22.15 billion in FY 2024, is projected to reach USD 35.03 billion by FY 2034 at a CAGR of 4.69%, driven by increasing demand from FMCG, pharmaceuticals, food and beverages, agriculture, and e-commerce, alongside the expansion of organised retail and modern supply chain networks. The EPC industry is expected to grow from USD 80.00 billion in FY 2024 to USD 259.79 billion by FY 2034, registering a CAGR of 12.50%, supported by continued investments in industrial facilities, renewable energy projects, transmission corridors, water-management systems, data centres, logistics parks and specialised infrastructure segments.

Technology-driven project delivery models are expected to play a central role in shaping the EPC landscape. Increased adoption of digital construction management platforms, BIM-integrated execution, remote monitoring, modular fabrication, drone-based surveying and automation-enabled workflows is anticipated to enhance execution quality and reduce project cycle times. Emphasis on energy-efficient materials, low-carbon engineering solutions and improved lifecycle asset management will also influence future project design and implementation frameworks. In parallel, packaging manufacturers are expected to benefit from automation, AI-enabled inspection systems and emerging smart-packaging technologies that improve product performance and enhance supply-chain visibility.

Policy support is likely to remain a significant enabler across both industries. National programmes such as PM Gati Shakti, National Infrastructure Pipeline, renewable energy capacity expansion, incentives for backward-area industrial development, and faster clearances through digital single-window systems are expected to improve project viability and accelerate EPC ordering activity. For plastic packaging, regulatory clarity under the Plastic Waste Management Amendment Rules, 2023 continues to drive adoption of sustainable materials and improved waste-management systems. Strengthening cold-chain logistics, warehousing infrastructure, and regional distribution networks is expected to expand market access for packaging manufacturers while improving supply-chain efficiency.

While challenges persist including volatility in commodity prices, elevated input costs, land-acquisition constraints, working-capital pressures, and the need for improved contractor/vendor coordination—the medium-term outlook for both industries remains favourable. Rising domestic consumption, accelerating infrastructure development, greater digitalisation of project execution, and growing sustainability commitments collectively support a positive long-term trajectory for India's plastic packaging and EPC sectors.

Best Regards,

Sankhanath Bandyopadhyay
Senior Economist
Infomerics Analytics & Research Pvt Ltd
Place: New Delhi