



Industry Report on In Mold Labelling & Submerged Arc Welded (SAW) Pipe Protection Plastic Caps

7th July 2026

Prepared for

Dhaval Packaging Limited

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Table of Contents

Global Macroeconomic Scenario	6
Global Economic Overview	6
Historical and Projected GDP Growth.....	7
Global Economic Outlook.....	8
Global Growth Projection.....	10
India Macroeconomic Analysis	13
Historical GDP and GVA Growth Trend.....	13
Annual and Quarterly: Investment & Consumption Scenario	16
Private Consumption Scenario	18
Growth Outlook	20
Key Growth/Demographic Drivers for Economic Growth	23
Government focus on infrastructure development	23
Development of Domestic Manufacturing Capability	24
Strong Domestic Demand.....	24
Increasing Urbanization.....	27
Rural vs. Urban Working Population by Age Group	28
Foreign Direct Investment Trend in India	29
In Mold Labelling & Plastic Packaging.....	30
Overview	30
Integration of IML with Various Molding Process	32
Key Application Areas.....	33
Comparative Analysis:	34
Adoption of IML in Plastic Packaging Sector	35
Overview of Indian Plastic Packaging Sector.....	35
Estimated Market Size of Plastic Packaging in India.....	35
Indicative Share of Rigid Plastic Packaging Segment.....	37
Key Demand Drivers: IML and Rigid Plastic Packaging in India.....	38

Qualitative Analysis of Key Factors Driving the Demand for IML and Rigid Plastic Packaging in India.....	38
Application in Paint Industry.....	39
Key Threats & Challenges.....	41
Overview on the Key Threats & Challenges Facing the Overall Plastic Packaging Industry.....	41
Regulatory Landscape.....	42
Key Policies / Regulations Impacting the Plastic Packaging and IML Landscape in India.....	42
Growth Forecast: Expected growth in Indian plastic packaging industry.....	44
Focus Industry: SAW Pipe Protection Plastic Caps.....	46
SAW Pipe Protection Plastic Caps: Product Overview, Key Product Features & Attributes.....	46
Types of SAW Pipe Protection Plastic Caps in Use (Flexible Caps, Tailored Caps & Plugs, Ribbed Caps & Plugs, Recessed Caps, Others).....	48
End use Applications and Key End User Industries.....	50
Demand Drivers: SAW Pipe Protection Plastic Caps.....	52
Mapping the Usage of SAW Pipe Protection Plastic Caps Across Multiple End Use Industries.....	52
Construction industry.....	52
Oil & Gas.....	53
Water & Wastewater Treatment.....	53
Material Handling & Storage.....	54
Manufacturing.....	54
Export Opportunities.....	55
Global Export Overview.....	55
Key Global Export Destinations.....	56
Import Substitution Opportunities.....	57
Domestic Trade Overview.....	57
Key Importing Countries to India.....	58
Metal Packaging Industry.....	59
Overview.....	59
Types of Metals used:.....	60

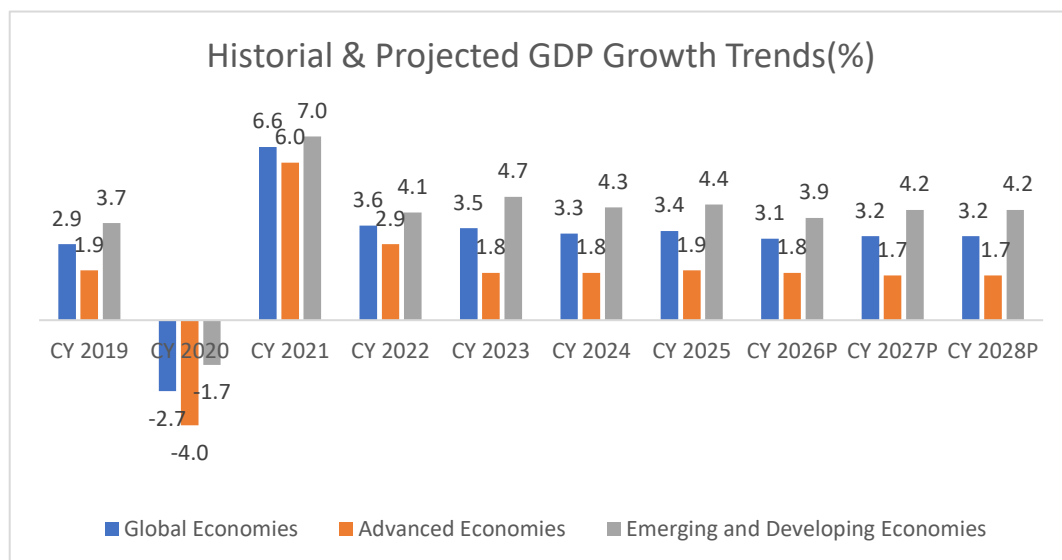
Key Demand Drivers.....	61
Key Challenges / Hurdles	62
Key Threats & Challenges.....	63
Competitive Landscape.....	64
Company Profile: Dhaval Packaging Limited.....	65
Peer Companies Profiling: IML Segment.....	67
Mold-Tek Packaging Limited.....	67
Kap Cones Private Limited	68
Homemade Baker's (India) Limited	69
Peer Companies Profiling: End Caps Segment.....	70
VP Engineers.....	70
ME Plast.....	70
Besto Plast	71

Global Macroeconomic Scenario

Global Economic Overview

According to World Economic Outlook, global growth is projected at 3.1% in 2026 and at 3.2% in 2027 and 2028, slower than the recent pace of about 3.4% in CY 2024–25 and is expected to settle at approximately that rate over the medium term, below the historical average of 3.7% during 2000–19. The forecast for 2026 has been revised downward by 0.2 percentage point, while the forecast for 2027 and 2028 remains unchanged compared with the January 2026 WEO Update. Global headline inflation is expected to rise to 4.4% in 2026 and decline to 3.7% in 2027, reflecting upward revisions for both years.

The conflict involving US, Israel and Iran is increasingly functioning as a global supply and confidence shock. The International Energy Agency (IEA) describes the current situation as the largest oil supply disruption on record, with flows through the Strait of Hormuz reduced to a trickle and the resulting effects spreading across refined fuels and liquefied natural gas (LNG). At the same time, aviation disruptions and elevated risk premia are weakening services activity and increasing uncertainty around investment decisions. A significant share of global energy flows through the Strait of Hormuz, and shipping disruptions and insurance constraints are therefore translating directly into higher landed costs, supply chain delays, and greater output risks for energy-intensive manufacturing. As a result, the policy environment has increasingly become challenging, while growth support is required but renewed cost-push inflation across energy, freight, and eventually food inputs is limiting the scope for faster monetary easing.



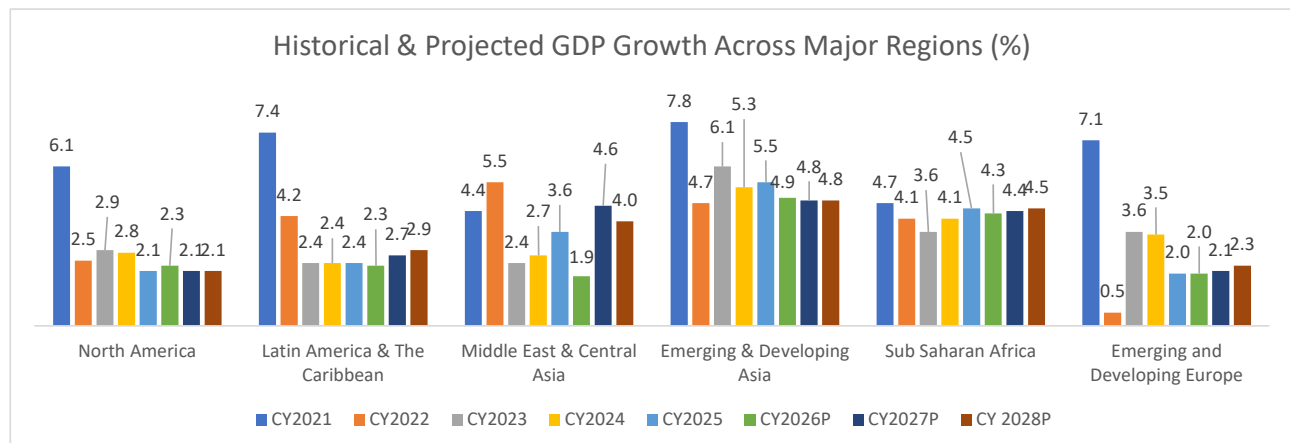
Note: Advanced Economies and Emerging & Developing Economies are as per the classification of the World Economic Outlook (WEO). This classification is not based on strict economic criteria and has evolved over time. It comprises 40 countries in the Advanced Economies category, including the G7 (the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada) and selected Eurozone members (Germany, Italy, France, etc.). The group of emerging and developing economies (156) comprises all economies not classified as Advanced Economies (e.g., India, China, Brazil, Malaysia).

Historical and Projected GDP Growth

GDP growth across major regions showed a mixed trend during 2024–25. While growth in several regions—including Middle East & Central Asia, Emerging and Developing Asia, Sub-Saharan Africa as well as Latin America and the Caribbean—is expected to slow further in 2026, performance remains uneven across geographies.

In the Middle East and Central Asia, economic growth is projected to decline from **3.6% in 2025** to **1.9% in 2026**, before recovering to **4.6% in 2027** and **4.0% in 2028**, reflecting the region's direct exposure to the conflict and the anticipated rebound thereafter. For commodity-exporting economies directly affected by the conflict, reduced production and export activity are expected to result in a significant downward revision to 2026 GDP growth projections.

Growth in emerging and developing Asia is projected to moderate from **5.5% in 2025** to **4.9% in 2026** and is further estimated to grow at **4.8% in 2027 and 2028**. Within the region, China's 2026 growth forecast has been revised upward by **0.2 percentage point** relative to the October estimate, to **4.4%**, despite a **0.1 percentage point downward revision** from January. This upward adjustment reflects the impact of lower effective U.S. tariff rates on Chinese goods, along with stimulus measures that are expected to offset the negative effects of the shock arising from the Middle East conflict. However, China's growth is projected to slow to **4.0% in 2027**, as structural headwinds continue to weigh on the economy, including the prolonged slowdown in the housing sector, a shrinking labor force, declining returns on investment, and weaker productivity growth.



In Latin America and the Caribbean, economic growth is projected to remain broadly stable at 2.3% in 2026 before strengthening to 2.7% in 2027 and 2.9% in 2028. The effects of the Middle East conflict across the region are expected to be uneven, with smaller economies likely to experience a more pronounced negative impact due to their relatively greater vulnerability to external shocks.

Growth in sub-Saharan Africa is projected to remain relatively stable at 4.3% in 2026 and 4.4% in 2027 and 4.5% in 2028. However, this regional outlook masks significant variation across countries, with some

economies expected to face more pronounced challenges than others. In particular, oil-importing and non-resource-intensive economies are likely to be adversely affected by the conflict in the Middle East, as heightened external pressures may weigh on economic activity and weaken growth prospects. In emerging and developing Europe, economic growth is expected to slow sharply to 2.0% in 2025 and recover only marginally thereafter, with the region projected to expand at an average rate of 2.0% in 2026, 2.1% in 2027 and 2.3% in 2028.

Global Economic Outlook

The conflict between Israel/the United States and Iran, which began in February, has developed into a global shock to transport, trade, and security planning. As a result, periodic airspace closures across Israel and parts of the Gulf, together with severe disruption to shipping through the Strait of Hormuz, have affected the movement of oil, oil products, and LNG. Consequently, businesses have faced longer and less reliable supply lines, higher freight and insurance costs, and more frequent “stop-go” operating conditions.

The near-term growth outlook has softened as the conflict is affecting both demand and costs. Disruption to the oil channel is coinciding with pressure on the non-oil outlook as travel and services weaken and risk premia rise. Airspace disruption has increased operating costs and reduced travel reliability, while higher jet fuel costs have added to pressure on carriers and freight forwarders.

Investment conditions have also tightened as higher regional risk premia have increased insurance, shipping, hedging, and working capital costs. At the same time, logistics disruption and higher input costs are raising inflation risks. Fertilizer and related input disruption is also creating a lagged risk to food prices.

Asia-Pacific: In Asia-Pacific, the conflict has created sustained stress for business continuity. Even with fighting paused, energy availability, shipping disruption, and insurance costs are expected to continue weighing on operations over the next quarter. Oil prices remain well above January levels despite easing from March peaks, while war-risk insurance, tighter tanker availability, and rerouting costs remain elevated. As a result, several fuel-importing economies—including Japan, South Korea, India, and parts of Southeast Asia—have faced power-conservation measures and fuel rationing, increasing the risk of operational downtime in energy-intensive sectors.

Shipping and supply chains are also facing second-round effects. Many Asia–Europe shipments have been diverted via the Cape of Good Hope, thereby extending lead times by 10–14 days. Although some routes have reopened, schedules remain compressed and insurers remain cautious, which has increased delivery deadline risk across manufacturing, particularly in chemicals, electronics, and pharmaceuticals. Input volatility and fertilizer disruption are also adding to inflation risks and thereby complicating the policy outlook.

Latin America: In Latin America, the U.S.-Israel-Iran conflict has increased energy market pressures, with higher Brent crude prices raising input costs and inflation risks across the region. Consequently, net hydrocarbon exporters such as Brazil, Colombia, and Ecuador are benefiting from stronger external balances,

while net energy importers—including Panama, Chile, and much of Central America—are facing higher import costs. Elevated fertilizer prices are also weighing on agricultural output and margins, including in Brazil and Argentina. In response, governments have introduced fuel subsidies and price controls.

Middle East & North Africa: In the Middle East and North Africa, the conflict continues to affect the region directly, with many countries facing missile and drone attacks from Iran in response to attacks by the United States and Israel on Iran. In the short term, economic growth is expected to slow sharply as exports decline, uncertainty constrains spending, and governments delay investment initiatives. The reduction in food imports is also expected to significantly affect countries with limited domestic production capacity. Bahrain, Qatar, and Kuwait remain highly dependent on imports through the Strait of Hormuz and therefore face risks of food shortages and concerns regarding social stability if disruption persists.

Sub-Saharan Africa: In Sub-Saharan Africa, the conflict continues to disrupt energy and fertilizer supply chains, thereby keeping the region under significant external pressure. Higher global oil prices are sharply rising fuel and transport costs for import-dependent economies such as Kenya, Uganda, Ethiopia, and Ghana. Policy responses have varied across the region. Ethiopia introduced emergency fuel subsidies in mid-March to contain domestic price increases, while Kenya is experiencing stronger pass-through from higher fuel costs, which is weighing on aviation, logistics, and export activity.

Global Growth Projection

Growth in advanced economies is projected at 1.8% in 2026 and 1.7% in 2027 and 2028, while the overall impact of the Middle East conflict is expected to remain modest, lowering 2026 growth by 0.2 percentage point relative to the pre-conflict forecast. This limited effect reflects positive terms-of-trade gains in the United States and stronger growth momentum, supported by government measures, in Japan, whereas more significant negative effects are expected mainly in net energy-importing economies, including the euro area and the United Kingdom. In the United States, growth is projected at 2.3% in 2026 and 2.1% in 2027 and 2028, with fiscal policy and the lagged effects of monetary easing in 2025 continuing to support activity, even as higher trade barriers since April 2025 weigh on growth. The 0.1 percentage point downward revision from the January 2026 WEO Update reflects a small negative effect from the war, but this is partly offset by a rebound following the end of the 2025 federal government shutdown, along with stronger productivity growth and positive carryover effects. Although the International Emergency Economic Powers Act (IEEPA) ruling may reduce tariff-related fiscal revenues, its impact on the fiscal balance and activity is expected to remain limited and spread over the forecast horizon. Growth in 2027 is expected to remain solid, supported by tax incentives, including those for corporate investment under the One, Big, Beautiful Bill Act (OBBBA), while technology-driven momentum is projected to moderate and productivity growth is expected to gradually converge toward historical norms.

Growth in emerging market and developing economies is projected to slow to 3.9% in 2026 before recovering to 4.2% in 2027 and 2028, while the Middle East conflict is expected to have a greater impact on this group than on advanced economies, reducing 2026 growth by 0.3 percentage point relative to the pre-conflict forecast. In emerging and developing Asia, growth is expected to moderate from 5.5% in 2025 to 4.9% in 2026 and 4.8% in 2027 and 2028. Within the region, China's 2026 growth forecast has been revised upward to 4.4%, as lower effective U.S. tariffs and stimulus measures offset the impact of the conflict, although growth is projected to slow to 4.0% in 2027 as structural headwinds intensify. India's growth outlook has also improved, with growth revised upward to 7.6% in 2025 and projected to remain at 6.5% in 2026, 2027 and 2028, supported by strong carryover effects and lower additional U.S. tariffs on Indian goods. Meanwhile, several South and Southeast Asian economies are expected to face weaker domestic demand due to lower tourism and remittance inflows, while the Philippines has seen a sharp downward revision for 2026.

In the Middle East and Central Asia, growth is projected to decline from 3.6% in 2025 to 1.9% in 2026, before rebounding to 4.6% in 2027 and 4.0% in 2028, reflecting the region's direct exposure to the conflict. The downturn is expected to be most severe among affected commodity exporters, particularly Bahrain, Iran, Iraq, Kuwait, and Qatar, while the impact is expected to be less severe in other economies. Accordingly, Iran's economy is projected to contract by (-) 6.1% in 2026, before rebounding to 3.2% in 2027 and moderating to 1.5% in 2028. By contrast, Saudi Arabia's growth is projected at 3.1% in 2026, rising to 4.5% in 2027 before easing to 3.6% in 2028. In sub-Saharan Africa, growth is expected to remain broadly stable at

4.3% in 2026, 4.4% in 2027, and 4.5% in 2028, although oil-importing economies are likely to face greater pressure, while Nigeria and South Africa are expected to record moderate but gradually improving growth profiles. In Latin America and the Caribbean, growth is projected at 2.3% in 2026, 2.7% in 2027, and 2.9% in 2028, with Brazil expected to benefit modestly in the near term from its position as a net energy exporter, while Mexico is projected to recover gradually to 1.6% in 2026, 2.2% in 2027, and 2.1% in 2028.

In emerging and developing Europe, the sharp slowdown in growth to 2.0% in 2025 is expected to reverse only marginally, with the region projected to expand at an average rate of 2.0% in 2026, 2.1% in 2027, and 2.3% in 2028. Within the region, Russia's 2026 growth forecast has been revised upward by 0.3 percentage point relative to January, to 1.1%, as higher commodity prices are expected to support activity. This momentum is projected to continue, with growth remaining at 1.1% in 2027 before moderating slightly to 1.0% in 2028. By contrast, Türkiye's 2026 growth forecast has been revised downward by 0.8 percentage point relative to the January 2026 WEO to 3.4%, as weaker-than-expected growth in 2025 and higher oil and gas prices are expected to weigh on activity.

Key factors impacting Global Macroeconomic landscape

- Geopolitics continues to constitute a major source of global macroeconomic and business risk. The Russia–Ukraine war remains a persistent driver of instability, as Russia has intensified large-scale missile and drone attacks on Ukrainian cities and infrastructure, while Ukraine has stepped up strikes on Russian ports, refineries, and export infrastructure, reportedly contributing to a reduction in Russian oil output in April. The Israel–Iran–U.S. confrontation has emerged as the most significant near-term external shock to the global economy, with the IMF warning that disruptions to the Strait of Hormuz and regional energy infrastructure could materially weaken global growth and raise inflation; under its April 2026 reference forecast, global growth has been lowered to 3.1% and inflation raised to 4.4%, with materially worse outcomes under prolonged disruption scenarios. In parallel, the Pakistan–Afghanistan border conflict remains a significant regional flashpoint, although China-mediated talks are seeking to secure a ceasefire and reopen border crossings after months of cross-border attacks and trade disruption. At the same time, U.S. strategic activism continues to influence regional risk perceptions: Washington has removed sanctions on Venezuela's interim leadership and deepened engagement with Caracas, tensions over Greenland have re-emerged amid renewed U.S. rhetoric and ongoing diplomatic discussions with Denmark and Greenland, and U.S.–Nigeria security cooperation has continued to deepen in response to regional instability and counterterrorism concerns. In addition, resource nationalism and strategic competition over rare earths and other critical minerals have become increasingly operational concerns rather than distant strategic risks. The IEA's April 2026 assessment notes that demand for magnet rare earths has doubled since 2015 and is projected to increase by more than 30% by 2030, while supply chains remain highly concentrated, with China accounting for around 60% of mined output, more than 90%

of refining, and nearly 95% of permanent magnet production, thereby heightening global exposure to export controls, supply concentration, and industrial policy interventions

- The period of relatively frictionless trade supported by multilateral liberalisation and free trade agreements is increasingly giving way to regionalisation, nearshoring, friend-shoring, and diversification of production networks. Rising tariffs, policy uncertainty, and strategic realignment are creating a more fragmented trade environment and raising the premium on resilience over pure efficiency
- Technology adoption and sustainability have become core strategic priorities. Organizations are advancing digital transformation by embedding AI, automation, and cybersecurity into their operations to enhance productivity and safeguard critical assets. AI adoption is emerging as a visible driver of optimism, particularly within the information and communications sectors. Growth in cloud computing, streaming, IoT, and AI and Advancements in hardware and cooling technologies aim to reduce energy consumption and improve performance is driving the need for more powerful and scalable data centres.

India Macroeconomic Analysis

India's economic growth outlook for 2025 has been revised upward by 1.0 percentage point from the October estimate to 7.6%, supported by stronger-than-expected performance in the second and third quarters of the fiscal year and sustained momentum in the fourth quarter. For 2026, the growth projection has been moderately increased by 0.3 percentage point (including a 0.1 percentage point upward revision from January) to 6.5%, primarily driven by the carryover effect of the strong 2025 performance and the reduction in additional U.S. tariffs on Indian goods from 50% to 10%, which more than offsets the adverse impact of the Middle East conflict. Growth is expected to remain steady at 6.5% in 2027. Across several South and Southeast Asian economies, disruptions linked to the Middle East conflict are anticipated to reduce tourism activity and remittance inflows, thereby weakening domestic demand and moderating overall economic performance.

Country	CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026 P	CY 2027 P	CY 2028P
India¹	-5.8%	9.7%	7.6%	9.2%	6.5%	7.6%	6.5%	6.5%	6.5%
China	2.3%	8.6%	3.1%	5.4%	5.0%	5.0%	4.4%	4.0%	4.0%
United States	-2.2%	6.1%	2.5%	2.9%	2.8%	2.1%	2.3%	2.1%	2.1%
Japan	-4.2%	2.7%	0.9%	1.4%	-0.2%	1.2%	0.7%	0.6%	0.6%
United Kingdom	-10.3%	8.6%	4.8%	0.4%	1.1%	1.3%	0.8%	1.3%	1.6%
Russia	-2.7%	5.9%	-1.4%	4.1%	4.3%	1.0%	1.1%	1.1%	1.0%
Germany	-4.1%	3.9%	1.8%	-0.9%	-0.5%	0.2%	0.8%	1.2%	1.2%

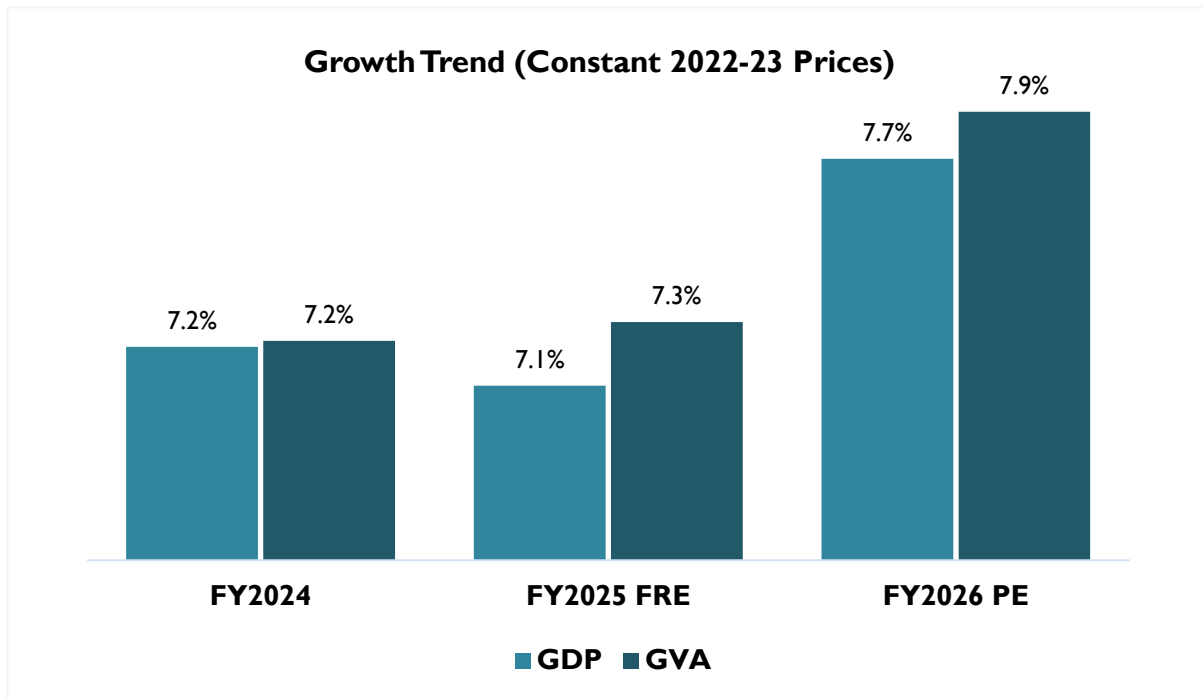
Source: World Economic Outlook, April 2026

Historical GDP and GVA Growth Trend

As per Provisional Estimates, India Real GDP (GDP at constant prices) for FY 2025–26 is estimated to reach INR 323.12 lakh crore, compared to the First Revised Estimate (FRE) of INR 299.89 lakh crore for FY 2024–25. This represents a growth rate of 7.7% in 2025–26, higher than the 7.1% growth recorded in 2024–25.

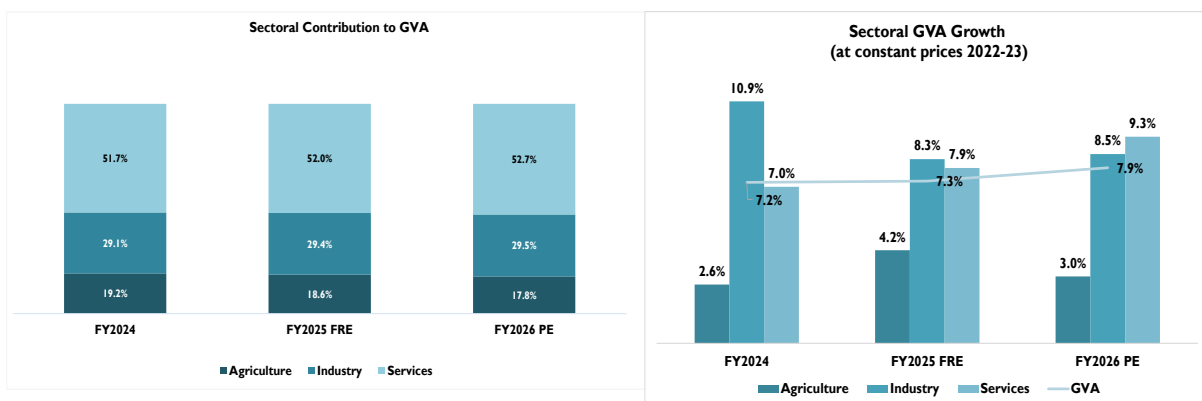
Similarly, Real GVA for FY 2025–26 is estimated to reach INR 294.91 lakh crore, up from INR 273.36 lakh crore in FY 2024–25. This indicates a growth rate of 7.9%, compared with the 7.3% growth achieved in the previous year.

¹ For India, data and forecasts are presented on a fiscal year basis, and GDP from 2022 onward is based on GDP at market prices with fiscal year 2022/23 as a base year



Source: Ministry of Statistics & Programme Implementation (MOSPI), National Account Statistics: FY2025, FRE is First Revised Estimate; PE is Provisional Estimates

Sectoral Contribution to GVA and Annual Growth Trend



Source: Ministry of Statistics & Programme Implementation (MOSPI), CMIE Economics Outlook
FRE is First Revised Estimate; PE is Provisional Estimates²

Sectoral analysis of GVA reveals that the industrial sector experienced steady growth momentum in FY 2026, recording a 7.9% y-o-y growth against 7.3% year-on-year growth in FY 2025. Within the industrial sector, growth moderated across sub-sectors with mining, and construction activities growing by 5.15%, and 7.36%, respectively in FY 2026, compared to 11.69%, and 7.30% in FY 2025. Growth in the utilities sector too moderated to 1.74% in FY 2026 from 2.87% in the previous year. The industrial sector's contribution to GVA increased marginally from 29.4% in FY 2025 to 29.5% in FY 2026.

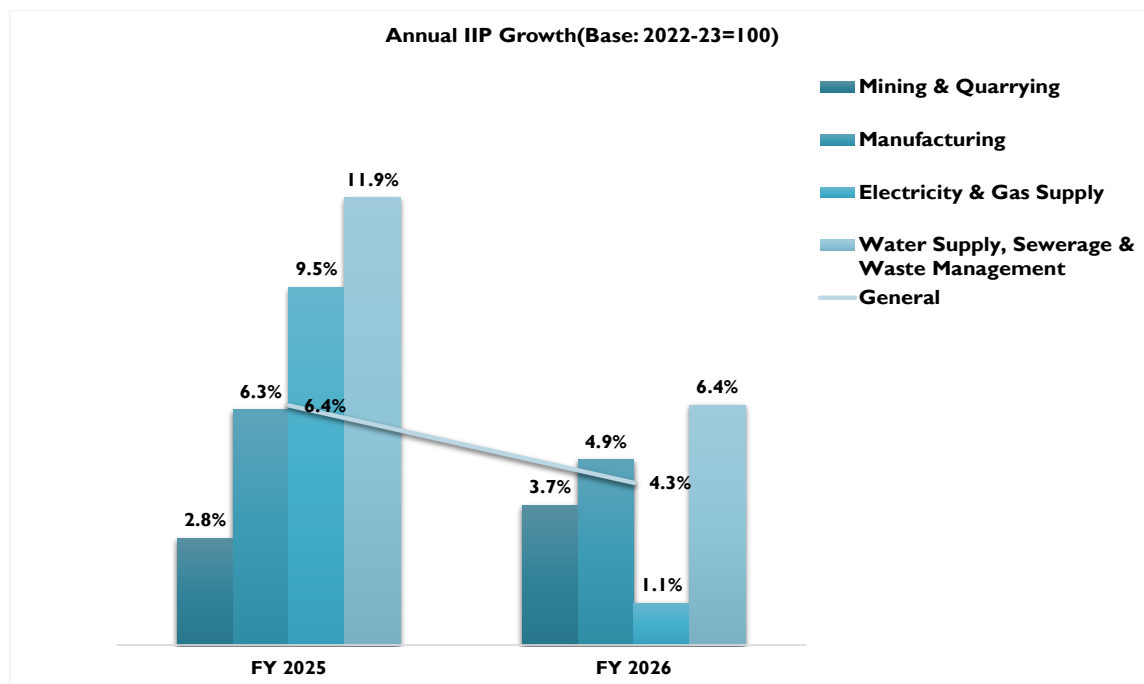
² https://www.mospi.gov.in/uploads/latestReleases/latest_release_1780655857536_5ac01869-ca4a-422d-b7a7-57b81da60932_Press_Note_on_GDP_Estimates_for_Q4_2025-26_and_PE_FY_2025-26_F.pdf

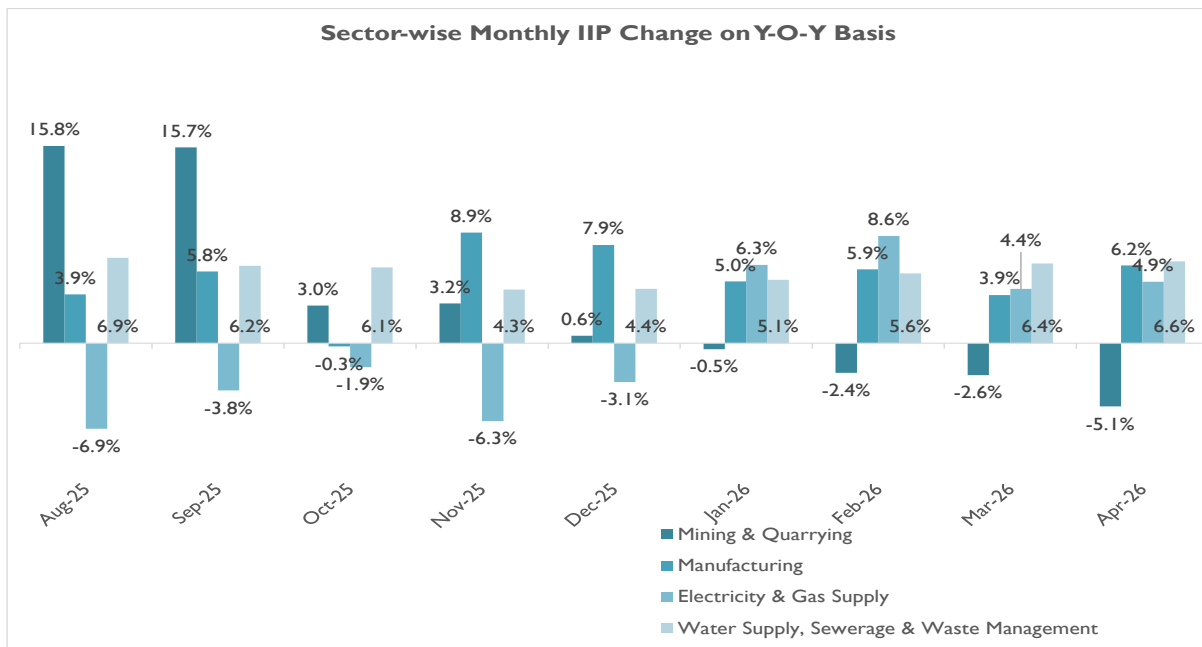
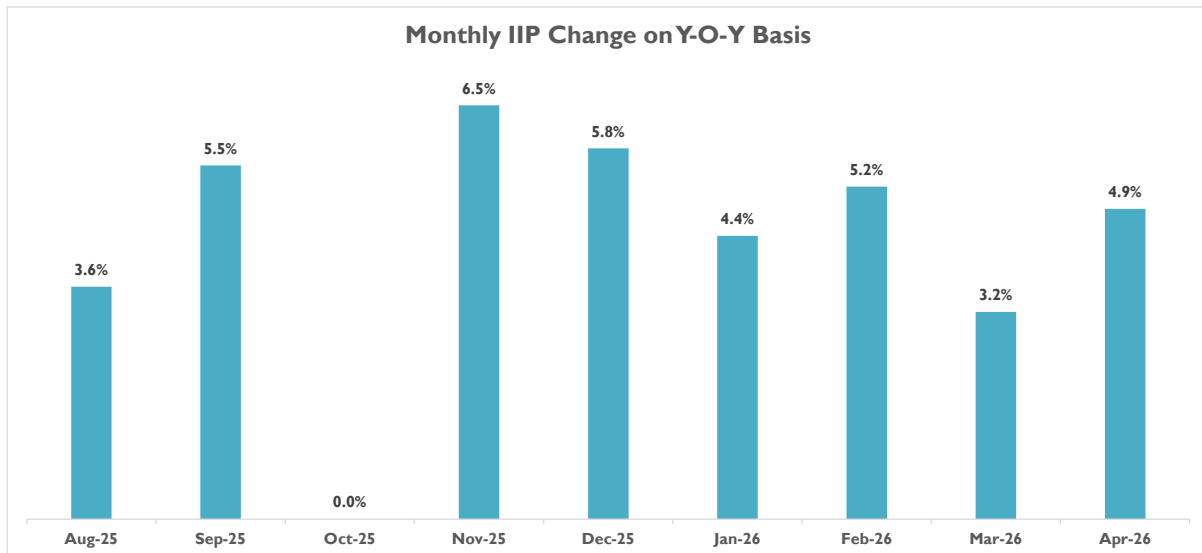
The services sector continued to be the main driver of economic growth. It expanded by 9.3% in FY 2026 from 7.9% in FY 2025. The services sector retained its position as the largest contributor to GVA, rising from 51.7% in FY 2024 to 52.0% in FY 2025, with a further increase to 52.7% in FY 2026.

The agriculture sector saw an acceleration in growth, increasing from 2.66% in FY 2024 to 4.18% in FY 2025, before moderating to 3.0% in FY 2026. However, its contribution to GVA declined marginally from 19.2% in FY 2024 to 17.8% in FY 2026. Overall, Gross Value Added (GVA) growth rose to 7.9% in FY 2026 from 7.3% in FY 2025.

Annual & Monthly IIP Growth

Industrial sector performance as measured by the IIP index exhibited moderation in FY 2026, recording a 4.3% y-o-y growth against 6.4% increase in the previous year. The manufacturing index showed moderation, increasing by 4.9% in FY 2026 compared with 6.3% in FY 2025. The Electricity & Gas Supply sector index also moderated, growing 1.1% in FY 2026 compared with 9.5% in the previous year. Water Supply, Sewerage & Waste Management also moderated by 6.4% in FY 2026 compared with 11.9% in the previous year, while the mining sector index grows by 3.7% in FY 2026 compared with 2.8% in the previous year.



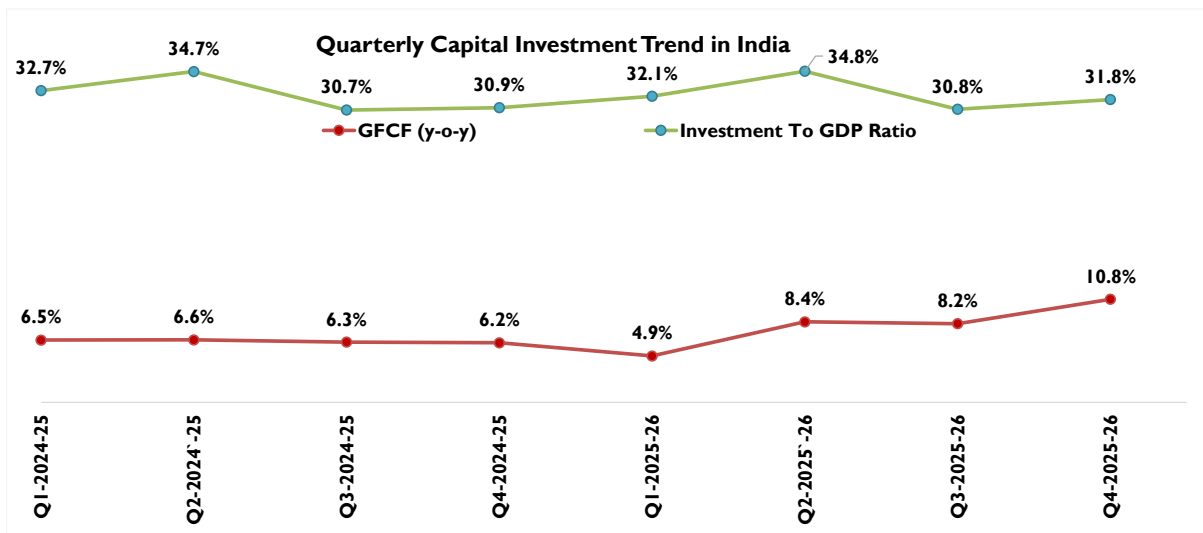
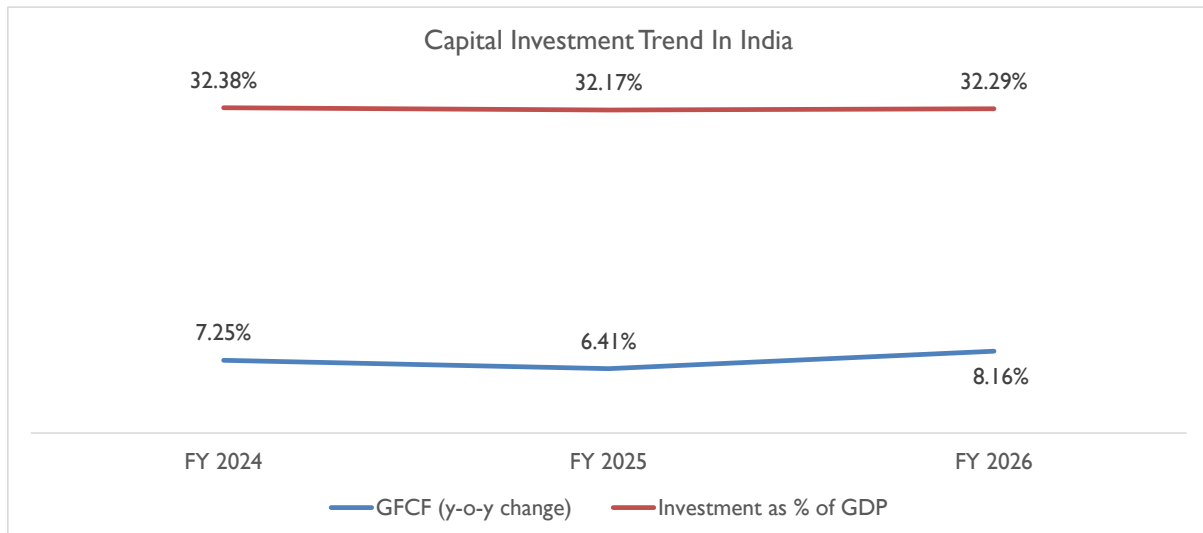


Source: Ministry of Statistics & Programme Implementation (MOSPI)

The IIP growth rate for the month of April 2026 is 4.9 percent as compared to April 2025. The growth rates of the Four sectors, Mining & Quarrying, Manufacturing, Electricity & Gas Supply and Water Supply, Sewerage & Waste Management for the month of April 2026 are (-)5.1 percent, 6.2 percent, 4.9 percent and 6.6 percent respectively

Annual and Quarterly: Investment & Consumption Scenario

Other major indicators, such as Gross Fixed Capital Formation (GFCF), a measure of investment, increased during FY 2026, registering 8.16% year-on-year growth compared with 6.41% in FY 2025, bringing the GFCF-to-GDP ratio to 32.29%.



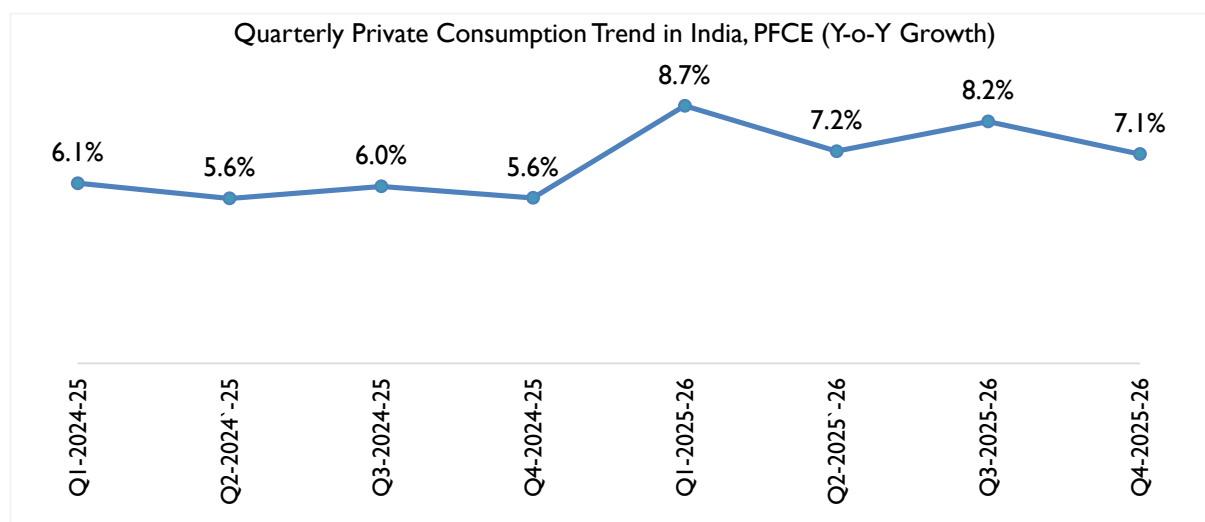
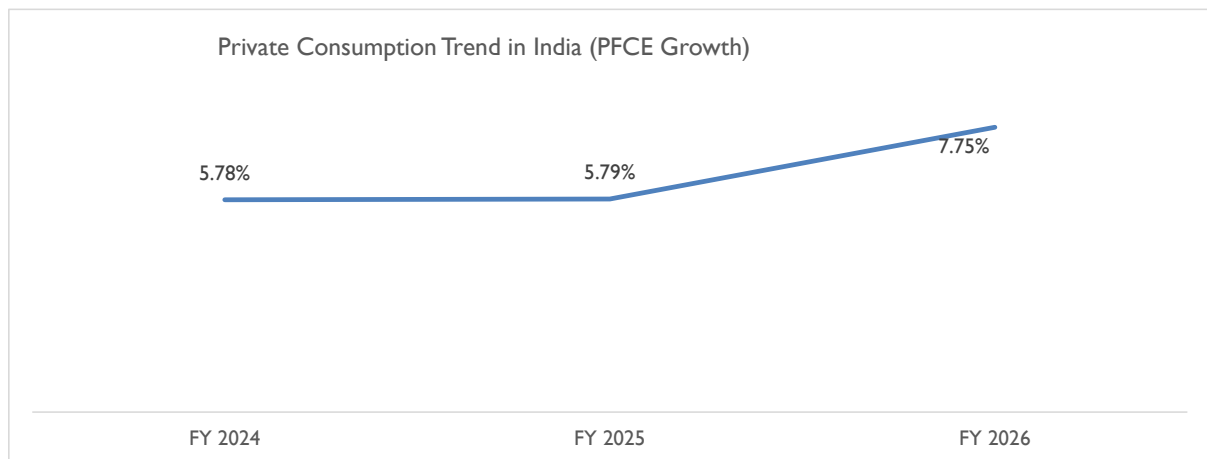
Source: Ministry of Statistics & Programme Implementation (MOSPI), CMIE Economics Outlook

On a quarterly basis, India's capital investment indicators reflect a healthy and improving investment environment, supported by sustained investment intensity and stronger capital formation in recent quarters. The Investment to GDP ratio remained consistently above 30% throughout the period, highlighting continued resilience in capital deployment. The ratio increased from 32.7% in Q1 FY 2024-25 to 34.7% in Q2, before moderating to 30.7% in Q3 and 30.9% in Q4. In FY 2025-26, the ratio improved again to 32.1% in Q1 and further strengthened to 34.8% in Q2, the highest level during the period, before remaining healthy at 30.8% in Q3 and 31.8% in Q4. This indicates that investment activity continued to remain robust despite normal quarterly variations.

GFCF (y-o-y) growth also points toward a positive investment trend, particularly in FY 2025-26. After remaining broadly stable during FY 2024-25, with growth ranging between 6.2% and 6.6%, GFCF growth accelerated meaningfully from 4.9% in Q1 FY 2025-26 to 8.4% in Q2 and 8.2% in Q3, before rising further to 10.8% in Q4. This strong improvement in the second half of FY 2025-26 suggests strengthening fixed capital formation and a revival in investment momentum. Overall, the data indicates that India's capital investment

landscape remains on a positive trajectory, with sustained investment levels and improving GFCF growth reflecting stronger capital spending, better investment confidence, and continued support for economic growth.

Private Consumption Scenario



Sources: MOSPI, CMIE Economics Outlook

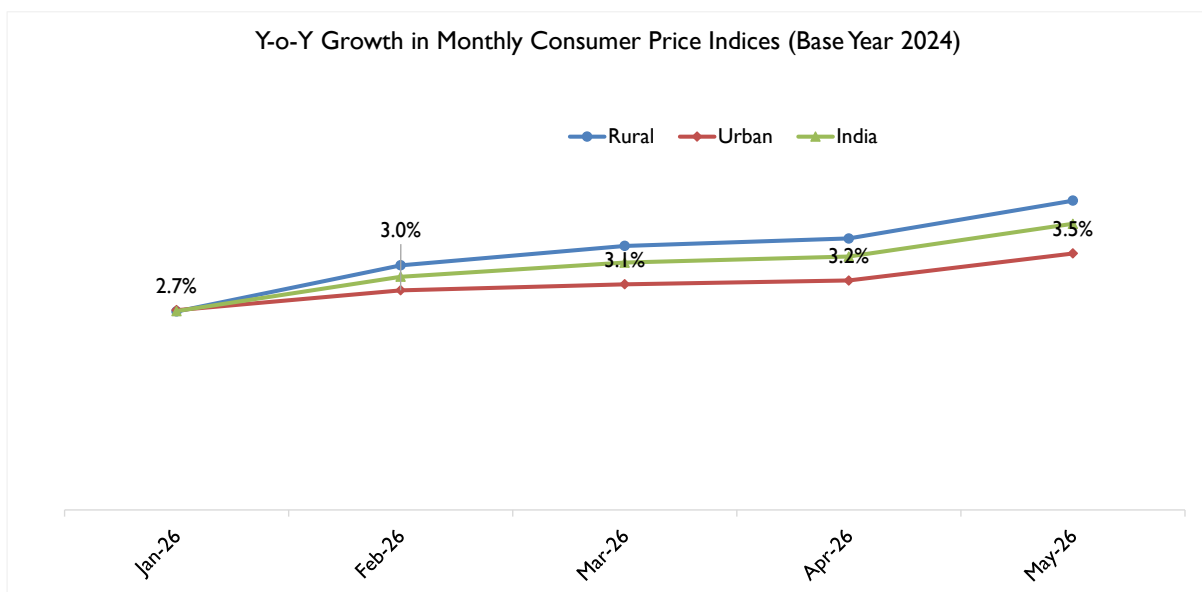
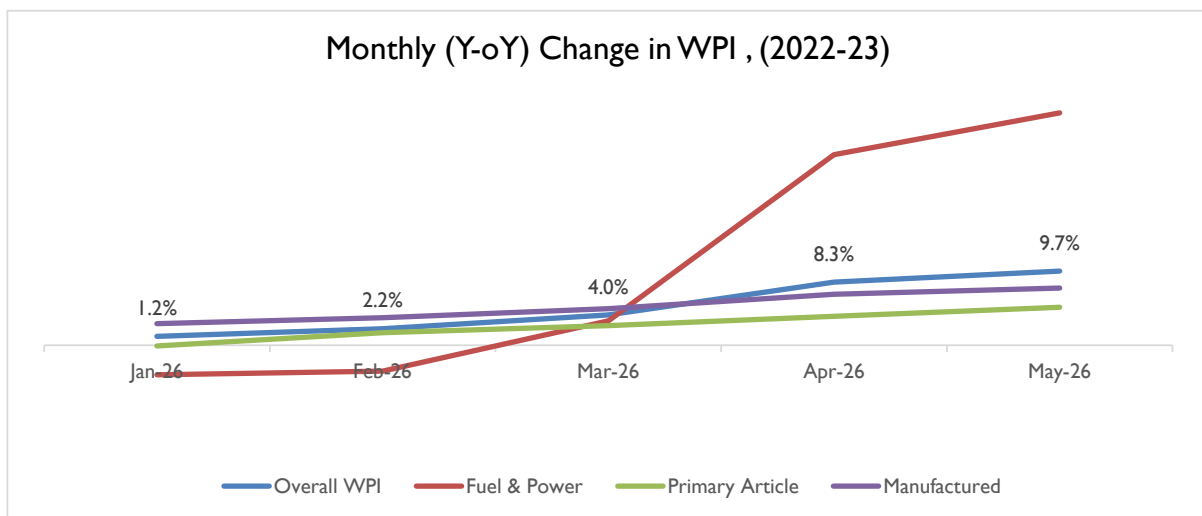
Private Final Consumption Expenditure (PFCE), a practical proxy for household spending, recorded growth in FY 2026 relative to FY 2025. PFCE recorded healthy growth in FY 2025-26 relative to FY 2024-25. However, quarterly PFCE growth moderated sequentially to 7.1% in Q4 FY 2025-26 from 8.2% in Q3 FY 2025-26

Inflation Scenario

The annual rate of inflation based on All India Wholesale Price Index (WPI) number is 3.88% (provisional) for the month of March 2026 (over March 2025). Positive rate of inflation in March 2026 is primarily due to increase in prices of crude petroleum & natural gas, other manufacturing, non-food articles, manufacture of basic metals and food articles etc.

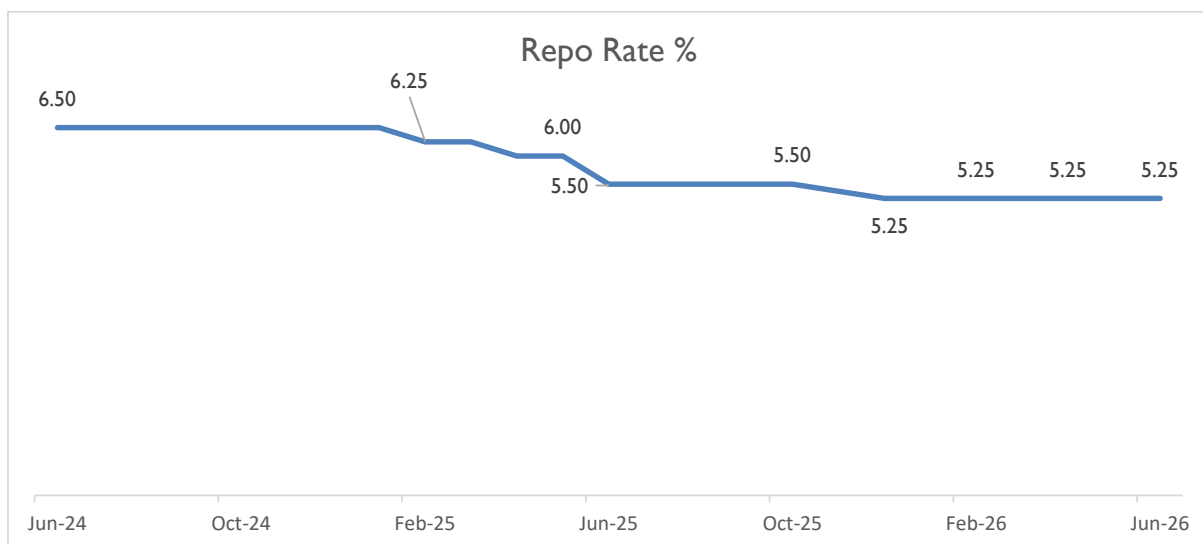
All India Wholesale Price Index (WPI) inflation for May 2026 is 9.68 per cent on year-on-year (YoY) basis, compared to 8.26 per cent in April 2026. The index for All Commodities for May 2026 stands at 109.9, whereas it was 108.8 in April 2026. Across Groups, 'Mineral Oils (containing Petroleum Products)', 'Crude Petroleum and Natural Gas', 'Manufacture of Chemicals and Chemical Products', and 'Manufacture of Basic Metals', have been major drivers of WPI inflation in April and May 2026.

Across Major Groups, YoY inflation for Primary Articles, Fuel and Power, and Manufactured Products is 4.99 per cent, 30.33 per cent, and 7.48 per cent, respectively in May 2026, whereas it was 3.78 per cent, 24.89 per cent, and 6.68 per cent, respectively, in April 2026. The indices for Primary Articles, Fuel and Power, and Manufactured Products are 113.7, 113, and 107.8, respectively, in May 2026, whereas they were 112.6, 110.9, and 107, respectively, in April 2026.



Source: MOSPI, Office of Economic Advisor

With effect from January 2026, the National Statistics Office (NSO) introduced a revised CPI series with base year 2024=100, drawing revised item weights from the Household Consumption Expenditure Survey (HCES) 2023-24. Year-on-year inflation rate based on All India Consumer Price Index (CPI) with base year 2024 for the month of May, 2026 over May, 2025 is 3.93%(Provisional). Corresponding inflation rates for rural and urban are 4.25% and 3.53%, respectively. On the monetary policy front, the RBI had cumulatively raised the repo rate by 250 basis points between May 2022 and February 2023, bringing it to 6.50%, where it was held steady through January 2025 to anchor inflationary expectations. With inflation moderating below target and growth requiring support, the RBI's Monetary Policy Committee (MPC) commenced an easing cycle in February 2025, delivering a cumulative 125 basis points of rate cuts through four reductions — 25 bps each in February 2025, April 2025, and December 2025, and a larger 50 bps cut in June 2025 — interspersed with pauses in August and October 2025. The repo rate currently stands at 5.25%, in June 2026.



Sources: CMIE Economic Outlook

Growth Outlook

The Union Budget 2026–27 sets out a quantitatively strong push to build resilient supply chains and develop next-generation industrial capacity. The record ₹12.2 trillion capital expenditure outlay is aimed at easing logistics bottlenecks and enhancing India's cost competitiveness. Employment measures extend across both urban and rural India in one sweep. In cities and large towns, capex is channelled into “connectors” such as the seven proposed high-speed rail corridors and upgraded Tier-2 and Tier-3 infrastructure, thereby creating construction, logistics, and service jobs while cutting commute times. In smaller towns and villages, job creation is expected to be supported by mega textile parks, the Mahatma Gandhi Gram Swaraj Initiative's push for khadi and handloom, training for tourist guides, and new waterways and coastal shipping. Together, these steps broaden the wage base instead of providing a short-term bump.

This domestic push is complemented by targeted measures to strengthen strategic supply chains. Dedicated rare earth corridors in Odisha, Kerala, Andhra Pradesh, and Tamil Nadu; customs exemptions for capital

goods used in critical mineral processing and battery cells; and the India Semiconductor Mission 2.0 aim to pull manufacturing deeper into components and materials. If executed well, these measures could reduce import dependence in magnets, batteries, and chip inputs and lift the share of higher-productivity manufacturing jobs — thereby raising household incomes durably.

Alongside these domestic measures, India is also seeking to strengthen its external trade architecture through major trade agreements. The conclusion of the India–EU FTA negotiation marks a major strategic milestone, as it offers near-universal market access for 99.5% of India’s exports by value and integrates India more deeply into a USD 24 trillion economic bloc. By providing duty-free entry for key labour-intensive sectors, expanding services access, and establishing a mobility framework for Indian professionals, the deal is expected to improve market access, support export competitiveness and high-value job creation. It is likely to promote a predictable, rules-based environment for long-term trade and investment flows.

In a similar vein, India–Oman Comprehensive Economic Partnership Agreement (CEPA)³ has been framed as a comprehensive arrangement covering trade in goods and services, investment, professional mobility, and regulatory cooperation, with the objective of strengthening bilateral economic integration between India and Oman. Bilateral trade between the two countries stood at USD 10.61 billion in FY 2024–25, providing the economic basis for the agreement. Under the CEPA, India has secured 100% duty-free market access in Oman across 98.08% of tariff lines, covering 99.38% of India’s export value, thereby improving export competitiveness across sectors such as engineering goods, pharmaceuticals, agriculture and processed food, electronics, textiles, plastics, and gems and jewellery. At the same time, India has adopted a calibrated liberalisation approach by offering tariff concessions on 77.79% of its tariff lines, covering 94.81% of imports from Oman by value, while retaining safeguards for sensitive domestic sectors. The agreement also provides gains in services, with Oman undertaking commitments across 127 services sub-sectors, alongside improved provisions for professional mobility, including an increase in the Intra-Corporate Transferee ceiling from 20% to 50% and commitments for a defined category of Indian professionals. Overall, the CEPA is presented as a framework intended to support trade expansion, improve market access, and strengthen long-term economic cooperation between India and Oman.

However, these gains remain exposed to external geopolitical risks. The escalation of the Middle East crisis represents an external shock for India, transmitted primarily through energy markets, logistics, and trade-linked business exposure. The Gulf–Levant 11⁴ (GL 11) economies account for around 15% of India’s merchandise exports and 21% of its imports, with trade concentrated in high-value categories such as mineral

³ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2213203®=3&lang=1>

The Comprehensive Economic Partnership Agreement (CEPA) between India and Oman marks a meaningful step forward in the economic relationship between the two countries. The agreement brings together trade in goods and services, investment, professional mobility, and regulatory cooperation under a single, coherent framework aimed at deepening bilateral economic integration.

⁴ For the purposes of this report, the analysis is confined to a defined group of countries referred to as the Gulf–Levant 11 (GL-11). This group comprises Bahrain, Iran, Iraq, Israel Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. These economies are treated collectively because they are either directly involved in, or immediately exposed to, the current crisis through geographic proximity, security linkages, energy production and transit, or their role as regional trade and financial hubs

fuels, precious metals, and electronics; disruptions in this region therefore have an outsized impact despite its modest share of global GDP.

Export exposure is unevenly distributed across India, with risks concentrated in specific districts that serve as production hubs. Discretionary exporters, such as gems and jewellery firms in the districts of Surat, Jaipur, and Mumbai; apparel manufacturers in Tiruppur; automotive producers in Ahmedabad; and electronics assemblers in Kanchipuram and Kolar, are vulnerable to demand slowdown and order deferrals in Gulf markets.

At the same time, Perishable agricultural exporters, including grapes from Nashik, bananas from Solapur, and bovine meat from Ghaziabad, face acute risks from shipping delays and logistics disruptions. Dun & Bradstreet data show that over 4,500 Indian exporters and around 1,800 importers relied on the Strait of Hormuz trade route in 2025, exposing them to working capital stress, payment delays, and production interruptions, while, for import-dependent industries, delays in critical inputs raise the risk of temporary shutdowns and sustained energy price volatility amplifies margin pressure across manufacturing and services.

Key Growth/Demographic Drivers for Economic Growth

Government focus on infrastructure development

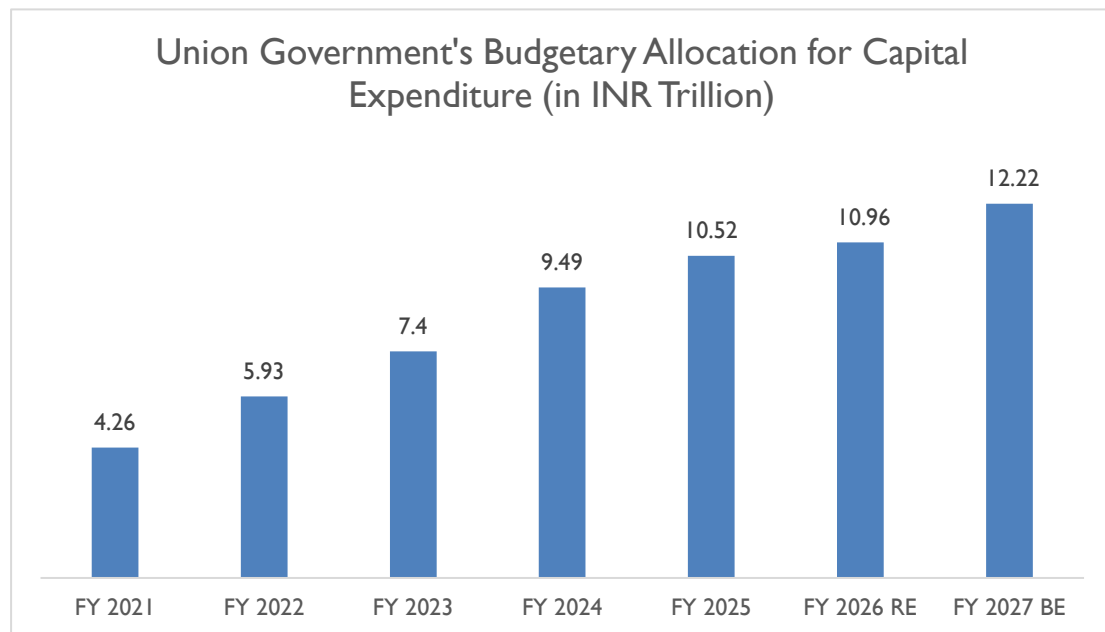
The infrastructure sector has received a strong boost in Budget FY'27, marked by a record INR 12.2 trn⁵ public capital expenditure allocation, reinforcing the government's focus on making assets more efficient and sustainable. The introduction of the landmark Infrastructure Risk Guarantee Fund aims to provide partial credit guarantees to lenders and revitalise private sector participation in large-scale projects. By lowering project risk premiums and easing borrowing costs, this mechanism is likely to help crowd in private capital and accelerate construction phase financing across the sector. The transport and logistics sector, in particular, will buoy infrastructure growth. Railways have received a substantial boost in allocation, which will help support the planned development of seven new high-speed rail corridors and a Dankuni-Surat DFC⁶, which aims to cut logistics costs and improve national connectivity. Moreover, the rollout of 20 new National Waterways, new ship repair hubs and a scheme to double the share of coastal and inland water transport from 6.0% to 12.0% by 2047⁷ will together build a greener, more efficient multimodal freight network. Urban transformation continues through targeted development of Tier-2 and Tier-3 cities – with populations over 0.5mn – alongside the creation of City Economic Regions, each supported by multi-year, challenge-based financing to establish new growth hubs and reduce pressure on metros. A broader ecosystem of reforms strengthens medium-term sector prospects. The government aims to scale domestic construction and infrastructure equipment manufacturing, reducing import dependence and improving execution capability in tunnelling, metro construction and road building machinery. The monetisation of CPSE assets will be accelerated through dedicated REIT⁸ structures, helping unlock liquidity for redevelopment and new project pipelines. Additional support flows through region-specific initiatives, such as industrial corridor expansion, and tourism development in cultural and Buddhist heritage zones will further reinforce construction demand. Together, these measures will strengthen India's infrastructure ecosystem through higher public investment, improved risk mitigation tools and wider multimodal connectivity – creating a constructive environment for sustained growth in construction, logistics and urban development.

⁵<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2222521®=3&lang=1#:~:text=Reinforcing%20the%20role%20of%20public,productive%20capacity%20across%20the%20economy.>

⁶ <https://prsindia.org/budgets/parliament/demand-for-grants-2026-27-analysis-railways>

⁷ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2221817®=3&lang=1>

⁸ https://www.hindustantimes.com/real-estate/budget-2026-eyes-dedicated-reits-for-cpse-asset-monetisation-what-it-means-for-investors-101769942312710.html#google_vignette



Union Budget, Government of India

Note: BE (Budget Estimates) and RE (Revised Estimates)

Development of Domestic Manufacturing Capability

The Government launched the Production Linked Incentive (PLI) scheme in early 2020, initially aimed at improving domestic manufacturing capability in large-scale electronic manufacturing and gradually extended to other sectors. At present it covers 14 sectors, ranging from medical devices to solar PV modules. The PLI scheme provides incentives to companies on incremental sales of products manufactured in India. This incentive structure is aimed at attracting private investment into setting up manufacturing units and thereby strengthening domestic production capabilities. The overall incentive outlay earmarked for the PLI scheme is estimated to be INR 2 trillion. If fully realised, the PLI scheme could add nearly 4% to annual GDP growth, by way of incremental revenue generated from the newly formed manufacturing units.

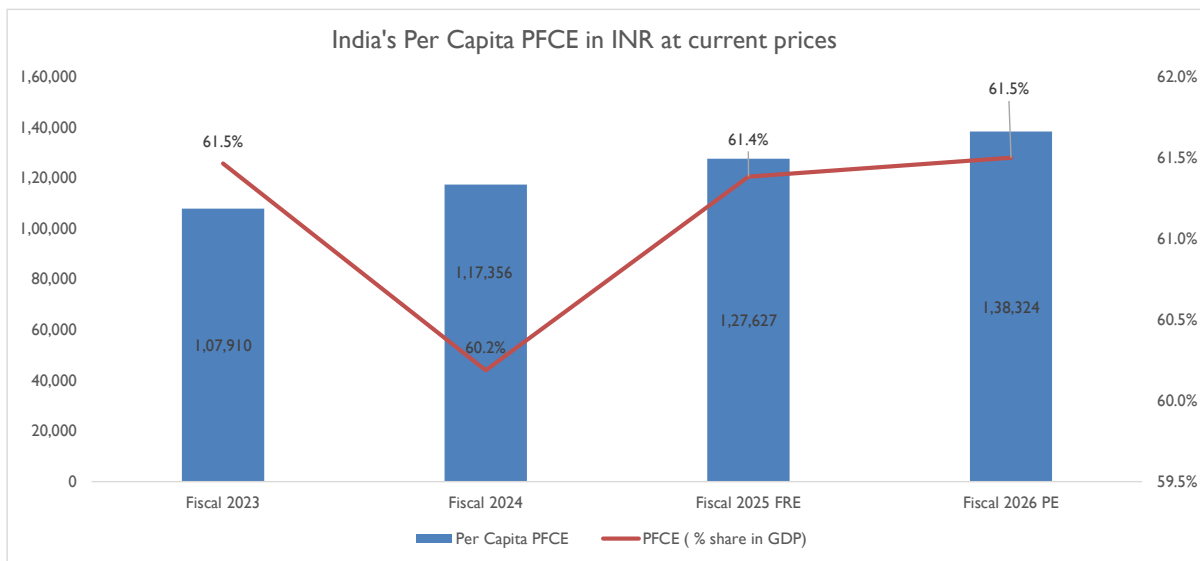
Strong Domestic Demand

Domestic demand has traditionally been one of the key drivers of the Indian economy. After a brief lull caused by the Covid-19, domestic demand is recovering. Consumer Confidence surveys by the Reserve Bank and other institutions point to an improvement in the Consumer Confidence Index, which is a precursor of improving demand. India has a strong middle-class segment, which has been the major driver of domestic demand. Factors like fast paced urbanization and improving income scenario in rural markets are expected to accelerate domestic demand further. This revival is reflecting in the private final consumption expenditure (PFCE) metric.

India's per capita Private Final Consumption Expenditure (PFCE) at current prices has shown a consistent upward trend, indicating steady improvement in household consumption levels over the years. Per capita PFCE increased from INR 1,07,910 in Fiscal 2023 to INR 1,17,356 in Fiscal 2024, and further rose to INR 1,27,627

in Fiscal 2025 FRE. It is estimated to increase further to INR 1,38,324 in Fiscal 2026 FE, reflecting continued growth in consumer spending and improving consumption capacity.

PFCE as a share of GDP also remained healthy during the period, broadly staying above 60%. The share stood at 61.5% in Fiscal 2023, moderated to 60.2% in Fiscal 2024, before recovering to 61.4% in Fiscal 2025 FRE and further improving to 61.5% in Fiscal 2026 FE. This indicates that private consumption continues to remain a key driver of India's economic growth. Overall, the steady increase in per capita PFCE, along with a stable PFCE share in GDP, reflects resilient household demand and sustained consumption momentum in the economy.



Source: Ministry of Statistics & Programme Implementation (MOSPI)

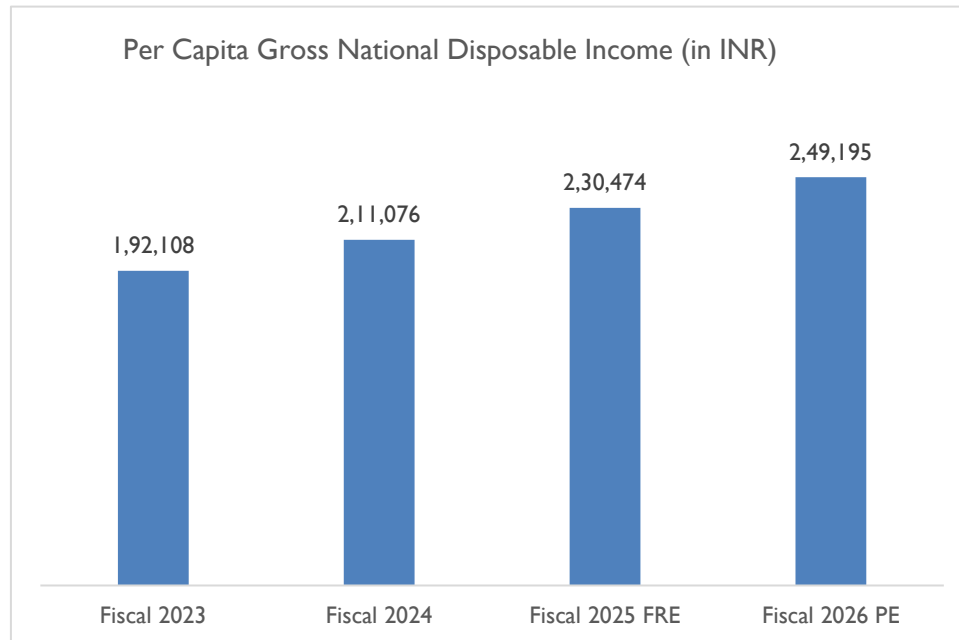
FRE is First Revised Estimate; PE is Provisional Estimates

There are two factors driving this domestic demand: first, the large pool of consumers; and second, the improvement in purchasing power.

- The share of middle class increased from nearly 14% in 2005 to nearly 30% in 2021 and is expected to cross 60% by 2047⁹. This expanding middle class household segment is fuelling India's growth story and would continue to play a key role in propelling India's economic growth.
- Consumer-driven domestic demand is majorly fuelled by this growth in per capita income. As per National Statistics Office (NSO), India's per capita Gross National Disposable Income (GNDI) has shown a steady upward trend, reflecting improvement in overall income levels and disposable income capacity. Per capita GNDI increased from INR 1,92,108 in Fiscal 2023 to INR 2,11,076 in Fiscal 2024 and further rose to INR 2,30,474 in Fiscal 2025 FRE. It is estimated to increase further to INR 2,49,195 in Fiscal 2026 PE, indicating continued growth in income levels across the economy. The consistent

⁹ As per the survey conducted by People Research on India's Consumer Economy. Households with annual income in the range of INR 5 – 30 lakh are considered as middle-class households.

rise in per capita GNDI highlights strengthening purchasing power and improving household income conditions, which can support consumption demand going forward. Overall, the trend reflects a positive income environment, with rising disposable income expected to contribute to sustained private consumption and broader economic growth.



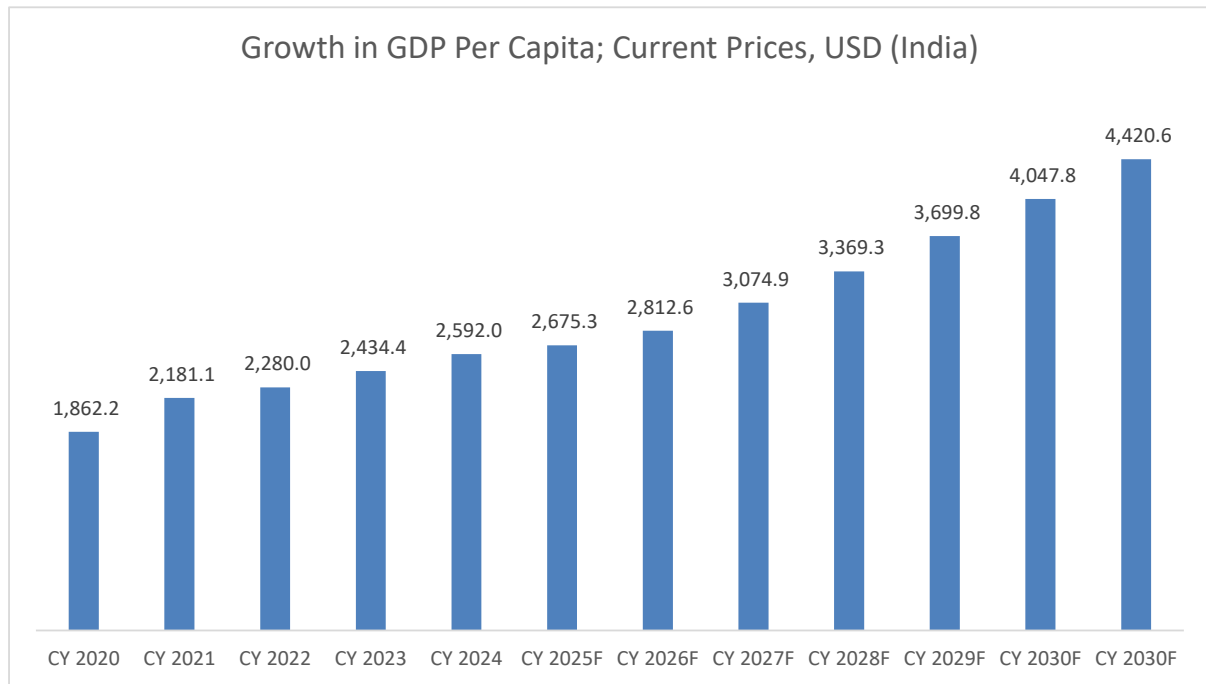
Source: Ministry of Statistics & Programme Implementation (MOSPI)

FRE is First Revised Estimate; PE is Provisional Estimates

India's Per Capita GDP Trends

India is poised to become the world's third-largest economy with a projected GDP of USD 5 trillion within the next three years, driven by ongoing reforms. As one of the fastest-growing major economies, India currently holds the position of the fifth-largest economy globally, following the US, China, Japan, and Germany. By 2027-28, it is anticipated that India will surpass both Germany and Japan, reaching the third-largest spot. This growth is bolstered by a surge in foreign investments and a wave of new trade agreements with India's burgeoning market of 1.4 billion people. The aviation industry is witnessing unprecedented orders, global electronics manufacturers are expanding their production capabilities, and suppliers traditionally concentrated in southern China's manufacturing hubs are now shifting towards India.

To achieve its vision of becoming the world's third-largest economy by 2027-28, India will need to implement transformative industrial and governmental policies. These policies will be crucial for sustaining the consistent growth of the nation's per capita GDP over the long term.

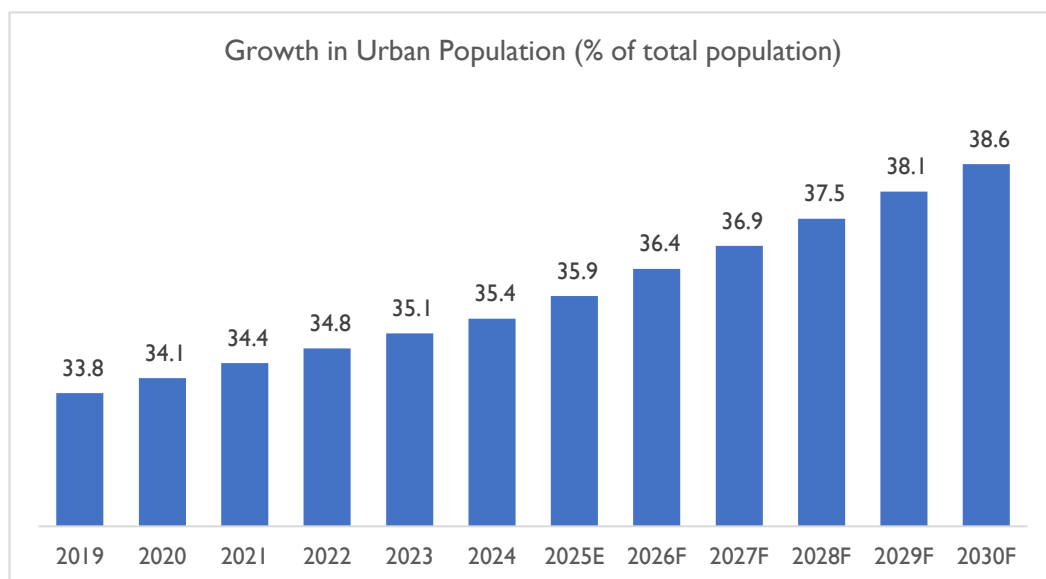


Source: IMF

From CY 2024 to CY 2031, India's per capita GDP is projected to grow at a compound annual growth rate of 7.9%. This growth will be driven by the service sector, which now accounts for over 50% of India's GDP, marking a significant shift from agriculture to services.

Increasing Urbanization

As per the Handbook of Urban Statistics 2022, India's urban population has been on a steady rise. Urban dwellers accounted for over 469 million in 2021 and are projected to rise to over 558 million by 2031 and further exceed 600 million by 2036.



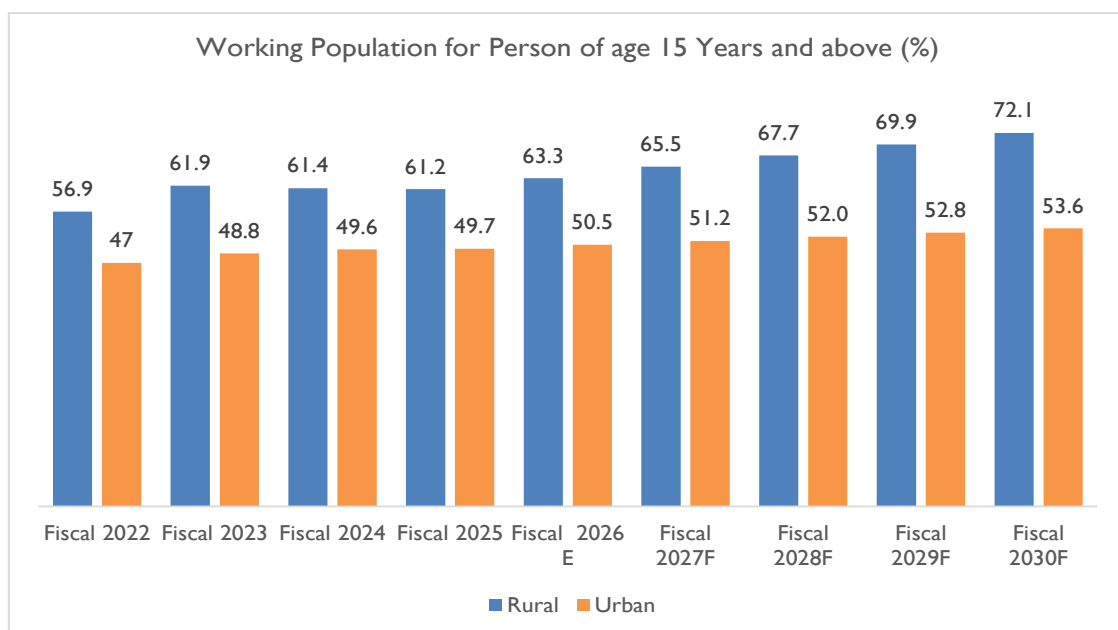
Source: World Bank,¹⁰ Dun & Bradstreet Research and Estimates

¹⁰<https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?end=2022&locations=IN&skipRedirection=true&start=1960&view=chart>

The share of urban population in total population has been rising steadily. In 2019, 33.81% of the total population was urban. By 2025, it had reached 35.9%, showing an increase over a span of five years of about 2.10%. The share of urban population is further forecasted to cross 38.6% by 2030. This increase in urban population is set to demand drastic changes in infrastructure development. Cities are a major driver for the construction industry. With cities expanding rapidly, there will be an increased need for improved housing, water supply, sewage systems, and electricity. Urban planning will need to account for higher population densities, necessitating the development of smart cities with integrated technology for efficient management of resources and services. The Smart Cities Mission targeted at 100 cities is aimed at improving the quality of life through modernised, technology-driven urban planning. This transformation will also require significant investment in public health, education, and recreational facilities to enhance the quality of urban living. The surge in urban population will also propel demand for improvement in multimodal transport infrastructure for freight and passenger travel requirements.

Rural vs. Urban Working Population by Age Group

As India continues to experience economic growth and development, the working population in both rural and urban areas is increasing. In the case of the urban population, this growth is reflected in the increase from a share of 47% in FY22 to 49.7% in FY25, whereas in rural areas, it grew from 56.9% in FY22 to 61.2% in FY25. This growth is driven by a combination of factors, including demographic changes, economic policies, and the expansion of various industries. The rise in employment opportunities across sectors such as agriculture, manufacturing, services, and information technology has contributed to the overall increase in the working population, thereby fostering economic stability and enhancing the standard of living for many Indians.



Source: Periodic Labour Force Survey (PLFS) Annual Report, Dun & Bradstreet Research and Estimates

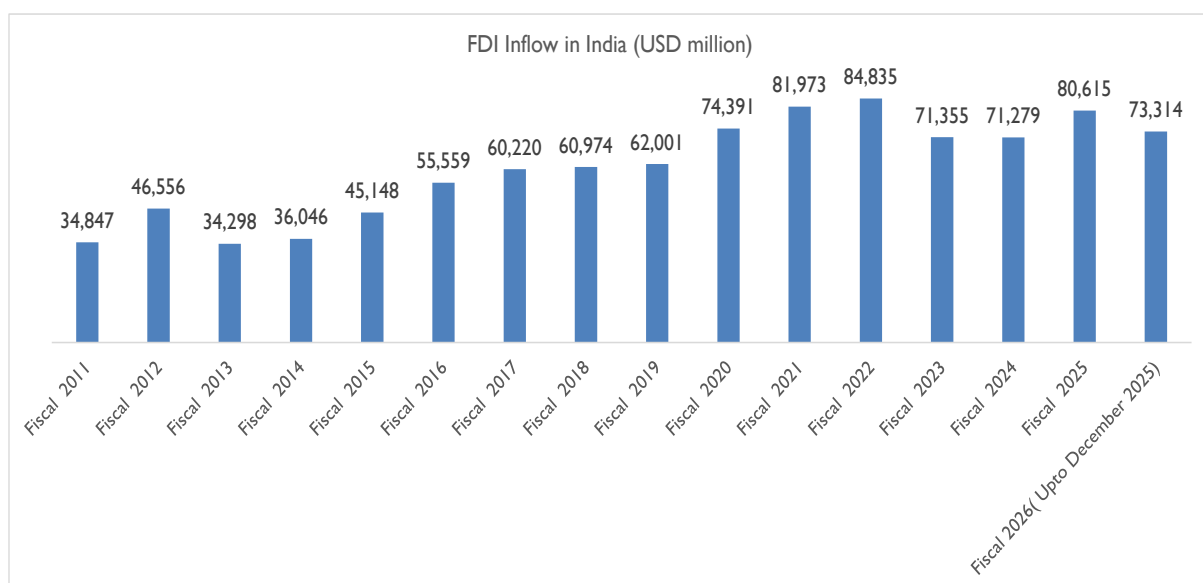
Note: 2025 refers to the period January 2025 – December 2025 and likewise for 2024, 2023 and 2022

In urban areas, the working population is growing rapidly due to the proliferation of jobs in sectors like IT, finance, retail, and healthcare. Additionally, the development of infrastructure, such as improved transportation networks and housing, has made urban centers more accessible and desirable for the working population. In rural areas, the working population remains substantial, primarily due to the dominance of the agricultural sector. Government initiatives aimed at rural development, such as improved access to education and skill development programs, have also played a crucial role in enhancing employment prospects in these regions.

The dominance of the rural working population over its urban counterpart can be attributed to the labour-intensive nature of the agricultural sector, which ensures a consistent demand for human labor despite advancements in mechanization, sustaining employment rates in rural areas.

Foreign Direct Investment Trend in India

FDI inflows in India observed a steady increase from FY 2013 to FY 2022 while it witnessed a decline of 15% in FY 2023 and a decline of 0.1% in FY 2024 due to several factors, including the ongoing conflict between Russia and Ukraine, changes in US monetary policy, and other global uncertainties. However, the country has received substantial FDI inflows from April 2000 to December 2024. This increasing FDI can be attributed to the new investment facilitation measures like the National Single-Window System (NSWS), which streamlines the approval and clearance process for investors, entrepreneurs, and businesses, along with sectoral measures and PLI schemes, supporting growth prospects in tier-2 and tier-3 cities. Further, tax compliance for startups and foreign investors has been simplified and the Income Tax Act, 1961, was amended in 2024 to abolish angel tax and to reduce income tax rate chargeable on income of a foreign company.

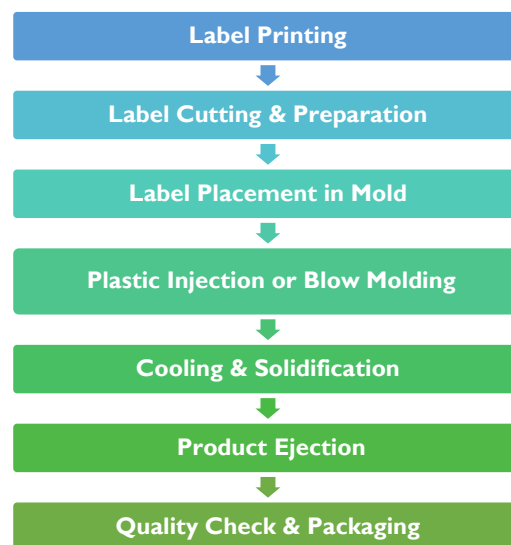


Sources: Department for Promotion of Industry and Internal Trade

In Mold Labelling & Plastic Packaging

Overview

In-Mold Labelling (IML) is a process used primarily in plastic packaging where a pre-printed label is placed inside a mold before the plastic is injected or blown into it. During the molding process, the label fuses with the plastic surface, becoming an integral part of the final product. This eliminates the need for additional post-molding labelling and ensures that the label is durable, tamper-proof, and resistant to moisture and wear. IML is commonly used for containers, tubs, bottles, and lids in industries such as food and beverage, cosmetics, and household products.



The In-Mold Labelling (IML) process begins with the printing of labels on special substrates, usually polypropylene, which are compatible with the plastic used in the molding process. These labels are pre-cut and precisely positioned inside the mold using robotic arms or electrostatic placement systems. Once the label is in place, molten plastic is injected (in injection molding) or blown (in blow molding) into the mold cavity. As the plastic takes shape, it permanently fuses with the label, embedding it into the surface of the molded item.

After the molding cycle is complete, the product is ejected from the mold with the label seamlessly integrated into its surface. This eliminates the need for additional labelling steps, reducing overall production time and cost. The result is a high-quality, durable product with scratch-resistant and moisture-proof labelling. The IML process is widely adopted in packaging industries due to its efficiency, consistency, and ability to deliver vibrant, high-resolution graphics directly on the container.

Key attributes of In-Mold Labelling (IML):

- **Durability and Resistance:** IML ensures that the label becomes an integral part of the molded product, making it highly durable and resistant to wear. The label is fused directly into the plastic surface, offering superior protection against scratches, moisture, chemicals, and UV exposure. This makes IML ideal for packaging that requires long-lasting visuals and withstands harsh handling conditions. It's especially useful in industries such as food packaging, automotive components, and household products. The label remains intact throughout the product's life cycle without fading or peeling.
- **High-Quality Graphics:** In-Mold Labels can be printed with high-resolution images and vibrant colors, offering premium visual appeal. Techniques like offset and gravure printing provide photographic-quality graphics, making the packaging stand out on retail shelves. Since the label is embedded in the product, there's no risk of air bubbles, misalignment, or wrinkles ensuring a clean, professional finish. Complex designs, branding elements, and barcodes can all be included without compromising clarity. This attribute significantly enhances the brand's visibility and perception.
- **Efficiency in Production:** IML streamlines the manufacturing process by combining labelling with molding, eliminating the need for separate labelling steps. This integration reduces production time, labor costs, and material handling. With automated robotic systems placing the labels, the process becomes more consistent and less prone to human error. The overall production cycle becomes more efficient and scalable, making it suitable for high-volume manufacturing. This is particularly advantageous for industries focused on speed-to-market and operational optimization.
- **Recyclability and Sustainability:** Since both the label and the container are usually made from the same type of plastic (e.g., polypropylene), IML products are easier to recycle. There's no need to remove labels before recycling, simplifying the sorting and reprocessing stages. This mono-material composition aligns well with increasing environmental regulations and consumer demand for sustainable packaging. It also reduces waste generated from adhesives, paper labels, and post-labelling processes. As sustainability becomes a key priority, IML supports eco-conscious manufacturing practices.
- **Enhanced Product Protection:** IML not only enhances appearance but also serves a functional role in protecting the product. The embedded label acts as a barrier against contaminants, ensuring that the printed surface doesn't peel or degrade over time. In sectors like food and pharmaceuticals, this contributes to better hygiene and regulatory compliance. The non-peeling nature also helps deter counterfeiting and tampering, enhancing product security. The protection extends through distribution, retail display, and consumer use.
- **Design Flexibility:** IML supports a wide variety of shapes, sizes, and surface finishes glossy, matte, textured, or transparent. Designers have the freedom to customize containers with wrap-around or multi-sided labels, enabling creativity without compromising function. This flexibility is ideal for complex branding requirements and limited-edition product runs. IML also supports interactive features like QR

codes or tactile elements. It empowers brands to differentiate themselves in crowded markets with both aesthetic and functional innovations.

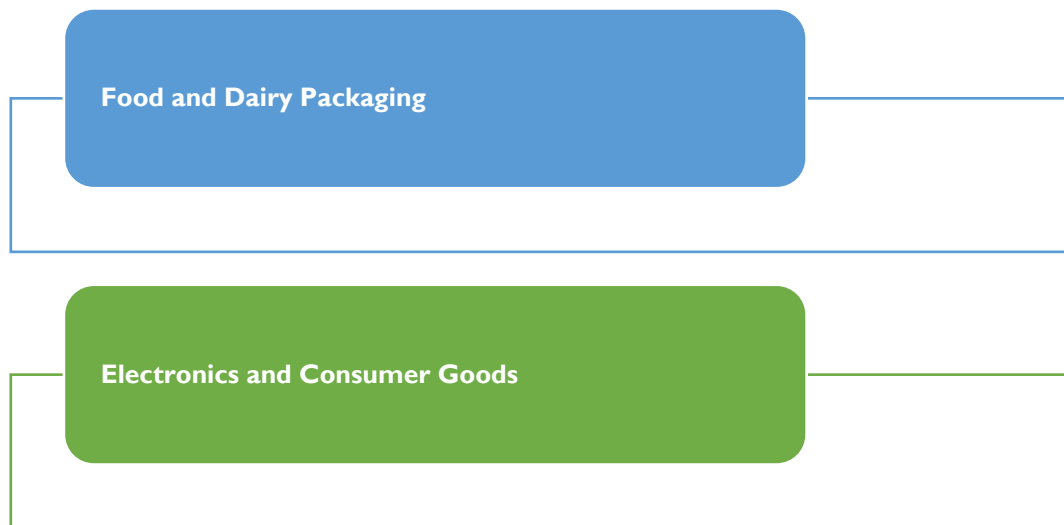
Integration of IML with Various Molding Process

In **injection molding**, IML is most used. Here, a pre-printed label (usually made of polypropylene) is placed into the mold cavity using automation like robots or static charge systems. When molten plastic is injected into the mold, it fuses with the label under high temperature and pressure, creating a durable, fully integrated labelled product. This method is widely adopted in the packaging industry, especially for containers, tubs, and lids, offering high-speed production and excellent visual quality.

In **blow molding**, which is often used for producing hollow plastic parts such as bottles, the IML process is adapted to fit the unique molding steps. The label is placed in the mold before a preform or parison is introduced. When the plastic is blown into the mold, it expands and conforms to the shape and the pre-positioned label. This integration is more technically challenging than injection molding due to the material stretching and label placement during inflation, but it's increasingly used in premium packaging and branding for cosmetic and personal care products.

Thermoforming with IML is a relatively newer application, where a pre-printed label is inserted into the mold, and a heated plastic sheet is then pressed into shape, adhering to the label. This method suits large and shallow packaging applications like trays, clamshells, and food containers. Though more limited in use compared to injection or blow molding, thermoforming IML offers benefits like high-speed production and recyclability, making it suitable for cost-effective yet visually impactful packaging solutions. Each molding process requires specific label materials, adhesives, and application techniques, ensuring compatibility with the thermal and mechanical conditions of the respective molding system.

Key Application Areas



- **Food and Dairy Packaging:** One of the most prominent application areas for In-Mold Labelling (IML) is the food and dairy industry. Products such as yogurt containers, ice cream tubs, cheese trays, and ready-to-eat meal packaging benefit from IML due to its hygienic, tamper-evident, and visually appealing nature. The labels used in IML are often made from the same material as the container, making the entire package recyclable. Furthermore, since the label is integrated during molding, it is highly resistant to moisture, grease, and physical damage qualities that are essential for food-grade packaging in cold and wet environments.
- **Electronics and Consumer Goods:** In the electronics and consumer goods segment, IML is applied to items like remote controls, appliance housings, and consumer electronics casings. The process enables sleek, tamper-proof branding, multilingual labelling, and functional icons to be embedded into the surface of products. The durability of the label ensures that critical information such as operational symbols and regulatory markings remain intact for the life of the product. Additionally, IML can incorporate decorative textures and finishes that give a premium look and feel, enhancing the overall product experience.

Comparative Analysis:

Advantages of In-Mold Labelling (IML):

Superior Durability and Resistance: IML integrates the label into the plastic product during molding, making it highly resistant to water, scratching, UV light, and chemicals. Traditional labels, applied post-production with adhesives, are more prone to peeling, fading, and damage over time especially in harsh environments such as refrigeration or outdoor exposure.

Enhanced Aesthetics and Print Quality: IML allows for high-resolution, photo-quality graphics with full-surface coverage, including wraparound and complex shapes. This results in a seamless, high-quality finish. In contrast, traditional labels may suffer from alignment issues, wrinkling, or visible seams that can reduce visual appeal.

Cost Efficiency in High Volumes: Though initial setup costs for IML (e.g., specialized molds, automation systems) can be high, the process eliminates secondary labelling steps and reduces waste, leading to lower per-unit costs in high-volume production. Traditional labelling may seem cheaper initially but adds labor, adhesive, and time costs for large-scale runs.

Eco-Friendly and Fully Recyclable: Since IML uses label materials (typically polypropylene) that match the container material, the entire product is 100% recyclable. Traditional labels often use different substrates or adhesives that contaminate the recycling stream and require separation before processing.

Tamper-Proof and Hygienic: IML labels are fused with the container, making them tamper-evident and suitable for food-grade and pharmaceutical applications where hygiene and integrity are critical. Traditional labels can be partially removed or defaced, which is a security risk for regulated products.

Disadvantages of In-Mold Labelling (IML)

High Initial Investment: The setup for IML requires specialized equipment like robotic arms, label magazines, and IML-compatible molds. This makes it less attractive for small-scale or custom production runs where traditional labelling methods are more economical and flexible.

Limited Flexibility for Short Runs or Customization: IML is less suitable for frequent design changes or personalized labels, as each label change may require retooling or new print runs. Traditional labelling systems, such as pressure-sensitive or shrink-sleeve labels, offer more flexibility for varied SKUs, seasonal packaging, or promotional campaigns.

Longer Lead Times and Complexity: IML requires precise synchronization between the labeling and molding process, increasing production complexity and lead time. Any error in label placement or static charge issues can halt production. Traditional labels, being applied post-molding, allow for faster prototyping and adjustments.

Material and Process Limitations: Not all label materials are suitable for IML, and the process is limited to certain plastic types like polypropylene. Additionally, adapting IML to certain shapes, especially for thin or highly curved surfaces, can be challenging compared to traditional flexible labels.

Requires Skilled Operation and Maintenance: IML systems need trained operators and regular maintenance of both the robotic placement systems and the molds. In contrast, traditional labeling systems are easier to operate and maintain, especially in manual or semi-automated setups.

Adoption of IML in Plastic Packaging Sector

Overview of Indian Plastic Packaging Sector

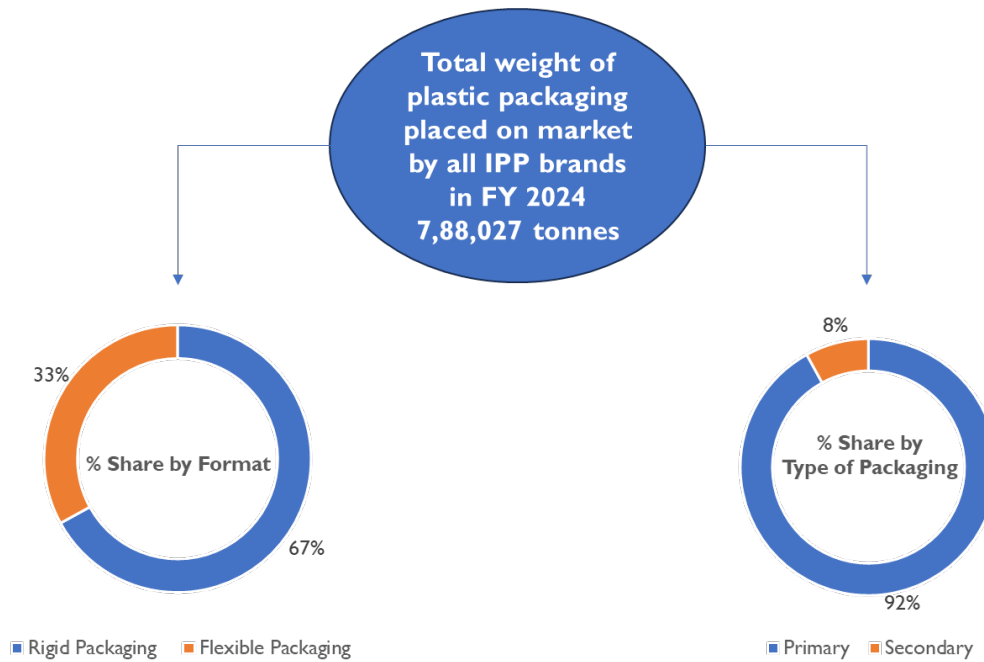
The Indian plastic packaging sector is a vital and rapidly expanding segment of the country's broader packaging industry, driven by increasing demand from FMCG, pharmaceuticals, food and beverage, e-commerce, and retail sectors. Plastic packaging is favoured for its versatility, lightweight nature, durability, cost-effectiveness, and ability to preserve and protect products throughout the supply chain. It includes both rigid plastics (bottles, containers, closures, trays) and flexible plastics (films, pouches, sachets), with flexible packaging witnessing particularly high growth due to its convenience and adaptability.

This sector plays a key role in supporting India's growing consumption of packaged goods, especially among the rising middle class and urban population. The adoption of modern retail formats, expansion of online shopping, and demand for longer shelf-life products have significantly accelerated plastic packaging usage. Additionally, the sector has seen technological advancements such as in-mold labelling, multi-layered films, and biodegradable plastic packaging solutions.

While the sector offers strong growth potential, it also faces increasing regulatory oversight. Under the Plastic Waste Management Rules and Extended Producer Responsibility (EPR) guidelines issued by the Government of India, companies are being mandated to ensure recycling, reuse, or environmentally safe disposal of plastic packaging materials. The shift toward sustainable practices and recyclable materials is encouraging innovation and investments in eco-friendly packaging alternatives, positioning the plastic packaging industry at the intersection of growth and responsible production.

Estimated Market Size of Plastic Packaging in India

India's plastic packaging ecosystem witnessed significant activity in FY 2024, with a total of **7,88,027 tonnes** of plastic packaging placed on the market by all IPP (Importers, Producers, and Packers) brands. This reflects the growing scale of packaged goods consumption across sectors such as FMCG, food and beverage, pharmaceuticals, and e-commerce. A closer look at the composition reveals that **rigid plastic packaging** held the dominant share at **67%**, compared to **33% for flexible packaging**, indicating a strong reliance on sturdy and durable formats for product safety and shelf appeal. Additionally, **primary packaging**, which directly encloses the product, made up a staggering **92%** of total usage, while **secondary packaging**, meant for grouping and transport, accounted for only **8%**. These insights highlight the critical role of primary, rigid plastic packaging in India's supply chains, driven by hygiene standards, consumer convenience, and the need for robust protection in long-distance logistics.



Source: Indian Plastic Pact (IPP), Confederation of Indian Industry (CII)

India's packaging industry is witnessing exceptional growth and has emerged as the **fifth largest sector of the economy**, reflecting its critical role across manufacturing, logistics, retail, and exports. According to the Packaging Industry Association of India (PIAI), the India Packaging Market, valued at USD 50.5 billion in CY 2019, is estimated to have reached USD 85 billion by CY 2024, experiencing a compounded annual growth rate of 11% from CY 2019 to CY 2024. The packaging sector is poised for further development and expected to reach USD 182 billion in CY 2030 (registering average annual growth of 13.5% between 2024-2030). This rapid expansion is fueled by increased demand across multiple sectors, including **FMCG, pharmaceuticals, food and beverages, e-commerce, and organized retail**, all of which require efficient, scalable, and safe packaging solutions.

One of the key beneficiaries of this growth is the **plastic packaging segment**, which is growing at a **CAGR of over 20%**. Plastic packaging is integral to modern supply chains due to its **versatility, lightweight properties, cost-efficiency, and durability**. As Indian consumers increasingly prioritize **convenience, hygiene, and portability**, particularly in packaged food, beverages, medicines, and personal care items, plastic emerges as the preferred packaging material. Its **barrier properties** help extend shelf life, reduce contamination risk, and facilitate easy transport—all essential for meeting rising urban and rural consumption demands.

The **expansion of organized retail chains**, increasing penetration of **online shopping**, and proliferation of **ready-to-consume and pre-packed goods** have intensified the need for **customizable, tamper-proof, and design-flexible plastic packaging formats** like PET bottles, pouches, blister packs, shrink wraps, and multilayer films. Moreover, plastic packaging is well-suited for **high-volume automated**

production lines, making it indispensable for brands aiming to scale operations cost-effectively while maintaining consistency and quality.

Additionally, India's shift toward **value-added, branded, and export-ready products** is propelling innovation in plastic packaging, which offers enhanced visual appeal, better product protection, and compliance with international standards. As a result, the growth of the packaging industry and the rise of plastic packaging are deeply interconnected, with plastic playing a **foundational role in India's transformation into a global manufacturing and consumption hub**.

Indicative Share of Rigid Plastic Packaging Segment

The rigid plastic packaging industry in India has witnessed robust growth in recent years and is projected to expand at a compound annual growth rate (**CAGR**) of **10-12% from FY 2020 to FY 2024**. Rigid plastic packaging comprising items made from resins like PET (Polyethylene Terephthalate), PP (Polypropylene), and HDPE (High-Density Polyethylene) is widely used in manufacturing molded products such as food containers, bottles, cups, tubes, pots, cans, and closures. This form of packaging is steadily replacing traditional materials such as glass, metal, and aluminum in various industries due to its practicality and versatility.

Several factors are fueling the growth of rigid plastic packaging in India. These include increasing demand for cost-effective packaging solutions, technological advancements, evolving consumer preferences toward packaged goods especially among the rising middle class and the expansion of modern retail formats that focus on visual appeal. Additionally, the recyclability and reusability of rigid plastic make it a more sustainable choice compared to flexible plastic, glass, or metal alternatives.

In the Indian market, leading players in this segment include Essel Propack, known globally for laminated tubes, and Pearl Polymers, a key name in rigid container manufacturing. Moldtek has played a pioneering role by introducing In-Mold Labelling (IML) technology in the country, which is particularly advantageous for packaging in the food, beverage, and FMCG sectors.

Key Demand Drivers: IML and Rigid Plastic Packaging in India

Qualitative Analysis of Key Factors Driving the Demand for IML and Rigid Plastic Packaging in India



➤ **Rising Demand for Branded, Shelf-Ready Packaging in Food & Beverage Sector:**

India's expanding packaged food and dairy industry, driven by urbanization, rising disposable incomes, and lifestyle changes, is pushing brands to adopt premium, tamper-proof packaging. IML offers superior print quality, hygiene, and integration with the container, which enhances product visibility and consumer trust. Products like ice cream tubs, yogurt cups, and ready-to-eat meals are increasingly using IML to meet brand and shelf-life expectations.

➤ **Growth of Organized Retail and E-Commerce:**

Modern trade formats and online retail platforms have heightened the importance of visual appeal, product differentiation, and damage resistance in packaging. IML's 360° graphics, scuff resistance, and durability make it ideal for both in-store display and last-mile delivery, especially in fast-moving consumer goods (FMCG), personal care, and cosmetics. These channels demand packaging that not only attracts buyers but also withstands handling during transit and stocking.

➤ **Shift Toward Sustainable and Recyclable Packaging Solutions:**

Environmental regulations and consumer awareness are pushing manufacturers to shift to recyclable and mono-material packaging. IML supports this trend by using the same material (typically polypropylene) for both label and container, making the entire product recyclable without delabeling. This sustainability advantage is particularly relevant in industries like food & beverage and industrial products, which are under pressure to reduce plastic waste and meet extended producer responsibility (EPR) norms.

➤ **Premiumization Trends in Cosmetics and Personal Care:**

The cosmetics and personal care sector in India are seeing strong growth, with increased consumer focus on aesthetic, high-quality packaging. IML enables premium looks such as metallic finishes, transparent windows, and textured graphics on packaging for creams, lotions, and personal hygiene products. As brands compete for market share in a visually driven segment, IML allows differentiation while maintaining product integrity and label durability.

➤ **Increased Focus on Hygiene and Tamper-Proofing Post-COVID:**

Post-pandemic, there is a significant demand for safe, tamper-evident, and contactless packaging, especially in food, beverage, and health-related products. IML inherently offers tamper resistance, as the label is embedded into the container. This has increased its appeal among companies seeking to reassure customers about hygiene and safety. It also reduces human handling and contamination risk during label application, making it ideal for automation-focused industries.

➤ **Industrial and Logistic Sector Adoption for Traceability and Durability:**

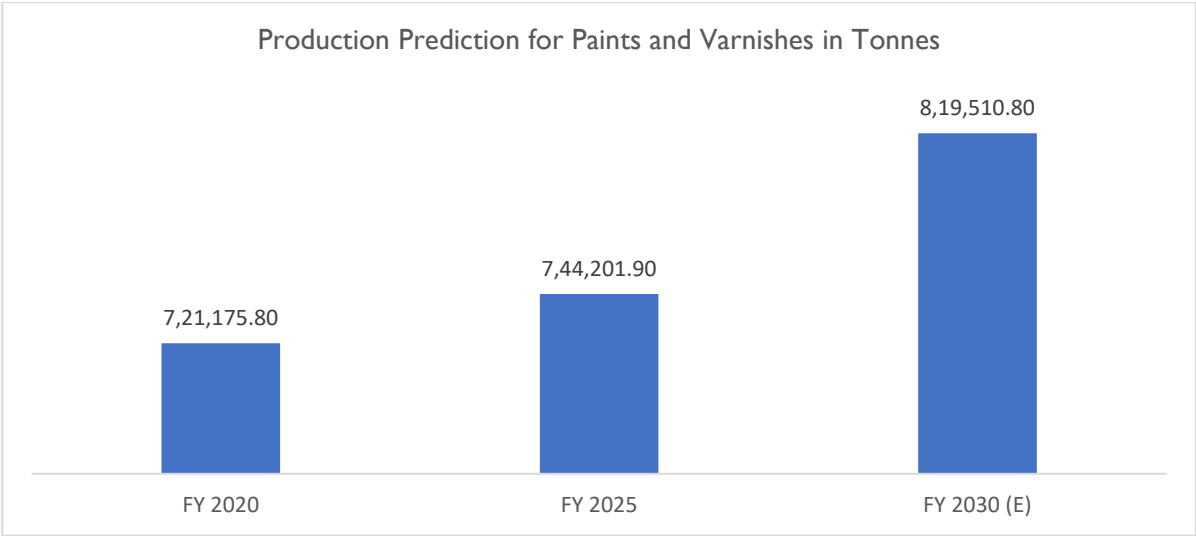
In sectors like automotive components, chemical storage, and logistics, durable and trackable containers are essential. IML enables permanent marking of barcodes, QR codes, and branding on crates, bins, and industrial containers that undergo repeated use, cleaning, and outdoor exposure. This is particularly valuable for large-scale warehousing and B2B logistics, where traditional labels may peel off or degrade over time, leading to traceability and compliance issues.

Application in Paint Industry

Beyond decorative appeal, IML containers provide significant functional benefits and are proving to be a highly cost-effective solution for large-scale production. Thus, the introduction of IML containers in packaging of paints goes beyond packaging needs and aims to establish its positioning as a strategic marketing tool, with the potential of integrating eye-catching designs and digital features like QR codes on containers to enable enhanced product information access and consumer engagement, supporting greater customization aligned with customer and retail market preference.

Currently the Indian paint and varnishes industry is in a phase of significant expansion, fueled by robust economic growth and government initiatives such as "Housing for All," which drive demand in the decorative segment. According to industry analyses, the market production of paints in FY 2025 has reached 744,201.9 tonnes and is poised for continued growth to reach 819,501.8 tonnes by FY 2030. Moreover, the overall production of varnishes is 30,543.4 tonnes in FY 2025. The trade statistics of the industry also reflect a positive growth with paints and varnishes' exports standing at Rs. 17,226.5 million in FY 2025 from Rs. 15,769.3 million in FY 2024.

With the surge in demand for premium housing and office space developments in India, there is an increasing need for high-quality paints and varnishes that not only offer aesthetic appeal but also allow for customization to meet diverse client preferences. To support the storage and handling of these specialized paints, durable and well-designed containers are essential—making advanced moulding techniques a critical part of the solutions. In H1 of FY 2025, the office space segment has demonstrated a record addition of 24.8 million sq ft of new office space in India's top seven cities, with a significant portion in Bengaluru, Pune, and Hyderabad, showing a 19% y-o-y increase during January-June'25, while the premium housing segment, with homes priced above ₹1 crore has now taken center stage, making up 62% of all residential sales in the first half of 2025, with 51% increase since last fiscal year.



Source: CMIE, D&B Desk Research

Key Threats & Challenges

Overview on the Key Threats & Challenges Facing the Overall Plastic Packaging Industry.



Regulatory Landscape

Key Policies / Regulations Impacting the Plastic Packaging and IML Landscape in India

❖ **EPR (Extended Producer Responsibility) Guidelines for Plastic Packaging, 2022**

- Issued by the Ministry of Environment, these guidelines set quantitative recycling targets for plastic producers and users across four categories of packaging.
- Companies must ensure a portion of their packaging is recycled, reused, or processed through end-of-life disposal (e.g., co-processing).
- Non-compliance may attract financial penalties and restrictions on manufacturing or importing plastic-based products.

❖ **Bureau of Indian Standards (BIS) Norms for Plastic Packaging**

- BIS has laid down standards for packaging materials used in food contact applications, including plastics and IML-based containers.
- Relevant standards (e.g., IS 10146 for polyethylene, IS 9845 for overall migration limits) ensure toxicity control and material safety.
- Mandatory for manufacturers to follow these norms when producing packaging for FMCG, dairy, or food products.

❖ **Food Safety and Standards Authority of India (FSSAI) Packaging Regulations, 2018**

- These regulations restrict the use of non-food grade plastics and encourage usage of pre-approved, safe materials for food packaging.
- IML containers used for food must comply with FSSAI's material and labelling standards, particularly in terms of ink toxicity and migration limits.
- Labelling must clearly indicate recyclability and other safety declarations, impacting IML print choices and materials.

❖ **Plastic Waste Management (Amendment) Rules, 2021 - Ban on Single-Use Plastics (SUP)**

- From July 1, 2022, India has banned the manufacture, sale, and use of certain single-use plastic items, such as cutlery, straws, and polystyrene containers.

- Though IML packaging is typically multi-use or reusable, the regulation accelerates the shift to sustainable, recyclable plastics and may raise scrutiny over disposable formats.
- Manufacturers need to demonstrate that their IML-packaged products are not within the banned categories and comply with recycling standards.

❖ **CPCB Guidelines for Plastic Packaging Labelling and Marking**

- The Central Pollution Control Board mandates that all plastic packaging (including IML-based containers) bear appropriate resin identification codes (RIC).
- Products must display details about material type (e.g., HDPE, PP), recyclability, and compliance, making it mandatory for IML producers to design accordingly.
- Non-compliance can affect approvals and lead to legal or financial penalties.

❖ **State-Level Plastic Usage Bans and Localized Guidelines**

- Several Indian states (e.g., Maharashtra, Tamil Nadu, Karnataka) have additional restrictions or blanket bans on specific plastic formats.
- IML packaging producers must ensure state-wise compliance, especially when distributing across regions with stricter norms.
- These regional rules influence material choice, packaging thickness, and recyclability, leading to design and supply chain adjustments.

❖ **GST Regulations on Plastic Packaging & Labels**

- Goods and Services Tax (GST) rates vary across plastic products (typically 18% for IML and rigid plastics), affecting cost competitiveness and pricing strategy.
- Input credit mechanisms and HSN code classification can impact working capital and compliance management for plastic converters and label printers.
- Any changes in GST slabs or interpretations directly influence the cost structure of IML-based packaging units.

Growth Forecast: Expected growth in Indian plastic packaging industry

Here is the expected growth in major end-user Industries for Plastic Packaging:

Food Processing Market

The Indian food processing industry is poised for substantial growth, driven by increasing consumer demand, urbanization, and government initiatives. Valued at USD 307.2 billion in 2022, the market is projected to reach USD 470 billion by 2028, reflecting a CAGR of 9.5% from 2023 to 2028. Over the next three years, this sector is expected to witness accelerated expansion due to advancements in food technology, rising investments, and an increasing shift toward packaged and ready-to-eat food products.

Food & Beverage Packaging Market

The food and beverage packaging sector, a critical component of the broader packaging industry, is experiencing steady growth. Currently valued at US\$ 33.7 billion in 2023, the market is projected to reach USD 46.3 billion by 2028. The demand surge is attributed to increasing consumption of packaged foods, evolving consumer preferences, and stricter regulations on food safety and sustainability. The next three years will see innovations in eco-friendly and smart packaging solutions, further fuelling industry growth.

Pharmaceutical Industry

India is a global pharmaceutical leader, supplying 20% of the world's generic medicines and 62% of global vaccine demand. Ranking 3rd in production volume and 14th in value, the industry is driven by cost efficiency, scale, and strong manufacturing capabilities. With over 3,000 pharma companies and 10,500+ manufacturing facilities, India offers more than 60,000 generic brands across 60 therapeutic categories. The sector, currently valued at USD 38 billion, is projected to grow to USD 120–130 billion by 2030, positioning India as a key force in global healthcare and a major driver of demand for high-quality, pharma-grade packaging solutions.

Fast-Moving Consumer Goods (FMCG) Market

The Indian FMCG sector is experiencing a robust expansion, having reached USD 121.8 billion in 2023. With an impressive CAGR of 27.9% from 2021 to 2027, the market is expected to reach USD 615.87 billion. The increasing demand for personal care, household products, and packaged foods is driving this growth. Over the next three years, digital transformation and e-commerce penetration will further accelerate market expansion.

Note: The above-mentioned data is given for Calendar year (CY)

India's plastic packaging industry is set for strong growth, driven by key sectors like food processing, healthcare, FMCG, and beauty & personal care. The food & beverage market is expanding due to rising

consumer demand, urbanization, and advancements in food technology, with a focus on ready-to-eat, eco-friendly, and smart packaging solutions. Healthcare growth is increasing demand for pharmaceutical packaging, while the FMCG sector drives need for innovative, sustainable packaging formats. The beauty & personal care market is fueled by startups and premium packaging, and e-commerce boosts demand for secure, durable solutions. India's packaged food sector is expected to double by FY 2029, supported by urbanization, higher incomes, and consumer trust in food safety, ensuring a robust future for the packaging industry.

Focus Industry: SAW Pipe Protection Plastic Caps

SAW Pipe Protection Plastic Caps: Product Overview, Key Product Features & Attributes

Product Overview:

SAW pipe protection plastic caps are specialized protective components designed to cover the ends of pipes and tubes, primarily to prevent damage, contamination, and corrosion during storage, transportation, or handling. These caps are typically made from durable plastic materials such as polyethylene (PE) or polypropylene (PP), which offer excellent resistance to weathering, chemicals, and physical impact. They come in various sizes and configurations such as push-fit, threaded, or flange covers to suit different pipe diameters and industrial applications.

In oil & gas, construction, plumbing, and heavy engineering sectors, pipe ends are vulnerable to deformation, ingress of dust, moisture, or foreign particles, which can lead to costly rework or performance issues. Plastic caps play a critical role in maintaining pipe integrity, especially for precision-engineered or coated pipes. In industries where pipes are stored outdoors or shipped over long distances, UV-stabilized or high-impact caps are preferred for enhanced protection and durability. Beyond protection, these caps often serve branding or logistical purposes, such as color-coding for size/type identification or printing company logos or barcodes. With the growing emphasis on quality control, safety, and environmental compliance, the demand for reusable or recyclable protective caps is also rising. Overall, SAW pipe protection plastic caps are essential components in supply chain and quality assurance practices across the pipe manufacturing and distribution ecosystem.

Key Features:

- **Durable Material Composition:** Plastic pipe caps are typically made from high-quality polymers such as polyethylene (PE) or polypropylene (PP), which offer strong resistance to environmental stress, mechanical damage, and chemical exposure. These materials are chosen for their lightweight nature and durability, ensuring long-term protection of pipe ends during storage and transit. Some variants may also include UV stabilizers for added resilience in outdoor conditions.
- **Protection Against Damage and Contamination:** A primary function of these caps is to prevent physical damage, such as denting or deformation of pipe ends, and to shield against dust, moisture, or debris entering the pipe interior. This helps preserve the internal cleanliness and surface integrity of pipes, which is critical for maintaining quality, especially in high-performance or coated piping used in sectors like oil & gas or hydraulics.
- **Easy Installation and Removal:** Plastic pipe caps are designed for quick and secure fitting, often using push-fit or snap-fit mechanisms. This allows for efficient manual or automated application without the need for tools or additional fasteners. Likewise, their design ensures easy removal at the point of use, saving time during pipe installation or inspection processes.

- **Size Versatility and Custom Fit Options:** These caps are available in a wide range of diameters and shapes, from small precision tubes to large industrial pipe sizes. Manufacturers often offer custom-molded or adjustable versions to suit specific client requirements. Some caps are threaded or flanged to match particular pipe configurations, ensuring a snug fit and reliable sealing.
- **Color Coding and Branding Capability:** Many pipe caps are offered in multiple color options, enabling visual identification of pipe types, sizes, or pressure ratings in warehouses or on-site. In addition, companies often use caps as branding tools, printing their logos, product codes, or safety information directly on the cap. This adds logistical and marketing value while also aiding traceability in the supply chain.
- **Reusability and Environmental Compliance:** With growing attention to sustainability, many plastic pipe caps are now designed for reuse across multiple shipping or storage cycles, reducing plastic waste. Furthermore, manufacturers are increasingly offering recyclable or eco-friendly cap materials in compliance with environmental regulations, making them suitable for companies adopting green supply chain practices.

Key Attributes of SAW pipe protection plastic caps:

- **Impact Resistance:** SAW pipe protection plastic caps are engineered to withstand rough handling, drops, and external impact during transportation, loading, and storage. Their sturdy construction ensures that the pipe ends remain undamaged even in heavy industrial environments. This attribute is crucial in preventing costly repairs or scrapping of high-value pipes due to end deformation.
- **Corrosion and Moisture Protection:** These caps act as a barrier against moisture, rainwater, and corrosive agents, which could otherwise enter and compromise the inner surfaces of the pipe. This is especially vital in the oil & gas, marine, and construction sectors where pipes may be exposed to extreme weather or humidity for extended periods. By sealing off the pipe ends, the caps help maintain internal cleanliness and prolong shelf life.
- **UV and Weather Resistance:** Many plastic caps are manufactured using UV-stabilized materials to resist degradation from sunlight exposure. This makes them suitable for long-term outdoor storage without cracking, fading, or becoming brittle. Their weatherproof nature ensures reliable performance in diverse environmental conditions, from high heat to monsoon humidity.
- **Dimensional Precision and Secure Fit:** A critical attribute of pipe caps is their accurate fit to the pipe diameter, ensuring a snug and secure seal. Precision molding techniques allow manufacturers to produce caps that match standard or custom pipe dimensions perfectly. This secure fit prevents accidental dislodging during movement and safeguards the pipe from ingress of contaminants.
- **Versatility Across Applications:** Plastic pipe caps are highly versatile and can be used across multiple industries including construction, infrastructure, plumbing, automotive, and oil & gas. Their utility spans from protecting standard water pipes to safeguarding complex, coated, or threaded pipe systems. This

cross-industry relevance makes them a standard protective solution in both domestic and export markets.

- **Cost-Effective and Reusable:** Compared to metal or composite alternatives, plastic caps offer a lightweight and economical protective solution. Their durability also supports multiple reuse cycles, especially in controlled storage or closed-loop logistics systems. This makes them a cost-efficient choice for manufacturers and distributors seeking protection without adding significant material or shipping weight.

Types of SAW Pipe Protection Plastic Caps in Use (Flexible Caps, Tailored Caps & Plugs, Ribbed Caps & Plugs, Recessed Caps, Others)

- **Flexible Caps**

Flexible caps are made from soft, pliable plastic materials like low-density polyethylene (LDPE) or thermoplastic rubber, designed to easily stretch and conform to various pipe diameters and shapes. They are particularly useful for temporary protection needs or when the pipe dimensions slightly vary. Their elasticity allows for quick installation and removal without the need for tools, making them ideal for manual or high-speed assembly lines. These caps typically cover the external diameter of the pipe, shielding it from dust, dirt, moisture, and minor impact damage.

These are widely used across general construction, plumbing, and light industrial applications due to their cost-effectiveness and versatility. Flexible caps are also suitable for use on threaded and unthreaded pipe ends, providing a tight seal even without precise dimensional alignment. Their reusability and adaptability to irregular shapes make them an efficient option for warehouses or logistics environments where pipes are frequently moved, loaded, or stored. Some variants are color-coded to aid in pipe identification or size differentiation.

- **Tailored Caps & Plugs**

Tailored caps and plugs are custom-designed protection solutions created to meet the exact dimensions and usage requirements of specific pipe types or industrial standards. They are generally injection-molded using high-strength polymers and may include features like threading, flanges, or tight-lock mechanisms. These caps provide a highly secure fit and are often used for pipes with critical end specifications, such as internally coated pipes or hydraulic tubing, where protection from contamination and damage is essential.

Due to their precise fit and robust construction, tailored caps and plugs are heavily used in oil & gas, aerospace, automotive, and defense sectors, where pipe integrity directly impacts system safety and performance. These caps often incorporate value-added features like vent holes, anti-roll designs, or branding surfaces. While more expensive than standard caps, their protection efficiency, reliability under extreme conditions, and compliance with engineering standards justify their use in high-value applications.

- **Ribbed Caps & Plugs**

Ribbed caps and plugs are designed with multiple concentric ribs or fins along their sides, which allow them to fit a range of pipe diameters with a single part. The ribs offer a snug and friction-based seal, keeping the cap securely in place even under vibration or movement during transit. These are particularly useful for protecting interior pipe threads or bores, preventing ingress of dust, corrosion, or physical damage. The ribbed structure also allows for easier insertion and removal.

Their versatility and ability to accommodate tolerance variations make ribbed caps & plugs ideal for mass-production environments, such as manufacturing or pipe distribution. They can be used for both temporary and medium-term protection and are commonly made from tough yet flexible plastics like polyethylene or nylon. In some cases, ribbed plugs are used in pressurized systems as low-pressure sealing components, though typically they are favored for protection rather than function in fluid handling.

- **Recessed Caps**

Recessed caps are specially designed with a sunken or inset top surface, which prevents the cap from extending beyond the pipe's outer diameter. This makes them suitable for applications where flush or low-profile protection is needed such as when pipes are tightly stacked, bundled, or stored in racks. The recessed design reduces the risk of cap damage or dislodgement during handling, loading, or stacking. It also allows for better use of storage space in high-density warehousing environments.

These caps are often used in coated or precision pipes, where both external and internal protection is required but any protrusion could compromise stacking or alignment. They are also valuable in automated storage and retrieval systems, where protruding caps might interfere with conveyor belts or robotic arms. Some recessed caps come with vent holes or desiccant slots for moisture control during long-term storage. While they may be more specialized, they provide critical protection in space-constrained or high-spec logistics setups.

- **Other Types (Flanged Caps, Threaded Caps, Vent Caps, etc.)**

Beyond the main categories, several other specialized pipe protection caps are in use depending on application-specific needs. Flanged caps, for instance, are used to cover large pipe flanges and offer edge protection during shipping. They prevent bending, chipping, or surface scratches on the flange faces and are widely used in the oil & gas, water infrastructure, and heavy fabrication industries. Threaded caps, on the other hand, are designed to screw onto male threads, offering both mechanical protection and a seal against dirt and moisture.

Additionally, vented caps come with tiny holes or built-in filters to allow air circulation while blocking contaminants, making them ideal for pipes or systems requiring pressure equalization or moisture control during storage. Heavy-duty end caps with reinforced walls or integrated locking mechanisms are used in highly rugged environments. These variations highlight the adaptability of plastic pipe caps to diverse

challenges across sectors whether it's corrosion prevention, identification, export readiness, or compliance with international shipping standards.

End use Applications and Key End User Industries

End Use Applications:

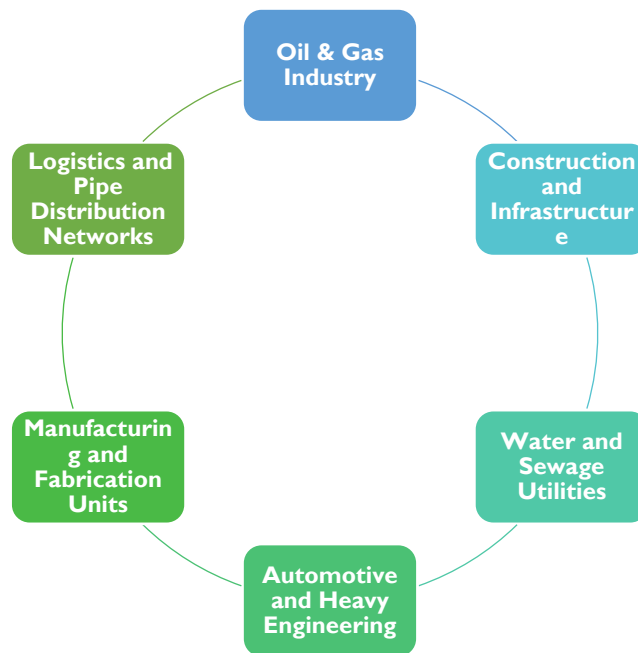
Protection During Transportation and Export: Plastic pipe caps are extensively used to protect pipe ends from physical damage, dust, and contamination during shipment both domestic and international. They safeguard threaded or beveled edges, reducing rework or material loss due to impact or mishandling. Export-quality caps may also comply with international standards for maritime shipping or long-haul logistics.

Temporary Sealing for Storage and Warehousing: In warehouses and stockyards, pipe caps act as temporary closures to prevent moisture, insects, or debris from entering pipes during storage. This is especially important for pipes stored outdoors or in humid environments. Reusable caps help maintain product integrity over long storage cycles without degrading.

Thread and Bevel Protection: Precision-cut pipe threads or beveled ends, especially those used in gas and water pipelines, are prone to chipping and deformation. Pipe caps protect these edges, ensuring they remain in perfect condition for field welding or mechanical coupling. This reduces delays during installation or inspection stages.

Color Coding and Identification: Many users utilize colored plastic caps for pipe size, material, or pressure rating identification. This simplifies inventory management and reduces errors in high-volume yards or multi-specification storage facilities. In some cases, pipe caps are printed or labeled for traceability and logistical efficiency.

Interior Cleanliness Assurance: Plastic caps are used to maintain the internal cleanliness of pipes, especially those used in hydraulic, medical, or food-grade applications. By sealing the pipe ends, they prevent contamination from airborne particles, water, and insects. This is critical when pipes must meet strict hygiene or purity standards.

Key End User Industries:

- **Oil & Gas Industry:** The oil and gas sector are a major end user of SAW pipe protection plastic caps, particularly for steel and coated pipes used in drilling, exploration, and transport. These pipes are often stored outdoors for long periods and exposed to harsh environments. Plastic caps protect both the internal surface and external threads from corrosion, impact damage, and contamination by dust, mud, or salt. With strict quality and safety standards, this industry depends heavily on reliable end protection to maintain pipe performance and prevent failures in high-risk applications.
- **Construction and Infrastructure:** In the construction industry, pipes are used for plumbing, drainage, gas supply, and HVAC systems, making plastic end caps essential for protecting them at job sites and during logistics. These caps prevent debris, water, or cement ingress into pipes during construction phases, which could otherwise compromise performance or block flow. Plastic caps also ensure pipes remain clean and undamaged before installation, thus reducing rework and improving operational efficiency at construction sites.
- **Water and Sewage Utilities:** Public and private utilities involved in water supply, sanitation, and sewage treatment frequently use pipe caps to protect large-diameter plastic and metal pipes used in pipeline networks. These pipes are often stored in open yards and need protection from weather elements, rodents, and contamination. Plastic pipe caps are also color-coded or marked to assist in identification and system mapping, which is especially useful in complex underground pipe layouts.
- **Automotive and Heavy Engineering:** Manufacturers in the automotive, aerospace, and heavy engineering sectors use protecting caps for hydraulic, pneumatic, and fluid transfer pipes and tubing

systems. These components often have threaded or precision-machined ends that need to be shielded from damage or dust during storage and assembly. Plastic caps help preserve the dimensional integrity and cleanliness of these critical parts, reducing rejection rates and improving assembly line performance.

- **Manufacturing and Fabrication Units:** General manufacturing and metal fabrication units that produce or process custom pipe spools, tubes, and structural components use plastic caps to ensure products remain intact during handling or delivery to clients. Whether for export packaging or internal storage, these units rely on protecting caps to uphold product quality standards and reduce the risk of returns or customer complaints related to end damage or contamination.
- **Logistics and Pipe Distribution Networks:** Warehousing companies and distributors handling bulk pipe shipments for export or regional supply are also major end users. For them, plastic pipe caps are essential to standardize protection across multiple pipe types, reduce claims from in-transit damage, and enhance load safety during stacking and loading. In export settings, many customers demand capped pipes as a prerequisite for quality acceptance, making end caps a critical part of the distribution process.

Demand Drivers: SAW Pipe Protection Plastic Caps

Mapping the Usage of SAW Pipe Protection Plastic Caps Across Multiple End Use Industries

SAW pipe protection plastic caps serve as critical components in safeguarding pipes during handling, transportation, and storage. Designed to prevent contamination, corrosion, mechanical damage, and ingress of foreign materials, these caps are extensively used across various sectors where pipes are a core infrastructure component. The demand for pipe protection caps is intrinsically linked to the demand for pipes themselves, and thus mirrors activity and investment across major industries such as construction, oil & gas, water and wastewater treatment, material handling & storage, and general manufacturing. By mapping their usage across these industries, we can gain insight into how industrial trends and infrastructure investments are driving demand for pipe protection solutions.

Construction industry

In the construction industry, SAW pipe protection plastic caps are commonly used to seal pipe ends both metallic and plastic to prevent dust, dirt, moisture, and physical damage. Pipes are often laid out or stored on-site over extended periods before installation. In such cases, caps help maintain internal cleanliness and protect thread integrity, especially in Heating, Ventilation, and Air Conditioning (HVAC), plumbing, and structural piping applications. They also provide safety by covering sharp edges and reducing workplace injury risks.

India's construction sector has seen consistent growth, driven by rapid urbanization, government initiatives like Smart Cities Mission, and increased infrastructure spending across transportation, housing, and commercial real estate. As new buildings, industrial complexes, and urban infrastructure projects come up, the consumption of pipes for water supply, gas distribution, and fire protection systems continues to rise. This trend suggests a strong underlying demand for auxiliary products that ensure safe transport and storage of pipes, including protection caps.

The overall expansion in construction activity directly amplifies the need for pipe protection caps. With a greater volume of pipes being transported to and installed at sites often through rugged terrains or lengthy storage cycles there is a heightened emphasis on ensuring durability and installation-readiness. Hence, as the construction sector continues to grow, demand for plastic pipe caps will also rise in tandem, particularly in projects with complex plumbing and utility infrastructure.

Oil & Gas

In the oil & gas industry, SAW pipe protection plastic caps are vital for sealing drill pipes, casing pipes, and tubular goods. These components are exposed to extreme conditions like moisture, salt, chemicals, and high pressure and are highly susceptible to thread damage and corrosion during transportation and field storage. Protective caps are used extensively to cover threaded ends and prevent contaminants from compromising performance or causing environmental hazards.

The Indian oil & gas industry is experiencing significant upstream and downstream investment, including new exploration blocks, pipeline expansions, and refinery upgrades. Government policies under Hydrocarbon Vision 2025 and initiatives for gas grid expansion are driving infrastructure development. As a result, there is sustained demand for steel and alloy pipes, particularly in drilling operations and long-distance pipeline projects.

This heightened activity increases the demand for specialized protection solutions. Given the high value and critical function of oilfield pipes, companies invest in high-quality pipe caps to reduce the risk of material wastage and ensure regulatory compliance. Hence, the uptick in oil & gas exploration and infrastructure deployment positively impacts the demand for durable, industry-specific SAW pipe protection plastic caps.

Water & Wastewater Treatment

SAW pipe protection plastic caps are commonly used in water and wastewater treatment systems to protect Polyvinyl Chloride (PVC), High-Density Polyethylene (HDPE), and metal pipes during transportation and storage. Since many pipes used in this sector are pre-cut and stored on-site before assembly, caps prevent contamination by debris, water, insects, or mud. This is particularly important in ensuring hygiene and consistent flow in potable water and sewage pipelines.

The demand for water infrastructure in India is growing due to increasing urban population, water scarcity issues, and environmental regulations. Programs like Jal Jeevan Mission, AMRUT, and Swachh Bharat are

pushing for improved access to clean water and efficient waste disposal across urban and rural areas. This has led to the development of new treatment plants and piped distribution networks, especially in Tier II and Tier III cities.

With rising investments in pipelines and treatment plants, there is growing demand for pipe protection caps to secure materials during installation and avoid costly rework caused by damaged or contaminated ends. Thus, growth in this sector is positively influencing demand for protection solutions especially in municipal and large infrastructure projects, where long-term pipe integrity is critical.

Material Handling & Storage

In material handling and storage applications, SAW pipe protection plastic caps are widely used to protect stacked or bundled pipes in warehouses, yards, and during long-haul transport. Caps prevent dents, contamination, and end deformation, which is especially important for pipes meant for precision applications or resale. Additionally, they enable safer handling and improve stickability.

This industry forms a backbone for all pipe-consuming sectors, including construction and manufacturing. As India invests in modernizing logistics infrastructure like industrial parks, logistics hubs, and warehousing zones the volume of pipes in transit and storage has significantly increased. E-commerce expansion, supply chain reforms, and warehousing automation have also increased expectations around inventory protection.

As businesses demand better protection of high-volume inventory and implement stricter quality control protocols, the use of protective packaging, including pipe caps, is becoming standardized. Thus, while material handling is not a direct user of pipes in operations, it significantly contributes to the secondary demand for protection caps, particularly among distributors, wholesalers, and OEMs.

Manufacturing

In the broader manufacturing industry, especially in sectors like automotive, heavy machinery, chemicals, and power equipment, plastic pipe caps are used to protect components such as hydraulic tubes, pneumatic lines, and custom-fabricated pipes. These components often undergo various stages of processing and shipment, where unsealed ends can compromise quality or cause assembly line issues.

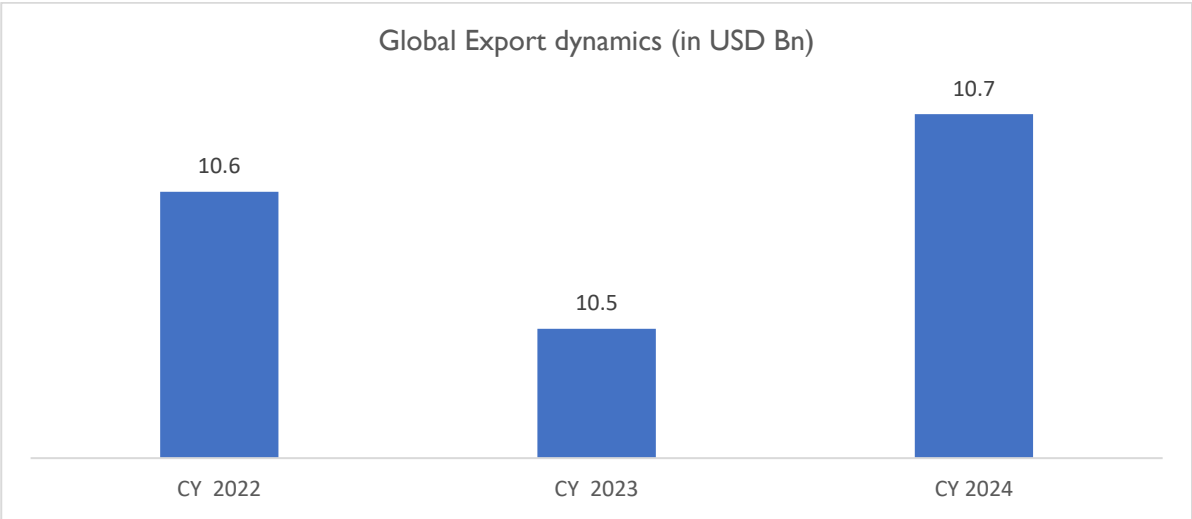
India's manufacturing sector is undergoing rapid modernization through initiatives like "Make in India" and Production-Linked Incentive (PLI) schemes. Growth in sectors like auto components, machinery, and fabricated metal products is driving demand for custom piping systems. These products are often highly engineered, necessitating stringent quality assurance during every handling stage.

As a result, the demand for pipe protection caps in manufacturing is increasing steadily. Manufacturers and suppliers see these as low-cost but high-impact accessories that ensure component safety and reduce rejection rates. The rise in precision engineering and just-in-time manufacturing further supports consistent usage of pipe caps in the industrial value chain.

Export Opportunities

Global Export Overview¹¹

The global export market covering plastic stoppers, lids, caps, and end cup plugs, hasve shown notable fluctuations from CY22 to CY24. This market serves a key component of the broader plastics and packaging applications that are used across a broad range of industries. During the time period CY 2022-24, the global exports underwent a fluctuation. The changes observed in export values during this period can be attributed to a combination of macroeconomic, geopolitical, and industry-specific factors.



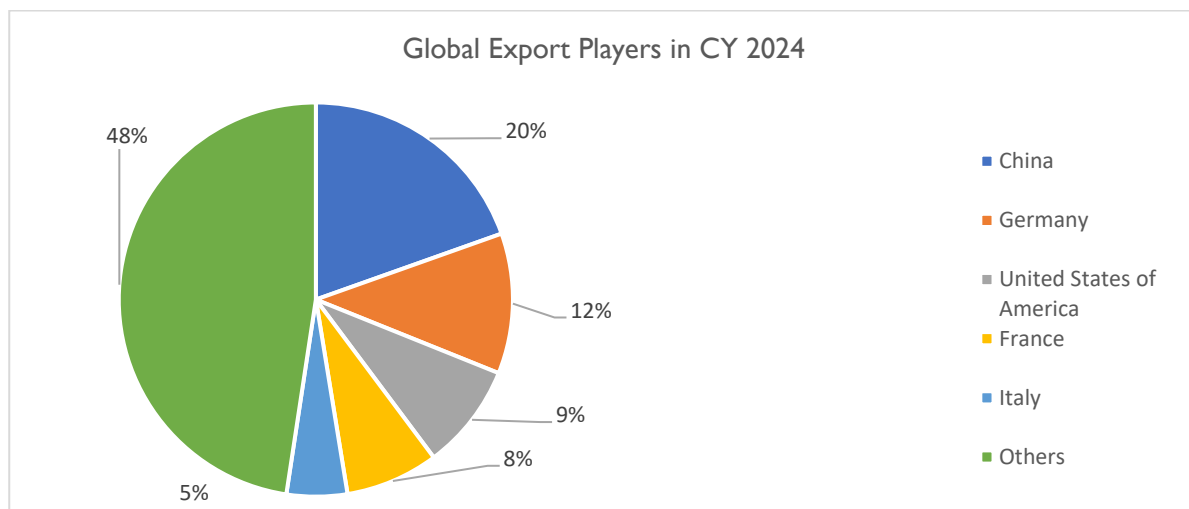
Source: ITC TradeMap, D&B Desk Research

In CY2023 a decrease was noted, with total exports falling to around USD 10.5 billion from USD 10.6 billion in CY 2022. However, the market showed signs of recovery, with preliminary data indicating exports of USD 10.7 billion in CY 2024. However, despite the small decline rooted with several factors including monetary policy tightening to combat inflation and fluctuations in feedstock costs, influenced by changes in international crude oil prices in CY23, the market grew in CY 2024 and a similar growth is anticipated in CY2025. However, the overall export market dynamics suggest an almost consistent trajectory.

¹¹ For global trade coverage we have considered the broader 6 digit HS code 392350. This is because globally it is the 6 digit HS code is the international standard recognized by customs authorities worldwide. The 8 digit version is often used at specific country level to add more detail. Following the 6 digit HS code helps in standardizing the trade data at global level

Key Global Export Destinations

While the overall market has seen shifts, the major players have remained consistent. The top exporting countries for this the pipes fittings and other commodities including end cap plugs include China as the dominant force that holds strategic positioning in the global export market with 20% market share, followed by Germany with 12% market grip. Other players include USA, France and Italy that together hold 22% of the global export market. However, the top 5 players together hold about 52% of the market, which suggests the fragmentation in the overall export landscape. However amongst the top 5 players China alone dominates by 20% out of the 32% coverage by other 4 players.



Source: ITC TradeMap, D&B Desk Research

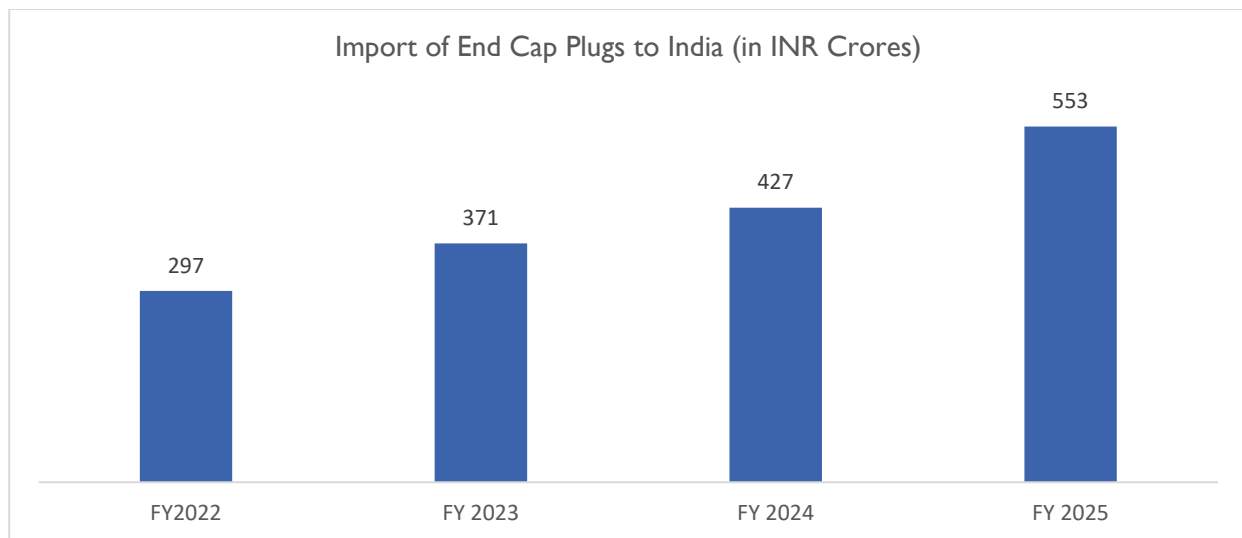
China's dominance in the end cap plug export market, and the broader manufacturing export market, stems from factors like low-cost labor, state-backed industrial policies and incentives. These advantages, combined with an export-oriented economic strategies, have allowed Chinese companies to produce goods at highly competitive prices, undercutting foreign competitors and capturing significant global market share.

Import Substitution Opportunities

Domestic Trade Overview ¹²

Annual import of end cap plugs to India increased from approximately INR 297 Crore in FY 2022 to nearly INR 553 Crore in FY 2025, increasing by a CAGR of nearly 23% over the last three years. This rise in import pattern is primarily fuelled by a surge in domestic Oil & Gas, Manufacturing, Construction, Automotive, Plumbing, Medical, and Packaging sectors, which are creating an insatiable demand for end cap plugs as essential components for their use in various applications, including securing pipelines and protecting fittings, amongst others.

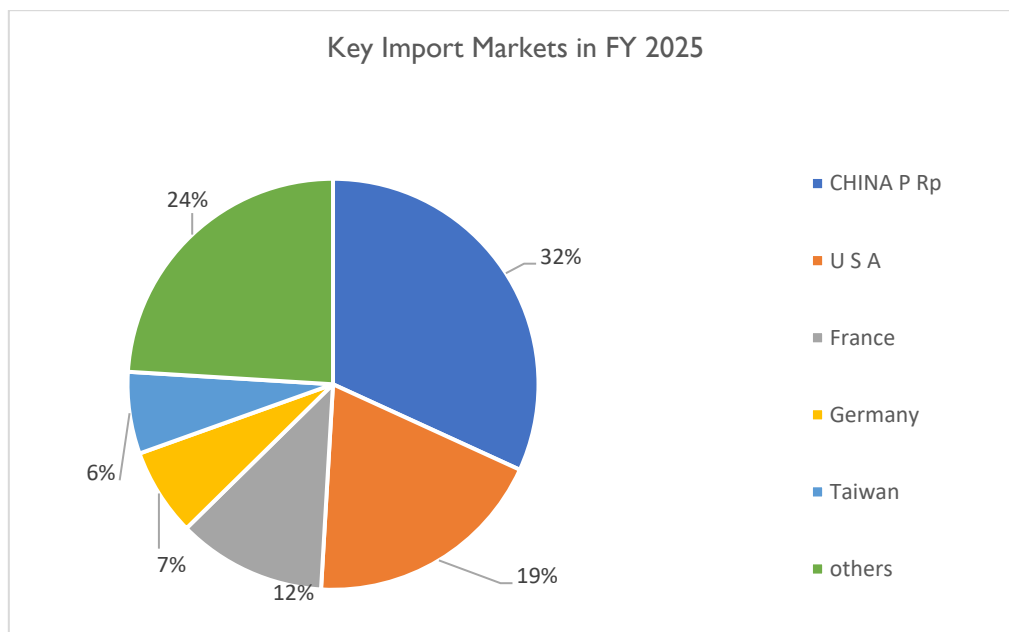
Apart from the increasing demand from end consumer sectors, the increasing imports also points to the apparent lack of a well-developed domestic manufacturing base to cater to the rising demand. The import substitution policy adopted by the present Government could act as key supporting factor for the Indian pipe end cap plug manufacturers to tap into the steadily rising domestic demand.



Source: DGFT, D&B Desk Research

¹² The HSN considered for reference in domestic market is 39235090

Key Importing Countries to India



Source: DGFT, D&B Desk Research

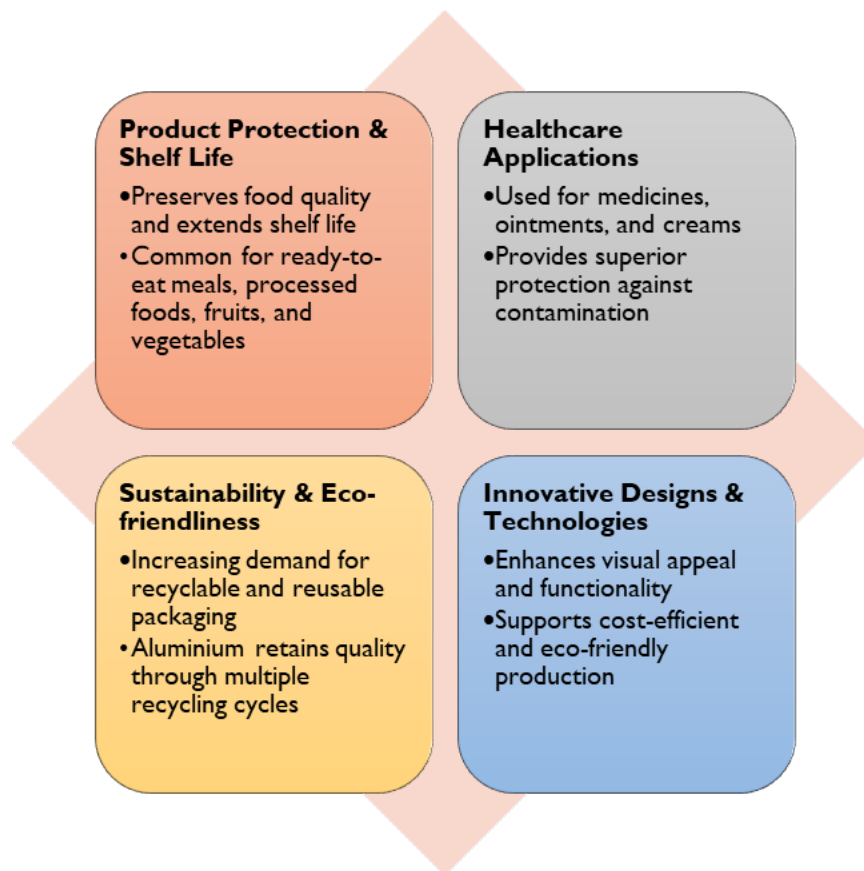
The strong growth in imports is a direct reflection of India's internal consumption boom. As per press releases and reports from the Ministry of Commerce & Industry, India's plastics processing sector is experiencing robust growth driven by rising demand from end-use industries like food and beverages, pharmaceuticals, and personal care. PLEXCONCIL, an apex body of the plastics industry in India, in June'25 claimed the exports for plastics grew by 5.7%, despite 0.05% decline in overall merchandise exports. This marked the third consecutive month of growth in current financial year indicating strong demand for Indian plastic products globally across multiple product panels including consumer and houseware, pipes & fittings and end cap plugs.

A significant portion of India's imports of end cap plugs and other products originates from China P Rp constituting a significant share of 32% demonstrating a strong dependence on China. It is then followed by the USA at 19%, and France at 12% indicating a reliance on these major manufacturing hubs for meeting domestic demand. Both Germany and Taiwan together make a 13% contribution. The top 5 market players occupy more than 75% of the market, reflecting a concentrated market. This dependence is likely due to cost-effectiveness or the need for specialized, high-quality, or patented products. The continued reliance on imports from key markets like China and the USA also points to a lingering gap in specialized, high-quality, or cost-effective manufacturing capabilities that the government is actively working to address through long-term strategies like the establishment of Plastic Parks, as highlighted in various industry releases. The overall trend of India is of a healthy economy where robust domestic demand is met by both growing local supply and significant imports, while the export market for Indian-made goods is also steadily expanding.

Metal Packaging Industry

Overview

The Indian metal packaging market is experiencing consistent growth with increasing demand for robust and eco-friendly packaging solutions across various industries. India's lower competitive manufacturing costs, relative to Western economies, have also driven the growth of the industry, with investments in cutting-edge production technologies and innovative design solutions. As consumer demand for packaged food, beverages, pharmaceuticals, and personal care products continues to grow, metal packaging remains a critical segment in India's overall packaging industry, making a major contribution to the sector's overall growth.



Metal Packaging has been inadvertently used in the food & beverages packaging since 19th century. The use of metal such as Tin were earlier used and the types of metals being used in the packaging has varied from tin to aluminium and stainless steel as on date. The method of canning invented quite earlier than the 19th century with products such as meat, vegetables and fruits were packed in cans. The food & beverage products have found extensive use of metal packaging in canning fruits, meats, sea food, sodas and aerated drinks.

The use of metals gradually found more applications such as Foils, Drums, Trays, caps and closures. The constant innovation in the metal packaging has benefited through offering product protection, increased shelf life and resistance against any damages while transporting and till use. The other advantages of using metal packaging includes its recyclability, lightweightedness, mouldable in attractive shapes.

Types of Metals used:

Tin:

The shiny metal is used as a coating on the steel metal sheets which are later rolled and shaped into cans. Packaging using these tins were the earliest method of metal packaging. The metal provides with advantages such as being airtight, lightweight and better protection of the food products in the can. It also helps by preventing rust formation while enhancing food product durability. However, along with the benefits, the value of tin has been highly unstable from past few years and is likely to affect the prices of the manufacturing the tin-plated cans. Thus, the cost of canned products could be affected as well making the end users of cans to switch to alternative options.

Aluminium

It is highly utilized in the metal packaging industry in the form of cans and foils where their major application is in food & beverages packaging. The metal containers made of this metal is easy to use, store, transport and are even recyclable. The aluminium cans are widely used in the beverage industry as one of the effective solution to pack beverages such as sodas, beer, wine, sparkling water and energy drinks. Other uses of aluminium cans are for storing and packing pharmaceutical products, aerosol sprays, cosmetic products and industrial goods such as oils, paints and chemicals.

The other packaging solutions using aluminium are foils and containers. These solutions are highly beneficial in bagging food products and used by Food product manufacturers and restaurants in packing takeaways. The malleable property of the metal is utilized in creating various forms of packaging options. The surfaces on the aluminium packaging content are used majorly for advertising and printing the essential product innovation. On the availability of aluminium domestically and the steadily rising prices, the price factor of using the material in the future is consistent and an sustainable option.

Steel

Another metal which is majorly utilized in manufacturing packaging solutions such as cans and drums is steel. Domestically sourced from various major manufactures, there are three kinds of steel used in the packaging industry. i.e Tinplated, Chromium coated steel and Blackplate. The Tinplated and Chromium coated steel are the materials commonly used in the making of cans and other food and beverages applications. The products which are packed in these steel options are fruits, vegetables, meats, aerated drinks (alcoholic and non-alcoholic). The other products packed in the steel cans are personal care goods, cosmetics, paints etc.

The steel-based packaging solutions find application in residential, commercial and industrial goods packaging across various sectors. The residential packaging solutions include storage boxes, airtight containers for heat retention in packing food. In the industrial uses of steel containers include the high grade stainless steel for storing sensitive materials in chemical and pharmaceutical sector. Large storage options are made use in dairy industry where cans are used to transport milk, ghee, etc.

Key Demand Drivers

The metal packaging industry is booming, driven by the expanding food and beverage sector, urbanization, and evolving consumer preferences. Government initiatives like Make in India and PLI are boosting domestic production and sustainability efforts. Rising eco-consciousness and bans on single-use plastics are accelerating demand for recyclable metal packaging. Technological advancements in materials, coatings, and digital printing further enhance quality, efficiency, and branding.



Key Challenges / Hurdles

The metal packaging industry faces multiple challenges, including **raw material shortages**, with constraints in tinplate supply and high import dependence. **Rising production costs** due to escalating material prices and high input expenses strain profitability. **Technological adaptation and skill gaps** hinder innovation, while **regulatory challenges** increase compliance burdens. Additionally, **supply chain disruptions** from logistical issues and geopolitical uncertainties further impact stability.



Key Threats & Challenges

The SAW pipe protection plastic caps segment, though relatively niche, plays a critical role in protecting pipe ends across multiple industries. However, it is not immune to operational, environmental, and economic challenges. From fluctuating raw material prices to changing regulatory norms and end-user price sensitivity, the segment faces several headwinds that can impact profitability, scalability, and competitiveness. Below are key threats and challenges:



Competitive Landscape

The In-Mold Labelling (IML) and SAW pipe protection plastic caps segments in India are experiencing a structural transformation driven by evolving end-user expectations, stricter environmental regulations, and the increasing adoption of automation and quality-driven packaging standards. While legacy manufacturers with large-scale production capabilities dominate volumes, the market is gradually opening up to innovation-led niche players focused on customization, sustainability, and integration with automated production lines. In sectors like FMCG, industrial packaging, infrastructure, and oil & gas, demand is being shaped by higher product safety, branding needs, and efficiency in logistics and shelf-readiness.

To remain competitive, manufacturers are emphasizing differentiated product offerings, rapid tooling capabilities, and material innovation. In the In-Mold Labelling segment, companies are aligning with advanced printing technologies, recyclable materials, and robotics-based IML insertion systems to reduce cycle times and enhance label durability. The shift from conventional labelling to IML is being driven by the need for tamper-evident, scuff-resistant, and visually superior packaging in food containers, automotive parts, and household products. Players offering end-to-end integration support from mold design to IML automation are increasingly preferred by high-volume FMCG and container manufacturers.

In the SAW pipe protection plastic caps segment, competition is shaped by speed of delivery, product customization (size, thread type, material), and resistance properties. Clients in sectors such as construction, oil & gas, and water infrastructure value suppliers that can offer caps with robust mechanical strength, UV stability, and precise fitting to prevent contamination and damage during logistics. Firms offering inventory flexibility, quick turn prototyping, and in-house mold development are seen as reliable partners for large-scale pipe producers and EPC contractors. Additionally, cost competitiveness remains a major factor, particularly in government and utility procurement.

Environmental concerns, cost pressure, and product commoditization are reshaping procurement dynamics across both segments. Clients now expect sustainable material options (e.g., recyclable or biodegradable plastics), packaging efficiency, and alignment with ESG goals especially in export-oriented contracts. There is also a rising preference for suppliers with ISO and sector-specific certifications (e.g., food-grade, REACH compliance, etc.) as procurement becomes more structured and quality-focused.

Strategic investments in automation, smart tooling, and digital order tracking are emerging as key differentiators, particularly for IML manufacturers catering to high-speed packaging lines. On the other hand, pipe cap suppliers are building competitiveness by expanding SKU ranges, reducing lead times, and co-developing with clients based on project needs. However, the industry faces common challenges: fluctuation in raw material prices (polymer resins), dependence on cyclical end-use industries, and limited scale for R&D-led differentiation. Going forward, firms that can balance cost, compliance, and customization while scaling sustainably will lead the evolution of both the IML and pipe protection cap segments.

Company Profile: Dhaval Packaging Limited

Company Overview:

Dhaval Packaging Limited (“DPL”), headquartered in Sanand, Gujarat, was incorporated in 2015 to carry forward the legacy business of Dhaval Corporation, which had been operating since 2004. While Dhaval Corporation was primarily engaged in the business of traditional plastic containers, DPL was established with a renewed vision and a sharper focus on the manufacturing of advanced In-Mold Labelled (IML) plastic containers. This strategic change was driven by the need to address challenges faced by customers using conventional packaging, particularly in sectors like snacks, dairy, ready-to-eat (RTE) foods, and sweets. The company now specializes in producing airtight, tamper-evident IML containers that offer improved performance and shelf appeal.

The company operates a modern manufacturing facility covering approximately 18,000 sq. ft., equipped with advanced technology and a trained workforce, enabling a monthly production capacity of over 30 lakh containers. Its strategic location 34 km from SVP International Airport, 40 km from the national highway, and 277 km from Kandla Port ensures excellent logistics connectivity, facilitating smooth movement of raw materials and timely delivery to customers across regions.

Dhaval Packaging utilizes the In-Mold Labelling (IML) technique in the production of its plastic containers, wherein printed paper or plastic labels are embedded directly into the container during the molding process. This process results in pre-decorated containers that are visually appealing and functionally enhanced. Key features of IML include 100% hygienic composition, durability, resistance to humidity and stains, tamper-proof airtight sealing, and the ability to incorporate unlimited graphic decoration options. The technique is widely used for packaging items such as bakery products, dairy products, dry fruits, namkeen, and sweets.

Dhaval Packaging has expanded its reach across India and international markets by supplying a broad range of tamper-evident containers such as square and round white transparent containers, and sealable press-type butter containers to reputed clients including Amul, Haldirams, Bikaji, Vadilal, and Havmor. Dhaval Packaging’s client-focused approach and consistent product quality have helped it build and retain strong relationships with both domestic and international clients. The company’s customer-friendly policies continue to play a key role in its expanding presence across global markets.

Key Product & Service Offerings:

- 1,100ml Temper Evident Round White Transparent Container
- 550ml Temper Evident Round White Transparent Container
- 300ml Temper Evident Round White Transparent Container
- 1,390ml Temper Evident Rectangle White Transparent Container
- 750ml Temper Evident Rectangle White Transparent Container
- 390ml Temper Evident Rectangle White Transparent Container

- 1,120ml Temper Evident Square White Transparent Container
- 620ml Temper Evident Square White Transparent Container
- 310ml Temper Evident Square White Transparent Container
- 270ml Sealable Press Type Butter White Container
- 220ml Sealable Press Type Butter Container
- 750 ml Dates White Container

Key Customer Segments Served:

- **Dairy Industry:** Supplies airtight and tamper-evident containers for packaging milk-based products such as butter, curd, and cream.
- **Snacks & Namkeen Manufacturers:** Offers IML containers designed to preserve freshness and prevent tampering in snack and namkeen packaging.
- **Bakery & Confectionery:** Provides hygienic and visually appealing packaging for baked goods and sweets, supporting product shelf appeal.
- **Dry Fruits & FMCG:** Delivers moisture-resistant and durable packaging solutions for dry fruits and other fast-moving consumer goods.
- **Ready-to-Eat (RTE) Food Brands:** Supports packaging needs for convenience food items requiring secure, hygienic, and branded containers.
- **Export-Oriented Food Businesses:** Caters to international clients with customized IML packaging suitable for compliance with global standards.

Key Strengths:

- **Specialization in IML Technology:** The company focuses on In-Mold Labelling (IML) containers, offering pre-decorated, tamper-evident, and airtight packaging that enhances both product protection and visual appeal.
- **Diverse Product Range:** Manufactures a wide variety of containers, including tamper-evident round and square containers, sealable press-type butter containers, and dates containers, catering to multiple food segments.
- **Strong Client Base:** Serves reputed clients such as Amul, Haldirams, Bikaji, Vadilal, and Havmor, reflecting credibility and trust in both domestic and international markets.
- **Hygienic and Durable Packaging:** Products offer 100% hygienic, stain-resistant, and humidity-resistant qualities, suited for food-grade packaging standards.
- **Global Market Reach:** The company has extended its presence across global markets by consistently delivering high-quality containers tailored to international standards.

Peer Companies Profiling: IML Segment

Mold-Tek Packaging Limited

Company Overview:

Established in 1986 and headquartered in Hyderabad, Mold-Tek Packaging Limited (MTPL) is a manufacturer specializing in rigid plastic packaging in India, engaged in the manufacturing of injection molded containers used for lubricants, paints, food, and other products. The company operates ten processing plants and two stock points across India, with an injection molding capacity of approximately 50,000 TPA. MTPL is known for pioneering pail packaging in India, including innovations like spouts and In-Mold spout concepts for lube and paint containers. It is the only packaging company in the country that is 100% backward integrated, producing its own molds, IML labels, and robots. MTPL is also forward integrated with a fully equipped design studio to support packaging design needs.

Key Product & Service Offerings:

- Paint Packaging
- Lubricant Packs
- Food Containers
- Tablet Containers
- Bulk Packaging
- Dispenser Pumps & Sanitizer Containers

Key Customer Segments Served: Paint Industry, Lubricant & Oil Sector, Food & Dairy Industry, FMCG (Fast-Moving Consumer Goods), Pharmaceutical & Healthcare, Cosmetics & Personal Care

Key Strengths:

- **Advanced In-House Tool Room:** Equipped with Swiss and German machinery, Mold-Tek's tool room designs and manufactures complex molds with high precision and faster turnaround.
- **Customizable Packaging Solutions:** The company offers product-specific packaging designs developed to meet stringent industry specifications, along with flexible order volumes.
- **Strong Quality Control Systems:** Quality is ensured through systematic online checks, cleanroom environments, and hands-free operations using suitable raw materials and masterbatches.
- **Efficient On-Time Delivery:** A widespread manufacturing network and in-house tool maintenance reduce downtime, supporting consistent and timely order fulfillment.
- **Cost Efficiency Through Integration:** Backward integration, optimized raw material usage, and reduced logistics costs help the company offer competitive pricing without compromising quality.
- **Pioneers in IML Technology in India:** Mold-Tek was the first to introduce IML-decorated packaging in India and continues to design IML-compatible molds for various packaging formats.

Kap Cones Private Limited

Company Overview:

Established in 1953 by Late Shri Kuldeep Duggal, KAP Group is headquartered in Delhi, India and offers packaging solutions across various sectors. The group has developed expertise in manufacturing injection mold label containers for industries such as ice cream, dairy, FMCG, sweets, bakery and confectionery, ready-to-eat foods, edible oil and ghee, detergents, and lubricants. With modern facilities and advanced technology, KAP Group has also expanded into producing cone sleeves with auto-rolling mechanisms for the ice cream industry. It manufactures sugar rolled biscuit cones using German machinery and provides integrated packaging solutions. KAP Cones, a part of the group, also produces laminated tubes meeting international standards, serving sectors such as cosmetics, toothpaste, and pharmaceuticals. The company focuses on offering packaging solutions aligned with client needs and industry trends, delivering quality and performance built over decades of experience.

Key Product & Service Offerings:

- Ice Cream Cones, Sleeves
- Packaging Containers- Ice cream, Sweets, Nuts & Dry Fruits, Dahi / Curd / Shrikhand, Ready to Eat / Cook, Bakery, Confectionery, Dips & Spreads, Butter, Jam, Biryani / Restaurant Packs, Coffee & Hot Liquid Cups

Key Customer Segments Served: Ice Cream Industry, Dairy Sector, FMCG (Fast-Moving Consumer Goods), Bakery & Confectionery, Ready-to-Eat (RTE) Food Brands, Edible Oil & Ghee Manufacturers, Detergents & Lubricants, Cosmetics, Toothpaste & Pharmaceuticals.

Key Strengths:

- **Diverse Industry Coverage:** Serves multiple sectors including ice cream, dairy, FMCG, bakery, confectionery, edible oil, detergents, and pharmaceuticals.
- **Modern Manufacturing Facilities:** Utilizes German state-of-the-art machinery and technology to ensure consistent production quality.
- **Specialized Product Range:** Produces injection mould label containers, sugar rolled biscuit cones, cone sleeves with auto-rolling mechanisms, and laminated tubes.
- **Innovation-Driven Approach:** Focuses on developing packaging solutions aligned with client requirements and market trends.
- **Integrated Packaging Solutions:** Offers end-to-end packaging support, particularly for the ice cream industry, through a single-source supply model.

Homemade Baker's (India) Limited

Company Overview:

Homemade Baker's (India) Limited, with over four decades of operations, specializes in manufacturing products for the ice cream and packaged food industry. The company focuses on high-volume, automated production supported by food safety and quality certifications across its five manufacturing units. Its portfolio includes sugar/waffle cones, aluminium foil sleeves, and in-mould label (IML) containers and labels. A dedicated team of experienced management professionals and skilled workers ensures reliable supply and efficient turnaround.

Key Product & Service Offerings:

- **IML (In-Mould Label) Containers and Labels:** Round, oval, rectangular, square, fusion containers, and sweet boxes with customized labelling solutions for injection moulding applications.
- **Sugar/Waffle/Ice Cream Cones:** Baby cones, special mini cones, mini cones, industrial cones, natural top medium cones, and large cones; available plain or with custom sleeves and branding.
- **Aluminium Foil Sleeves:** Dual to multilayered sleeves with food-grade inks and protective coatings, designed for moisture resistance in refrigerated and semi-refrigerated environments.

Key Customer Segments Served:

- Ice Cream Manufacturers
- Dairy Industry
- Packaged Food Companies
- Confectionery Brands
- Food Retail Chains and Parlours

Key Strengths:

- **IML Expertise:** Strong capability in developing injection-moulded containers with in-mould labelling, tailored to customer requirements.
- **Product Customization:** Offers a wide variety of cones, sleeves, and containers with options for branding, flavours, and designs.
- **Certified Facilities:** Operates five manufacturing units with recognized food safety and quality certifications.
- **Experienced Team:** Skilled management and workforce support timely execution of customer orders.
- **Operational Efficiency:** Automation-driven processes enable cost-effective production and consistent quality.

Peer Companies Profiling: End Caps Segment

VP Engineers

Company Overview:

Founded in 1984 under the name VALQUA PRODUCTS, VP Engineers is a part of the IGP Group of Companies and is headquartered in Thiruvanniyur, Chennai. The company has evolved into a globally recognized manufacturer of specialized industrial components catering to diversified industries including refineries, power plants, and process industries. It specializes in the manufacturing of high-performance products using advanced materials like Polyurethane, Rubber (NBR, Neoprene, Viton), FRP, Plastics (PP, HDPE, Nylon, PTFE, ABS, PVC), and specialized Metal (Ferrous & Non-Ferrous, SS). While its manufacturing processes include PU Casting, Injection Moulding, Blow Moulding, Roto Moulding, Metal Fabrication, FRP Fabrication, Tube Lining. The company's manufacturing unit spread across in 5 acres land with built-up area of 50,000 sq feet at Kattur Village, Thiruporur Kancheepuram District near Chennai. It also provides the Tube insert expansion services for heat exchanges and Spray Nozzel testing services in the water distribution sector. It is accredited with ISO 9001:2015 certification and is a preferred supplier for providing product with global quality standard both in domestic market and in over 25 countries globally.

Key Product & Service Offerings:

- Pipeline Pigs & Foam Pigs
- Steel Mandrel Pigs
- Tube Inserts & End Seals for
- Pressure Nozzles & Gauging Plates
- Cooling Tower Spares
- Pipe Caps, Flange Covers, Bi-Di Pigs

Key Customer Segments Served:

Oil & Gas Industry, Process Industries, Water Treatment & Utilities, Power Generation

ME Plast

Company Overview

Founded in 2018, ME Plast is a proprietorship firm located in Ahmedabad, Gujarat. ME Plast specializes in the manufacturing and supplying of various plastic products for household and industrial use like Food-grade certified products, Flange End Covers, Plastic End Caps (LLDPE), Plastic Flange Caps, Plastic Flange Protection

End Cap, Flower Foil Print Plastic Square Container Set and Magazine File Rack etc. The company operates with a strong focus on quality, customization, and timely delivery.

Key Product & Service Offerings:

- Plastic Buckets & Mugs
- Flip Top Caps & Hand Sanitizer Bottles
- Plastic Containers & Magazine File Racks
- Plastic End Caps & Flange Covers
- Flower Foil Print Containers
- Bathroom Sets & Vegetable Racks

Key Customer Segments Served:

Retailers and Wholesales for household plastic goods; Industrial Sector for plastic end caps, flange covers, and protective packaging components, FMCG & Packaging Companies; Home & Lifestyle Brands; Hospitality & Housekeeping Services.

Besto Plast

Company Profile

Established in 1972, Besto Plast is a Mumbai based company and is of the leading manufacturer of precision Plastic Components for Industrial applications including for the valves, pumps, pipes, fittings, and flanges. The company also offer customised product offering as per the client specifications to me the end requirement. Beside domestic market, the company is actively catering to clients across **Europe, Middle East, and Southeast Asia** with precision-engineered plastic components.

Key Product & Service Offerings:

- Pipe End Caps
- Flange End Covers
- Socket Weld & Buttweld End Caps
- Screwed End Cap,
- PVC Handle Sleeves
- PCD Guided Flanges

- Customized Metallic Nameplates
- Rubber and Covers

Key Customer Segments Served:

Oil & Gas Sector, Valve & Pump Manufacturing, Chemical & Petrochemical, Heavy Engineering & Forging, Water Treatment & Utilities, Power Generation