

Industry Research Report
on
Nonwoven Fabric Industry

Disclaimer

This report is prepared by CARE Analytics and Advisory Private Limited (CareEdge Research). CareEdge Research has taken utmost care to ensure accuracy and objectivity while developing this report based on information available in CareEdge Research's proprietary database, and other sources considered by CareEdge Research as accurate and reliable including the information in public domain. The views and opinions expressed herein do not constitute the opinion of CareEdge Research to buy or invest in this industry, sector or companies operating in this sector or industry and is also not a recommendation to enter into any transaction in this industry or sector in any manner whatsoever.

This report has to be seen in its entirety; the selective review of portions of the report may lead to inaccurate assessments. All forecasts in this report are based on assumptions considered to be reasonable by CareEdge Research; however, the actual outcome may be materially affected by changes in the industry and economic circumstances, which could be different from the projections.

Nothing contained in this report is capable or intended to create any legally binding obligations on the sender or CareEdge Research which accepts no responsibility, whatsoever, for loss or damage from the use of the said information. CareEdge Research is also not responsible for any errors in transmission and specifically states that it, or its Directors, employees, parent company – CARE Ratings Ltd., or its Directors, employees do not have any financial liabilities whatsoever to the subscribers/users of this report. The subscriber/user assumes the entire risk of any use made of this report or data herein. This report is for the information of the authorized recipient in India only and any reproduction of the report or part of it would require explicit written prior approval of CareEdge Research.

CareEdge Research shall reveal the report to the extent necessary and called for by appropriate regulatory agencies, viz., SEBI, RBI, Government authorities, etc., if it is required to do so. By accepting a copy of this Report, the recipient accepts the terms of this Disclaimer, which forms an integral part of this Report.

Table of Contents

1	Economic Outlook	6
1.1	Global Economy.....	6
1.2	Indian Economic Outlook.....	8
1.2.1	GDP Growth and Outlook	8
1.2.2	Gross Value Added (GVA)	9
1.2.3	Investment Trend in Infrastructure.....	10
1.2.4	Industrial Growth	11
1.2.5	Consumer Price Index.....	11
1.2.6	Overview on Key Demographic Parameters	13
1.2.7	Concluding Remarks	15
2	Fabric Industry	16
2.1	Types of Fabrics	16
2.1.1	Natural Fabrics.....	16
2.1.2	Synthetic Fabrics	16
2.1.3	Non-Woven Fabrics	17
3	Non-Woven Fabric Market	18
3.1	Unique Properties and Versatility of Non-woven Fabric.....	18
3.2	Types of Non-Woven Fabric.....	18
3.3	Types of Spunbond Fabrics	19
3.3.1	Hydrophobic and Hydrophilic Non-woven Fabric	23
3.3.2	Antistatic Non-woven Fabric.....	24
3.3.3	UV-treated fabric.....	25
3.3.4	FR-treated fabric	26
3.4	Global Consumption- By Region (In Thousand Tons).....	27
4	Non-Woven Market segmentation	28
4.1	Market Overview by Technology used in Manufacturing Process	28
4.2	Market Overview by End User Industry	30
5	Indian Non-Woven Fabric Market.....	36
5.1	Domestic Non-woven fabric consumption trend	36
5.2	Growth Drivers in Non-Woven Industry	38
5.3	Challenges faced by Non-Woven Industry	39
5.4	Government Initiatives & Regulations.....	40
5.5	Industry Outlook.....	42
6	Peer Comparison:.....	43
6.1	Major Players.....	43
6.2	Peer Comparison	44

List of Charts

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y change in %)	6
Chart 2: Trend in Real Indian GDP growth rate	8
Chart 3: Gross Fixed Capital Formation (GFCF) as % of GDP (At constant prices)	10
Chart 4: Y-o-Y growth in IIP (in %)	11
Chart 5: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100)	12
Chart 6: RBI historical Repo Rate	12
Chart 7: Trend of India Population vis-à-vis dependency ratio	13
Chart 8: Age-Wise Break Up of Indian population	14
Chart 9: Urbanization Trend in India	14
Chart 10: Trend of Per Capita GNDI and Per Capita PFCE (Current Price)	15
Chart 11: Share of each type of Non-woven Fabric in CY23 (In Volume term)	21
Chart 12: Global Market size (Volume)	21
Chart 13: Global Market size (Value)	22
Chart 14: Trend in Market size in Key continents (Volume)	22
Chart 15: Global Hydrophobic and Hydrophilic Fabric Sales (Volume)	23
Chart 16: Global Hydrophobic and Hydrophilic Fabric Sales (Value)	23
Chart 17: Global Antistatic Fabric Sales (Volume)	24
Chart 18: Global Antistatic Fabric Sales (Value)	24
Chart 19: Global UV-Treated Fabric Sales (Volume)	25
Chart 20: Global UV-Treated Fabric Sales (Value)	25
Chart 21: Global FR-Treated Fabric Sales (Volume)	26
Chart 22: Global FR-Treated Fabric Sales (Value)	26
Chart 23: Global Consumption comparison	27
Chart 24: Market breakup by Technology	30
Chart 25: Domestic Consumption by Health & Hygiene industry (Volume)	31
Chart 26: Domestic Consumption by Medical industry (Volume)	32
Chart 27: Domestic Consumption by Packaging industry (Volume)	32
Chart 28: Domestic Consumption by Agriculture industry (Volume)	33
Chart 29: Domestic Consumption by End user industry (Volume)	34
Chart 30: Domestic Consumption by End user industry (Value)	34
Chart 31: Domestic consumption trend (Volume)	36
Chart 32: Domestic consumption trend (Value)	36

List of Tables

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %)	6
Table 2: RBI's GDP Growth Outlook (Y-o-Y %)	9
Table 3: Sectoral Growth (Y-o-Y % Growth) - at Constant Prices	10

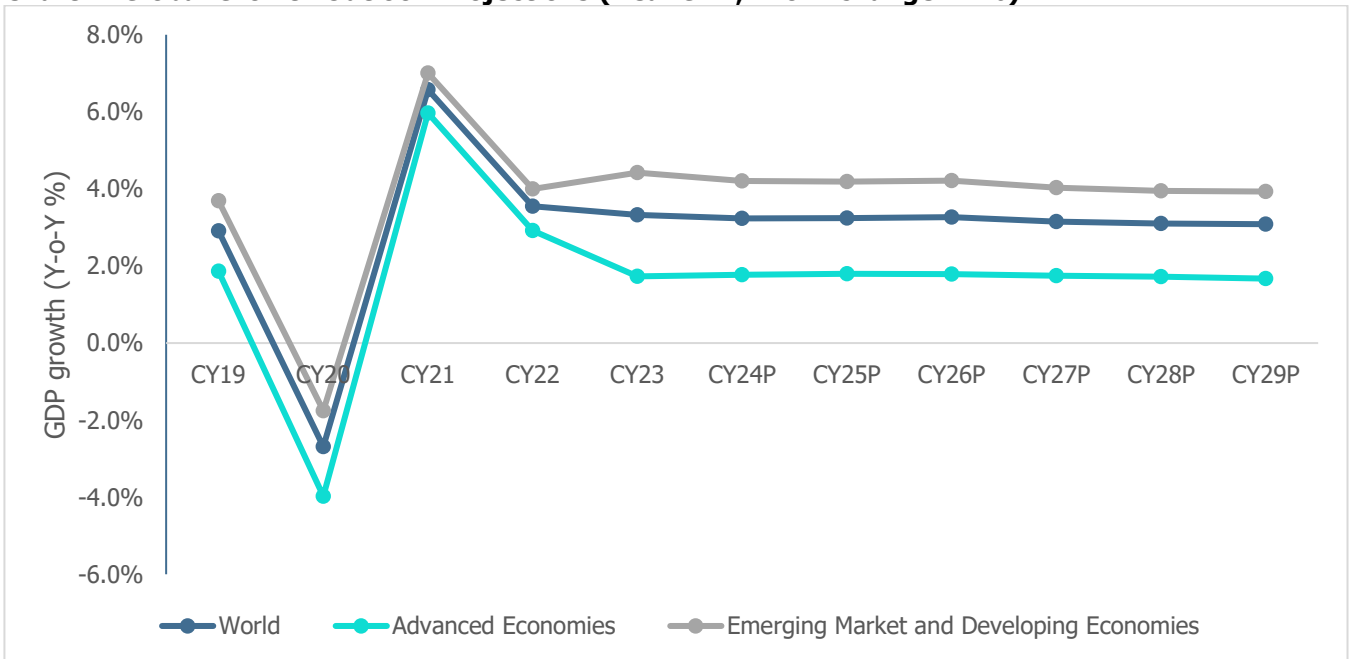
Table 4: Peer Analysis	43
Table 5: Comparison of Revenue from Operations (In INR Million)	44
Table 6: Comparison of EBITDA (In INR Million).....	44
Table 7: Comparison of EBITDA Margin	44
Table 8: Comparison of PAT (In INR Million)	44
Table 9: Comparison of PAT Margin.....	44
Table 10: Comparison of ROCE	45
Table 11: Comparison of Total Debt (Short-Term & Long-Term Borrowings-In INR Million).....	45

1 Economic Outlook

1.1 Global Economy

Global growth, which stood at 3.3% in CY23, is anticipated to fall and remain at 3.2% in both CY24 and CY25. The global real GDP growth outlook shows signs of improvement as cyclical imbalances ease, aligning economic activity with potential output in major economies. While global disinflation progresses, risks remain, particularly from financial market volatility and geopolitical tensions that could disrupt trade and increase commodity prices. Nonetheless, stronger public investment in advanced economies aimed at infrastructure and the green transition may stimulate private sector investment and bolster global demand. Additionally, accelerating structural reforms in both advanced and emerging markets could enhance productivity and support medium-term growth.

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y change in %)



Notes: P-Projection; Source: IMF – World Economic Outlook, October 2024

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %)

	Real GDP (Y-o-Y change in %)									
	CY20	CY21	CY22	CY23	CY24P	CY25P	CY26P	CY27P	CY28P	CY29P
India	-5.8	9.7	7.0	8.2	7.0	6.5	6.5	6.5	6.5	6.5
China	2.2	8.4	3.0	5.3	4.8	4.5	4.1	3.6	3.4	3.3
Indonesia	-2.1	3.7	5.3	5.0	5.0	5.1	5.1	5.1	5.1	5.1
Saudi Arabia	-3.6	5.1	7.5	-0.8	1.5	4.6	4.4	3.6	3.5	3.5
Brazil	-3.3	4.8	3.0	2.9	3.0	2.2	2.3	2.4	2.5	2.5
Euro Area	-6.1	6.2	3.3	0.4	0.8	1.2	1.5	1.4	1.3	1.2
United States	-2.2	6.1	2.5	2.9	2.8	2.2	2.0	2.1	2.1	2.1

P- Projections; Source: IMF- World Economic Outlook Database (October 2024)

Advanced Economies Group

Advanced economies are expected to experience a gradual increase in growth, increasing to 1.8% in CY24 and staying same for next 2 years.

The **United States** is expected to grow to 2.8% in CY24, followed by a slight slowdown to 2.2% in CY25. Growth outlook for the United States has improved due to strong consumption and non-residential investment, driven by rising real wages and wealth effects. However, growth is expected to decelerate as fiscal policies tighten and the labour market cools, leading to a gradual closure of the output gap.

The **Euro Area's** growth is anticipated to rebound from its sluggish growth in CY23 to 0.8% in CY24 and further to 1.2% in CY25. This recovery is driven by better export performance, as well as, a stronger domestic demand. The gradual loosening of the monetary policy is expected to boost investment and the rise of real wages is anticipated to improve the consumption patterns.

Emerging Market and Developing Economies Group

Emerging market and developing economies are forecasted to maintain stable growth at 4.2% in both CY24 and CY25. The economic forecast for emerging and developing Asia reveals a modest deceleration in growth, with projections indicating a decline from 5.3% in CY24 to 5% in CY25. **China's** trajectory reflects a gradual slowdown, transitioning from 4.8% in CY24 to 4.5% in CY25 due to low consumer confidence and ongoing real estate sector challenges. However, better than expected net exports have ensured that the slowdown in growth is marginal. In contrast, **India's** growth remains robust, with anticipated rates of 7% in CY24 and 6.5% in CY25. This moderation in GDP growth is expected as the surge in pent-up demand from the pandemic wanes. The economy is transitioning towards its potential, reflecting a more sustainable pace of growth as it adjusts to post-pandemic realities.

The **Indonesian** economy is expected to register growth of 5.0% in CY24 and 5.1% in CY25, an important concern for Indonesia is the trade fragmentation. **Saudi Arabia's** growth in CY24 is predicted to see a revamp in the growth rate to 1.5% on account of the extension of oil production cuts taking place in the country. Going forward, GDP is expected to grow at 4.6% in CY25. On the other hand, **Brazil's** growth is projected to be 3% in CY24 due to robust private consumption and investment driven by a strong labour market and effective government transfers. However, due to the anticipated tightening of the labour market and ongoing restrictive monetary policy, growth is expected to slowdown in CY25 to 2.2%.

Despite the turmoil in the last 2-3 years, India bears good tidings to become a USD 5 trillion economy by CY27. According to the IMF dataset on Gross Domestic Product (GDP) at current prices, the nominal GDP has been at USD 3.6 trillion for CY23 and is projected to reach USD 5.2 trillion by CY27 and USD 6.3 trillion by CY29. India's expected GDP growth rate for coming years is almost double compared to the world economy. The Indian economy shows resilience amid global inflation, supported by a stable financial sector, strong service exports, and robust investment driven by government spending and high-income consumer consumption, positioning it for better growth than other economies.

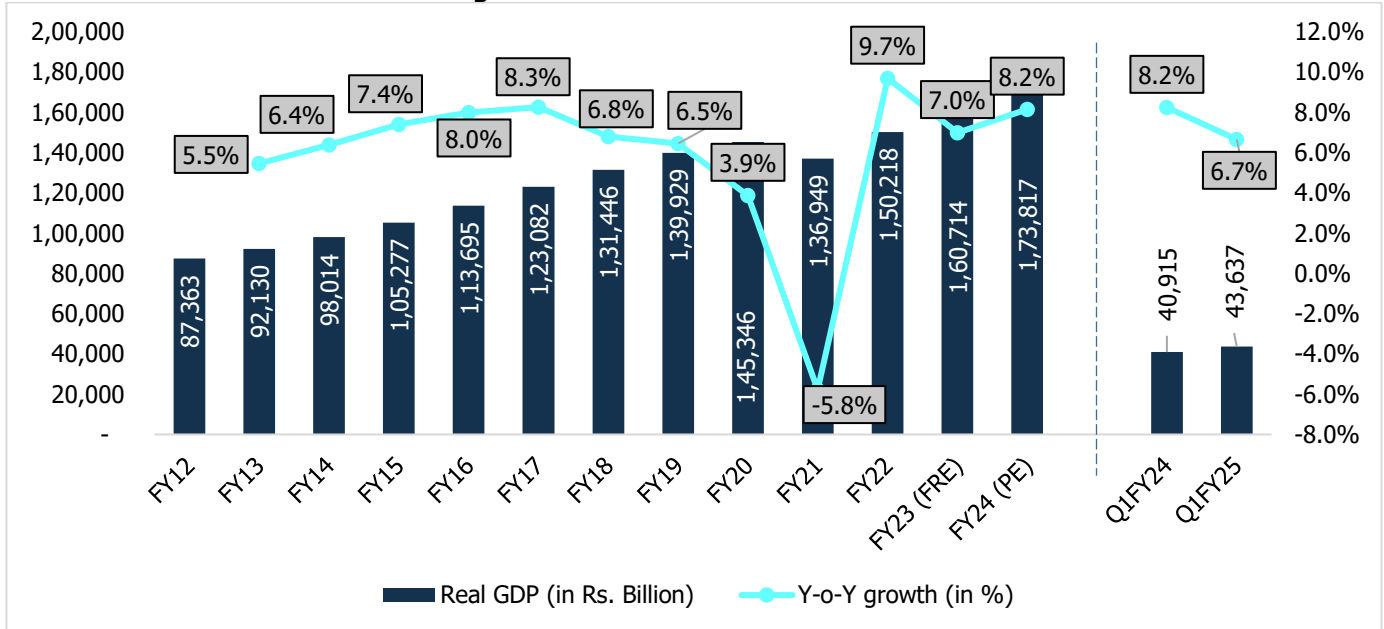
Besides, India stands out as the fastest-growing economy among the major economies. The country is expected to grow at more than 6.5% in the period of CY24-CY29, outshining China's growth rate. By CY27, the Indian economy is estimated to emerge as the third-largest economy globally, hopping over Japan and Germany. Currently, it is the third largest economy globally in terms of Purchasing Power Parity (PPP) with a ~7.9% share in the global economy, with China (~18.7%) on the top followed by the United States (~15.1%).

1.2 Indian Economic Outlook

1.2.1 GDP Growth and Outlook

Resilience to External Shocks remains Critical for Near-Term Outlook

Chart 2: Trend in Real Indian GDP growth rate



Note: FRE – First Revised Estimates, PE – Provisional Estimate; Source: MOSPI

India's real GDP grew by 7.0% in FY23 and stood at ~Rs. 161 trillion, as per the First Revised Estimate, despite the pandemic in previous years and geopolitical Russia-Ukraine spillovers. Real GDP in the year FY24 is estimated to grow at 8.2% at Rs. 173.82 trillion as per provisional estimate of the Ministry of Statistics and Programme Implementation. It is expected that domestic demand, especially investment, to be the main driver of growth in India, amid sustained levels of business and consumer confidence.

In Q1FY25, real GDP grew by 6.7% y-o-y, hitting a 15-month low, as compared to 8.2% y-o-y in the previous quarter. Private consumption, a key driver of the GDP, showed resilience increasing by 7.45% while government spending contracted by 0.24%. This growth was largely driven by elections and extreme summer conditions, which impacted economic activities across several sectors.

GDP Growth Outlook

- Driven by strong government capital expenditure, recovery in industrial activity, improved rural demand, and robust export performance, the economy continues to expand. The provisional estimates (PE) placed real GDP growth at 8.2% for FY24.
- Industrial activity in India faced a setback in Q25 due to sector-specific slowdowns and monsoon-related disruptions. However, signs of recovery are visible, with industrial performance expected to improve in the second half of the year, driven by seasonal corrections, government spending, and the normalization of key sectors like cement, iron, steel, mining, and electricity.
- The domestic economic activity has shown signs of recovery after the slowdown in Q2 (5.4% growth), driven by strong festive demand and an uptick in rural activity. Healthy kharif crop production, higher reservoir levels, and better rabi sowing are providing a strong foundation for agricultural growth. Industrial activity is expected to normalize post-monsoon disruptions, with growth supported by government capital expenditure and

improvements in cement, iron, steel, mining, and electricity sectors. The services sector continues to grow robustly, with the PMI for services at 58.4 in November, indicating continued expansion. Merchandise exports grew by 17.2% in October, and services exports maintained double-digit growth, supporting the external sector.

- Investment activity is expected to pick up which will be driven by higher government capital expenditure and a recovery in industrial sectors like cement, iron, and steel. Strong export growth in both merchandise and services is also likely to support investment.

Persistent geopolitical tensions, volatility in international financial markets and geo-economic fragmentation do pose risk to this outlook. Based on these considerations, the RBI, in its December 2024 monetary policy, has projected real GDP growth at 6.6% y-o-y for FY25.

Table 2: RBI's GDP Growth Outlook (Y-o-Y %)

FY25P (complete year)	Q3FY25P	Q4FY25P	Q1FY26P	Q2FY26P
6.6%	6.8%	7.2%	6.9%	7.3%

Note: P-Projected; Source: Reserve Bank of India

1.2.2 Gross Value Added (GVA)

Gross Value Added (GVA) is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side whereas GDP represents consumption.

Industry and Services sector leading the recovery charge

- The gap between GDP and GVA growth turned positive in FY22 (after a gap of two years) due to robust tax collections. Of the three major sector heads, the service sector has been the fastest-growing sector in the last 5 years.
- In FY23, **the agriculture sector** performed well despite weather-related disruptions, such as uneven monsoon and unseasonal rainfall, impacting yields of some major crops and clocked a growth of 4% y-o-y, garnering Rs. 22.3 trillion. The agriculture sector's growth slowed in FY24 to an estimated 1.4% rise for the year, down from 4.7% in FY23. The sector reached to Rs. 23.1 trillion for FY24 as per provisional estimate. In Q1FY25, the agriculture sector grew by only 2% y-o-y as compared to 3.7% in Q1FY24. Better monsoon conditions are expected to brighten outlook for the agriculture sector. Going forward, rising bank credit and increased exports will be the drivers for the agriculture sector.
- The **industrial sector** output in FY23 grew by only 2.1% with estimated value Rs. 44.74 trillion owing to decline in manufacturing activities. India's industrial sector experienced robust growth in FY24 supported by positive business sentiment, falling commodity prices, and government policies like production-linked incentives. The sector grew by 9.5% on y-o-y basis, reaching Rs. 48.9 trillion for FY24. In Q1FY25, the industrial sector grew by 8.3% y-o-y as compared to 6% in Q1FY24. This growth was driven mainly by sales growth in manufacturing companies, construction, and utility services. Construction grew at the highest rate of 10.5% as compared to a growth rate of 8.3% in the same quarter in previous year.
- In FY23, benefitting from the pent-up demand, the **services sector** was valued at Rs. 80.6 trillion and registered growth of 10.0% y-o-y. In FY24, India's services sector growth was driven by steady growth in various service sector indicators like air passenger traffic, port cargo traffic, GST collections, and retail credit. With this, the growth of service sector is estimated at Rs. 86.7 trillion registering 7.6% growth in FY24 overall. In Q1FY25, the services sector grew by only 7.2% y-o-y as compared to 10.7% in Q1FY24.

Table 3: Sectoral Growth (Y-o-Y % Growth) - at Constant Prices

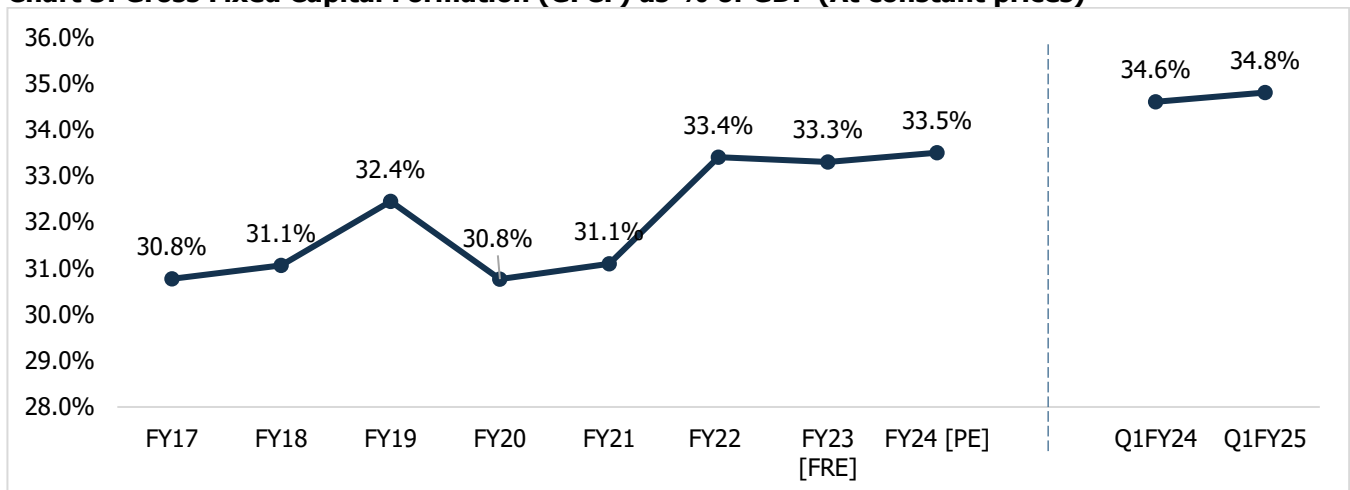
At constant Prices	FY19	FY20	FY21	FY22	FY23 (FRE)	FY24 (PE)	Q1FY24	Q1FY25
Agriculture, Forestry & Fishing	2.1	6.2	4.1	3.5	4.7	1.4	3.7	2.0
Industry	5.3	-1.4	-0.9	11.6	2.1	9.5	6	8.3
Mining & Quarrying	-0.9	-3.0	-8.6	7.1	1.9	7.1	7.0	7.2
Manufacturing	5.4	-3.0	2.9	11.1	-2.2	9.9	5.0	7.0
Electricity, Gas, Water Supply & Other Utility Services	7.9	2.3	-4.3	9.9	9.4	7.5	3.2	10.4
Construction	6.5	1.6	-5.7	14.8	9.4	9.9	8.6	10.5
Services	7.2	6.4	-8.2	8.8	10.0	7.6	10.7	7.2
Trade, Hotels, Transport, Communication & Broadcasting	7.2	6.0	-19.7	13.8	12.0	6.4	9.7	5.7
Financial, Real Estate & Professional Services	7.0	6.8	2.1	4.7	9.1	8.4	12.6	7.1
Public Administration, Defence and Other Services	7.5	6.6	-7.6	9.7	8.9	7.8	8.3	9.5
GVA at Basic Price	5.8	3.9	-4.2	8.8	6.7	7.2	8.3	6.8

Note: FRE – First Revised Estimates, PE – Provisional Estimate; Source: MOSPI

1.2.3 Investment Trend in Infrastructure

Gross Fixed Capital Formation (GFCF) is a measure of the net increase in physical assets. In FY23, the ratio of investment (GFCF) to GDP remained flat, as compared to FY22, at 33.3%. Continuing in its growth trend, this ratio has reached 33.5% in FY24. In Q1FY25, GFCF as a proportion in GDP, reached 34.8% as compared to 34.6% in Q1FY24 mainly reflecting growth in private investment.

Chart 3: Gross Fixed Capital Formation (GFCF) as % of GDP (At constant prices)



Note: 3RE – Third Revised Estimate, 2RE – Second Revised Estimates, 1RE – First Revised Estimates, PE – Provisional Estimate, FAE-First Advance Estimate; Source: MOSPI

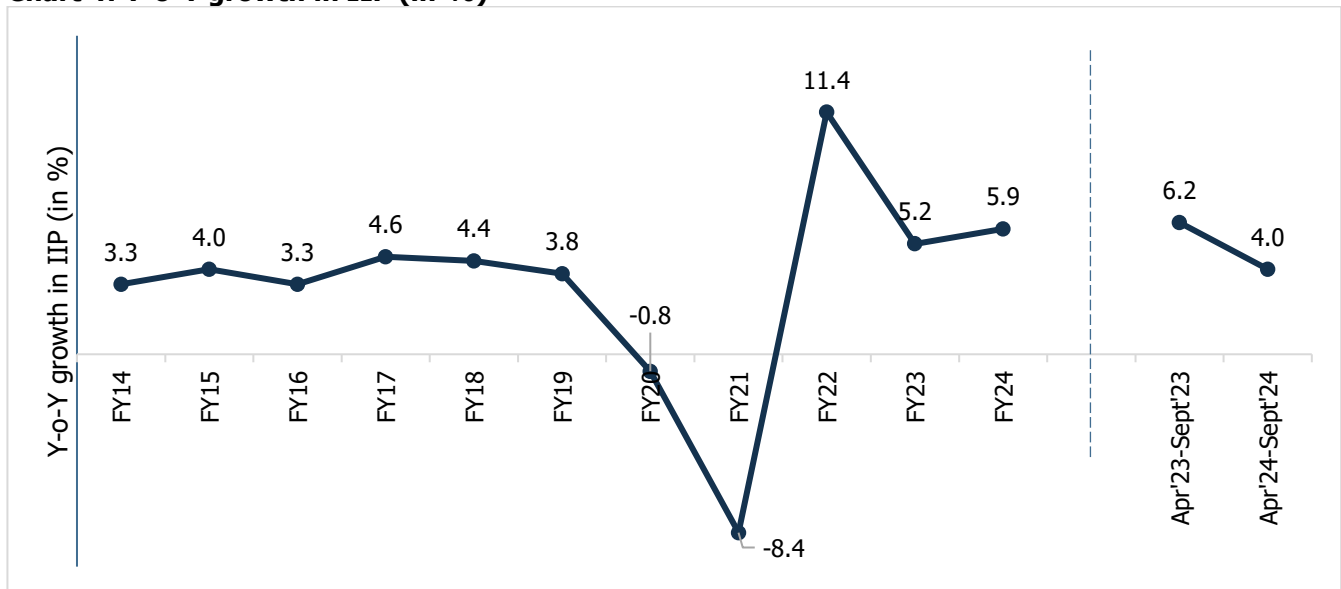
Overall, the support of public investment in infrastructure is likely to gain traction due to initiatives such as Atmanirbhar Bharat, Make in India, and Production-linked Incentive (PLI) scheme announced across various sectors.

1.2.4 Industrial Growth

Improved Core and Capital Goods Sectors helped IIP Growth Momentum

The Index of Industrial Production (IIP) is an index to track manufacturing activity in an economy. During FY23, the industrial output recorded a growth of 5.2% y-o-y supported by a favorable base and a rebound in economic activities. During FY24, the industrial output recorded a growth of 5.9% y-o-y supported by growth in manufacturing and power generation sectors. The period April 2024 – September 2024, industrial output grew by 4.0% compared to the 6.2% growth in the corresponding period last year. For the month of September 2024, the IIP growth increased by 3.1% as compared to the last year’s IIP growth of 6.4%. This increase was on account of all the used based segments witnessing a growth in their Y-o-Y growth in September 2024 compared to August 2023. The manufacturing sector also grew modestly in September 2024 by 3.9% as compared to a growth of 5.1% in September 2023. Within the growth in manufacturing, the top three positive contributors were Manufacture of basic metals, Manufacture of electrical equipment, and Manufacture of coke and refined petroleum products. So far in the current fiscal, the government’s strong infrastructure spending and rising private investment are evident, though consumer non-durables production has declined. Urban demand drives consumption, while rural demand improves, highlighting the importance of sustained consumption and investment for industrial performance.

Chart 4: Y-o-Y growth in IIP (in %)

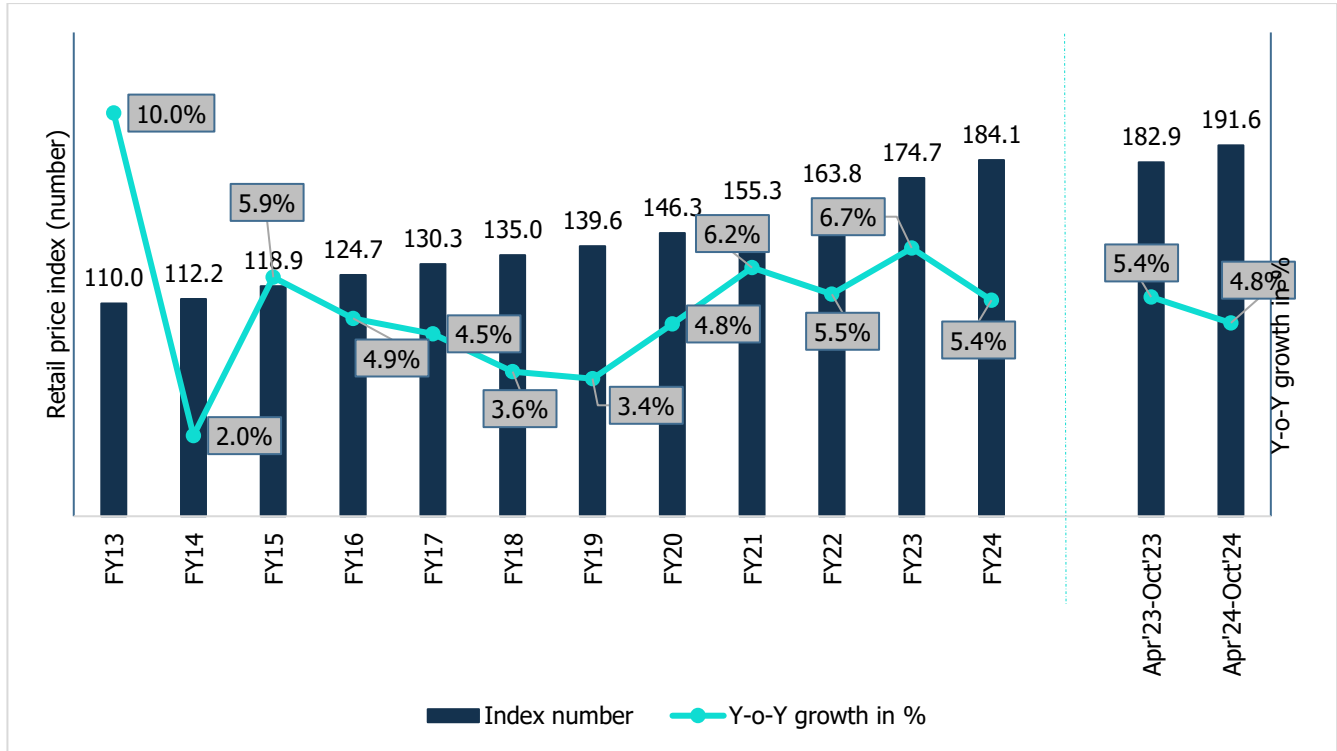


Source: MOSPI

1.2.5 Consumer Price Index

India’s consumer price index (CPI) tracks retail price inflation in the economy. During FY23, CPI remained elevated at an average of 6.7%, above the RBI’s tolerance level. In FY24, the Consumer Price Index (CPI) showed fluctuations, starting with a moderation to 4.3% in May 2023, followed by a spike to 7.4% in July 2023 due to rising food prices. Overall, inflation moderated to 5.4% for the year, remaining within the RBI’s target range of 2% to 6%, despite volatility in food prices throughout the months. High inflation in specific food items poses inflation risk, even though an improvement in south-west monsoon and better kharif sowing are improving the food inflation outlook. The numbers for April 2024-October 2024 show a decline in inflation growth y-o-y to 4.8% as compared to inflation growth y-o-y of 5.4% in April 2023-October 2023 period. For October 2024, CPI inflation stood at 6.2% which has been the highest retail inflation since December 2023. There was a decline in inflation observed among the subgroups pulses & products, eggs, sugar & confectionery and spices subgroup.

Chart 5: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100)

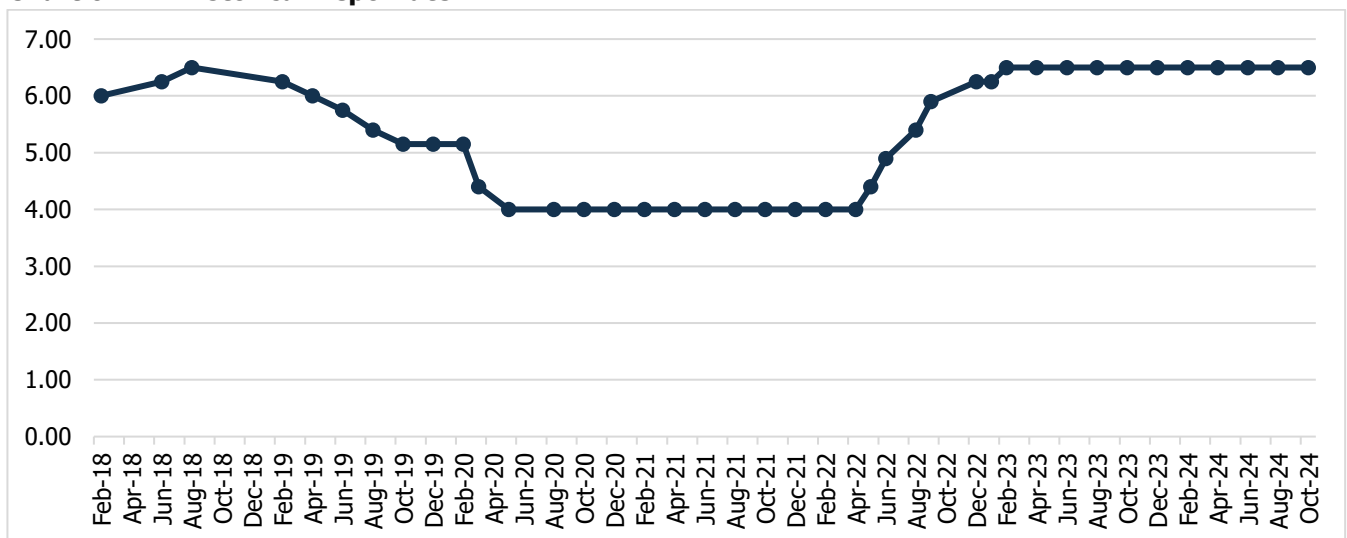


Source: MOSPI

The CPI is primarily factored in by RBI while preparing their bi-monthly monetary policy. At the bi-monthly meeting held in October 2024, RBI projected inflation at 4.5% for FY25 with inflation during Q2FY25 at 4.1%, Q3FY25 at 4.8%, Q4FY25 at 4.2%, and Q1FY26 at 4.3%.

Considering the current inflation situation, RBI has kept the repo rate unchanged at 6.5% again in the October 2024 meeting of the Monetary Policy Committee.

Chart 6: RBI historical Repo Rate



Source: RBI

Further, the central bank changed its stance to neutral. While headline inflation has started easing due to softening in core component and economic activity has been resilient supported by domestic and investment demand, volatility in food prices due to adverse weather conditions pose a risk to the path of disinflation. Core inflation has

likely reached its lowest point, and fuel prices are contracting. Domestic growth remains strong, driven by private consumption and investment, allowing the MPC to focus on bringing inflation down to the 4% target. As a result, the MPC decided to adopt a 'neutral' stance, monitoring inflation while supporting growth.

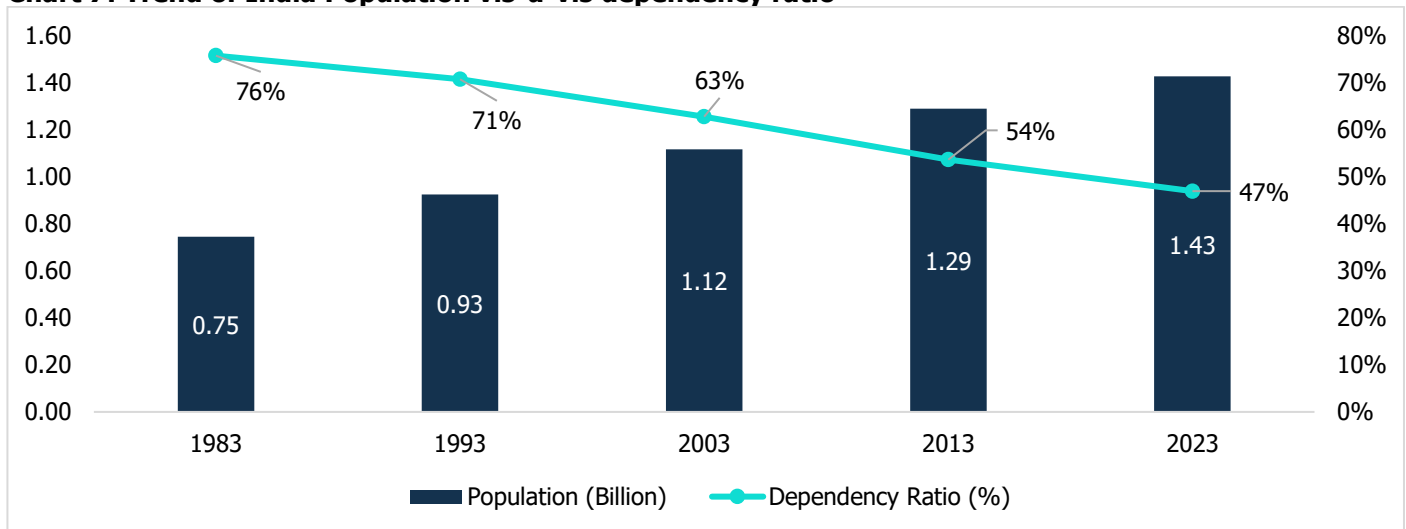
1.2.6 Overview on Key Demographic Parameters

- **Population growth and Urbanization**

The trajectory of economic growth of India and private consumption is driven by socio-economic factors such as demographics and urbanization. According to the world bank, India's population in 2022 surpassed 1.42 billion slightly higher than China's population 1.41 billion and became the most populous country in the world.

Age Dependency Ratio is the ratio of dependents (younger than 15 and older than 64) to the working age population, (15 to 64 years). This ratio has been on a declining trend. It was as high as 76% in 1983, which has reduced to 47% in 2023. Declining dependency means the country has an improving share of working-age population generating income, which is a good sign for the economy.

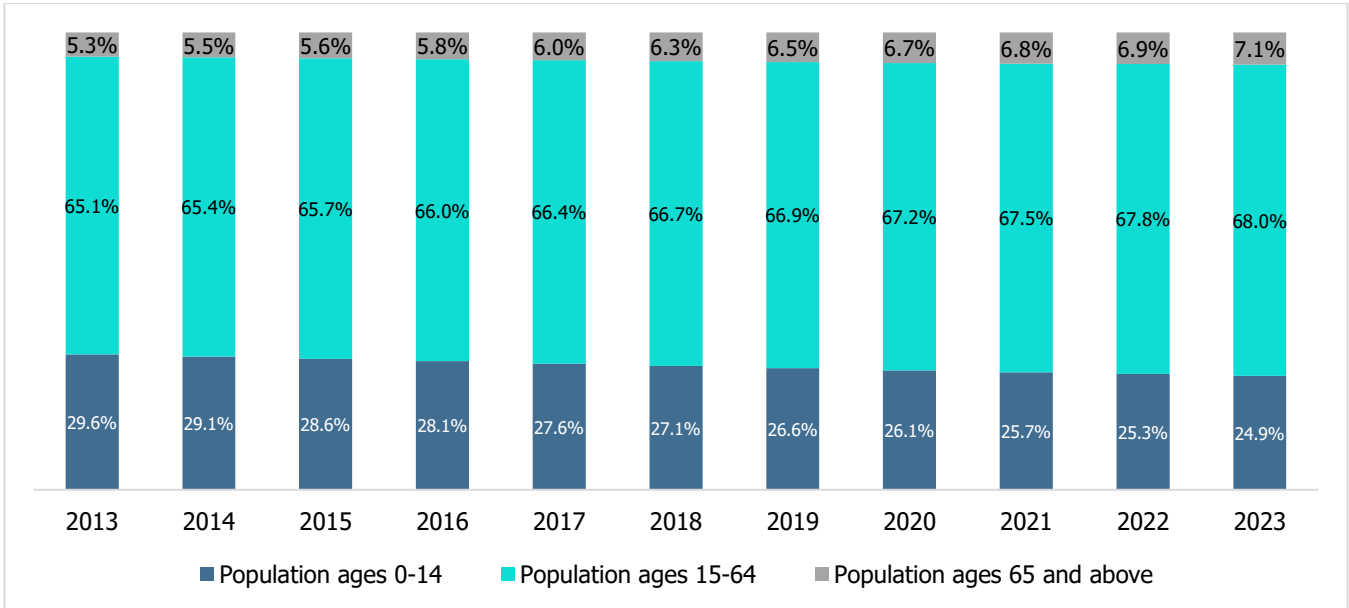
Chart 7: Trend of India Population vis-à-vis dependency ratio



Source: World Bank Database

With an average age of 29, India has one of the youngest populations globally. With vast resources of young citizens entering the workforce every year, it is expected to create a 'demographic dividend'. India is home to a fifth of the world's youth demographic and this population advantage will play a critical role in economic growth.

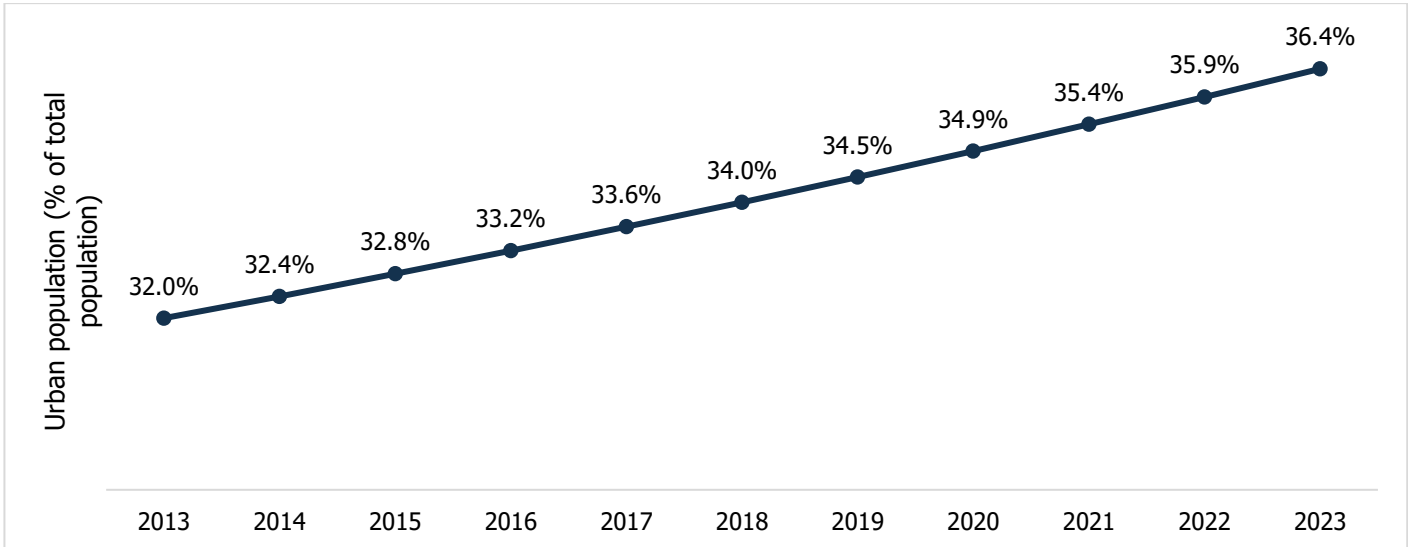
Chart 8: Age-Wise Break Up of Indian population



Source: World Bank Database

The urban population is significantly growing in India. The urban population in India is estimated to have increased from 413 million (32% of total population) in 2013 to 519.5 million (36.4% of total population) in the year 2023.

Chart 9: Urbanization Trend in India



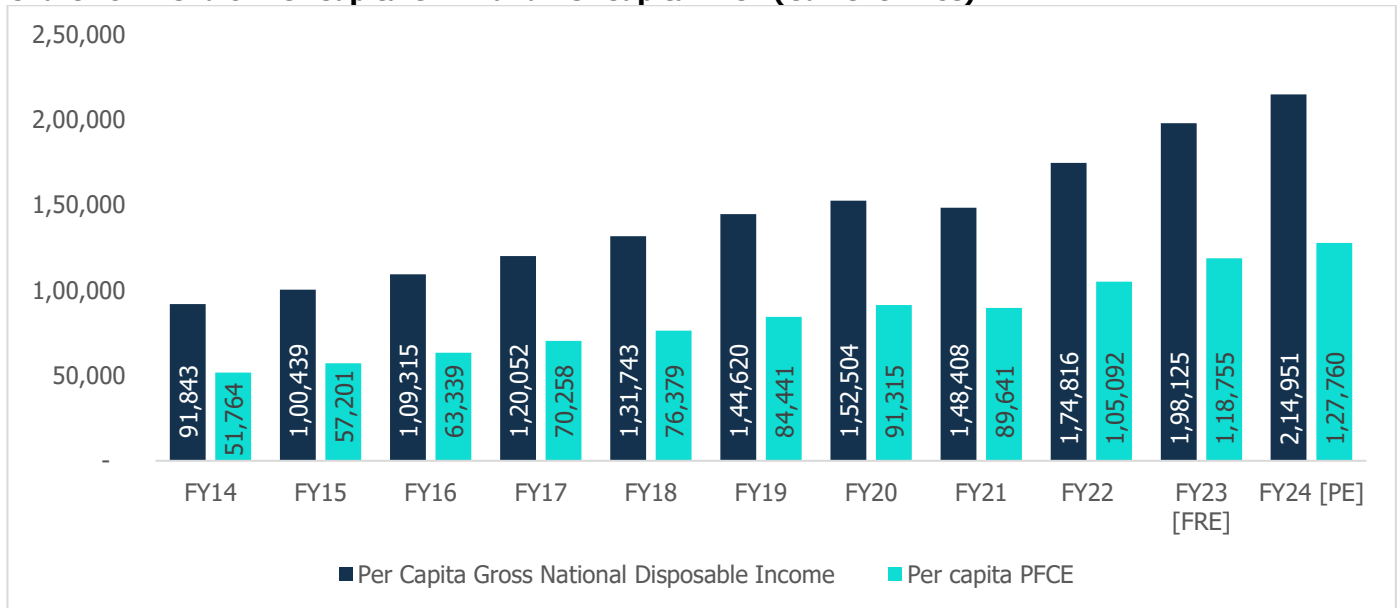
Source: World Bank Database

• **Increasing Disposable Income and Consumer Spending**

Gross National Disposable Income (GNDI) is a measure of the income available to the nation for final consumption and gross savings. Between the period FY14 to FY24, per capita GNDI at current prices registered a CAGR of 8.88%. More disposable income drives more consumption, thereby driving economic growth.

With increase in disposable income, there has been a gradual change in consumer spending behaviour as well. Private Final Consumption Expenditure (PFCE) which is measure of consumer spending has also showcased significant growth in the past decade at a CAGR of 9.46%.

Chart 10: Trend of Per Capita GNDI and Per Capita PFCE (Current Price)



Note: FRE – First Revised Estimates, PE – Provisional Estimate; Source: MOSPI

1.2.7 Concluding Remarks

The major headwinds to global economic growth are escalating geopolitical tensions, volatile global commodity prices, high interest rates, inflation woes, volatility in international financial markets, climate change, rising public debt, and new technologies. Despite the global economic growth uncertainties, the Indian economy is relatively better placed in terms of GDP growth compared to other emerging economies. According to IMF’s forecast, it is expected to be 7% in CY24 compared to the world GDP growth projection of 3.2%. The bright spots for the economy are continued healthy domestic demand, support from the government towards capital expenditure, moderating inflation, investments in technology and improving business confidence.

India's strategic positioning as a manufacturing hub, bolstered by government initiatives, a skilled workforce, and a burgeoning startup ecosystem, enhances this outlook. Ongoing reforms and a focus on innovation position the country to capitalize on emerging opportunities, strengthening its role in the global manufacturing landscape. Likewise, several high-frequency growth indicators including the purchasing managers index, E-way bills, bank credit, toll collections and GST collections have shown improvement in FY24. Moreover, normalizing the employment situation after the opening up of the economy is expected to improve and provide support to consumption expenditure.

At the same time, public investment is expected to exhibit healthy growth as the government has allocated a strong capital expenditure of about Rs. 11.11 lakh crores for FY25. The private sector’s intent to invest is also showing improvement as per the data announced on new project investments and resilience shown by the import of capital goods. Additionally, improvement in rural demand owing to healthy sowing, improving reservoir levels, and progress in south-west monsoon along with government’s thrust on capex and other policy support will aid the investment cycle in gaining further traction.

2 Fabric Industry

The fabric industry is a vital segment of the global textile sector, encompassing the production, manufacturing, and distribution of various types of fabrics used in diverse applications. From apparel and fashion to home furnishings, industrial products, medical supplies, and more. The fabric industry plays a crucial role in supplying essential materials to numerous sectors. The industry comprises a wide range of materials, including natural fabrics like cotton, silk, and wool, as well as synthetic fabrics such as polyester, nylon, and spandex. Additionally, the non-woven fabric sector is gaining prominence due to its applications in hygiene products, healthcare, agriculture and industrial uses.

The fabric industry is integral to both everyday consumer goods and specialized industrial applications, making it a cornerstone of the global economy. As consumer preferences shift toward sustainable and innovative fabrics, the industry is evolving to meet new challenges and opportunities.

2.1 Types of Fabrics

2.1.1 Natural Fabrics

The fabric industry includes a rich variety of **natural fabrics** such as cotton, silk, and wool, each with unique properties and applications.

- **Cotton** is widely used in apparel, home textiles, and medical supplies due to its softness, breathability, and absorbent qualities. In the Cotton Marketing Year from August 1, 2023, to July 31, 2024, global cotton production reached 24,615 thousand tonnes. Major producers include China, India, the U.S., Brazil, and Pakistan, with India being a key player as one of the largest producers, consumers, and exporters. Cotton supports the livelihood of approximately 5.8 million farmers and 40-50 million people involved in cotton processing and trade-related activities.
- **Silk** is renowned for its luxurious texture and sheen, making it a popular choice in high-end fashion, accessories, and home décor. India is the second-largest producer and the largest consumer of silk globally, and the only country that produces all four major commercial varieties: Mulberry, Tropical & Oak Tasar, Muga, and Eri.
- **Wool** valued for its warmth and insulation, is widely used in winter clothing and blankets. Key regions like Kashmir, Ludhiana, and Panipat account for 80% of India's woollen production, blending traditional handloom techniques with modern manufacturing. Although smaller than the cotton and synthetic textile sectors, wool production benefits from government initiatives like the Integrated Wool Development Programme (IWDP) and Pashmina Brand Promotion. The Wool Research Association (WRA) supports industry growth through research, development, and skill-building, helping to enhance global recognition of Indian wool products.

2.1.2 Synthetic Fabrics

Synthetic fabrics like polyester, nylon, and spandex have become increasingly popular for their durability, versatility, and lower production costs compared to natural fabrics. Turkey has emerged as India's leading export destination for synthetic yarn, with total global exports amounting to Rs. 111,531 million.

- **Polyester** is prized for its wrinkle resistance, quick-drying nature, and durability, making it a key material in clothing, furnishings, and industrial textiles.
- **Nylon** is known for its strength and elasticity, commonly used in activewear, outdoor gear, and industrial applications.
- **Spandex** is highly elastic and essential in making stretchable garments, including sportswear and undergarments.

2.1.3 Non-Woven Fabrics

The non-woven fabric sector is thriving due to its applications in hygiene (diapers, sanitary products, wipes), healthcare (gowns, masks, bandages), industry (geotextiles, filtration, insulation), and consumer goods (reusable bags, cleaning products). It also supports agriculture (crop covers), environmental protection (spill containment), and advanced sectors like construction and aerospace, valued for its lightweight and versatile properties.

- **Non-woven fabrics** are produced by bonding fibers mechanically, thermally, or chemically, rather than weaving or knitting.
- These fabrics are essential in the production of disposable hygiene products like diapers, sanitary pads, and wipes, as well as medical items such as surgical gowns, face masks, and wound dressings.
- Industrial applications include filtration, automotive interiors, and geotextiles, with the sector experiencing growth driven by increasing demand for hygiene products and medical advancements.

3 Non-Woven Fabric Market

Non-woven fabric is a unique textile material that is distinct from traditional fabrics, as it is produced without the typical weaving or knitting processes that interlace yarns. Instead, fibers are bonded together through mechanical, thermal, or chemical methods to create the fabric. The absence of weaving or knitting results in fabrics that are lightweight, versatile, and often produced at lower costs. This innovative approach to fabric production makes non-woven materials highly adaptable, allowing manufacturers to tailor specific properties based on the intended application. Non-woven fabric is categorized based on various bonding patterns and conveying methods.

The future of the technical textile and non-woven fabric industries is closely intertwined, driven by shared growth opportunities across sectors like healthcare, hygiene, agriculture, automotive, infrastructure, and filtration. Rising demand for medical textiles, sanitary products, and eco-friendly packaging fuels non-woven fabric usage, while technical textiles contribute through innovations like geotextiles, advanced filtration media, and defense applications. Both industries benefit from sustainability trends and government support, such as India's National Technical Textiles Mission, promoting domestic production and R&D. With increasing applications and technological advancements, they are poised for significant growth and mutual expansion.

3.1 Unique Properties and Versatility of Non-woven Fabric

Due to its manufacturing technique, non-woven fabrics possess several unique properties:

- **Durability and Strength:** These fabrics can be designed to withstand varying levels of stress, depending on their use. Some are lightweight and disposable, while others are made to last for longer periods.
- **Flexibility:** Non-woven materials can be created in different thicknesses and densities, offering flexibility in design and functionality.
- **Cost-Effectiveness:** The production process often requires fewer resources and is less time-consuming than woven or knitted fabrics, making non-woven materials more economical to produce.

The versatility of non-woven fabrics makes them indispensable in creating both single-use products like diapers and sanitary pads, as well as long-lasting industrial materials, including geotextiles and filtration systems. This adaptability continues to drive growth in the non-woven fabric market globally.

3.2 Types of Non-Woven Fabric

Types	Description
Spunbond Nonwoven Fabric	Spunbond nonwoven fabric is made by extruding thermoplastic polymers such as polypropylene into continuous filaments. These filaments are then laid down randomly and bonded through heat, chemical, or mechanical processes. Known for its lightweight, durability, and water-resistant properties, spunbond fabric is also breathable, making it a popular choice for hygiene products like diapers and sanitary napkins, as well as for agricultural covers, medical gowns, filtration materials, and reusable shopping bags.
Spunlace Nonwoven Fabric	Spunlace nonwoven fabric is produced by entangling fibers using high-pressure water jets, forming a strong, flexible, and soft material without using adhesives or thermal bonding. The fabric is known for its soft texture, high absorbency, and strong tear resistance, making it suitable for wet wipes, cosmetic pads, medical dressings, disposable towels, and cleaning cloths.
Melt blown Nonwoven Fabric	Meltblown nonwoven fabric is created by extruding molten polymer through fine nozzles, with high-velocity hot air converting it into short, fine fibers that bond naturally. This method produces fabric with extremely fine fiber diameter, high filtration efficiency, and a lightweight structure. Meltblown fabric is widely used in face masks (such as N95 and surgical masks), air and liquid filtration systems, insulation materials, and oil-absorbing mats.

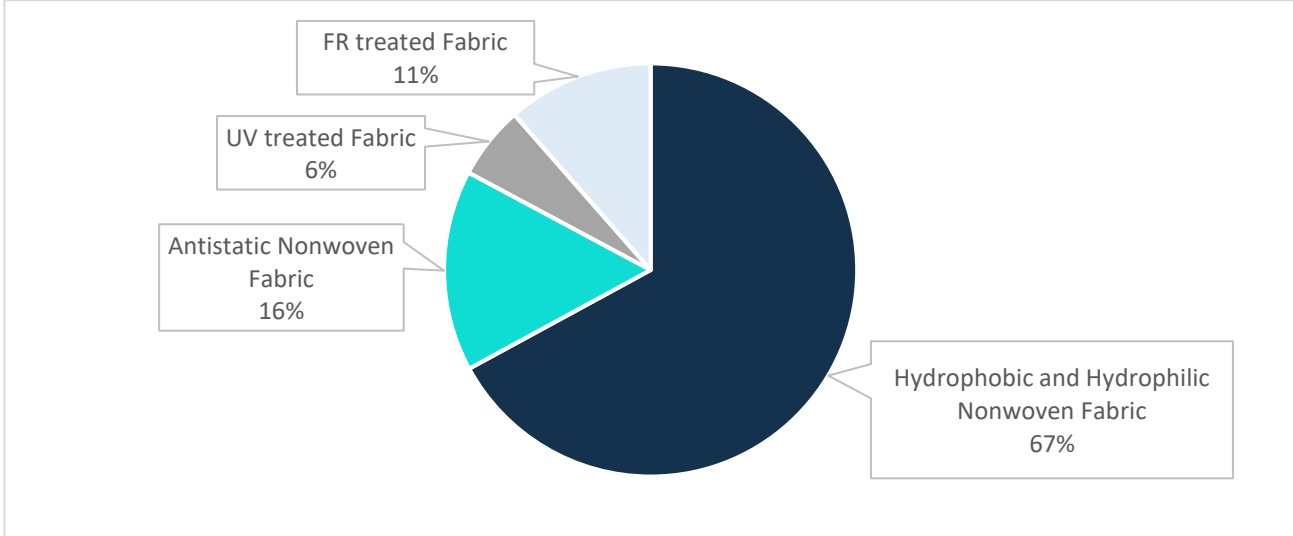
Types	Description
Air-Laid Nonwoven Fabric	Air-laid nonwoven fabric is manufactured by dispersing short fibers (often wood pulp or synthetic) into an air stream to form a uniform web that is bonded using adhesive, thermal, or mechanical methods. This type of fabric is highly absorbent, bulky, and soft, making it ideal for absorbent cores in diapers, sanitary napkins, kitchen towels, and tabletop covers.
Wet-Laid Nonwoven Fabric	Wet-laid nonwoven fabric involves suspending fibers in water to create a slurry, which is spread onto a moving belt where water is drained and the web is bonded through heat or chemicals. This results in a smooth, uniform fabric with high strength. Wet-laid fabrics are commonly used for applications like tea bags, coffee filters, medical packaging, and specialty papers.
Stitch Bond Nonwoven Fabric	Stitch bond nonwoven fabric is created by stitching fibers or filaments together using a warp-knit stitching process, eliminating the need for adhesives or heat bonding. This process produces a durable, flexible fabric that is resistant to wear and tear. Stitch bond fabrics are used in upholstery, roofing underlays, mattress pads, and insulation materials, valued for their strength and versatility.

3.3 Types of Spunbond Fabrics

Types	Description
Hydrophobic and Hydrophilic Nonwoven Fabric	<p>Hydrophilic non-woven fabrics are specifically engineered to absorb moisture, making them ideal for products where moisture control is critical. These fabrics work by drawing moisture away from the skin, ensuring users remain dry and comfortable. They are often used in hygiene products like diapers, wipes, and sanitary napkins, where moisture absorption is essential for user comfort.</p> <p>On the other hand, hydrophobic non-woven fabrics repel water and are designed to prevent moisture from penetrating the material. This makes them perfect for applications requiring water resistance, such as protective coverings, outdoor textiles, or medical barriers.</p> <p>Both hydrophilic and hydrophobic fabrics serve distinct functions based on their ability to manage moisture, providing versatility in various industries like healthcare, hygiene, and industrial applications.</p>
Antistatic Nonwoven Fabric	<p>Antistatic nonwoven fabric is a highly specialized material developed to prevent static electricity buildup, which can lead to electrical discharges and dust accumulation. These issues can negatively impact product performance, safety, and operational efficiency. The fabric's antistatic properties mitigate such risks, ensuring a safer and cleaner environment, particularly in sensitive applications.</p> <p>This fabric is widely used in industries where static control is critical, such as electronics, medical & healthcare, and cleanrooms. In these settings, static discharge can disrupt the performance of electronic devices or compromise sterile environments. By using antistatic nonwoven fabric, manufacturers can protect sensitive equipment, enhance product reliability, and maintain safety standards in environments that demand cleanliness and controlled conditions.</p> <p>Antistatic nonwoven fabric is crucial in medical and healthcare segment, used in surgical drapes and uniforms to control static discharge. It ensures safety and sterility in sensitive environments like operation theaters.</p> <p>Its versatility allows for widespread use across various sectors, offering both functional benefits and comfort, outperforming regular fabrics in industrial and technical applications.</p>

Types	Description
<p>UV treated Fabric</p>	<p>UV-treated nonwoven fabric is specifically engineered to withstand the damaging effects of ultraviolet (UV) rays through the addition of specialized UV stabilizers or absorbers. These agents act as protective shields, preventing the fabric from breaking down, fading, or losing its structural integrity when exposed to sunlight. Without this protection, UV rays can cause materials to degrade over time, leading to discoloration, reduced strength, and brittleness. The durability and resistance to UV radiation make UV-treated nonwoven fabrics highly suitable for outdoor applications.</p> <p>In agriculture, for example, they are commonly used in crop covers, greenhouses, and landscaping to protect plants while maintaining material integrity. Similarly, in construction, they are employed as geotextiles, roof coverings, and outdoor barriers that require long-term exposure to the elements.</p> <p>By resisting the harmful effects of the sun, UV-treated nonwoven fabrics ensure extended product lifespan, making them more cost-effective and reliable for industries that depend on outdoor usage.</p>
<p>FR treated Fabric</p>	<p>FR-treated (fire-resistant) fabric is specifically designed with flame-retardant properties, making it an ideal choice for protective clothing and gear aimed at preventing fire-related accidents. This specialized fabric undergoes treatment processes that enhance its resistance to ignition and slow the spread of flames, significantly improving safety for individuals working in high-risk environments such as construction sites, electrical plants, and emergency services. The incorporation of FR-treated fabric in personal protective equipment (PPE) helps ensure that wearers are safeguarded against fire hazards, providing peace of mind and compliance with safety regulations.</p> <p>In addition to protective clothing, FR-treated fabric finds extensive use in various industries where fire safety regulations are paramount. For instance, in the furniture industry, it is often used in upholstery, drapery, and bedding to reduce the risk of fire incidents in residential and commercial settings. The aviation sector also employs FR-treated fabrics for cabin interiors, ensuring passenger safety in case of emergencies.</p> <p>Furthermore, this fabric meets stringent fire protection standards, making it essential for applications where durability and safety are critical. Its ability to provide both protection and comfort ensures that FR-treated fabric remains a vital component in safeguarding lives and property across diverse sectors.</p>

Chart 11: Share of each type of Non-woven Fabric in CY23 (In Volume term)



Source: MAIA Research

Hydrophobic and hydrophilic nonwoven fabrics represent 67% of the total non-woven fabric market due to their extensive use in hygiene products, medical textiles, and filtration applications, for their moisture management properties. Antistatic fabrics make up 16% of the market, driven by their importance in sectors where static electricity is a concern, such as electronics and clean rooms, as they help prevent static charge buildup and protect sensitive equipment. UV-treated fabrics constitute 6% of the market, driven by their use in outdoor and agricultural applications for durability against sunlight, while fire-retardant (FR) treated fabrics, comprising 11%, cater to industries such as construction, automotive, and defense, requiring enhanced flame resistance.

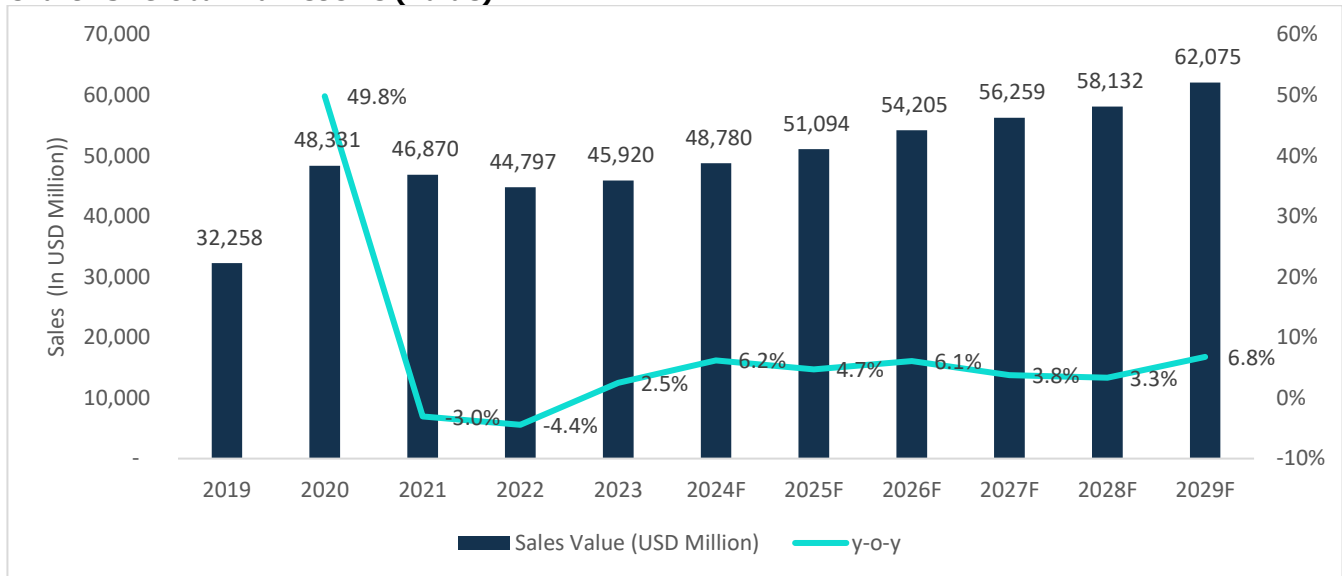
Chart 12: Global Market size (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 13: Global Market size (Value)



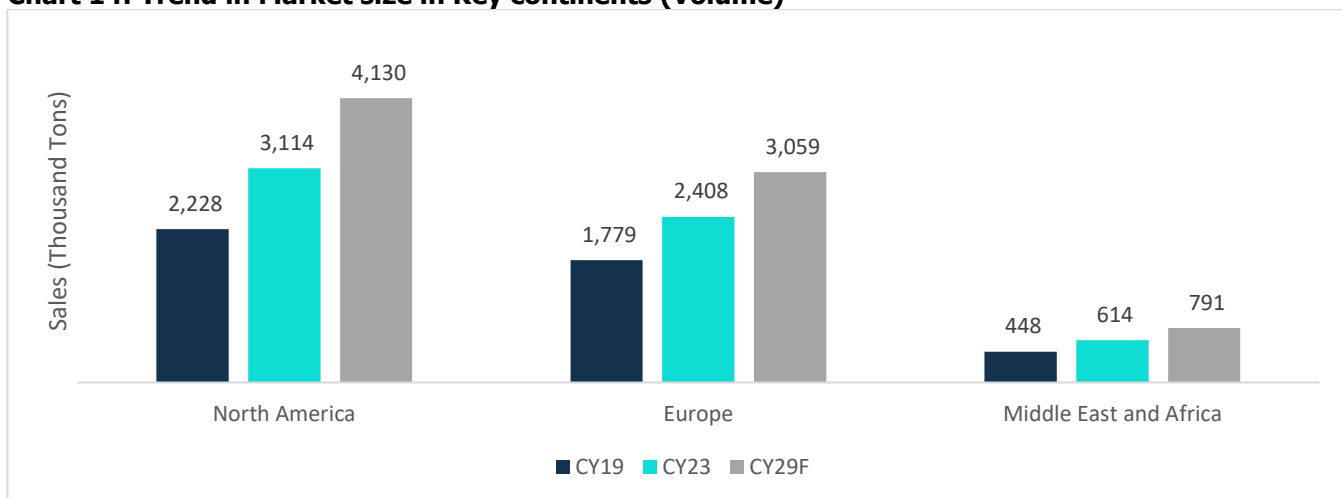
Source: MAIA Research

Note: F: Forecast

The global consumption of non-woven fabric increased from 10,811 Thousand Tons in CY19 to 15,285 Thousand Tons in CY23 at a CAGR of 9.0%, driven by rising demand across industries such as healthcare, hygiene, and packaging. The COVID-19 pandemic significantly boosted the use of non-woven fabrics in medical supplies like masks, gowns, and PPE kits, while growing hygiene awareness fueled demand for diapers, wipes, and sanitary products. Additionally, the expansion of sustainable packaging solutions and advancements in technology contributed to this growth. In terms of revenue, sales rose significantly from USD 32,258 million in CY19 to USD 45,920 million in CY23. This growth reflects market's expansion and increasing acceptance of these materials in applications ranging from hygiene products to medical textiles and beyond.

By 2029, global consumption is expected to reach 20,603 Thousand Tons, propelled by increasing demand for eco-friendly and biodegradable non-woven fabrics, continued growth in healthcare and hygiene sectors, and the expansion of infrastructure projects utilizing geotextiles. Technological innovations enabling efficient production and the shift towards sustainability will further drive market growth across various industries.

Chart 14: Trend in Market size in Key continents (Volume)

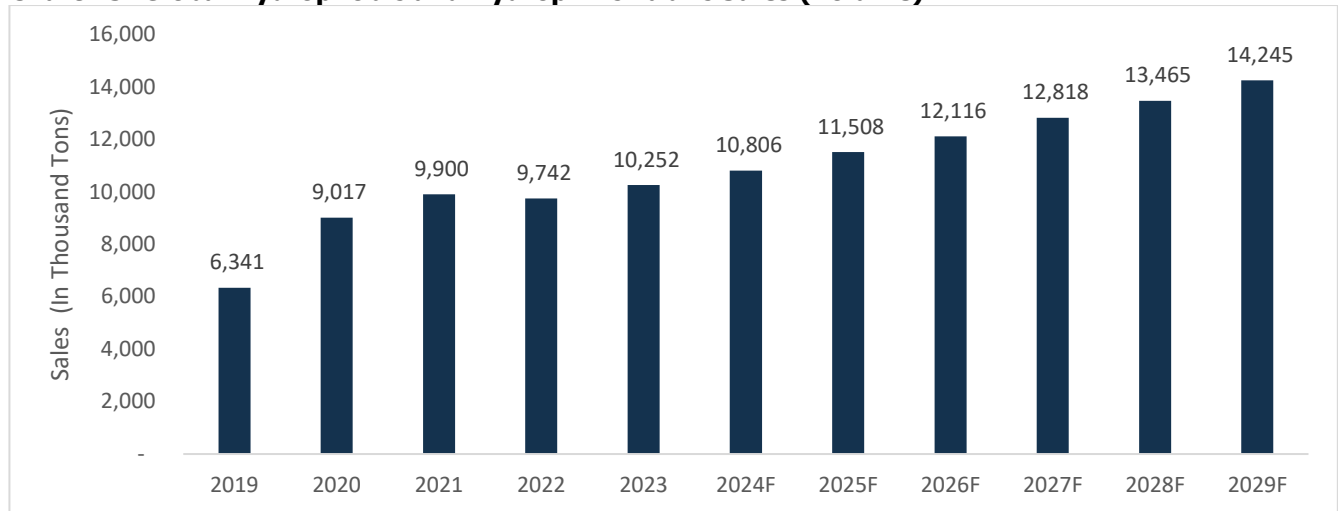


Source: MAIA Research

Note: F: Forecast

3.3.1 Hydrophobic and Hydrophilic Non-woven Fabric

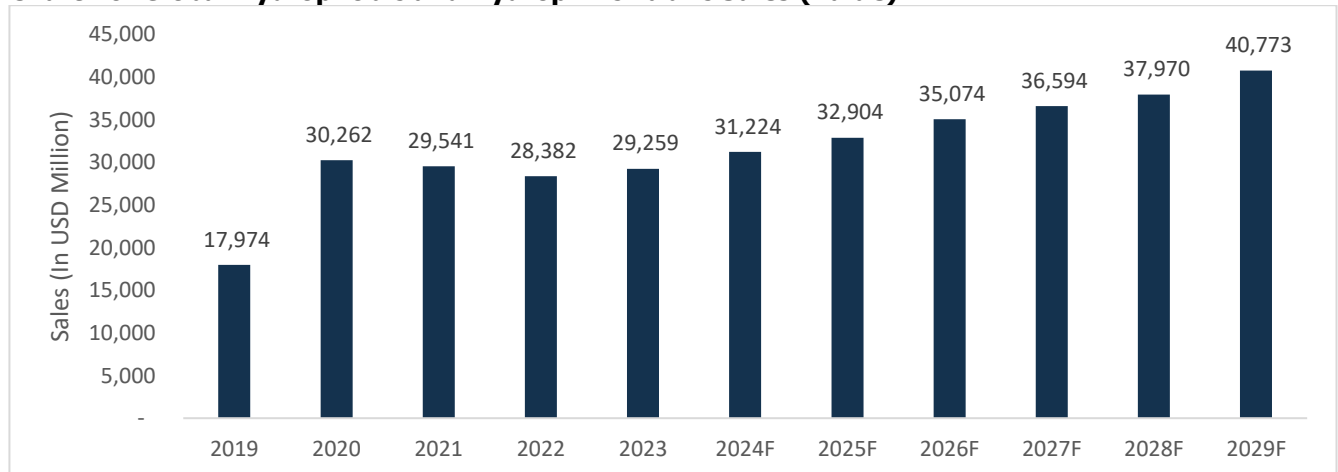
Chart 15: Global Hydrophobic and Hydrophilic Fabric Sales (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 16: Global Hydrophobic and Hydrophilic Fabric Sales (Value)



Source: MAIA Research

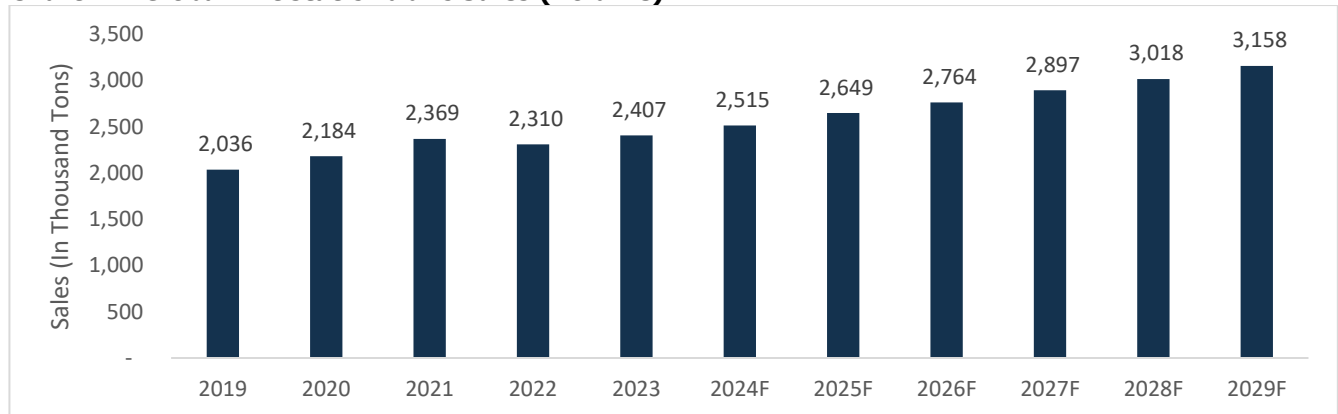
Note: F: Forecast

Hydrophobic and hydrophilic non-woven fabrics are the most widely used globally, making up over 67% of the market in CY23. Their consumption grew from 6,341 Thousand Tons in CY19 to 10,252 Thousand Tons in CY23, with a CAGR of 12.8%. In CY23, global sales of hydrophobic and hydrophilic non-woven fabrics amounted to USD 29,259 million, and this figure is expected to rise to USD 40,773 million by CY29, reflecting a CAGR of approximately 5.7%.

This dominance is expected to persist through CY29 due to their broad use in key industries like healthcare, hygiene, and packaging. By 2029, global consumption is projected to reach 14,245 Thousand Tons, driven by the growing demand for disposable products such as diapers, wipes, sanitary napkins, and medical gear, particularly in emerging markets. The fabrics' ability to repel or absorb moisture makes them essential in ensuring comfort and moisture control, solidifying their continued market leadership.

3.3.2 Antistatic Non-woven Fabric

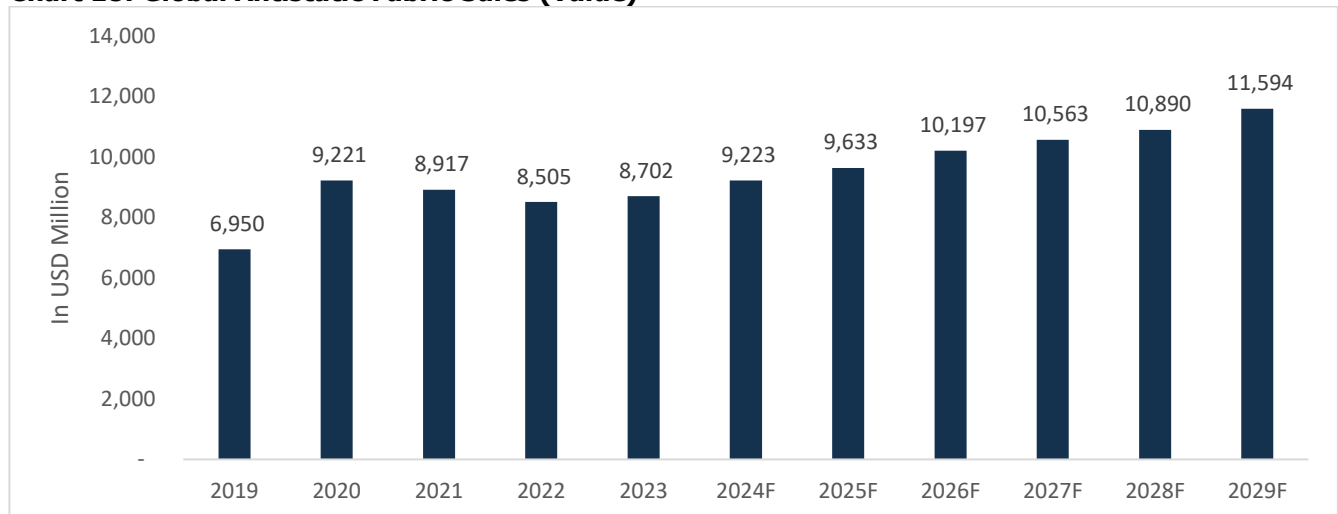
Chart 17: Global Antistatic Fabric Sales (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 18: Global Antistatic Fabric Sales (Value)



Source: MAIA Research

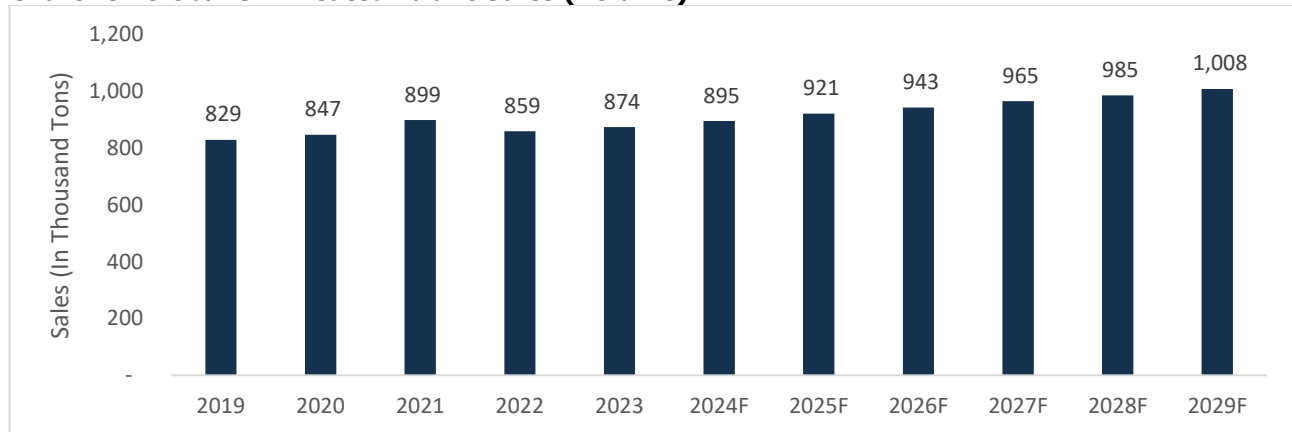
Note: F: Forecast

Antistatic non-woven fabrics are among the most widely utilized globally, representing over 15% of the market in CY23. Their consumption has increased from 2,036 Thousand Tons in CY19 to 2,407 Thousand Tons in CY23, with a CAGR of 4.3%. In CY23, global sales of antistatic non-woven fabrics reached USD 8,702 million, with expectations for this figure to grow to USD 11,594 million by CY29, indicating a CAGR of approximately 4.9%.

This market share is anticipated to remain stable through CY29 due to the rising demand for antistatic materials in various applications, particularly in the electronics and automotive sectors, where static control is crucial. By 2029, global consumption is projected to reach 3,158 Thousand Tons, driven by advancements in technology, increasing awareness of static-related issues, and a growing emphasis on product safety and performance across industries.

3.3.3 UV-treated fabric

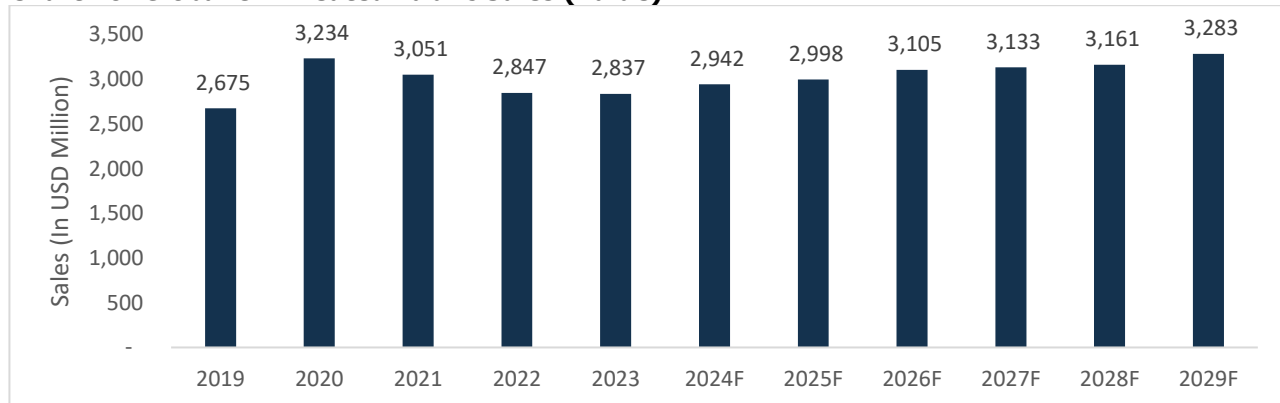
Chart 19: Global UV-Treated Fabric Sales (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 20: Global UV-Treated Fabric Sales (Value)



Source: MAIA Research

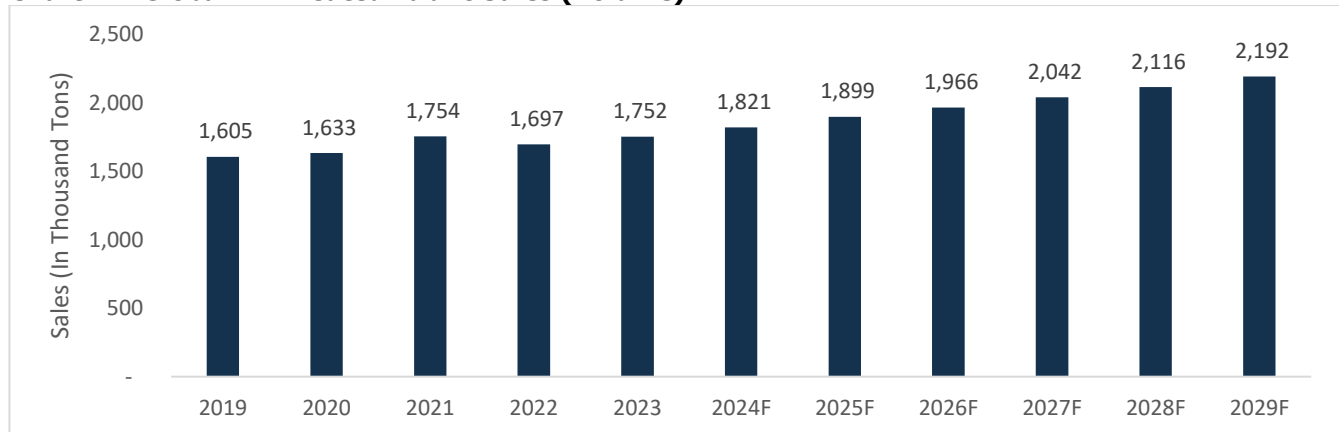
Note: F: Forecast

UV-treated non-woven fabrics account for just over 5% of the market in CY23. Their consumption has risen from 829 Thousand Tons in CY19 to 874 Thousand Tons in CY23, reflecting a modest CAGR of 1.3%. In CY23, global sales of UV-treated non-woven fabrics reached USD 2,837 million, with projections indicating growth to USD 3,283 million by CY29, representing a CAGR of approximately 2.5%.

However, this market share is expected to decline slightly by CY29 due to increasing competition from advanced non-woven fabrics that offer superior properties and functionalities. By 2029, global consumption is projected to reach 1,008 Thousand Tons, driven by the growing demand for UV-resistant materials in various applications, such as outdoor textiles and packaging solutions, where protection from UV exposure is essential.

3.3.4 FR-treated fabric

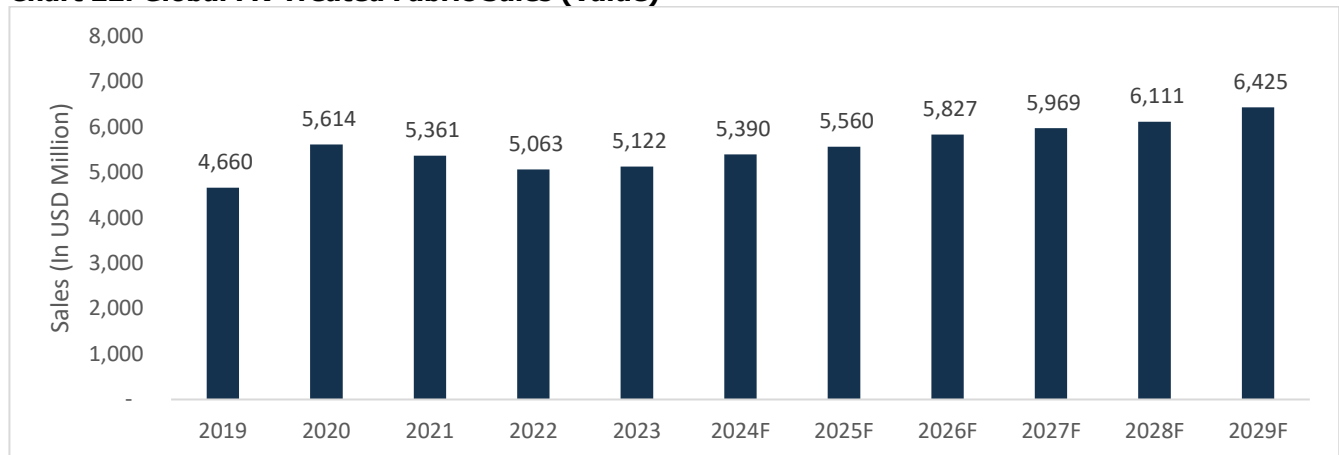
Chart 21: Global FR-Treated Fabric Sales (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 22: Global FR-Treated Fabric Sales (Value)



Source: MAIA Research

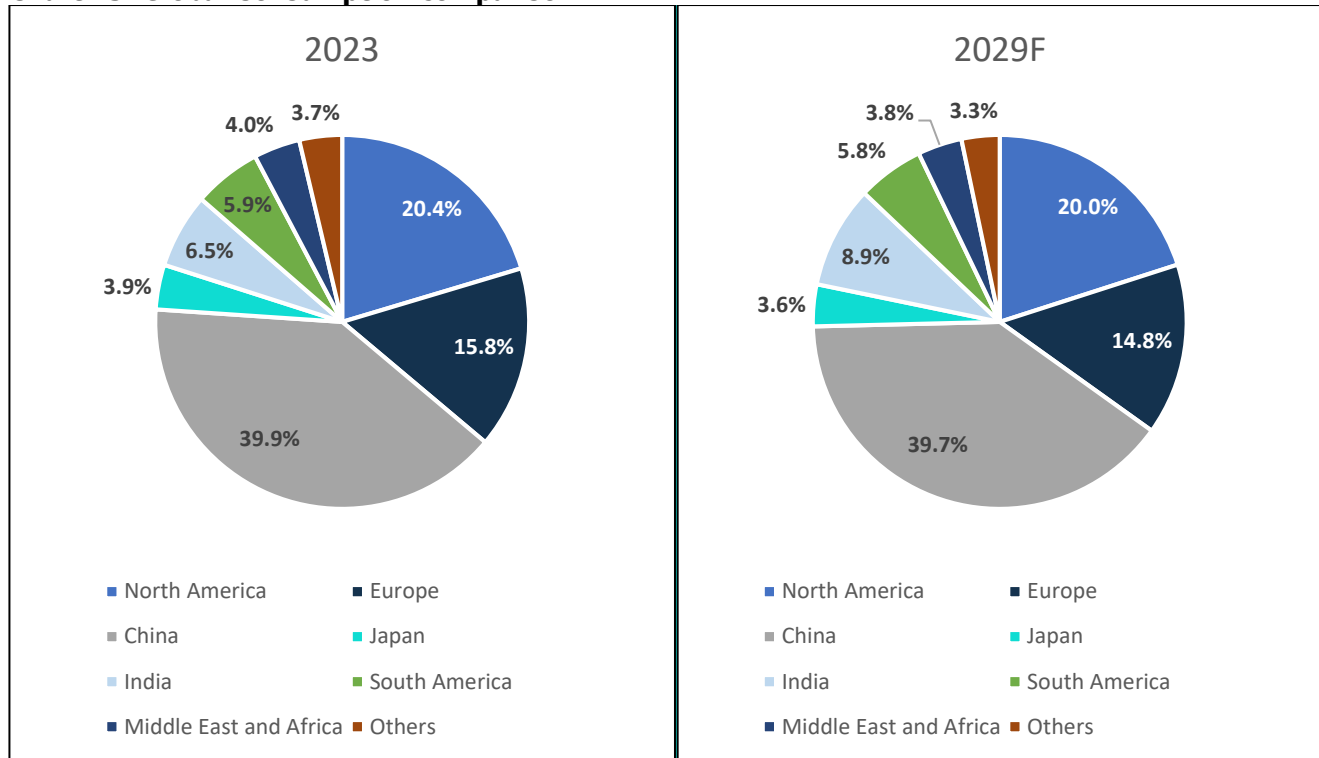
Note: F: Forecast

FR-treated non-woven fabrics account for over 11% of the market in CY23. Their consumption has risen from 1,605 Thousand Tons in CY19 to 1,752 Thousand Tons in CY23, reflecting a modest CAGR of 2.2%. In CY23, global sales of FR-treated non-woven fabrics reached USD 5,122 million, with projections indicating growth to USD 6,425 million by CY29, representing a CAGR of approximately 3.9%.

However, this market share is anticipated to experience a slight decline by CY29 due to the rising competition from advanced non-woven fabrics that provide enhanced properties and functionalities. By 2029, global consumption is projected to reach 2,192 Thousand Tons, fueled by the increasing demand for fire-resistant (FR) materials across various applications, such as protective clothing for industries like firefighting, oil and gas, and manufacturing. Additionally, the construction sector is also expected to drive demand for FR-treated non-woven fabrics in products like insulation, wall coverings, and upholstery, where fire safety standards are critical. The ongoing emphasis on safety regulations and standards in these sectors will further bolster the need for high-performance, FR-resistant materials, supporting market growth in the coming years.

3.4 Global Consumption- By Region (In Thousand Tons)

Chart 23: Global Consumption comparison



Source: MAIA Research

Note: F: Forecast

Global consumption of non-woven fabric across major economies is expected to remain relatively stable by CY29 compared to CY23. However, India's market share is projected to grow from 6.5% in CY23 to 8.9% by CY29. This increase is driven by rapid industrialization, growing demand for hygiene products, government initiatives promoting healthcare and sanitation, and the expansion of sectors like automotive, agriculture, and packaging.

India's rapidly expanding middle class, coupled with rising disposable incomes and urbanization, is significantly driving the demand for disposable and healthcare-related non-woven products. As more consumers gain access to improved living standards, there is a growing emphasis on hygiene, health, and convenience. This trend is particularly evident in the increasing consumption of products such as sanitary napkins, diapers, and medical textiles, which leverage the benefits of non-woven fabrics. The focus on health and hygiene is further amplified by government initiatives promoting better sanitary practices, which are encouraging households to opt for disposable products.

Globally, it is noteworthy that China, Europe, and North America collectively account for over 75% of the total consumption of non-woven fabrics. These regions have established robust manufacturing and distribution networks, contributing to their dominant market share. China, in particular, has emerged as a powerhouse in non-woven fabric production, catering to both domestic and international markets. While India is poised for growth in this sector, the competitive landscape remains influenced by these key players.

4 Non-Woven Market segmentation

The non-woven fabric market is segmented into distinct categories based on various criteria, with the most prominent being the manufacturing processes utilized. This segmentation plays a crucial role in addressing the diverse needs of multiple industries, including healthcare, automotive, agriculture, and construction. By classifying non-woven fabrics into categories such as dry-laid and spun-laid, manufacturers can tailor their products to meet specific performance characteristics, enabling a wide array of applications that fulfil different consumer and industrial requirements.

This structured segmentation reflects the ongoing advancements in non-woven technology, allowing for innovation in materials and production techniques. As industries evolve and new challenges arise, the non-woven fabric market adapts to meet these demands, leading to the development of specialized products that enhance functionality, durability, and cost-effectiveness. This flexibility not only supports the growth of established markets but also fosters opportunities in emerging sectors, ensuring that non-woven fabrics remain integral to a broad range of applications. The dynamic nature of this market segmentation underscores the importance of continuous research and development efforts aimed at refining the properties and uses of non-woven materials, thereby solidifying their position in various industrial landscapes.

Non-woven fabrics are categorized into three main groups:

1. **By Raw Material** - Fabrics are categorized based on how the fibers are formed, either through melting (thermoplastic polymers like polypropylene) or carding (aligning and layering natural or synthetic fibers).
2. **By Laying System:** - This refers to how fibers are arranged to form the web. The main systems include Wet-Laid (fibers suspended in water and drained to create the web), Air-Laid (using air to form the web), and Spun-Laid (extruded polymer filaments laid directly).
3. **By Bonding Technology:** - After forming the web, bonding is done through methods like chemical bonding (adhesive agents), thermal bonding (heat application), or water jet bonding (entangling fibers using high-pressure water jets).

4.1 Market Overview by Technology used in Manufacturing Process

1. Dry-Laid Non-Woven Fabrics:

Dry-laid non-woven fabrics are produced by laying down fibers in a random manner and then bonding them together using mechanical or thermal processes. This method allows for the creation of fabrics that can vary in density and weight, providing versatility in product design. One of the significant advantages of dry-laid fabrics is their ability to be manufactured using a wide range of fiber types, including natural fibers like cotton and synthetic fibers such as polyester.

Due to their unique properties, dry-laid non-woven fabrics are commonly used in applications requiring high absorbency and softness, such as hygiene products (e.g., baby diapers, feminine hygiene products) and medical applications (e.g., surgical gowns, drapes). The random fiber arrangement also enhances the fabric's breathability and fluid management, making it suitable for products that need to wick moisture away from the skin. Additionally, dry-laid non-woven fabrics are often more cost-effective due to simpler production processes, which can help reduce manufacturing costs. Dry-laid fabrics are known for their versatility and are widely used in applications such as:

- **Hygiene products:** Diapers, sanitary napkins, and wipes
- **Medical textiles:** Surgical gowns, masks, and drapes
- **Home furnishings:** Mattress covers, tablecloths, and insulation
- **Filtration:** Air and liquid filters

This process provides flexibility in fiber choice and results in fabrics that are soft, absorbent, and breathable.

2. Spun-Laid Non-Woven Fabrics:

In contrast, spun-laid non-woven fabrics are created by spinning fibers into a web and then bonding them using thermal processes. This manufacturing technique results in fabrics that are generally stronger and more durable than their dry-laid counterparts. Spun-laid non-woven fabrics are characterized by their uniform fiber distribution and higher tensile strength, making them ideal for applications that require robustness and longevity. Spunbond fabric technology involves extruding and layering polymer filaments, bonded to form a durable, versatile nonwoven fabric. The number of beams in production lines determines the fabric's complexity; more beams allow for enhanced strength, uniformity, and multi-layered functionality. Advanced setups enable combinations like SMS fabrics, ideal for hygiene, healthcare, and filtration due to superior durability and performance.

These fabrics are widely used in various industries, including automotive (for sound insulation and interior components), construction (for geotextiles and roofing materials), and agricultural (for crop covers and ground covers). The ability of spun-laid fabrics to be engineered for specific performance characteristics, such as water resistance and UV stability, further broadens their range of applications. As a result, spun-laid non-woven fabrics are often preferred for demanding environments where performance and durability are critical.

Spunbond technology involves the continuous extrusion of polymer filaments, which are then laid down in a random pattern and thermally bonded. This process not only ensures a consistent fabric structure but also enhances the fabric's performance characteristics. Spunbond fabrics can be produced in a variety of weights and can be engineered to possess specific attributes, such as enhanced breathability, water resistance, and UV stability, which further broadens their range of applications. Spunbond is a popular technology, where the filaments are thermally bonded. Spunbond fabric is made up of Polypropylene (PP) fabric. These fabrics are valued for their strength and durability, making them suitable for:

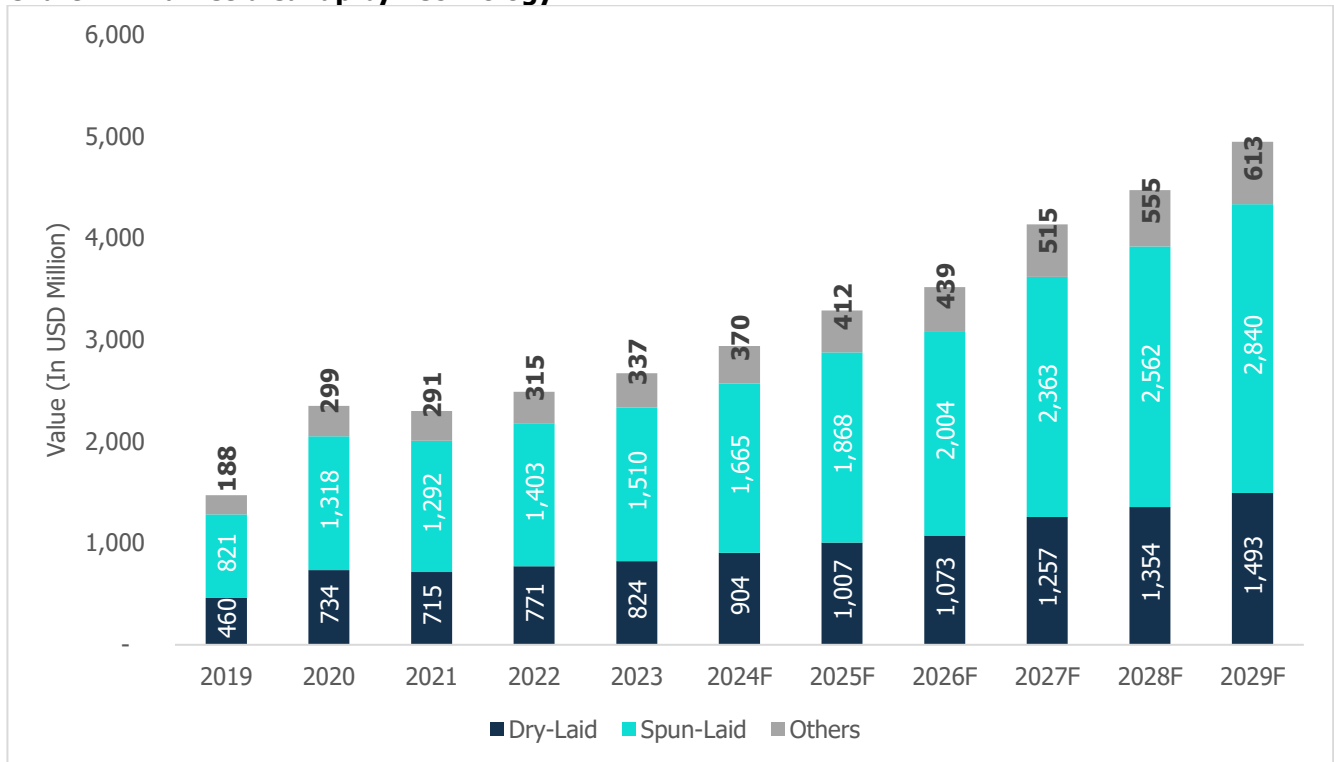
- **Medical and hygiene products:** Disposable masks, gowns, and covers
- **Agriculture:** Crop covers, weed control fabrics
- **Construction:** Geotextiles, roofing materials
- **Packaging and industrial uses:** Shopping bags, protective packaging

Spunbond, are known for their lightweight, strength, and resistance to wear and tear, making them ideal for applications requiring durability and high performance. In this technology, the number of beams—single, double, or triple—determines the layers of fabric produced during the manufacturing process.

- **Single-beam Spunbond:** This process involves a single spinneret beam to produce one layer of non-woven fabric. It is suitable for lightweight fabrics and offers cost-effective production for applications like disposable products, hygiene products, or packaging materials.
- **Double-beam Spunbond:** Utilizing two spinneret beams, this process creates a two-layer fabric, which enhances durability, strength, and thickness. Double-beam spunbond fabrics are often used in medical textiles, geotextiles, and filtration materials, where higher performance is required.
- **Triple-beam Spunbond:** With three spinneret beams, this process produces a multi-layered fabric with superior strength, filtration efficiency, and durability. It is used for heavy-duty applications, such as industrial products, roofing materials, and automotive textiles.

Together, these two segmentation processes, dry-laid and spun-laid, serve as the foundation of the non-woven fabric industry, catering to a wide range of industries and specific needs.

Chart 24: Market breakup by Technology



Source: MAIA Research

Note: F: Forecast

Spun-laid based fabric is highly used due to its cost-effectiveness, high production efficiency, and versatility across various industries such as hygiene, medical, and construction. It offers superior strength, durability, and uniformity, making it ideal for applications like diapers, wipes, medical gowns, and geotextiles. In CY23, it accounted for over 56% of the global non-woven fabric market, and this dominance is expected to continue through CY29 due to its widespread adoption and growing demand in sectors that require reliable and high-performance non-woven materials.

4.2 Market Overview by End User Industry

The non-woven fabric market is segmented by end-user industries, each with unique applications and demands. Here's an overview of the major industries:

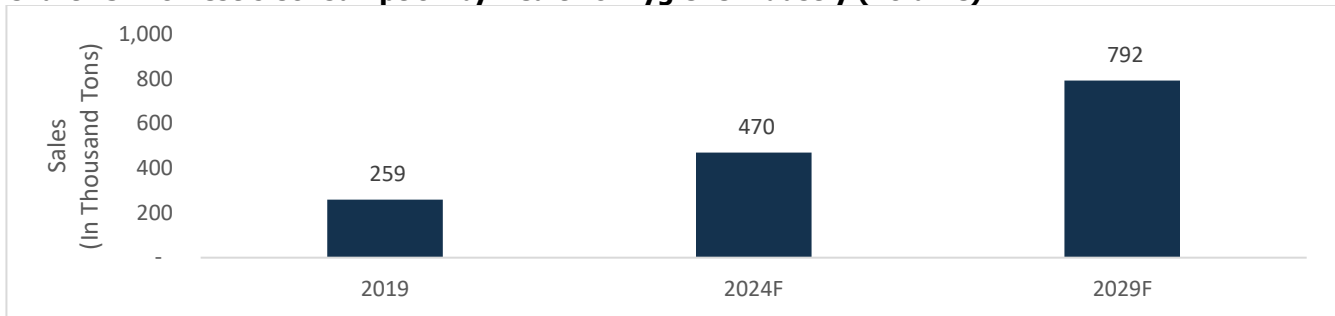
1. **Health & Hygiene:** The health and hygiene sector represent a major consumer of non-woven fabrics, fueled by an increasing global awareness of hygiene and safety standards. As individuals and organizations prioritize cleanliness and protective measures, the demand for effective hygiene products has surged. Non-woven fabrics are uniquely suited for this sector due to their excellent absorbency, softness, and ability to create protective barriers.

In personal care, non-woven fabrics are widely used in products such as diapers, sanitary pads, adult incontinence products, puppy pads, under pads and wipes. These applications benefit from the materials' comfort and moisture-wicking properties, ensuring users remain dry and comfortable while effectively managing fluid absorption. In medical settings, non-woven fabrics are integral to producing surgical gowns, masks, drapes, and other disposable items that enhance safety and prevent contamination. Their lightweight nature, combined with strong barrier properties, makes them essential for maintaining sterile environments in hospitals and clinics.

As public awareness continues to grow regarding health risks and the importance of hygiene, the reliance on non-woven fabrics in health and hygiene applications is expected to expand, driving further innovation and market growth in this critical sector. Non-woven are widely used in products such as:

- **Diapers**
- **Adult incontinence products**
- **Sanitary napkins**
- **Wipes**

Chart 25: Domestic Consumption by Health & Hygiene industry (Volume)



Source: MAIA Research

Note: F: Forecast

These fabrics offer softness, absorbency, and breathability, making them ideal for skin contact products. The increasing demand for disposable hygiene products continues to drive growth in this sector.

2. **Medical:** Non-woven fabrics play an essential role in the medical industry due to their sterilizable, disposable, and protective qualities. They meet strict hygiene standards, making them ideal for medical applications like surgical gowns, masks, and drapes. Their ability to be sterilized ensures safe usage in infection-controlled environments, while their disposable nature reduces cross-contamination risks, enhancing patient safety.

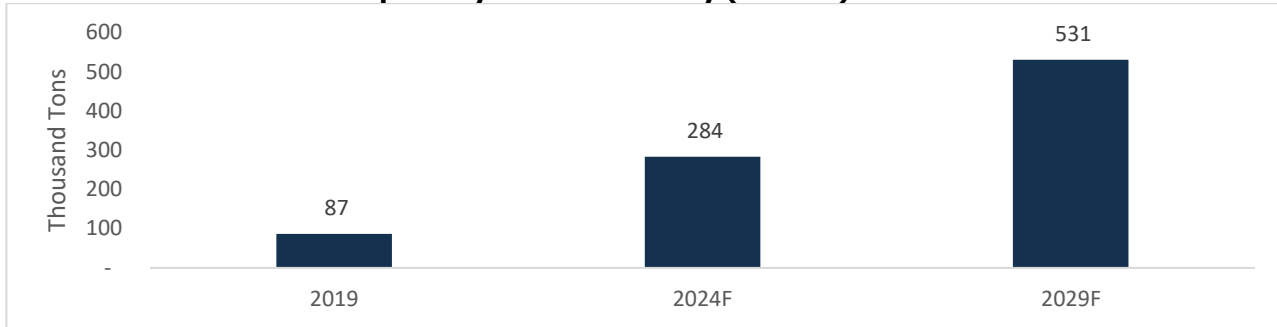
The Indian government has boosted healthcare efforts through initiatives like the National Health Mission, increasing primary healthcare spending from 51.3% in 2014-15 to 55.9% in 2019-20. India's healthcare network and infrastructure are set to grow, while pharmaceutical exports are expected to rise by 8% during FY24 and FY25, as the industry expanded from USD 34.7 billion in FY17 to USD 50 billion in FY23. As the healthcare sector continues to evolve, the demand for innovative non-woven fabric solutions is likely to grow, further cementing their importance in the medical industry. Key applications include:

- **Surgical gowns and drapes**
- **Face masks and respirators**
- **Surgical caps and shoe covers**
- **Wound care products**

Additionally, non-woven fabrics provide effective barrier protection against fluids, bacteria, and other contaminants. This protective quality is essential for medical professionals, as it safeguards both healthcare providers and patients from potential infections during surgical procedures or routine examinations.

Their use in infection control and patient care is crucial, especially in hospitals and clinics, where they provide an effective barrier against contamination.

Chart 26: Domestic Consumption by Medical industry (Volume)



Source: MAIA Research

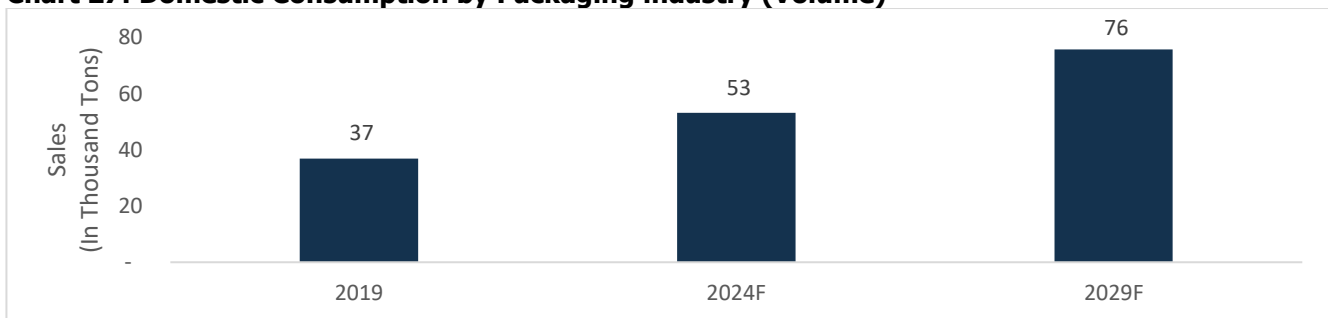
Note: F: Forecast

- Packaging:** Non-woven fabrics are gaining popularity in the packaging industry due to their durability, flexibility, and lightweight properties, making them an ideal alternative to traditional materials. These fabrics provide strong protection while reducing environmental impact, ensuring reliable performance during transportation and handling. With the packaging industry valued at USD 99 billion in CY23 and projected to reach USD 170-180 billion by CY29 (CAGR of 9.5%), this growth is expected to benefit the non-woven fabric sector. Their versatility allows for customizable packaging solutions across various products, from consumer goods to industrial items, with options in thickness and texture to meet specific needs.

Furthermore, the lightweight nature of non-woven fabrics contributes to reduced shipping costs and lower carbon emissions during transportation. As industries increasingly prioritize sustainability, the use of non-woven materials in packaging aligns with eco-friendly practices, especially since many non-woven fabrics are made from recyclable or biodegradable materials. This combination of durability, flexibility, and lightweight properties positions non-woven fabrics as a valuable asset in the packaging industry, helping companies to enhance their product presentation while also addressing environmental concerns. Common uses include:

- **Reusable shopping bags**
- **Protective packaging materials**
- **Agricultural packaging**

Chart 27: Domestic Consumption by Packaging industry (Volume)



Source: MAIA Research

Note: F: Forecast

- Agriculture:** According to the Economic Survey, the agriculture sector in India has recorded an average annual growth rate of 4.18% over the past five years ending FY24. It remains a vital part of the economy, supporting 42.3% of the population and contributing 18.2% to the GDP at current prices. Given this, the use of non-woven fabrics in agriculture is set to remain high. These fabrics play a key role in boosting crop yields and protecting plants from environmental stress, supporting sustainable farming practices. They are commonly used as crop covers, helping regulate temperature and humidity while shielding crops from harsh weather conditions like

frost, hail, and extreme sunlight. These fabrics serve multiple purposes, significantly contributing to sustainable farming practices. One of their primary applications is as crop covers, which protect plants from harsh weather conditions such as frost, hail, and excessive sunlight. By creating a microclimate around the crops, non-woven fabrics help maintain optimal temperature and humidity levels, promoting healthy growth and enhancing yield.

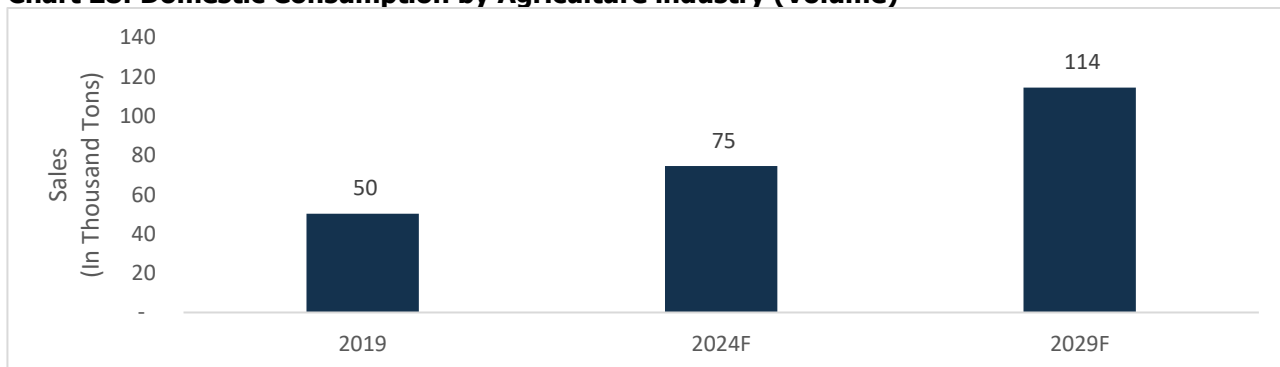
Additionally, non-woven fabrics are effective in weed control. They can be used as mulch mats that suppress weed growth while allowing water and nutrients to penetrate the soil. This reduces the need for chemical herbicides, aligning with organic farming practices and contributing to soil health. Moreover, non-woven fabrics are often utilized in seedling trays and bags, providing a suitable environment for germination and root development. Their breathable nature ensures proper air circulation and moisture retention, crucial for young plants.

Furthermore, non-woven fabrics aid in soil erosion control and water conservation. They can be used as geotextiles in erosion control blankets or as ground covers that stabilize soil and reduce runoff. By retaining moisture in the soil, these fabrics help to minimize irrigation needs, promoting water conservation in agricultural practices. Overall, the use of non-woven fabrics in agriculture not only boosts productivity but also supports eco-friendly farming methods, making them an invaluable resource for modern agriculture. Their applications include:

- **Crop covers**
- **Weed control fabrics**
- **Greenhouse shading**
- **Root bags and Plant covers**
- **Frost protection**

These fabrics help regulate temperature, protect crops from pests, and improve soil moisture retention, contributing to improved agricultural productivity and efficiency.

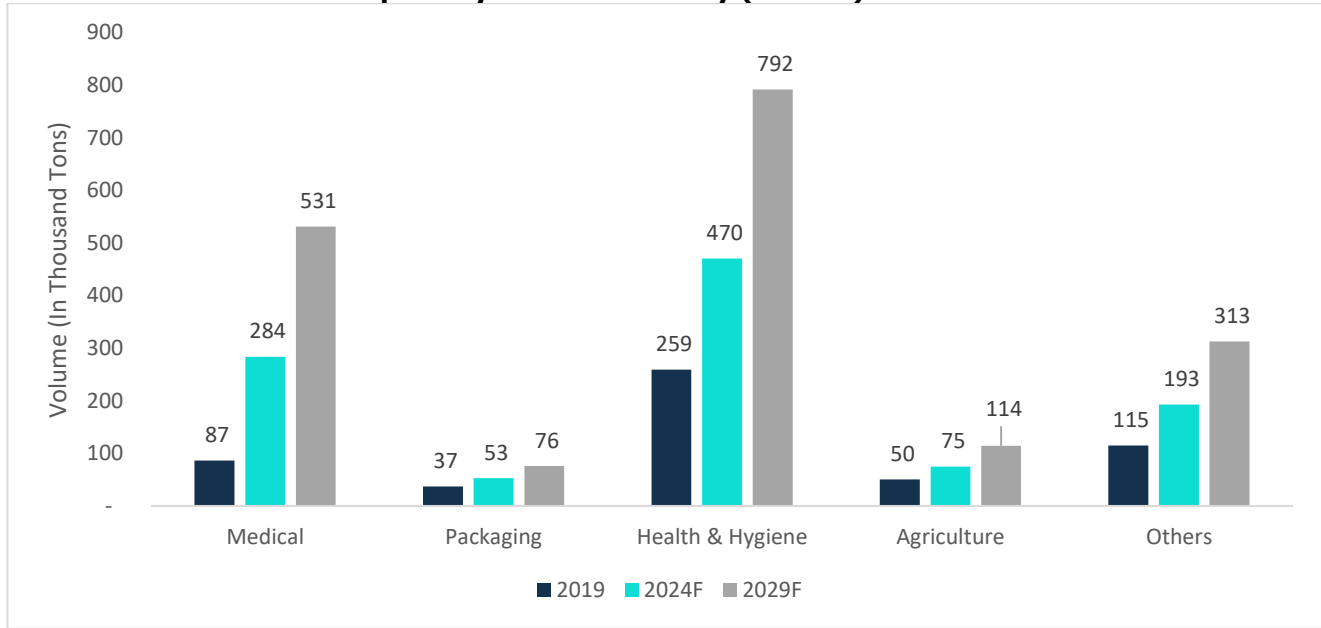
Chart 28: Domestic Consumption by Agriculture industry (Volume)



Source: MAIA Research

Note: F: Forecast

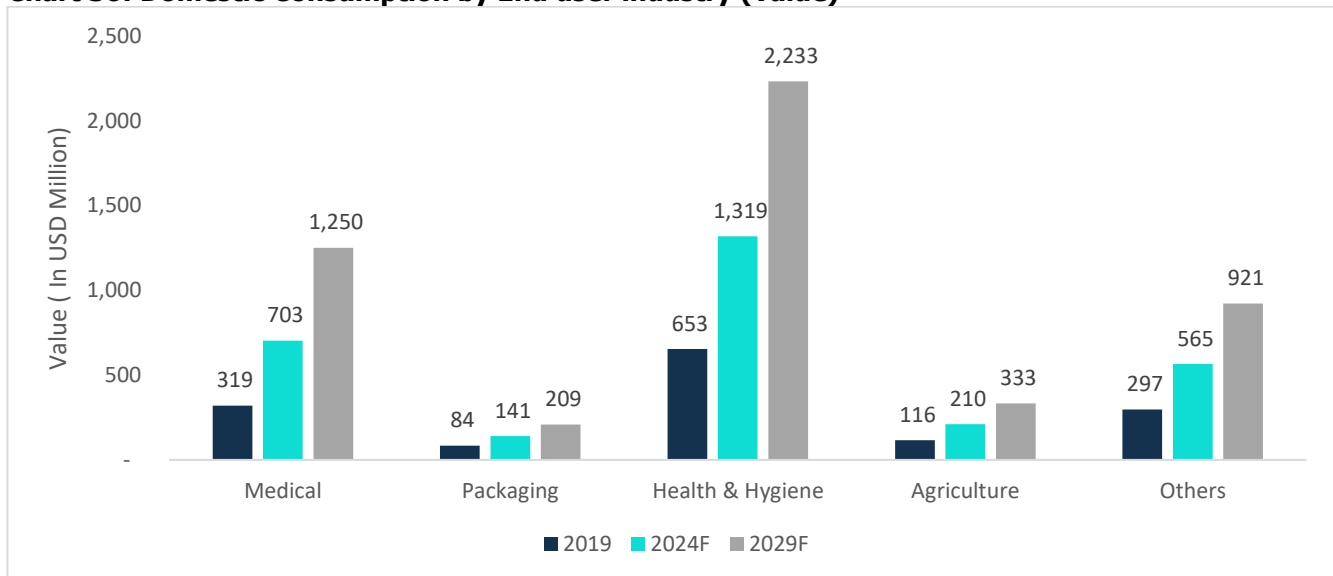
Chart 29: Domestic Consumption by End user industry (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 30: Domestic Consumption by End user industry (Value)



Source: MAIA Research

Note: F: Forecast

The Health & Hygiene industry is the largest consumer of non-woven fabrics, holding a 43.7% market share in CY23. Rising global consumer expectations for safety and quality in personal hygiene products have led manufacturers in this sector to increasingly use high-quality non-woven fabrics. These materials enhance both product safety and comfort, making them highly favoured by consumers. The growing demand for high-purity, high-performance non-woven fabrics, particularly in the medical and healthcare fields, continues to be a major driver of market expansion, as these fabrics meet stringent safety and performance standards.

Meanwhile, the Medical industry consumed 87 Thousand Tons of non-woven fabric in CY19, accounting for 15.8% of the total volume. By CY23, this share rose to 26.3%, and it is expected to further grow to 531 Thousand Tons,

representing 29.1% of consumption by CY29. This substantial increase is driven by the growing demand for disposable medical products like masks, gowns, and protective gear, especially post-COVID-19. Enhanced hygiene standards and the expansion of healthcare infrastructure have also accelerated the use of non-woven fabrics in medical applications due to their versatility and cost-effectiveness.

The Agriculture and Packaging industries are relatively small consumers of non-woven fabrics, with market shares of 7.0% and 5.0% in CY23, respectively. However, by CY29, these shares are projected to decline to 6.3% and 4.1%. This decrease is primarily driven by the growing adoption of advanced materials and sustainable practices within these sectors. In agriculture, innovative alternatives like biodegradable plastics are gaining traction, reducing reliance on non-woven fabrics. Similarly, the packaging industry is shifting towards more eco-friendly options, as consumers increasingly prioritize sustainability. As a result, non-woven fabrics may face challenges in maintaining their market presence in these industries moving forward.

The usage of non-woven fabric is anticipated to rise across all industries due to its numerous advantages for users, coupled with advancements in technology and cost reduction. These benefits create a win-win situation, making non-woven fabrics increasingly appealing for a variety of applications.

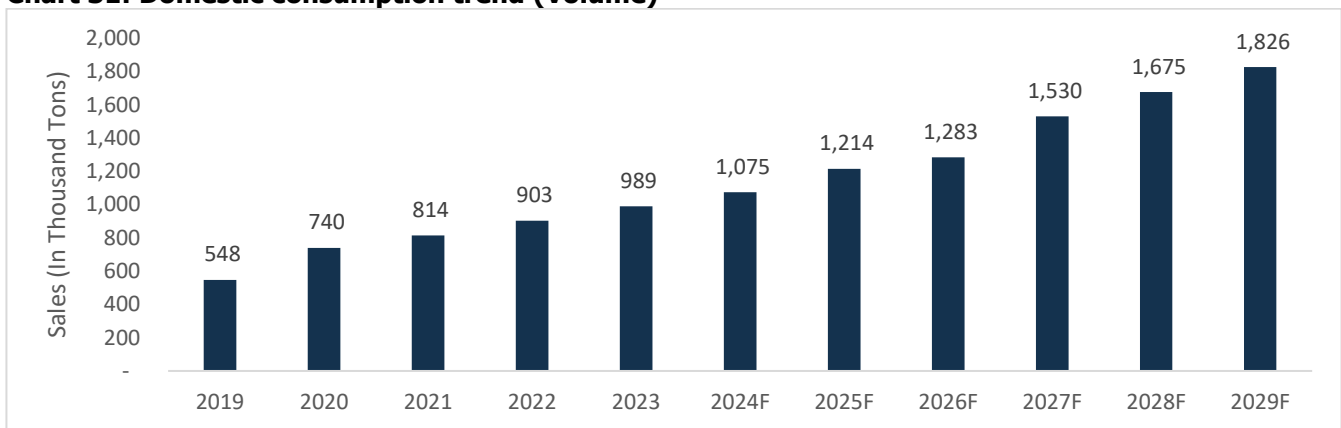
5 Indian Non-Woven Fabric Market

The Indian non-woven fabric market has seen significant growth in recent years, driven by rising demand from industries such as healthcare, hygiene, agriculture, automotive and packaging. Increased awareness of hygiene, particularly post-COVID, has accelerated the use of non-woven fabrics in medical textiles, masks, and hygiene products like diapers and sanitary pads. Additionally, government initiatives supporting domestic manufacturing and the push for eco-friendly alternatives to plastics have further fueled market expansion. The rise of urbanization and higher disposable incomes have also contributed to the growing demand for non-woven fabrics across various applications.

Key industries like agriculture and packaging are leveraging non-woven fabrics for their strength, durability, and cost-effectiveness. In agriculture, non-woven fabrics are used for crop protection, weed control, and soil stabilization, while the packaging industry is adopting them as sustainable solutions for reusable shopping bags and protective packaging. Spunbond technology, known for its versatility and cost-efficiency, remains dominant in India, with polypropylene (PP) being the most widely used material due to its favorable properties for multiple applications.

5.1 Domestic Non-woven fabric consumption trend

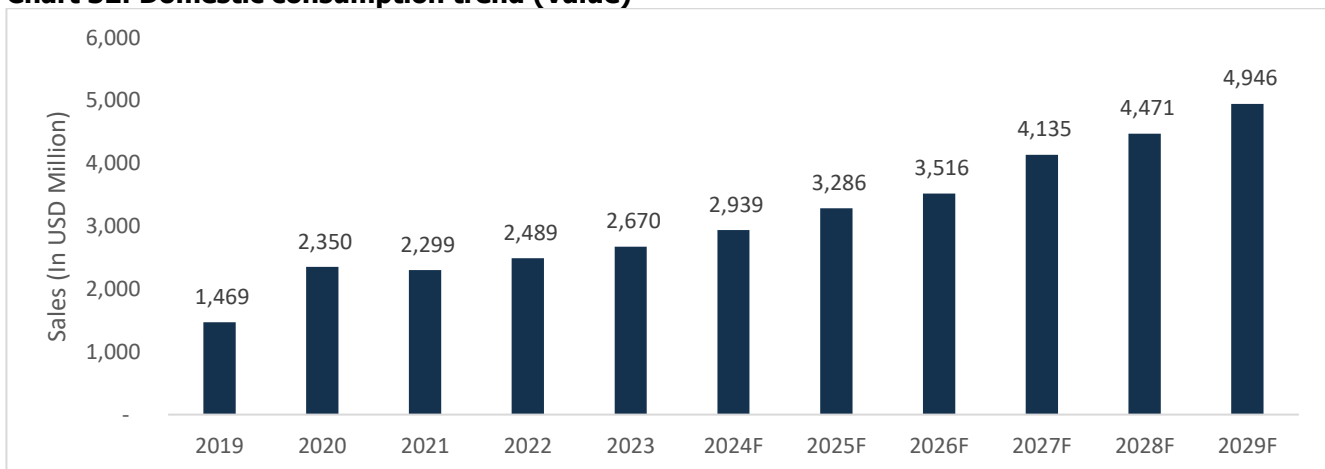
Chart 31: Domestic consumption trend (Volume)



Source: MAIA Research

Note: F: Forecast

Chart 32: Domestic consumption trend (Value)



Source: MAIA Research

Note: F: Forecast

Domestic consumption of non-woven fabric in India experienced a significant increase, rising from 548 thousand tons in CY19 to 989 thousand tons in CY23, which represents a robust CAGR of 15.9%. Concurrently, revenue from this sector grew from USD 1,469 million in CY19 to USD 2,670 million in CY23, reflecting a CAGR of 16.1%. This rapid growth can be attributed to increasing demand across key industries such as healthcare, hygiene, packaging, and automotive. The widespread adoption of non-woven fabrics for disposable hygiene products like diapers, sanitary pads, and medical supplies has played a pivotal role in this expansion. Government initiatives such as the Swachh Bharat Mission, which emphasized improved sanitation and hygiene, also significantly boosted demand for non-woven materials. Additionally, the rise of e-commerce and modernization of retail packaging further contributed to the increased consumption of non-woven fabrics.

Looking ahead, domestic consumption of non-woven fabric is projected to grow at a CAGR of 11.2% from CY24 to CY29. This sustained growth is expected to be driven by the expansion of healthcare infrastructure, rising awareness about personal hygiene, and the increasing use of non-woven fabrics in industrial applications like automotive, agriculture, and construction. As India's economy continues to grow and urbanize, the demand for high-performance, cost-effective materials like non-woven fabrics is anticipated to strengthen further, positioning India as a key player in the global non-woven fabric market.

5.2 Growth Drivers in Non-Woven Industry

The Indian non-woven industry is experiencing robust growth, driven by several key factors:

1. **Rising Demand for Hygiene Products:** The demand for hygiene-related products has surged in India, especially in the wake of the COVID-19 pandemic. Increasing awareness around personal hygiene and health safety has led to a sharp rise in the consumption of non-woven products such as baby diapers, adult incontinence products, sanitary napkins and pads, and wipes. The medical sector has also seen an uptick in the use of non-woven fabrics for disposable items such as surgical masks, gowns, drapes, and caps, which are critical for infection control. As more consumers shift towards disposable and single-use hygiene products due to health concerns, the non-woven fabric industry is expected to continue growing.
2. **Government Initiatives and Support:** India's government has introduced initiatives like "**Make in India**" to boost domestic manufacturing and reduce dependence on imports, providing incentives for industries, including the non-woven sector. The government's focus on infrastructure development, rural healthcare, and sanitation has further driven demand for non-woven products in various applications. Moreover, the increasing regulatory push for eco-friendly materials is encouraging the replacement of single-use plastics with sustainable non-woven fabric alternatives, particularly in packaging and consumer goods. This shift is not only helping companies comply with regulations but is also promoting the adoption of non-woven fabrics across multiple sectors.
3. **Growth in Agriculture and Infrastructure:** The agriculture and infrastructure sectors are key drivers of the non-woven fabric market in India. In agriculture, non-woven fabrics are used in applications such as crop covers, weed control mats, and greenhouse insulation, offering protection against extreme weather, pests, and improving water retention. With agriculture being a critical part of India's economy, the use of non-woven fabrics in modern farming techniques is growing. In the infrastructure domain, non-woven geotextiles are used in road construction, erosion control, drainage systems, and landfills. The government's increased spending on infrastructure projects, including roads, railways, and housing, is boosting the demand for non-woven geotextiles, which are valued for their strength, durability, and cost-effectiveness.
4. **Technological Advancements:** Technological innovations in non-woven fabric production, such as **spunbond** and **spunlace** technologies, have significantly improved the quality, efficiency, and variety of non-woven fabrics available. These advancements allow manufacturers to produce fabrics with specialized properties like softness, strength, absorbency, and flame retardancy, catering to diverse industries such as automotive, medical, and packaging. As production processes become more automated and efficient, non-woven fabrics are being increasingly used as cost-effective alternatives to traditional textiles and plastics. This technological progress has broadened the scope of applications for non-wovens, making them more adaptable to the evolving needs of industries while ensuring higher productivity and lower production costs.

These factors, along with rising disposable incomes and urbanization, are expected to continue driving the growth of the non-woven industry in India.

5.3 Challenges faced by Non-Woven Industry

1. **Raw Material Dependency:** A significant portion of raw materials used in the non-woven industry, particularly **polypropylene (PP)**, is imported. Fluctuating global prices and dependency on imports make it difficult for manufacturers to maintain stable production costs. Additionally, disruptions in the global supply chain, as seen during the COVID-19 pandemic, can create shortages or delays, further impacting production and pricing.
2. **Environmental Concerns:** Although non-woven fabrics offer eco-friendly alternatives to some materials, many non-woven products are still derived from petrochemical sources like polypropylene. The lack of biodegradable or sustainable alternatives poses environmental challenges, particularly as governments worldwide tighten regulations on plastic usage. Manufacturers face increasing pressure to develop and adopt greener production processes, which can involve high research and development costs.
3. **High Competition and Fragmented Market:** The Indian non-woven industry is highly fragmented, with a large number of small and medium-sized enterprises (SMEs) competing with bigger players. Intense competition often leads to price wars, reducing profit margins for many companies. Smaller firms, in particular, struggle with scaling up and investing in advanced technologies to stay competitive against larger, more established players.
4. **Technological Gaps and Lack of Skilled Labor:** While technological advancements like spunbond and spunlace are driving growth, many Indian manufacturers still lag behind in adopting advanced technologies. Limited access to the latest machinery and expertise results in suboptimal production efficiency and product quality. Additionally, a shortage of skilled labor in handling advanced technologies and operating modern machinery is a significant hurdle for many companies looking to upgrade their operations.
5. **Lack of Awareness and Acceptance in Some Sectors:** In certain industries, especially agriculture and construction, the awareness and adoption of non-woven fabrics are still limited. Traditional materials such as plastics, jute, and cotton continue to dominate, and the advantages of non-woven fabrics are not always fully recognized. This slow acceptance hinders the growth potential of non-woven products in sectors that could benefit from their use.
6. **Regulatory and Compliance Issues:** Navigating regulatory frameworks and compliance requirements, particularly related to environmental sustainability, is another challenge for the non-woven industry. Stricter environmental laws, such as bans on single-use plastics, are pushing the industry to innovate and find alternatives. Compliance with these evolving regulations can be costly and requires significant investment in R&D and production process upgrades.

5.4 Government Initiatives & Regulations

Regulations:

The **Indian non-woven industry** is governed by several regulations and standards aimed at ensuring product quality, safety, environmental sustainability, and consumer protection. Here are some key government regulations and frameworks impacting the industry:

1. **Bureau of Indian Standards (BIS):** The BIS is responsible for establishing quality standards for non-woven fabrics in India. It sets guidelines for various properties such as tensile strength, absorbency, and durability, ensuring that products meet the required safety and quality benchmarks. Compliance with BIS standards is crucial for manufacturers, as it enhances product credibility and consumer trust.
2. **Plastic Waste Management Rules:** With growing concerns over plastic pollution, the Indian government has introduced regulations to manage plastic waste effectively. The **Plastic Waste Management Rules, 2016**, and subsequent amendments emphasize reducing single-use plastics and promoting biodegradable alternatives. Non-woven fabrics, especially those made from eco-friendly materials, can offer a sustainable alternative, encouraging manufacturers to focus on producing environmentally friendly products.
3. **The Environmental Protection Act:** Under the **Environmental Protection Act, 1986**, the production processes in the non-woven industry must comply with environmental regulations aimed at minimizing pollution and managing waste. Manufacturers are required to implement measures for waste management, emissions control, and resource conservation. This act encourages the adoption of cleaner technologies and sustainable practices in non-woven fabric production.
4. **Textile Committee Act:** The **Textile Committee Act, 1963**, establishes a framework for promoting the development of the textile industry in India, including non-woven fabrics. The committee works to ensure the quality of textiles and promotes research and development in the sector. It also provides guidelines for the testing and certification of textiles, which is essential for ensuring compliance with quality standards.
5. **Consumer Protection Act:** The **Consumer Protection Act, 2019**, is crucial for safeguarding consumer rights and ensuring that non-woven products meet safety and quality standards. This act mandates clear labeling, quality assurance, and the provision of accurate information about products, empowering consumers to make informed choices and holding manufacturers accountable for their products.
6. **Trade and Import Regulations:** The government regulates imports and exports of non-woven materials through various trade policies and customs regulations. This includes duties, tariffs, anti-dumping measures and compliance with international standards. Regulations are designed to protect domestic manufacturers and ensure that imported non-woven fabrics meet the same quality and safety standards as locally produced goods.

Government Initiatives

1. Make in India:

The "Make in India" initiative, launched by the Government of India, aims to boost domestic manufacturing and attract investment, significantly impacting the non-woven fabric industry. By creating a supportive environment for local production, the initiative encourages companies to develop, manufacture, and assemble products within India, fostering job creation and skill enhancement. The government's shift from a regulatory to a collaborative role enables partnerships with industries, driving economic development and innovation.

Through this initiative, India has opened key sectors to foreign direct investment (FDI), promoting transparency and reducing bureaucratic hurdles. Measures focused on improving the ease of doing business, including IT-driven applications and streamlined licensing processes, have been implemented to enhance operational efficiency. For

the non-woven fabric industry, these reforms are crucial in advancing sustainable manufacturing practices, technological growth, and overall competitiveness in the global market.

2. Capital subsidy for investing in technical textiles:

The government has announced a 15% capital subsidy for investments in technical textiles under the Amended Technology Upgradation Fund Scheme (ATUFS). Under this scheme, the introduction of a technology mission for technical textiles with an outlay of Rs 200 crore, allocating Rs 25 crore for each center of excellence. Additionally, SITRA (South India Textile Research Association) is collaborating with the Defense Research and Development Organization (DRDO) and the Indian Space Research Organization (ISRO) to develop advanced products in technical textiles, encouraging spinning mills to explore this promising sector for new opportunities.

3. Government Initiatives for Sustainable Development

To position India as a global leader in technical textiles, the government launched the National Technical Textiles Mission (NTTM) with an outlay of INR 14.80 billion for FY 2020-21 to 2023-24. Technical textiles, used in diverse fields from agriculture to high-end applications like bulletproof jackets and space gear, are a growing segment. The NTTM focuses on four key areas: Research and Innovation, Promotion and Market Development, Export Promotion, and Education and Skill Development. Additionally, various government initiatives promote sustainable development in textiles, particularly non-woven fabrics, emphasizing biodegradable materials and eco-friendly production methods.

4. SAMARTH Scheme

The Samarth scheme is a flagship skill development initiative launched by the Government of India to enhance capacity building in the textile sector. With an estimated budget of INR 13 billion, the scheme aimed to train 1 million individuals over three years (2017-20). It encourages participation from various stakeholders, including the textile industry, institutions, state governments, NGOs, companies, and startups. As of August 2021, the government reported that 1,565 artisans had benefited from training provided in 63 Samarth Training Centres, highlighting its impact on upskilling workers in the textile sector.

5.5 Industry Outlook

The overall forecast for the non-woven industry is optimistic, with global sales projected to grow at a CAGR of 5.1% from CY2024-29, characterized by robust growth driven by diverse applications across various sectors, including healthcare, hygiene, medical, automotive, construction, and agriculture. As global consumer demand for high-quality, safe, and environmentally friendly products rises, the non-woven fabric market is expected to expand significantly. Technological advancements, such as improved manufacturing processes and innovative material formulations, are enhancing the performance and versatility of non-woven fabrics. The surge in disposable products within healthcare and hygiene—particularly in response to health crises like the COVID-19 pandemic—is further boosting market demand. Additionally, sustainability trends are encouraging the development of biodegradable and recyclable non-woven options, aligning with global efforts to minimize environmental impact.

Despite these positive trends, a significant challenge facing the industry is the high level of product homogeneity. Many manufacturers produce non-woven products that share similar performance characteristics, appearances, and purposes, which can hinder market growth and brand loyalty.

However, on the opportunity front, technological advancements are enhancing the functionality and performance of non-woven fabrics, paving the way for new growth avenues within the industry. The market remains highly competitive, with established players benefiting from advantages in production scale, financial resources, brand recognition, and market share. New entrants who cannot innovate and differentiate their offerings may struggle to succeed in this fierce competitive landscape, underscoring the need for continuous improvement and adaptation to stay relevant in the evolving market.

In summary, the non-woven industry is poised for sustained growth due to a confluence of factors. Increasing consumer expectations for high-quality products that prioritize safety and performance are driving demand across various sectors, particularly in healthcare and hygiene. Technological innovations in manufacturing processes and material science are enhancing the capabilities of non-woven fabrics, making them more versatile and effective for diverse applications.

Furthermore, the industry's shift towards sustainable materials aligns with global efforts to reduce environmental impact, appealing to eco-conscious consumers and businesses alike. As a result, non-woven fabrics are becoming an essential part of the global textile landscape, embodying the overarching trends toward quality, safety, and environmental responsibility that define modern consumer behavior and industry practices. This positioning not only underscores the industry's relevance but also highlights its potential for future expansion as it adapts to evolving market demands.

6 Peer Comparison

6.1 Major Players

The following players in the Non-woven fabric industry segment have been considered for competitive analysis:

Table 4: Peer Analysis

Name of the Company	Business Overview
Spunweb Nonwoven Limited (SNL)	<p>Spunweb Nonwoven Private Limited, established in 2015, is a specialised in the manufacturing and supply of nonwoven fabrics, including Polypropylene Spun Nonwoven Fabric, Laminated Nonwoven Fabric, and UV Treated Nonwoven Fabric. These fabrics are widely utilized in applications such as door mats, bags, carpets, and tarpaulins. The company operates advanced testing facilities, including Universal Tensile Testing and Rewet Properties Testing, to maintain product quality.</p> <p>Spunweb exports its products to North America, Europe, and the Middle East. Over two-thirds of its revenue comes from fabric demand in the hygiene sector, with the remainder derived from applications in medical, packaging, agriculture, and construction industries.</p> <p>SNL is one of the largest manufacturers in spunbond non-woven fabric industry in india, with an installed production capacity of 32,600 MT as of FY24.</p>
Fiberweb India Limited	<p>Fiberweb (India) Ltd., established in 1985, initially specialized in the manufacturing and export of injection-moulded, blow-moulded, and roto-moulded products, along with garbage bags and carrier bags, using German machinery. To align with growing global demand for non-woven fabrics and mitigate business risks, the company diversified into the non-woven fabric segment in the early 1990s. Fiberweb set up its unit for Spun Bond Nonwoven Fabrics, becoming the first company of its kind in India. Since commissioning the plant in 1996, the company has consistently delivered roll goods to customers worldwide, including several Fortune 500 companies.</p>
Sidwin Fabric Private Limited	<p>SIDWIN Fabric Private Limited, established in 2011, is a manufacturer, supplier, and exporter of PP Spun Bond Nonwoven Fabric. The company's product range includes Nonwoven Fabric Rolls, Nonwoven Fabric Sheets, Hydrophilic Nonwoven Fabric, Agriculture Nonwoven Fabric, and more, all produced using high-quality raw materials.</p> <p>Sidwin focuses on meeting market demands with trust, integrity, transparency, and technical expertise. By adopting the latest industry trends and leveraging modern facilities, the company has the capability to produce nonwoven fabrics in various patterns as per customer requirements. Its products find diverse applications in agriculture, medical, health and hygiene, packaging, footwear, garments, mattresses, and furniture sectors.</p>
Eximius Innovative Private Limited	<p>Eximius Innovative Pvt. Ltd. manufactures PP Spun Bond Non-Woven Fabric in various colors and GSM, tailored to customer requirements. The non-woven fabric is produced directly from fibers without involving weaving, knitting, or tufting processes. The product range includes Spun Bond Non-Woven Fabric (SSMMS, SSS, SS, S), Hydrophilic Fabric, and Ultra Soft & High Loft Fabric, among others.</p>

Source: Based on information available on public domain

6.2 Peer Comparison

Table 5: Comparison of Revenue from Operations (In INR Million)

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	1,272.82	1,118.26	1,147.42	1,480.3
Sidwin Fabrics Private Limited	869.6	713.7	579.2	-
Eximius Innovative Private Limited	-	235.87	508.6	554.9
Fiberweb India Limited	1,074.5	953.9	661.1	859.9

Source: Audited financial statements, MCA

Note:

1. Annual report for Sidwin Fabrics Private Limited is not available for FY24 on MCA
2. Eximius Innovative Private Limited reported no revenue in FY21, as the company began its operations in February 2020 and, according to MCA filings, had no revenue from operations during that financial year.

Table 6: Comparison of EBITDA (In INR Million)

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	60.8	45.6	95.1	145.3
Sidwin Fabrics Private Limited	90.7	48.8	62.9	-
Eximius Innovative Private Limited	(0.8)	19.3	53.2	75.0
Fiberweb India Limited	224.1	149.6	11.8	114.7

Source: Audited financial statements, MCA

Table 7: Comparison of EBITDA Margin

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	4.8%	4.1%	8.3%	9.8%
Sidwin Fabrics Private Limited	10.4%	6.8%	10.9%	-
Eximius Innovative Private Limited	-	8.2%	10.5%	13.5%
Fiberweb India Limited	20.9%	15.7%	1.8%	13.3%

Source: Audited financial statements, MCA

Table 8: Comparison of PAT (In INR Million)

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	41.8	34.4	11.8	59.7
Sidwin Fabrics Private Limited	57.4	19.1	5.8	-
Eximius Innovative Private Limited	(0.6)	(1.3)	16.4	46.8
Fiberweb India Limited	143.7	113.4	(2.9)	72.7

Source: Audited financial statements, MCA

Table 9: Comparison of PAT Margin

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	3.3%	3.1%	1.0%	4.0%
Sidwin Fabrics Private Limited	6.6%	2.7%	1.0%	-
Eximius Innovative Private Limited	-	-0.6%	3.2%	8.4%
Fiberweb India Limited	13.4%	11.9%	-0.5%	8.5%

Source: Audited financial statements, MCA

Table 10: Comparison of ROCE

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	10.5%	3.3%	5.1%	10.5%
Sidwin Fabrics Private Limited	25.3%	5.1%	4.5%	-
Eximius Innovative Private Limited	-0.6%	5.2%	23.0%	19.8%
Fiberweb India Limited	9.9%	8.3%	-0.7%	4.4%

Source: Audited financial statements, MCA

Table 11: Comparison of Total Debt (Short-Term & Long-Term Borrowings-In INR Million)

Peers	FY21	FY22	FY23	FY24
Spunweb Nonwoven Private Limited	240.4	558.2	541.3	483.7
Sidwin Fabrics Private Limited	212.5	419.1	420.4	-
Eximius Innovative Private Limited	94.8	151.8	145.9	227.5
Fiberweb India Limited	-	-	63.4	68.7

Source: Audited financial statements, MCA

Contact

Tanvi Shah	Director	tanvi.shah@careedge.in	022 6837 4400
Vikram Thirani	Director	vikram.thirani@careedge.in	022 6837 4434

About CARE Analytics and Advisory Private Ltd (CareEdge Research)

CareEdge (CARE Group) is a knowledge-based analytical group that aims to provide superior insights based on technology, data analytics capability and detailed research methods. CareEdge (CARE Ratings Limited) is one of the leading credit rating agencies in India. It has an impressive track record of rating companies for almost three decades and has played a pivotal role in developing the corporate debt market in India. CareEdge provides near real time research on all domestic and global economic developments. CARE Analytics & Advisory Private Ltd is a wholly owned subsidiary focused on providing advisory and consultancy services including the following:



CARE Analytics & Advisory Private Ltd

(Wholly-owned subsidiary of CARE Ratings Ltd.)

Office No. 602, 6th Floor, Rustomjee Aspiree, Off Eastern Express Highway, Sion East, Mumbai- 400022

Phone: +91-22-68374400

Connect :



