

Industry Research Report On Manpower, Toll Management and Drone industries

07th August 2024

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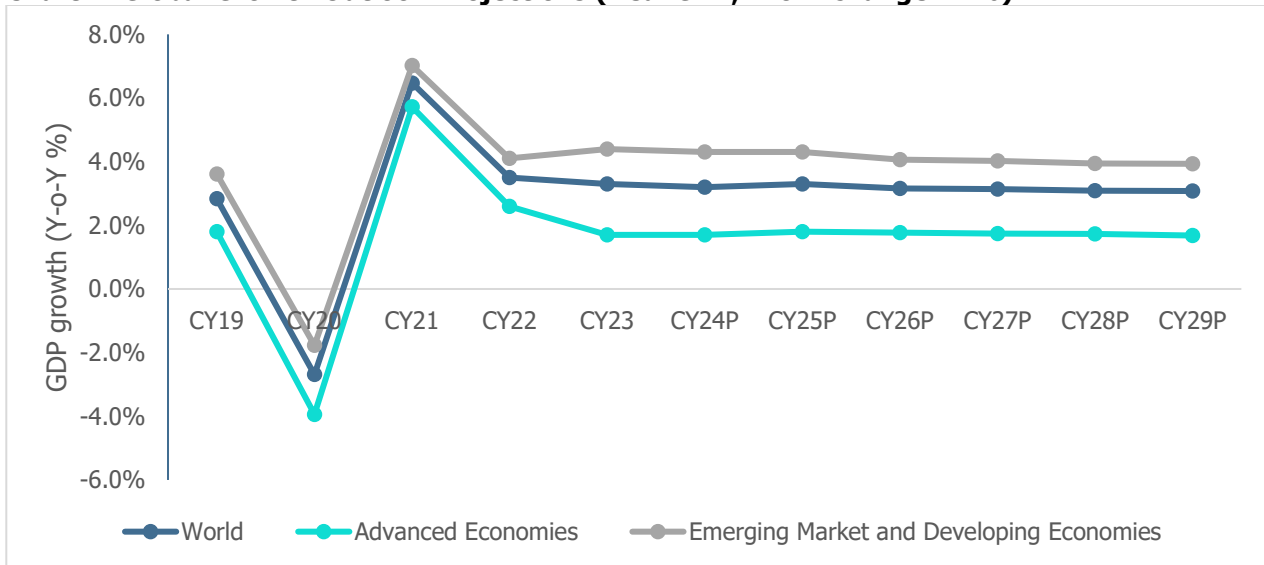
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1. Economic Outlook

1.1 Global Economy

Global growth, which stood at 3.3% in CY23, is anticipated to fall to 3.2% in CY24 and then bounce back again to 3.3% in CY25. The CY24 forecast has remained same compared to the April 2024 World Economic Outlook (WEO) Update, and increased by 0.1 percentage point compared to the January 2024 WEO. Despite this, the expansion remains historically low, attributed to factors including sustained high borrowing costs, inflation woes, reduced fiscal support, lingering effects of Russia’s Ukraine invasion, Iran–Israel Cold War, sluggish productivity growth, and heightened geo-economic fragmentation.

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



Notes: P-Projection; Source: IMF – World Economic Outlook, July 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	8.5	3.0	5.2	5.0	4.5	3.8	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	1.7	4.7	4.0	3.5	3.0	3.5
Brazil	-3.3	4.8	3.0	2.9	2.1	2.4	2.1	2.0	2.0	2.0
Euro Area	-6.1	5.9	3.4	0.5	0.9	1.5	1.4	1.3	1.3	1.2
United States	-2.2	5.8	1.9	2.5	2.6	1.9	2.0	2.1	2.1	2.1

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

Advanced Economies Group

Advanced economies are expected to experience a gradual increase in growth, remaining same at 1.7% in CY23 and CY24 and increasing to 1.8% in CY25. The projection for CY24 and CY25 remains unchanged compared to the April 2024 WEO Update.

The **United States** is expected to see growth rise to 2.6% in CY24, followed by a slight slowdown to 1.9% in CY25. This deceleration is attributed to gradual fiscal tightening and labor market softening, which dampen aggregate demand. The CY24 projection has been revised downward by 0.1 percentage points since the April CY24 WEO Update. This revision primarily reflects carryover effects from stronger-than-expected growth in the fourth quarter of CY23, with some of this momentum expected to continue into CY24.

The **Euro Area's** growth is anticipated to rebound from its sluggish rate of 0.5% in CY23, mainly influenced by significant exposure to the conflict in Ukraine. Projections indicate an increase to 0.9% in CY24 and further to 1.5% in CY25. This recovery is driven by stronger household consumption, as the impact of elevated energy prices diminishes and declining inflation bolsters real income growth. Additionally, strong momentum in services, higher than expected net exports, and higher investments have further driven this growth. But, countries like Germany are expected to have a sluggish recovery on account of weak manufacturing growth.

Emerging Market and Developing Economies Group

Emerging market and developing economies are forecasted to maintain stable growth at 4.3% in both CY24 and CY25. This forecast has been revised upwards by 0.1 percentage point as compared to the April 2024 WEO update on account of stronger activity in Asia, particularly China and India. Growth prospects in economies across the Middle East and Central Asia continue to be weighed down by oil production and regional conflicts. Growth forecast of sub-Saharan Africa has also been revised downward on account of weak economic activity. Low-income developing countries are anticipated to experience a gradual growth uptick, starting at 3.9% in CY23 and climbing to 4.4% in CY24 and 5.3% in CY25, as certain constraints on near-term growth begin to ease.

The economic forecast for emerging and developing Asia reveals a modest deceleration in growth, with projections indicating a decline from 5.7% in CY23 to 5.4% in CY24 and 5.1% in CY25. **China's** trajectory reflects a slowdown, transitioning from 5.2% in CY23 to 5.0% in CY24 and 4.5% in CY25 due to fading post-pandemic stimuli and ongoing property sector challenges. In contrast, **India's** growth remains robust, with anticipated rates of 7.0% in CY24 and 6.5% in CY25, bolstered by resilient domestic demand and a burgeoning working-age populace.

The **Indonesian** economy is expected to register growth of 5.0% in CY24 and 5.1% in CY25 with a strong domestic demand, a healthy export performance, policy measures, and normalization in commodity prices. **Saudi Arabia's** growth slowed at -0.8% in CY23 attributed to lower oil production. CY24 is predicted to see a revamp in the growth rates to 1.7% on account of Vision 2030 reforms that helped advance the country's economic diversification agenda, including through reduced reliance on oil. The forecast for CY24 has been revised downward as compared to the April 2024 WEO update on account of extension of oil production cuts. Going forward, GDP is expected to grow at 4.7% and 4.0% in CY25 and CY26, respectively. On the other hand, **Brazil's** growth is projected to ease to 2.1% in CY24, driven by fiscal consolidation, the lingering impact of tight monetary policies, and reduced contributions from the agricultural sector. There has been a downward revision in forecast for CY24 compared to April 2024 WEO update on account of the near-term impact of flooding. Going forward, GDP is expected to grow at 2.4% in CY25 on account reflecting reconstruction following the floods and supportive structural factors.

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 5.3 trillion by CY27 and USD 6.4 trillion by CY29. India's expected GDP growth rate for coming years is almost double compared to the world economy.

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 ~7.6% share in the global economy, with China [~18.7%] on the top followed by the United States [~15.6%]. Purchasing Power Parity is an economic performance indicator denoting the relative price of an average basket of goods and services that a household needs for livelihood in each country.

Despite Covid-19's impact, high inflationary environment and interest rates globally, and the geopolitical tensions in Europe, India has been a major contributor to world economic growth. India is increasingly becoming an open economy as well through growing foreign trade. Despite the global inflation and uncertainties, Indian economy continues to show resilience. This resilience is mainly supported stable financial sector backed by well-capitalized banks and export of services in trade balance. With this, the growth of Indian economy is expected to fare better than other economies majorly on account of strong investment activity bolstered by the government's capex push and buoyant private consumption, particularly among higher income earners.

1.2 Indian Economic Outlook

1.2.1 GDP Growth and Outlook

Resilience to External Shocks remains Critical for Near-Term Outlook

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. In Q1FY24, the economic growth accelerated to 8.2%. The manufacturing sector maintained an encouraging pace of growth, given the favorable demand conditions and lower input prices. The growth was supplemented by a supportive base alongside robust services and construction activities. This momentum remained in the range in the Q2FY24 with GDP growth at 8.1%, mainly supported by acceleration in investments. However, private consumption growth was muted due to weak rural demand and some moderation in urban demand amid elevated inflationary pressures in Q2FY24. The GDP growth number improved for Q3FY24 at 8.6%.

India's GDP at constant prices surged to Rs. 47.24 trillion in Q4FY24 from Rs. 43.84 trillion in Q4FY23, marking a 7.8% growth rate. This upswing was fueled by robust performances in construction, mining & quarrying, utility services, and manufacturing sectors and investment drove the GDP growth, while both private and government consumption remained subdued.

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.

GDP Growth Outlook

Driven by fixed investment and improving global environment, domestic economic activity continues to expand. The provisional estimates (SAE) placed real GDP growth at 8.2% for FY24.

Industrial activity led by manufacturing continues its momentum on the back of strengthening domestic demand. The eight core industries also show healthy growth. Moreover, services sector shows exhibit broad based buoyancy. The purchasing managers' index for both manufacturing and services continues to exhibit a sustained and healthy expansion.

The outlook for agriculture and rural activity appears bright owing to good rabi wheat crop and expected improvements in kharif crop due to expected normal south-west monsoon. This combined with increasing rural demand on the back of improving farm activity, improvement in informal activity, improving employment condition, and alleviating inflationary pressures are expected to boost private investment. Additionally, consumption is expected to support economic growth in FY25 owing to strengthening rural demand.

Investment activity is also expected to be further supported by sustained and robust government spending, strong financial positions of banks and corporations, increasing capacity utilization, and rising business confidence as indicated by surveys. Additionally, improving global economic growth and trade prospects are expected to boost external demand for goods and services.

Persistent geopolitical tensions and volatility in international commodity prices do pose risk to this outlook. Based on these considerations, the RBI, in its June 2024 monetary policy, has projected real GDP growth at 7.2% y-o-y for FY25.

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

FY25P	Q1FY25P	Q2FY25P	Q3FY25P	Q4FY25P
7.2%	7.3%	7.2%	7.3%	7.2%

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.
- The **agriculture sector** was holding growth momentum till FY18. In FY19, the acreage for the rabi crop was marginally lower than the previous year which affected the agricultural performance. Whereas FY20 witnessed growth on account of improved production. During the pandemic-impacted period of FY21, the agriculture sector was largely insulated as timely and proactive exemptions from COVID-induced lockdowns to the sector facilitated uninterrupted harvesting of rabi crops and sowing of kharif crops. However, supply chain disruptions impacted the flow of agricultural goods leading to high food inflation and adverse initial impact on some major agricultural exports. However, performance remained steady in FY22.

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.

In Q1FY24, this sector expanded at a slower pace of 3.7% y-o-y growth compared to y-o-y growth a quarter ago. This further stumbled to 1.7% in Q2FY24. Further, it experienced y-o-y growth of 0.4% in Q3 and 0.6% in Q4, leading to expectations of a modest 1.4% rise for the full year, contrasting sharply with the 4.7% growth recorded in FY23. In the Interim Budget 2024-25, the government plans to boost private and public investment in post-harvest activities and expand the application of Nano-DAP across agro-climatic zones. Strategies for self-reliance in oilseeds and dairy development are to be formulated, alongside ramping up the Pradhan Mantri Matsya Sampada Yojana and establishing Integrated Aquaparks. Allocation for PM-Formalisation of Micro Food Processing Enterprises scheme has increased from Rs. 639 in FY24 to Rs. 880 crores in FY25.

Going forward, rising bank credit to the sector and increased exports will be the drivers for the agriculture sector. However, a deficient rainfall may have impact on the reservoir level, weighing on prospects of Kharif sowing. Considering these factors, the agriculture sector is estimated to attain Rs. 23.7 trillion and mark 1.4% y-o-y growth for complete FY24.

- From March 2020 onwards, the nationwide lockdown due to the pandemic significantly impacted the **industrial sector**. In FY20 and FY21, this sector felt turbulence due to the pandemic and recorded a decline of 1.4% and 0.9%, respectively, on a y-o-y basis. With the opening up of the economy and resumption of industrial activities, it registered 11.6% y-o-y growth in FY22, albeit on a lower base.

The industrial output in FY23 grew by only 2.1% with estimated value Rs. 44.74 trillion owing to decline in manufacturing activities.

The industrial sector grew by 6.0% in Q1FY24, while Q2FY24 growth was up by 13.6% owing to positive business optimism and strong growth in new orders supported manufacturing output. The industrial growth was mainly supported by sustained momentum in the manufacturing and construction sectors. Within manufacturing, industries such as pharma, motor vehicles, metals, petroleum and pharma witnessed higher production growth during the quarter. The construction sector (13.6% growth in Q2FY24) benefited from poor rainfall during August and September and higher implementation of infrastructure projects. This was reflected in robust cement and steel production and power demand in Q2FY24. Overall, H1FY24 picked up by 9.3% with manufacturing and construction activities witnessing significant acceleration. In Q3FY24, growth rate slowed down to 10.5%. It further fell down to 8.4% in Q4FY24.

India's industrial sector is experiencing strong growth, driven by significant expansion in manufacturing, mining, and construction. This growth is supported by positive business sentiment, declining commodity prices, beneficial

government policies like production-linked incentive schemes, and efforts to boost infrastructure development. These factors collectively contribute to the sustained buoyancy in industrial growth due to which the industrial growth is estimated at 9.5% on y-o-y basis registering the value of Rs. 48.9 trillion in FY24.

- The **Services sector** was the hardest hit by the pandemic and registered an 8.2% y-o-y decline in FY21. The easing of restrictions aided a fast rebound in this sector, with 8.8% y-o-y growth witnessed in FY22.

Overall, in FY23, benefitting from the pent-up demand, the service sector was valued at Rs. 80.6 trillion and registered growth of 10.0% y-o-y.

In Q1FY24, the services sector growth jumped to 10.7%. Within services, there was a broad-based improvement in growth across different sub-sectors. However, the sharpest jump was seen in financial, real estate, and professional services. Trade, hotels, and transport sub-sectors expanded at a healthy pace gaining from strength in discretionary demand. The service sector growth in Q2FY24 moderated to 6.0% partly due to the normalization of base effect and some possible dilution in discretionary demand. Considering these factors, service sector marked 8.3% growth in H1FY24. In Q3FY24 growth increased to 7.1% compared to 7.2% last year in the same quarter. In Q4FY24, growth declined to 6.7% compared to 7.2% last year in the same quarter.

With this performance, steady growth in various service sector indicators like air passenger traffic, port cargo traffic, GST collections, and retail credit are expected to support the services sector. With this, the growth of service sector is estimated at Rs. 86.7 trillion registering 7.6% growth in FY24 overall.

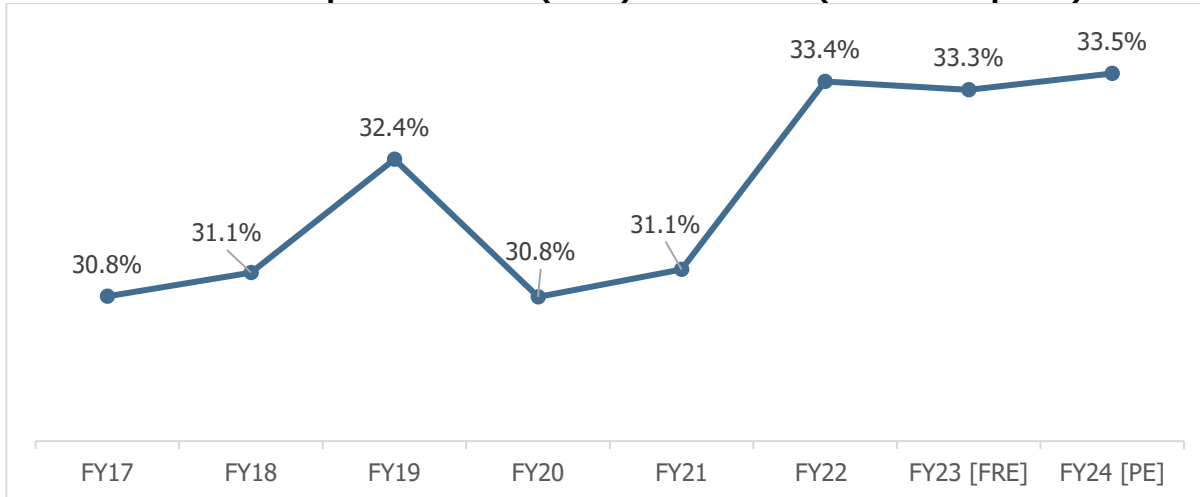
Table 3: Sectoral Growth (Y-o-Y % Growth) - at Constant Prices

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

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

1.2.3 Investment Trend in Infrastructure

Gross Fixed Capital Formation (GFCF), which is a measure of the net increase in physical assets, witnessed an improvement in FY22. As a proportion of GDP, it is estimated to be at 33.4%, which is the highest level in 5 years (since FY17). In FY23, the ratio of investment (GFCF) to GDP remained flat at 33.3%. Continuing in its growth trend, this ratio has reached 33.5% in FY24.

Chart 2: 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.

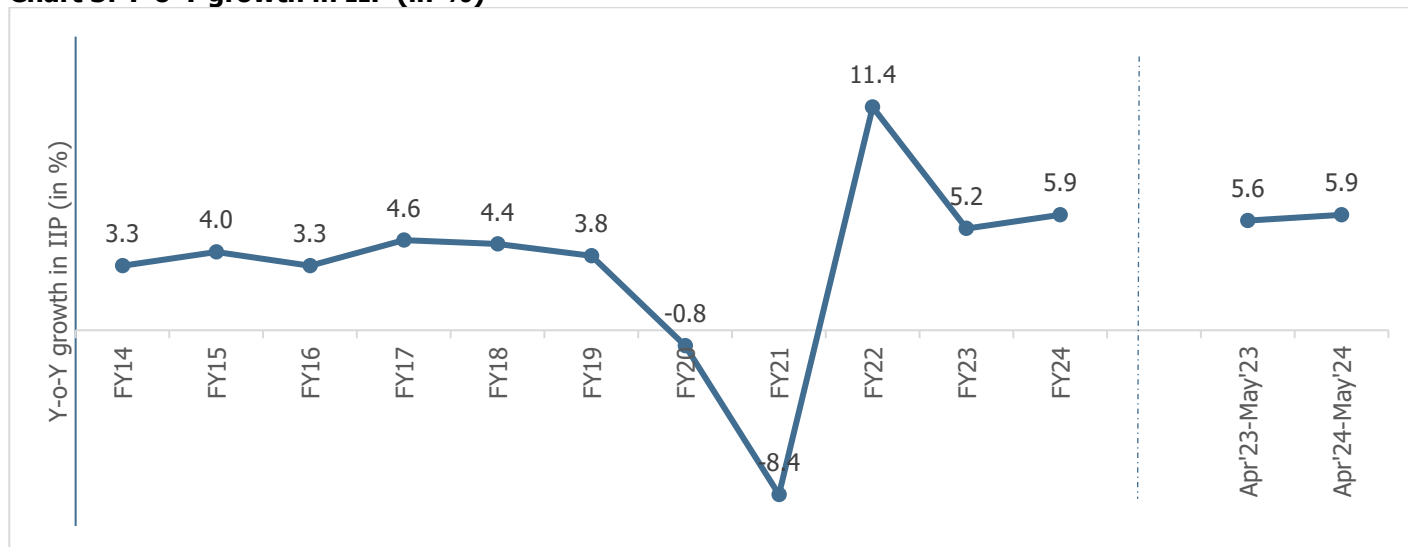
1.2.4 Industrial Growth

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. On a cumulative basis, IIP grew by 11.4% y-o-y in FY22 post declining by 0.8% y-o-y and 8.4% y-o-y, respectively, in FY20 and FY21. This high growth was mainly backed by a low base of FY21. FY22 IIP was higher when compared with the pre-pandemic level of FY20, indicating that while economic recovery was underway.

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. The period April 2024 – May 2024, industrial output grew by 5.4% compared to the 5.1% growth in the corresponding period last year. For the month of May 2024, the IIP growth increased to 5.9% compared to the last year's 5.7%, on account of growth in mining and electricity. The manufacturing sector grew modestly with the top three contributors being Manufacture of basic metals, Manufacture of pharmaceuticals, medicinal, chemical, and botanical products, and Manufacture of electrical equipment.

So far in the current fiscal, the government's spending on infrastructure has been strong, but private investment hasn't picked up significantly yet. Consumer durables production increased due to favorable conditions, while non-durables saw a slight decline. Urban demand is driving consumption, while rural demand is still recovering. Good monsoon forecasts are positive, but high unemployment and food inflation pose challenges. Infrastructure/construction output is growing well due to government spending. Private investment and manufacturing capacity utilization are increasing, supporting hopes for private sector growth. Good monsoon could boost rural demand, but food inflation remains a concern. Overall, sustained improvements in consumption and private investment are crucial for industrial performance.

Chart 3: Y-o-Y growth in IIP (in %)

Source: MOSPI

1.2.5 Consumer Price Index

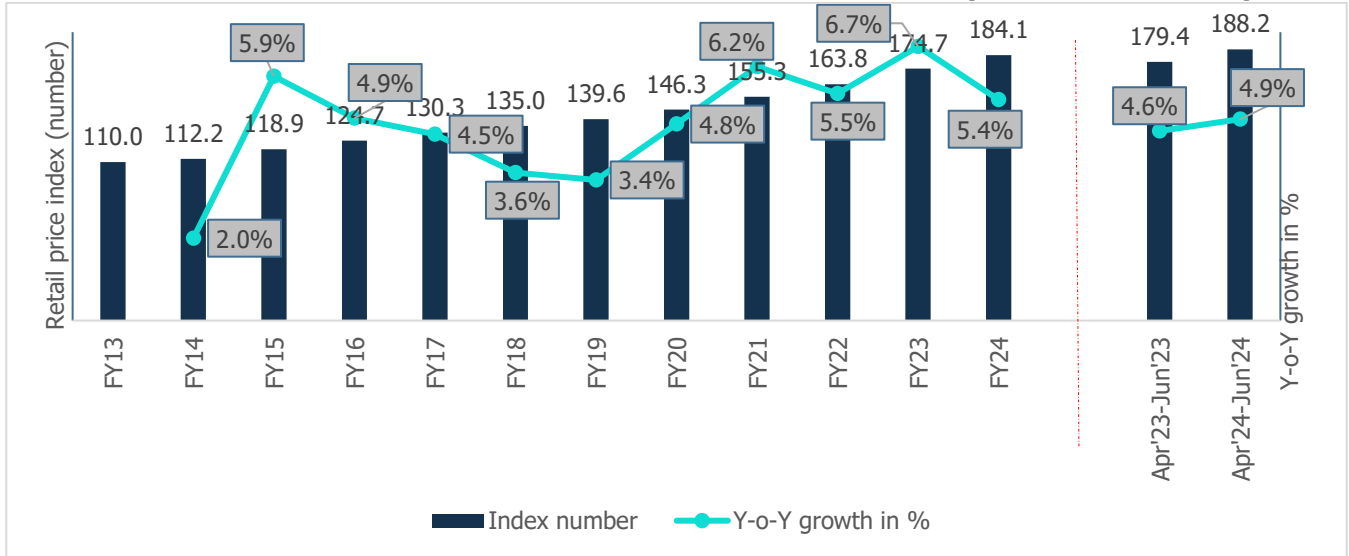
India's consumer price index (CPI), which tracks retail price inflation, stood at an average of 5.5% in FY22 which was within RBI's targeted tolerance band of 6%. However, consumer inflation started to upswing from October 2021 onwards and reached a tolerance level of 6% in January 2022. Following this, CPI reached 6.9% in March 2022.

CPI remained elevated at an average of 6.7% in FY23, above the RBI's tolerance level. However, there was some respite toward the end of the fiscal wherein the retail inflation stood at 5.7% in March 2023, tracing back to the RBI's tolerance band. Apart from a favorable base effect, the relief in retail inflation came from a moderation in food inflation.

In FY24, the CPI moderated for two consecutive months to 4.7% in April 2023 and 4.3% in May 2023. This trend snapped in June 2023 with CPI rising to 4.9%. In July 2023, the CPI had reached its highest point at 7.4%, this was largely due to increase in food prices. The notable surge in vegetable prices and in other food categories such as cereals, pulses, spices, and milk have driven this increase. In August 2023, the food inflation witnessed some moderation owing to government's active intervention. This was further moderated for second consecutive month in September 2023 to 5%, led by a sharp correction in vegetables prices and lower LPG prices. Helped by deflation in the fuel and light category, the retail inflation in October 2023 softened at 4.9%. This trend reversed in November 2023 due to spike in certain vegetable prices as well as sticky inflation in non-perishable food items such as cereals, pulses and spices and the CPI rose to 5.6%. In the month of December 2023, elevated food prices and an unfavourable base drove headline inflation to a four-month peak of 5.7%. However in the month of January and February, food prices softened and the inflation was reported at 5.1% for both the months. March witnessed further softening of prices registering 4.9% growth. For FY24 inflation moderated to 5.4% which are within the boundaries set of 2% to 6% by the RBI.

High inflation in specific food items poses inflation risk, even though normal monsoon forecasts are improving the food inflation outlook. This makes it crucial to monitor monsoon distribution. Government measures like the Open Market Sale Scheme (OMSS) and export restrictions aim to stabilize food prices. Additionally, recent move to cut LPG cylinder prices have sustained deflation in fuel and light category. While government initiatives are expected to mitigate upward price pressure, external risks from geopolitical tensions may affect supply chains and commodity prices. The numbers for April 2024-June 2024 show an increase in inflation growth y-o-y to 4.9% as compared to inflation growth y-o-y of 4.6% in April 2023-June 2023 period.

Chart 4: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100)

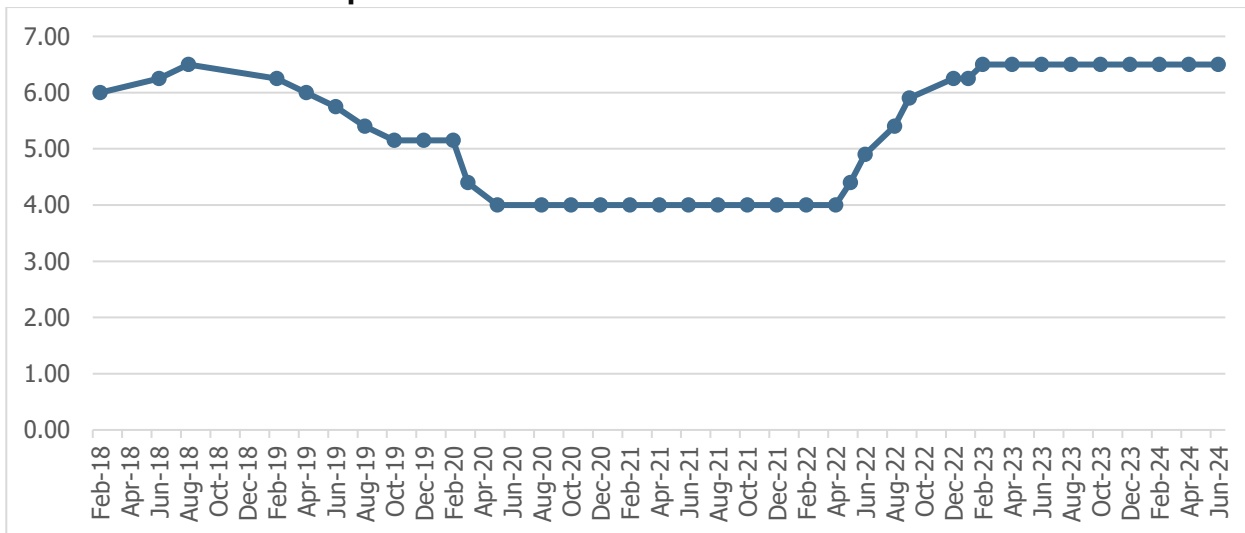


Source: MOSPI

The CPI is primarily factored in by RBI while preparing their bi-monthly monetary policy. At the bi-monthly meeting held in June 2024, RBI projected inflation at 4.5% for FY25 with inflation during Q1FY25 at 4.9%, Q2FY25 at 3.8%, Q3FY25 at 4.6% and Q4FY25 at 4.5%.

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

Chart 5: RBI historical Repo Rate



Source: RBI

In a meeting held in June 2024, RBI also maintained the liquidity adjustment facility (LAF) corridor by adjusting the standing deposit facility (SDF) rate of 6.25% as the floor and the marginal standing facility (MSF) at the upper end of the band at 6.75%.

Further, the central bank continued to remain focused on the withdrawal of its accommodative stance. 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. Given the uncertainties in food prices that might derail the path to bring down inflation, the Central Bank has decided to be vigilant and maintain an active disinflationary stance to ensure

complete transmission of past rate cuts and anchoring of inflation expectations until a better alignment of the headline CPI inflation with the target is achieved.

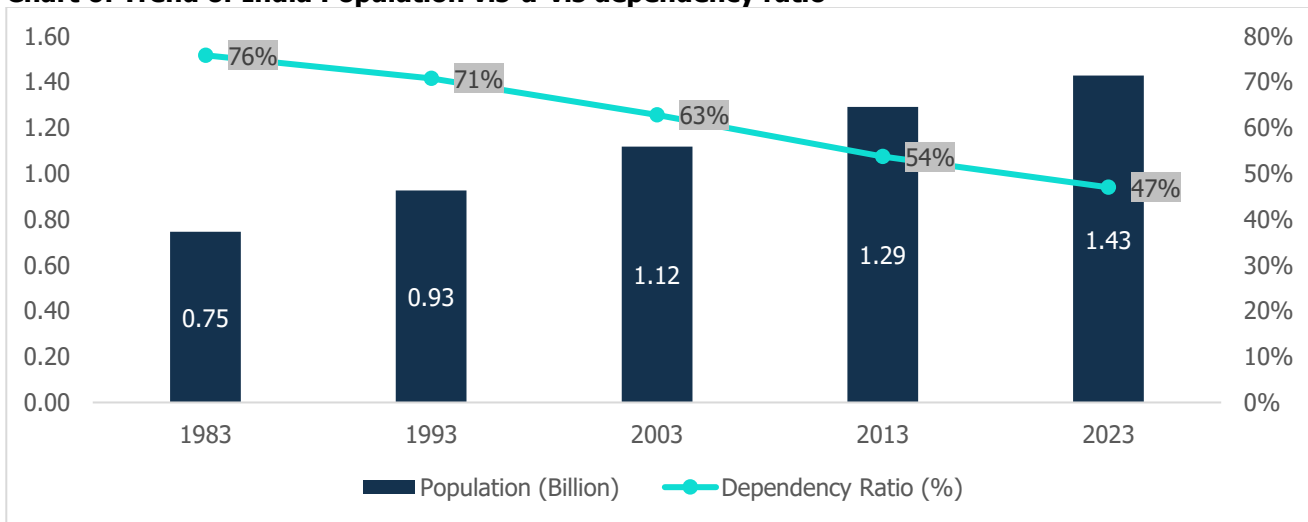
1.2.6 Overview on Key Demographic Parameters

• **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 to the working age population, i.e., 15 to 64 years, wherein dependents are population younger than 15 and older than 64. 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.

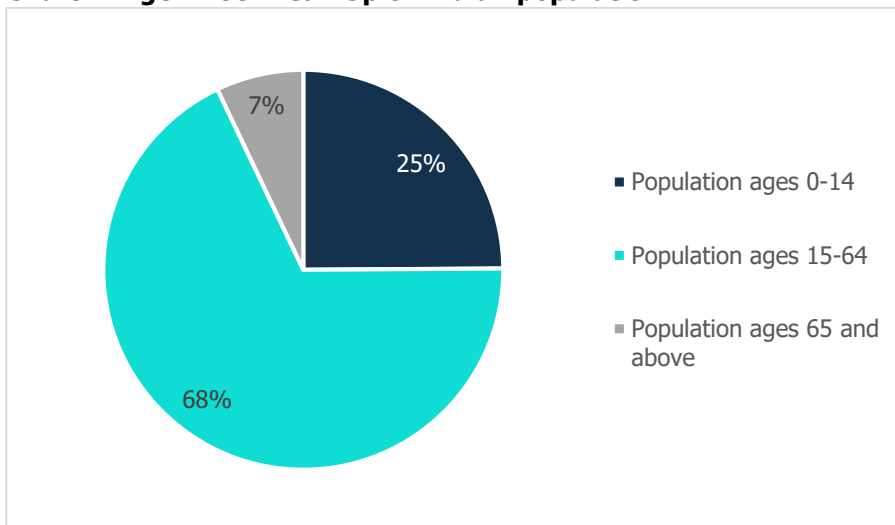
Chart 6: Trend of India Population vis-à-vis dependency ratio



Source: World Bank Database

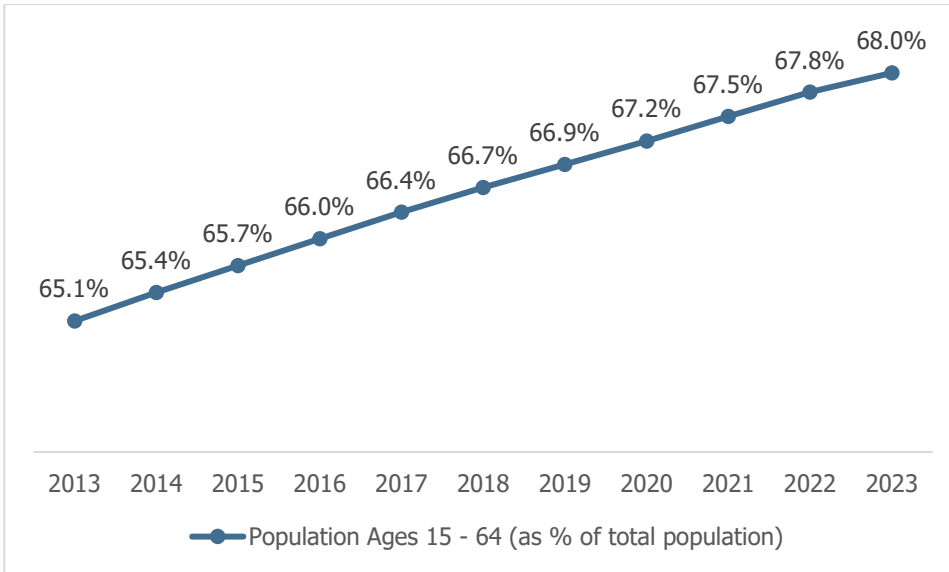
With an average age of 29, India has one of the youngest populations globally. With vast resources of young citizens entering the workforce every year, it is expected to create a 'demographic dividend'. India is home to a fifth of the world’s youth demographic and this population advantage will play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

Chart 7: Age-Wise Break Up of Indian population



Source: World Bank Database

Chart 8: Yearly Trend - Young Population as % of Total Population

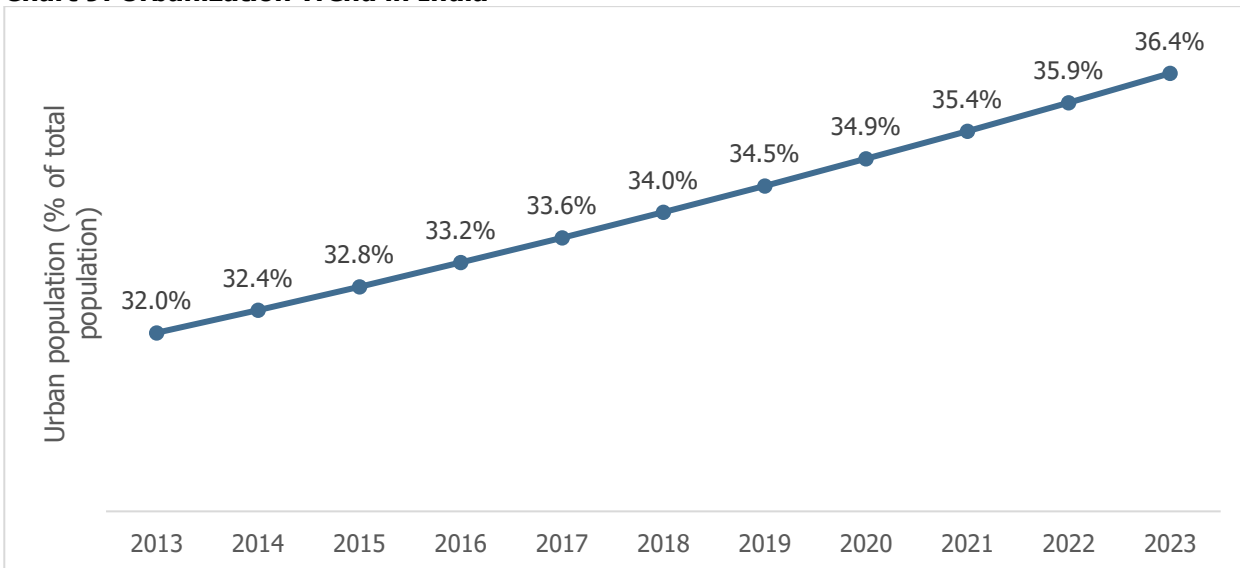


Source: World Bank database

- Urbanization**

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. People living in Tier-2 and Tier-3 cities have greater purchasing power.

Chart 9: Urbanization Trend in India



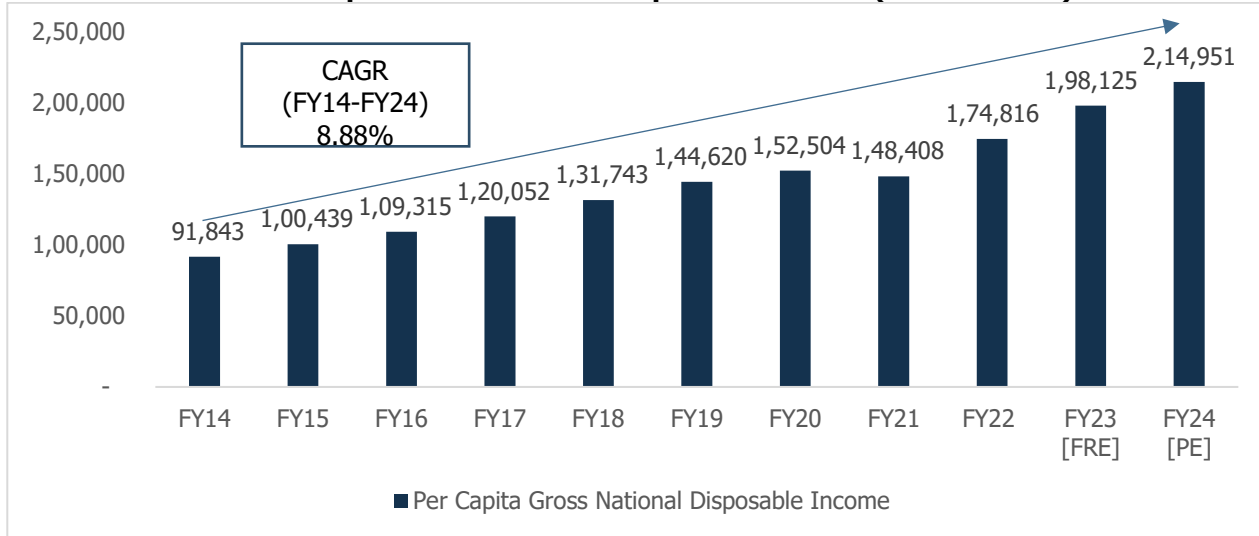
Source: World Bank Database

- Increasing Per Capita Disposable Income**

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.

The chart below depicts the trend of per capita GNDI in the past decade:

Chart 10: Trend of Per Capita Gross National Disposable Income (Current Price)

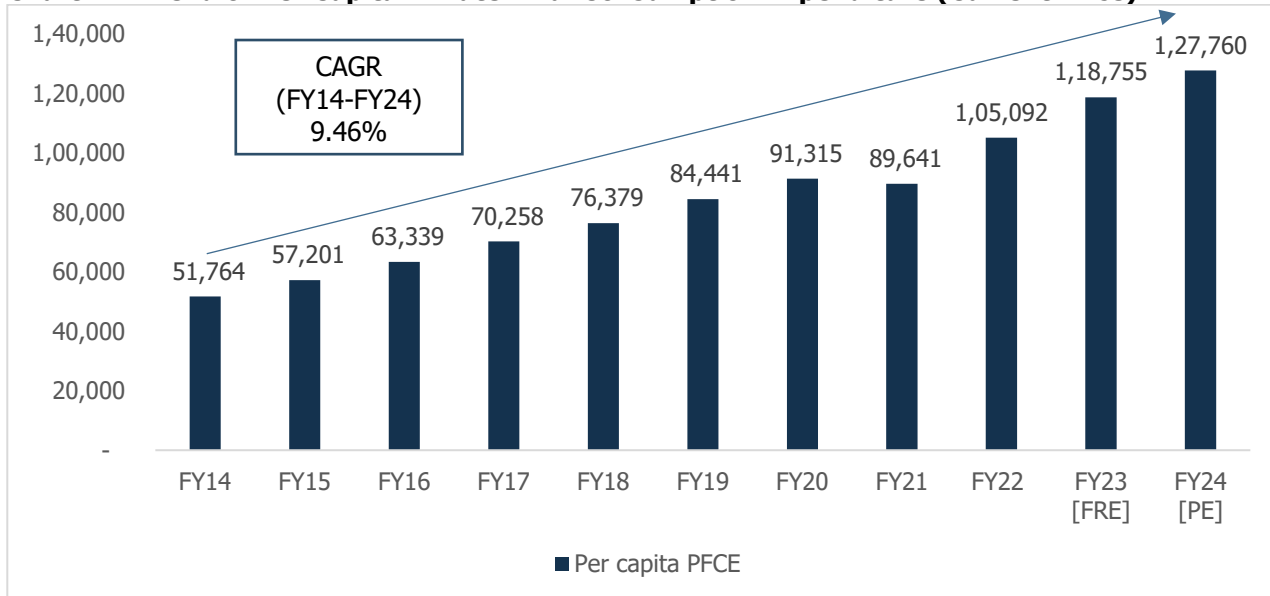


Note: 3RE – Third Revised Estimate, 2RE – Second Revised Estimates, 1RE – First Revised Estimates, PE – Provisional Estimate; Source: MOSPI

- Increase in Consumer Spending**

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%. Following chart depicts the trend of per capita PFCE at current prices:

Chart 11: Trend of Per Capita Private Final Consumption Expenditure (Current Price)



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, and a shortage of key inputs. 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.

Likewise, several high-frequency growth indicators including the purchasing managers index, auto sales, bank credit, and GST collections have shown improvement in FY23. Moreover, normalizing the employment situation after the opening up of the economy is expected to improve and provide support to consumption expenditure.

The India Meteorological Department (IMD) has made a significant forecast, predicting "above normal" rainfall for the upcoming monsoon season, marking the first time in a decade that such an optimistic outlook has been declared at the initial stage. This forecast, coupled with an anticipated eight-year-high rainfall, offers promising prospects for the agrarian economy and inflation. The weakening of El Nino to a neutral stage in the early monsoon season, followed by the likely development of La Nina conditions in the later part, adds to the positive outlook. El Nino typically leads to suppressed rainfall during the Indian monsoon, whereas La Nina tends to enhance rainfall activity. IMD's more optimistic prediction is expected to bolster agricultural growth and incomes, while also potentially alleviating stubborn food inflation pressures.

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 good rabi crop and an expected normal monsoon will aid the investment cycle in gaining further traction.

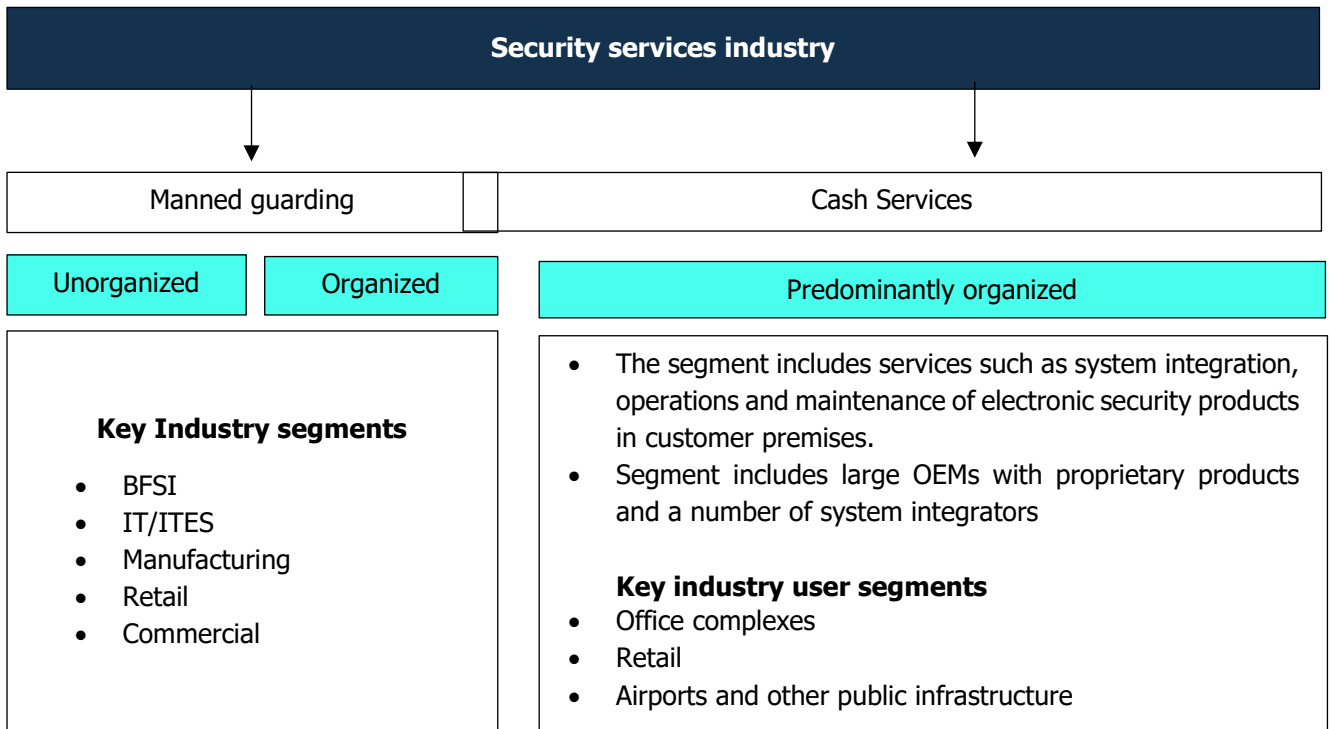
2. Security Services Industry

1.1 Indian Security Services Industry Overview

The private security services market is characterized by large MNCs and local companies at one end and a fragmented, unorganized segment at the other. Key services provided by private security firms include manned guarding, hard currency (cash) mobility services, and allied services like IT/electronic security. The Indian security services industry has seen rapid growth over the past decade due to ongoing threats from crime and terrorism, demand for security in new infrastructure projects (such as airports, roads, and telecom towers), the rise of modern retail, and the growing need for secure hard currency movement within the banking system.

- **Private security:** This means security provided by a person, other than a public servant, to protect or guard any person or property or both and includes provision of armoured car service.
- **Private security agency:** This means a person or body of persons other than a government agency, department or organisation engaged in the business of providing private security services including training to private security guards or their supervisor or providing private security guards to any industrial or business undertaking or a company or any other person or property;
- **Private security guard:** This means a person providing private security with or without arms to another person or property or both and includes a supervisor

The security services sector in India features a broad spectrum of participants providing an extensive range of services tailored to address the security requirements of different sectors. Below is an overview outlining the structure of India's security services industry.



1. **Government and Public Sector:** The government and public sector entities play a significant role in the security services industry. This includes government agencies responsible for law enforcement, border security, and public safety, as well as public sector organizations such as airports, ports, railways, and public utilities, which often engage security service providers to safeguard their assets and infrastructure.
2. **Private Security Agencies (PSAs):** The private security sector in India is robust and comprises a large number of private security agencies offering a range of security services to businesses, industries, residential

complexes, educational institutions, and other private entities. These PSAs are regulated by the Private Security Agencies Regulation Act (PSARA) and are required to obtain licenses from the respective state governments to operate legally.

3. **Multinational Security Companies:** In addition to domestic players, several multinational security companies have a presence in India, offering specialized security solutions and leveraging their global expertise to serve clients in various sectors. These companies often cater to large corporate clients, multinational corporations, and high-net-worth individuals seeking premium security services.

The security services industry in India exhibits vertical specialization, with companies offering specialized security solutions tailored to specific sectors or industries. For example, there are security firms specializing in providing services to the Banking and financial sector in the form of Guarding Services, Cash Management, Surveillance Systems, Access Control. Others cater to the retail industry with store security, loss prevention, crowd management, and emergency response services. In healthcare facilities, security firms focus on patient and staff safety, visitor management, incident reporting and investigation, and asset protection. Similar specialized services are provided to technology companies and the hospitality sector, among others.

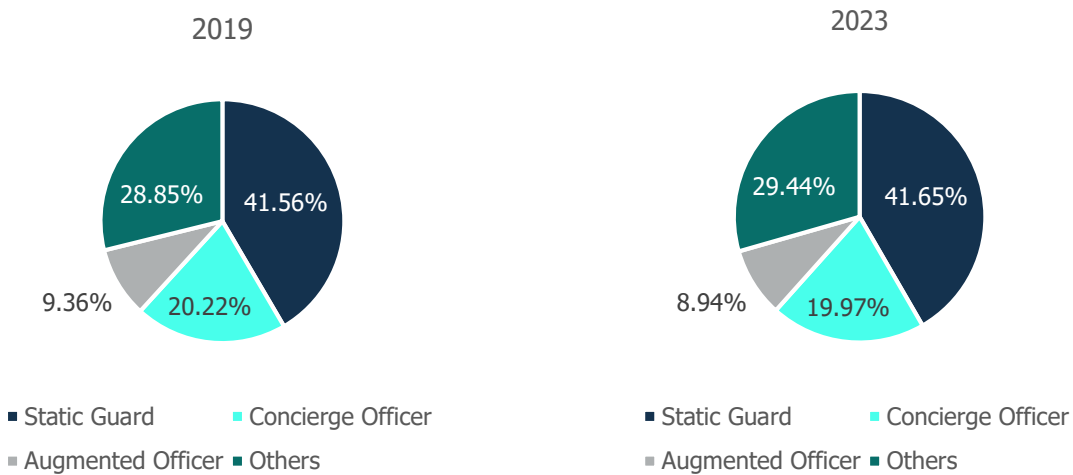
With advancements in technology, there is a growing trend of integrating technology-driven solutions into traditional security services. This includes the deployment of surveillance cameras, access control systems, biometric identification systems, drones, and other electronic security devices to enhance the effectiveness and efficiency of security operations.

Training and certification play a crucial role in the security services industry, ensuring that security personnel are adequately trained, skilled, and equipped to handle various security threats and challenges. Many security agencies invest in training programs to enhance the capabilities of their workforce and comply with regulatory requirements.

Table 4: The security services market encompasses various products and services within the security industry. It is categorized by:

Types	Description
Static Guard	Static guards are uniformed personnel responsible for patrolling and protecting an organization's perimeter. Despite the term "static" guarding, this role is highly dynamic. They perform various duties, including monitoring visitors to a client's premises, fire surveillance, and more.
Concierge Officer	A concierge officer is often preferred for buildings with high foot traffic, such as hotels and corporate offices. Similar to static guards, these specially trained professionals manage access to company buildings, monitor CCTV, and safeguard people, property, and assets. Additionally, they provide crucial front-of-house services.
Augmented Officer	The augmented officer represents the future of security guarding. Instead of being stationed on-site, these guards operate from a remote central monitoring station, utilizing artificial intelligence, data analytics, and advanced surveillance tools to ensure security protection.

Chart 12: India Security Services (Manned Security) Value Share by Type

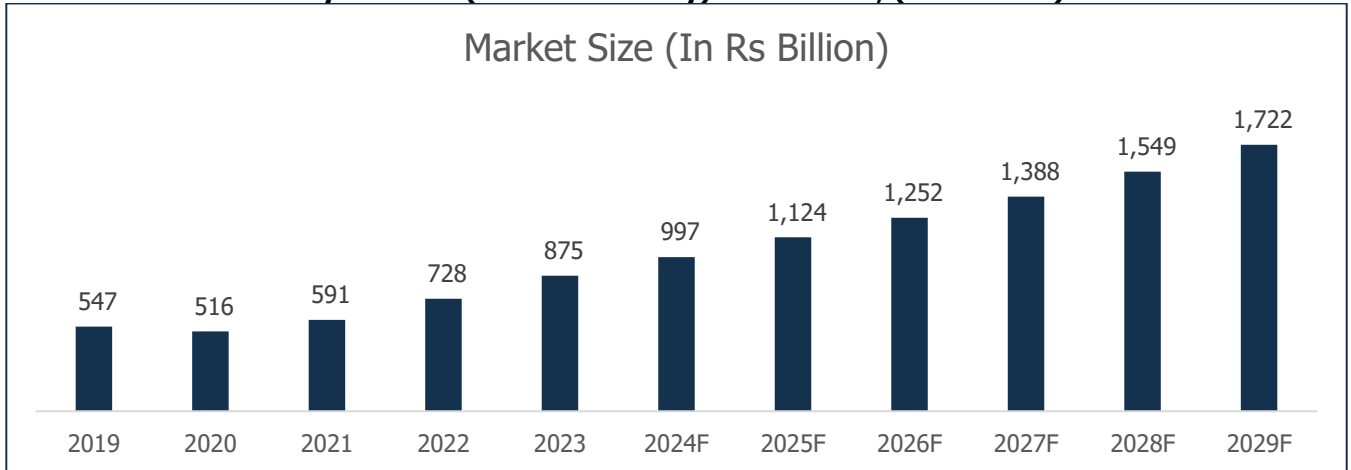


Source: Maia Research, CAREEDGE Research

1.2 Indian Security Services Market Size, 2019-2029

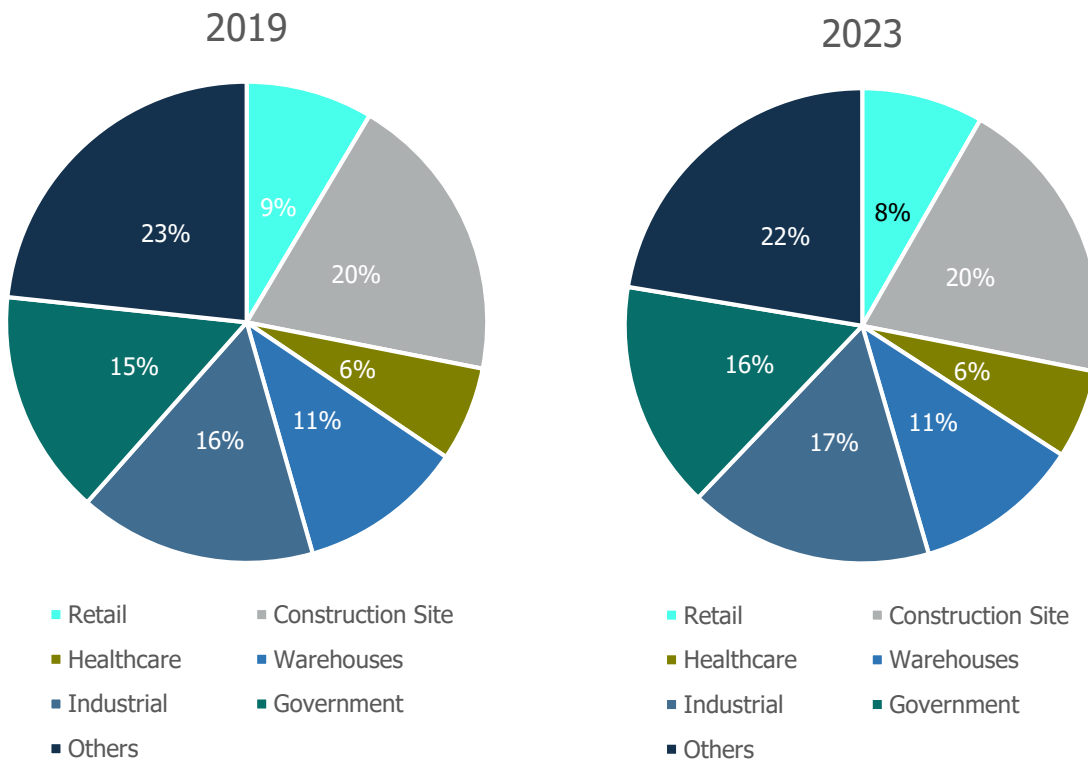
The Indian security services (manned security) market was valued at Rs 547 billion in 2019 and has reached Rs 875 billion by 2023, representing a CAGR of 12.5% from 2019 to 2023. Security Services include Static Guard, Concierge Officer, Augmented Officer, but do not include Event Security, Escort Services. Furthermore, the market is projected to reach Rs 1,722 Billion by 2029, growing at a CAGR of 11.9% from 2023 to 2029. This growth can be attributed to the need for manned security. The presence of security personnel offers a sense of safety and vigilance that technology alone cannot achieve. Clients often value the visible presence and proactive behavior of security staff in safeguarding their properties. Additionally, manned security allows for immediate intervention and judgement in addressing security issues, offering a level of adaptability that computerized systems may lack. This human element ensures a dynamic response to various situations, enhancing overall security effectiveness.

Chart 13: India Security Services (Manned Security) Market Size, (2019-2029)



Source: Maia Research, CAREEDGE Research

Chart 14: End-User Industry Market Share of Indian Security Services (Manned Security)



Source: Maia Research, CAREEDGE Research

Based on the end-user industry, the market is segmented into government institutes, industrial units, construction sites, retail, healthcare, warehouses, and others. The government and construction sites segment collectively holds a share of 35.3% in 2023 compared to 34.7% in 2019. The industrial segment held the highest CAGR of 9.2% from 2019 to 2023.

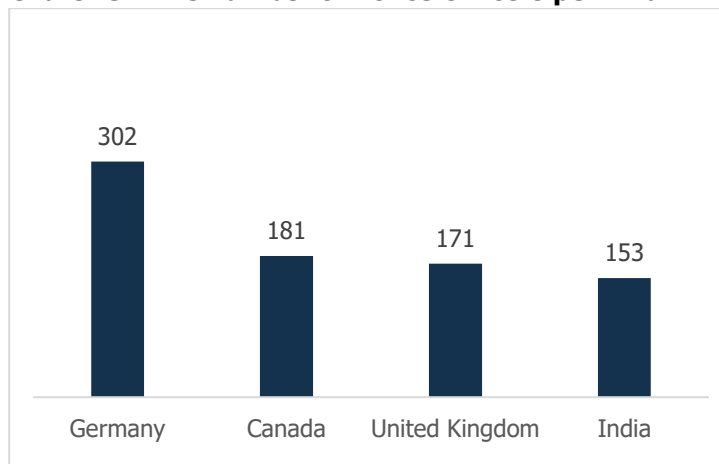
1.3 Key Trends and Demand Drivers

- Demand for Private Manned Security:** The Indian manned security services industry is experiencing rising demand for specialized services across various sectors. Banking requires guarding and cash management, retail needs store security and loss prevention, industrial sites need asset protection and safety compliance, and residential areas benefit from perimeter security and visitor management. This trend highlights the industry's shift toward providing sector-specific security solutions. The demand for specialized services is a significant trend in the Indian manned security service market, driven by various industries' increasing complexity and specific needs. The significant growth of Indian private manned security is fuelled by sectors such as IT, banking, retail, and hospitality, which require tailored security solutions to address unique risks. For instance, high-security zones like data centres and financial institutions require guards with advanced surveillance and threat response training.
- Regulatory Compliance:** Government bodies enforce stringent regulations and standards to ensure quality and reliability in the manned security services industry and hence India's Private Security Agencies Regulation Act, 2005 (PSARA) was established. This includes mandatory training and certification for security personnel to uphold high service standards. These measures enhance professionalism, boost customer confidence, and ensure adherence to best practices, elevating overall industry standards.
- Integration with Public Security Systems:** In India, the manned security services industry collaborates with public law enforcement through initiatives like joint training programs and information sharing. For

example, private security firms work with police on community patrols and provide intelligence from their surveillance systems. Integration with public safety infrastructure includes using common communication networks and emergency response protocols. This collaboration enhances incident response times and coordination, leading to a more comprehensive and effective security management approach. Such partnerships ensure better resource utilization and improved public safety outcomes.

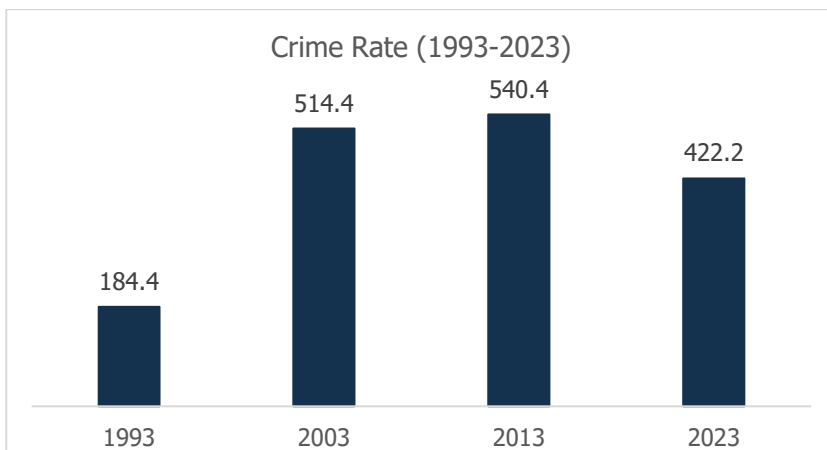
- **Low police-public ratio:** The demand for private security is further amplified by the limited police force in India. The United Nations recommends a ratio of 222 police officers per 100,000 citizens, a benchmark India falls short of. This shortage creates a gap that private security companies are effectively filling, offering a crucial supplement to public security measures. India's police-to-people ratio is not very favourable, creating a demand for an alternative source of security services. Currently, there are 153 policemen for every one lakh people in India, which is below the ideal ratio of 196 policemen for every one lakh people recommended by the Bureau of Police Research and Development under the Ministry of Home Affairs.

Chart 15: The number of Police Officers per 1 Lakh Population in CY2022



Source: CAREEDGE Research

- **Increase in the number of public events:** The flourishing public events industry in India has led to an increased need for private security services. Events such as the IPL, Hockey League, and Badminton League, which draw large crowds to stadiums, require effective crowd control and security measures. Similarly, the growing number of large-scale entertainment events calls for professional security management. The success and safety of these events greatly depend on the expertise provided by private security companies.
- **Economic Growth:** The government has facilitated urbanization through initiatives like the Smart Cities Mission, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), and the Pradhan Mantri Awas Yojana (Urban). Rapid urbanization and economic development in India have increased the demand for manned security services in commercial, residential, and industrial sectors.
- **High global terrorism index and Rising Crime Rates:** India's security situation is significantly impacted by terrorism, with a concerning 6th ranking out of 162 countries and a score of 7.86 out of 10. This has led to a heightened sense of insecurity among the population. In CY2014, there were 1545 incidents, including 624 terrorist activities, 404 killings, 619 injuries, and 158 cases of property damage. This worrying trend has increased the demand for security services in India, with people seeking both private security solutions and potentially an increase in government security measures. Moreover, according to the National Crime Records Bureau (NCRB), India had a crime rate of 445.9 per 100,000 people in CY2024, with theft, robbery, and assault being the most common offenses. The rise in theft, vandalism, and other crimes is fuelling the demand for enhanced security measures and professional security services.

Chart 16: Crime Rate in India, (CY1993-CY23)


Source: NCRB Annual Reports

- Growth of Commercial and Industrial Establishments:** The growth of commercial and industrial establishments in India is significantly driving the expansion of the manned security services. As new businesses and factories emerge, there is an increased need for robust security to protect assets, manage access, and ensure the safety of employees and visitors. This surge in infrastructure and economic activities necessitates comprehensive security solutions, leading to a higher demand for professional security personnel. The booming real estate sector, especially with the development of commercial spaces like malls, offices, and industrial parks, also contributes to this demand. Consequently, security service providers are expanding their operations and enhancing their capabilities to cater to the diverse needs of these growing sectors, thus fuelling the growth of the Indian manned security services.
- Infrastructure Development:** Large-scale infrastructure projects, such as smart cities, airports, and highways, necessitate robust security arrangements. The government has increased funding for railways and planned 50 new airports in the Union Budget FY2023-24. In the interim budget for CY2024, the focus on developing and expanding airports continues, leading to 149 airports. These infrastructure development projects are expected to aid in the growth of private security services.
- Corporate Security Needs:** The growing corporate sector and rapid industrialization in India necessitate comprehensive security solutions to protect assets, employees, and information. Corporations require security to safeguard against theft, vandalism, and other threats, ensuring a safe working environment and the integrity of their operations. The corporate sector in India has seen significant growth, with an increasing number of multinational corporations (MNCs) setting up operations due to liberalization and favourable investment policies. The influx of MNCs has led to a rise in demand for security services. In response, the private security industry has expanded, integrating advanced technologies to offer robust security solutions.
- Government Initiatives:** Government policies promoting the use of professional security services in public and private sectors include the Private Security Agencies (Regulation) Act, 2005, which provides for the regulation of private security agencies and related matters. Additionally, the implementation of initiatives such as the Smart Cities Mission includes advanced security infrastructure as a key component, enhancing the demand for professional security services. Moreover, government regulations are further propelling the private security industry. The Ministry of Home Affairs has issued compulsory security guidelines. According to the new guidelines, each school gate must be manned by at least 3 security guards on a 24-hour basis. Additionally, CCTV systems are required to be installed along the boundary and at various locations inside the premises. With an estimated 1.5 million educational institutions in India, this presents a significant growth opportunity.

for private security companies. Furthermore, the government has emphasized the need for women's security to eliminate crimes against women. Some states are considering setting up Mahila Suraksha Dal or Women's Security Force, and others may replicate this initiative. There are also plans to deploy 5000 bus marshals to prevent and deter crime in public transport. Additionally, the Delhi Government is planning to install CCTVs in public spaces and buses, which is expected to lead to an increase in demand for private security services in India.

1.4 Threats and Challenges faced by the Industry

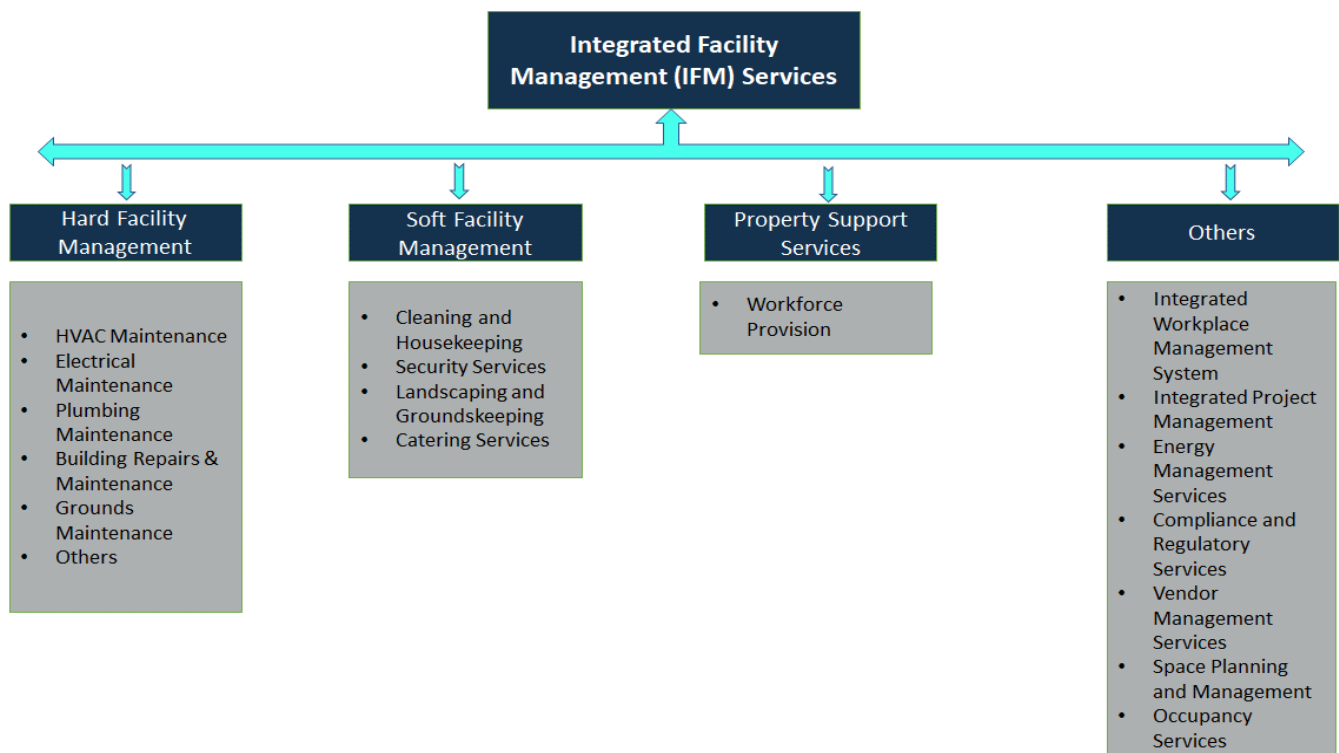
- **Rise of Advanced Technology:** Technology is significantly restraining the Indian manned security services market by providing cost-effective and efficient alternatives. Businesses and residential complexes are increasingly adopting advanced surveillance systems, AI-driven security solutions, and smart alarms. These technologies offer continuous monitoring, quicker response times, and reduced human error, leading to a decline in demand for traditional security guards. For instance, where five security guards were once necessary, now only two-three guards are sufficient due to the efficiency of these technological solutions. The enhanced reliability and scalability of tech-based security make them more appealing than human personnel. Furthermore, integrating technologies such as facial recognition, biometric access control, and IoT-enabled devices enhances security infrastructure, further reducing the dependence on human guards. Companies are investing in these advanced systems to lower long-term operational costs associated with employing security personnel, including salaries, training, and benefits. This technological shift presents a significant challenge to the growth and sustainability of the manned security services market in India, as businesses prioritize modern, tech-driven security measures over traditional methods.
- **High Attrition Rates:** The industry experiences high turnover among security personnel due to low wages, lack of career progression, and challenging working conditions. This high turnover is largely due to low wages, with many security guards earning between Rs. 10,000 to Rs. 15,000 per month, which is often not enough to meet living expenses. Security personnel often seek better-paying opportunities in other sectors or more stable employment.
- **Wages and Working Conditions:** Low wages and poor working conditions present significant challenges for the private manned security services in India. Security guards often earn very low salaries, with many receiving only the minimum wage or slightly above it. Furthermore, working conditions are also suboptimal, with guards frequently working 12-hour shifts without adequate breaks or overtime compensation. Benefits such as health insurance and social security are often lacking. Consequently, security companies struggle to maintain a stable, well-trained workforce, impacting the overall quality and reliability of their services. Addressing these issues is critical for enhancing the sector's effectiveness and sustainability.
- **Regulatory and Compliance Issues:** The Private Security Agencies (Regulation) Act, 2005, mandates that security agencies comply with various regulations, including obtaining licenses for operating, training personnel, and maintaining service standards. However, navigating these complex and often varying state regulations can be challenging. Ensuring compliance with labour laws, such as the Minimum Wages Act, and maintaining adherence to security standards involves significant administrative effort and cost. Inconsistent enforcement across different states further complicates compliance.
- **Safety and Risk Management:** Ensuring the physical safety and well-being of security personnel is crucial, especially in high-risk environments like large events or conflict zones. Security guards often face significant risks, including exposure to violence and hazardous conditions. Proper risk management practices, such as adequate training and providing protective equipment, are essential but can be costly.

3 Integrated Facility Management (IFM) Services in India

3.1 Indian Facility Management Industry Overview

Integrated Facility Management (IFM) services consolidate various facility management functions under a single provider to streamline operations and enhance efficiency. IFM includes maintenance, cleaning, security, space management, and sustainability initiatives. This comprehensive approach reduces costs, improves service quality, and provides a single point of contact for all facility-related needs. Key benefits include cost efficiency, improved communication, flexibility, and strategic focus. IFM services are increasingly being adopted in IT, real estate, healthcare, manufacturing, and retail sectors in India. Economic growth, technological advancements, and a focus on regulatory compliance and sustainability drive this trend. Leading global and local FM companies play a significant role in providing these integrated solutions.

Chart 17: Structure of the Integrated Facility Management (IFM) services



Source: CAREEDGE Research

Integrated Facility Management (IFM) Services Segmentation

The integrated facility management (IFM) services can be segmented based on type which can be classified into Hard FM, Soft FM, Property Support Services (PSS), and Others.

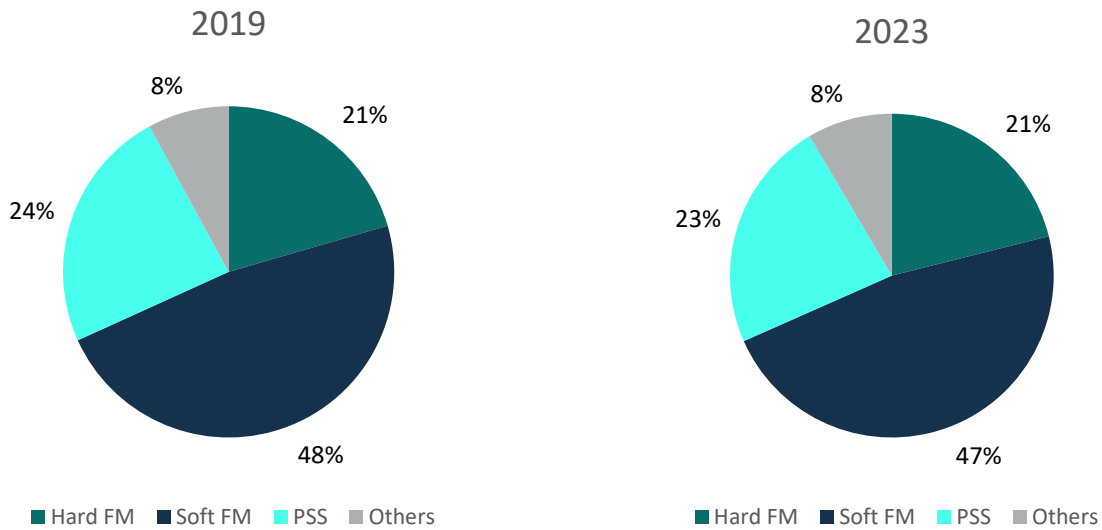
Classification of Integrated Facility Management Services

- Hard FM:** Hard Facility Management (Hard FM) in Integrated Facility Management (IFM) services refers to the maintenance and management of a building's physical and structural components. This includes Heating, Ventilation, and Air Conditioning (HVAC) systems, electrical systems, plumbing, elevators, fire safety systems, and building fabric. Hard FM ensures that these critical systems are functioning efficiently and comply with regulatory standards that are provided by the National Building Code (NBC) of India. It involves regular maintenance, repairs, and upgrades to ensure safety and operational efficiency. For example, the building management system should be used for quarterly and annual calibration, measurement, and verification of the plant's capacity and efficiency, according to the NBC of India guidelines. The demand for the Hard FM segment

in Integrated Facility Management (IFM) services is rising due to increased industrial growth in India. As buildings and infrastructure become more complex, maintaining critical systems like HVAC, electrical, and plumbing becomes essential for safety and efficiency. Additionally, sectors like IT, real estate, and healthcare require reliable Hard FM services to ensure uninterrupted operations and occupant safety. Notably, India's IT industry contributed around 7% to the country's GDP in FY2023-24. It is expected to contribute 10% to India's GDP by FY2025.

- **Soft FM:** The Soft FM segment in Integrated Facility Management (IFM) services focuses on non-technical services that support the day-to-day operations and well-being of building occupants. This includes cleaning, housekeeping, security, waste management, landscaping, pest control, and catering. Soft FM ensures a clean, safe, and pleasant environment, enhancing the overall user experience and productivity. In India, the demand for Soft FM is driven by growing commercial spaces and increased emphasis on workplace hygiene and security. It complements Hard FM by maintaining the aesthetic and functional aspects of facilities. The demand for the Soft FM segment in Integrated Facility Management (IFM) services is on the rise due to several factors. Firstly, businesses increasingly prioritize employee well-being and productivity, driving the need for services like cleaning, catering, and pest control to maintain a comfortable and hygienic work environment. Secondly, with the rise of flexible work arrangements and shared office spaces, there's a greater emphasis on outsourced facility services to ensure consistent quality and efficiency. Additionally, Soft FM services contribute to the overall image and reputation of businesses, enhancing their competitiveness in the market.
- **PSS:** The Property Support Services (PSS) segment within Integrated Facility Management (IFM) services provides essential workforce support to manufacturing companies. PSS involves supplying skilled personnel for production support, material handling, maintenance, utilities management, and other operational tasks. These services ensure the smooth functioning of manufacturing facilities by optimizing production processes, maintaining equipment, and managing utilities effectively. PSS plays a crucial role in enhancing operational efficiency, minimizing downtime, and ensuring compliance with quality and safety standards in the manufacturing sector. The demand for the Property Support Services (PSS) segment in Integrated Facility Management (IFM) services is on the rise due to several factors. India's manufacturing sector is poised to reach USD 1 trillion by FY2025-26. With the manufacturing sector witnessing growth and expansion, there is an increased need for skilled personnel to support production processes, handle materials, and maintain equipment. Additionally, companies are outsourcing non-core functions like facility management to specialized service providers, driving the demand for PSS. The PSS segment offers cost-effective solutions, ensures operational efficiency, and allows manufacturing companies to focus on their core competencies, thus contributing to its increasing demand for IFM services.
- **Others:** The "Others" segment in Integrated Facility Management (IFM) services encompasses various specialized functions essential for efficient facility management. This includes Integrated Workplace Management System (IWMS) for software integration, Integrated Project Management (IPM) for overseeing construction and renovation projects, Energy Management Services for optimizing energy usage, and regulatory services for ensuring adherence to standards, Vendor Management Services for managing third-party providers, Space Planning and Management for optimizing space utilization, and Occupancy Services for managing workplace design and amenities. Together, these services ensure holistic management and optimization of facility resources for organizational effectiveness. The demand for the "Others" segment in Integrated Facility Management (IFM) services is increasing due to several factors. With the growing complexity of facilities and evolving regulatory requirements, there is a heightened need for specialized services such as Integrated Workplace Management System (IWMS), Compliance and Regulatory Services, and Energy Management Services. Additionally, as organizations focus on efficiency and cost-effectiveness, services like Vendor Management, Space Planning, and Occupancy Services are becoming increasingly important. These segments offer tailored solutions to address specific facility management challenges, driving their rising demand in the IFM industry.

Chart 18: Market Share of Integrated Facility Management Services by Type, (CY2019&CY2023)



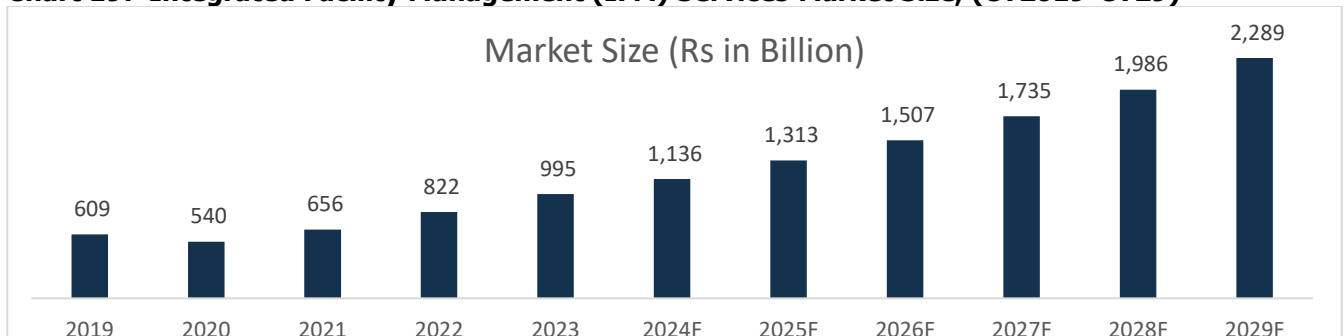
Source: Maia Research, CAREEDGE Research

3.2 Indian Integrated Facility Management (IFM) Services Market Size

The Indian integrated facility management (IFM) services market was valued at Rs 609 billion in CY2019 and reached around Rs 995 billion in CY2023, representing a CAGR of 13% from CY2019-23. Integrated Facility Management includes Hard FM, Soft FM, PSS, business support services, energy audits, emergency services and waste management. The in-house market accounts for about 60% and rest 40% accounts for outsourced. In-housed refers to a provider that owns all core facility services in-house, while outsourced refers to a provider that hires an external party (third party) to provide all core facility services.

Furthermore, the market is projected to reach Rs 2,289 Billion by CY2029, growing at a CAGR of 14.9% from CY2023-29. This growth can be attributed to the increased focus on eco-friendly building practices and a resurgence in construction projects. Government initiatives, urbanization, and commercial construction in India have driven this growth. These factors have created a greater demand for integrated facility management services, which help in efficiently managing buildings and their operations.

Chart 19: Integrated Facility Management (IFM) Services Market Size, (CY2019-CY29)



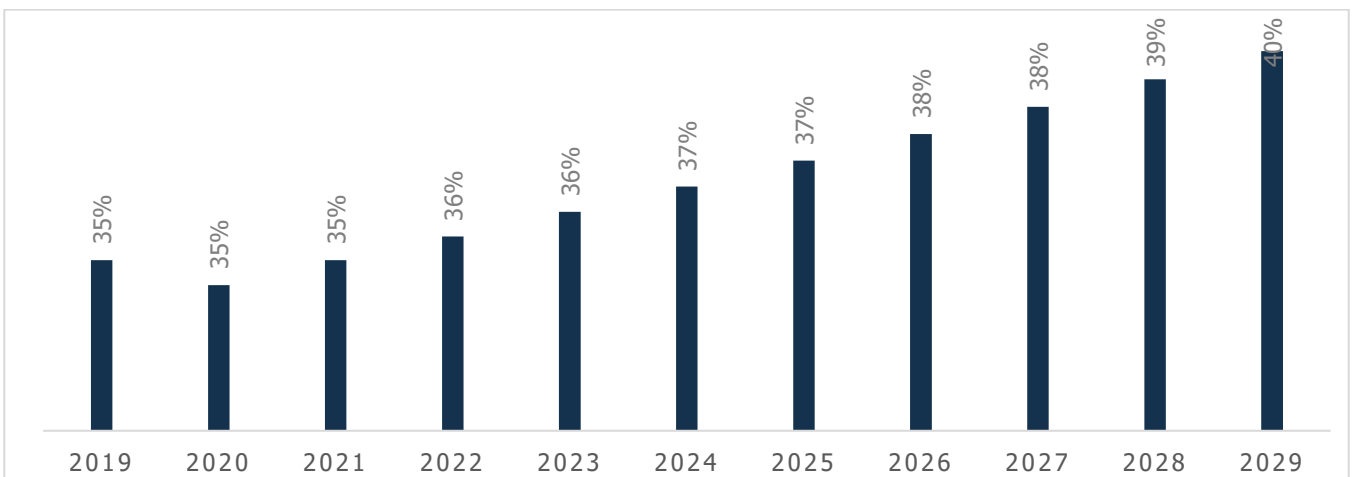
Source: Maia Research, CAREEDGE Research

3.3 Key Trends and Demand Drivers

- Economic growth and urbanization:** The increasing demand for Integrated Facility Management (IFM) services in India is being driven by economic growth and urbanization. India's GDP is projected to grow significantly annually, leading to significant infrastructure development, especially in urban areas. This economic expansion has resulted in a surge in commercial and residential real estate, necessitating professional facility management solutions to maintain and optimize these growing facilities. Simultaneously, India is experiencing

a rapid expansion of its urban areas, leading to a significant increase in the demand for Integrated Facility Management (IFM) services. The migration of millions to urban areas by CY2030 will drive a significant rise in demand for commercial spaces due to several factors. Firstly, urbanization stimulates economic activity, attracting businesses seeking opportunities in densely populated urban centres. These businesses require office spaces, retail outlets, and other commercial premises to establish their operations and serve the growing urban population. Secondly, the shift towards urban living increases consumer spending, leading to a greater demand for retail spaces and entertainment venues. Additionally, urbanization spurs infrastructure development projects, including commercial real estate developments, to meet the needs of the expanding population. As a result, the influx of people into urban areas directly correlates with an increased demand for commercial spaces to accommodate businesses, support economic growth, and cater to the lifestyle preferences of urban residents. This demographic shift is increasing the demand for IFM services as urban centres grapple with the challenges of managing complex facilities, ensuring regulatory compliance, and improving residents' quality of life. These trends highlight the crucial role that IFM services play in supporting India's economic growth and sustainable urban development.

Chart 20: Share (%) of Urban Population in Total Population, (CY2019-CY29)

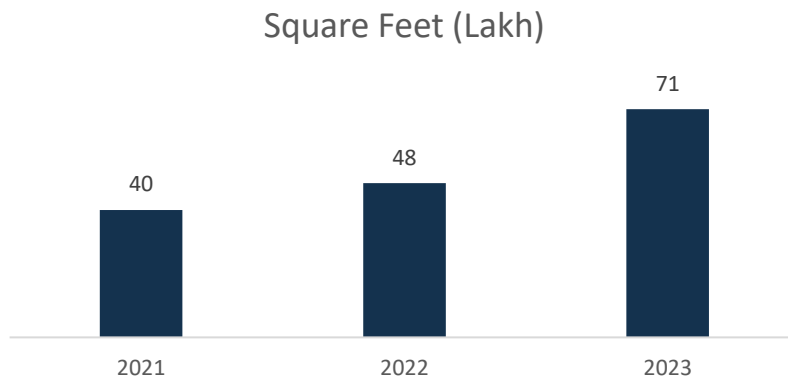


Source: World Bank, CAREEDGE Research

- Demand for specialized services:** The demand for specialized services is a significant driver of the growth of Integrated Facility Management (IFM) services in India. As industries become more specialized and complex, there's a growing need for tailored facility management solutions to address specific challenges and requirements. For example, sectors like IT, healthcare, and manufacturing have unique facility management needs, such as data centres requiring specialized climate control, uninterrupted power supply, and advanced security measures. Traditional facility management providers may lack expertise in these areas. IFM services can offer a comprehensive solution with trained personnel for data centre maintenance and adherence to industry-specific compliance standards. Moreover, hospitals and clinics require sterile environments, medical waste disposal protocols, and specialized equipment maintenance (e.g., biohazard equipment). IFM providers with expertise in healthcare facility management can ensure compliance with regulations and maintain a safe environment for patients and staff. Furthermore, industrial facilities require specialized services like heavy machinery maintenance, hazardous material handling, and stringent safety protocols. IFM providers can offer customized solutions that address these specific needs. Thus, demand for such kind of specialized services drives the growth of the IFM services.
- Increasing demand in the commercial sector:** Commercial entities encompass office buildings utilized by various businesses, including corporate IT offices, manufacturers, and service providers. The emphasis on fitments, interiors, decoration, and management has increased the significance of the commercial sector market. Property accounting, renting, contract management, procurement, and other services are essential for

commercial spaces, necessitating the hiring of professionals. The demand for Integrated Facility Management (IFM) services is on the rise in the commercial sector, fueled by increasing investments in commercial real estate. According to CBRE, in CY2023, the retail sector achieved a record high in leasing, occupying 7.1 million sq ft across eight cities, a 47% increase from the previous year. This surge underscores the need for comprehensive IFM solutions to manage the expanding retail infrastructure effectively. IFM services play a crucial role in ensuring the smooth operation of retail establishments, optimizing resources, and enhancing the overall shopping experience for consumers.

Chart 21: Leasing of Retail Spaces in India, (CY2021-23)



Source: CBRE, CAREEDGE Research

- Outsourcing trends:** Outsourcing trends are significantly driving the growth of Integrated Facility Management (IFM) services in India. Organizations are increasingly outsourcing their facility management needs to specialized providers to focus on core business functions and improve efficiency. This shift allows businesses to leverage the expertise of IFM service providers, ensuring higher standards of maintenance, security, and operational efficiency. The cost savings and enhanced service quality offered by outsourcing are key factors contributing to this trend. As more companies recognize the benefits of outsourcing, including reduced operational costs and access to advanced technologies, the IFM market in India is poised for robust growth, driven by these outsourcing trends.

3.4 Threats and Challenges faced by the industry

- Fragmented Market:** The high fragmentation of the Indian Integrated Facility Management (IFM) market, with numerous small players, significantly hampers the sector's growth. This fragmentation leads to inconsistent service standards, as smaller providers often lack the resources and expertise to deliver high-quality, standardized services. This disparity results in varying service quality, which undermines trust and satisfaction in IFM services, deterring potential clients from fully outsourcing their facility management needs. Moreover, the lack of uniformity across service providers creates challenges in establishing industry-wide best practices and benchmarks. This inconsistency can deter large corporations from committing to IFM solutions due to concerns over unreliable service delivery and potential operational disruptions.
- Skill shortage:** Skill shortage poses a significant challenge to the growth of Integrated Facility Management (IFM) services in India. According to a report by the National Skill Development Corporation (NSDC), the facility management industry in India faces a significant skill gap, with a shortage of trained professionals across various domains such as maintenance and energy management. This shortage affects service quality and operational efficiency, leading to challenges in meeting client expectations and delivering consistent, high-quality services. Furthermore, with the increasing demand for IFM services, there is a growing shortage of skilled workers such as technicians specializing in building automation systems (BAS) and computerized maintenance management systems (CMMS), which is hindering the sector's ability to expand effectively. The

lack of an adequately trained and skilled workforce not only affects the quality of service delivery but also hampers innovation and technological adoption within the industry. It is crucial to address this skill shortage through targeted training programs and skill development initiatives to overcome this challenge and promote sustainable growth of the IFM sector in India.

3.5 Peer Comparison

The following players in the Manpower segment have been considered for peer benchmarking of Innovision Limited:

Table 5: Key Manpower Peers

Name of the Company	Business Overview
Innovision Limited	<p>INNOVISION, originally founded in Delhi with its corporate office in Gurgaon, has expanded its presence across India, offering a range of services, including Security Services (Manned and Electronic), Facilities Management, Manpower Sourcing, HR solutions, Toll Management, and Skills Development. With over 100 NSDC-approved training centers nationwide, INNOVISION boasts a pool of more than 100,000 trained and certified candidates. The company also provides customized HR solutions, covering compliance, administration, and recruitment from entry-level to senior positions, along with turnkey solutions for large-scale recruitment.</p> <p>The company has obtained license under Section 11 of the Emigration Act, 1983, recruits over 1,000 workers for various industries worldwide, specializing in deploying highly-skilled Indian manpower across sectors like security, retail, logistics, telecom, hospitality, healthcare, construction, IT, oil and gas, renewable energy, technology, chemicals, and more. INNOVISION Manpower Services operates in three segments: Manned Private Security Services, Integrated Facility Management Services, and Manpower Sourcing and Payroll. Additionally, its wholly owned subsidiary, Innovision International Private Limited, provides recruitment, placement, consultancy, and visa services for Europe, Middle East, Australia, and New Zealand.</p>
SIS India	<p>It offers investigation and security services, including security, facility management, and cash logistics, across the Asia-Pacific region. The cash logistics solutions cover secured cash in transit, doorstep banking, ATM replenishment, and vault solutions for bullion and cash. In the APAC region, it provides diverse security solutions, including alarm monitoring, response solutions, and 'Man-Tech' solutions that combine electronic security with a skilled workforce for optimal protection.</p>
Quess Corp	<p>Quess Corp Limited is a business services provider, enhancing client productivity through technology-enabled staffing and managed outsourcing services. With 567,000 employees across 9 countries, Quess claims to serve over 3,000 clients. Established in 2007 and headquartered in Bengaluru, Quess offers services in various sectors, driven by digital platforms and domain expertise, making it India's largest private-sector employer.</p>
Tenon Facility Management India	<p>Tenon Facility Management (FM) is an integrated facility management company in India and the UK, part of a group worth over Rs. 18 billion. Founded in 2008, Tenon FM serves 1200+ clients across various industries with ISO-certified services. Operating in 4000+ cities, Tenon's cost-effective "Self-Performance" model provides high-quality service.</p>
G4S Secure Solutions India	<p>It is a security services provider, offering comprehensive solutions including manned guarding, electronic security, risk management, and integrated facilities services. With a presence across India, G4S caters to diverse sectors such as banking, healthcare, and retail. With the help of advanced technology and highly trained personnel, G4S focuses on robust security and risk management solutions, maintaining high standards of service and reliability.</p>
Updater Services (UDS)	<p>Updater Services (UDS) India is an integrated facilities management company, offering a wide range of services including housekeeping, security, engineering, and office support. Established in 1985, UDS serves diverse sectors such as IT, healthcare, manufacturing, and hospitality.</p>

Name of the Company	Business Overview
	With a presence across India, the company focuses on quality service, innovative solutions, and commitment to sustainability, ensuring efficient and effective management of client facilities.
Eagle Hunter Solutions Limited	Eagle Hunter Solutions Limited was established in 1982 by industry leader Mr. B.R Lohia. The company is a prominent provider of Integrated Security and Allied Services Solutions in India, with over 40 branch offices and modern training academies nationwide. Eagle Hunter collaborates with national security organizations to maintain high-quality standards and participates in seminars to enhance its service commitment. Recognized for providing exceptional security and manpower solutions, the company also offers facility management services, including cleaning and maintenance.
Checkmate Services Private Limited	Checkmate Services Pvt. Ltd., registered in 2010, has developed extensive expertise in providing manpower services for security guards and supervisors. The company offers a range of commercial services, including guarding, facility management, cash logistics, fire safety training, and cash processing. The company serves diverse industries such as petrochemicals, petroleum, ports, steel, pharmaceuticals, telecom, banks, financial services, consumer goods manufacturing, and retail. It has a workforce of 30,000 employees and a network of 60 branches across 26 states in India.

Table 6: Comparison of Revenue from Operations (In Rs. Million)

Peers	FY21	FY22	FY23	FY24
SIS India	91,273.04	1,00,590.76	1,13,457.80	1,22,614.30
Qess Corp	1,08,368.95	1,36,917.78	1,71,583.87	1,91,001.33
Tenon Facility Management India	13,674.73	15,206.61	18,694.75	NA
G4S Secure Solutions India	25,133.80	25,989.60	29,293.40	NA
Updater Services (UDS)	12,100.30	14,835.52	20,988.87	NA
Eagle Hunter Solutions Limited	1,949.89	2,221.98	2,176.34	NA
Checkmate Services Private Limited	5,862.14	6,401.42	8,171.99	NA
Innovision Limited	1,612.90	2,097.70	2,555.40	5,103.26

Source: Audited financial statements, CAREEDGE Research

Table 7: Comparison of EBITDA (In Rs. Million)

Peers	FY21	FY22	FY23	FY24
SIS India	6,030.14	5,255.72	5,080.14	5,464.60
Qess Corp	4,793.72	6,290.22	6,392.49	6,662.82
Tenon Facility Management India	492.87	377.56	457.78	NA
G4S Secure Solutions India	983.50	1,015.10	1,073.30	NA
Updater Services (UDS)	721.02	842.09	986.16	NA
Eagle Hunter Solutions Limited	164.19	187.00	168.30	NA
Checkmate Services Private Limited	297.30	241.07	331.25	NA
Innovision Limited	100.40	106.80	145.01	180.61

Source: Audited financial statements, CAREEDGE Research

Table 8: Comparison of EBITDA Margin (In %)

Peers	FY21	FY22	FY23	FY24
SIS India	6.6%	5.2%	4.5%	4.5%
Qess Corp	4.4%	4.6%	3.7%	3.5%
Tenon Facility Management India	3.6%	2.5%	2.4%	NA

Peers	FY21	FY22	FY23	FY24
G4S Secure Solutions India	3.9%	3.9%	3.7%	NA
Updater Services (UDS)	6.0%	5.7%	4.7%	NA
Eagle Hunter Solutions Limited	8.4%	8.4%	7.7%	NA
Checkmate Services Private Limited	5.1%	3.8%	4.1%	NA
Innovision Limited	6.2%	5.1%	5.7%	3.5%

Source: Audited financial statements, CAREEDGE Research

Table 9: Comparison of PAT Margin (In %)

Peers	FY21	FY22	FY23	FY24
SIS India	4.0%	3.2%	3.1%	1.5%
Quess Corp	0.7%	1.8%	1.3%	1.5%
Tenon Facility Management India	1.2%	1.1%	1.7%	NA
G4S Secure Solutions India	1.8%	2.3%	2.0%	NA
Updater Services (UDS)	3.9%	3.9%	1.6%	NA
Eagle Hunter Solutions Limited	3.9%	3.9%	1.6%	NA
Checkmate Services Private Limited	5.0%	7.2%	6.6%	NA
Innovision Limited	3.4%	3.1%	3.2%	2.2%

Source: Audited financial statements, CAREEDGE Research

Table 10: Comparison of ROCE (In %)

Peers	FY21	FY22	FY23	FY24
SIS India	17.2%	13.9%	10.8%	12.7%
Quess Corp	8.2%	13.7%	10.9%	10.6%
Tenon Facility Management India	24.2%	14.0%	19.3%	NA
G4S Secure Solutions India	9.7%	9.6%	10.5%	NA
Updater Services (UDS)	16.8%	13.7%	10.0%	NA
Eagle Hunter Solutions Limited	16.5%	18.2%	13.9%	NA
Checkmate Services Private Limited	14.8%	10.2%	13.1%	NA
Innovision Limited	26.6%	25.2%	28.5%	24.8%

Source: Audited financial statements, CAREEDGE Research

Table 11: Comparison of Cash Flow from Operations (In Rs. Millions)

Peers	FY21	FY22	FY23	FY24
SIS India	6,395.73	2,334.95	1,709.30	3,944.17
Quess Corp	7,153.60	5,538.76	4,662.57	5,292.71
Tenon Facility Management India	1,094.66	(113.36)	245.84	NA
G4S Secure Solutions India	965.90	470.00	1,419.60	NA
Updater Services (UDS)	1,284.95	310.69	1,147.82	NA
Eagle Hunter Solutions Limited	(15.67)	64.93	47.21	NA
Checkmate Services Private Limited	507.51	36.66	129.53	NA
Innovision Limited	(74.43)	16.68	34.46	61.82

Source: Audited financial statements, CAREEDGE Research

Table 12: Comparison of Total Debt (Short Term & Long Term- In Rs. Millions)

Peers	FY21	FY22	FY23	FY24
SIS India	13,562.60	13,283.27	15,223.01	15,086.50
Quess Corp	5,156.99	5,877.41	5,310.81	3,695.36
Tenon Facility Management India	1,476.34	1,541.05	2,078.47	NA

Peers	FY21	FY22	FY23	FY24
G4S Secure Solutions India	NIL	NIL	NIL	NA
Updater Services (UDS)	116.10	586.79	1,765.38	NA
Eagle Hunter Solutions Limited	289.26	202.22	227.50	NA
Checkmate Services Private Limited	1,001.13	1,110.86	1,372.15	NA
Innovision Limited	255.00	296.50	303.30	481.46

Source: Audited financial statements, CAREEDGE Research

Table 13: Comparison of Net Worth (In Rs. Millions)

Peers	FY21	FY22	FY23	FY24
SIS India	18,328.36	20,743.13	23,332.93	24,135.40
Quess Corp	24,370.40	25,687.35	27,308.02	29,646.02
Tenon Facility Management India	1,192.70	1,370.26	1,670.56	NA
G4S Secure Solutions India	5,033.10	5,437.70	5,767.50	NA
Updater Services (UDS)	2,921.83	3,457.36	3,878.11	NA
Eagle Hunter Solutions Limited	646.96	807.33	951.58	NA
Checkmate Services Private Limited	1,411.76	1,436.07	1,511.86	NA
Innovision Limited	261.20	306.91	394.74	524.18

Source: Audited financial statements, CAREEDGE Research

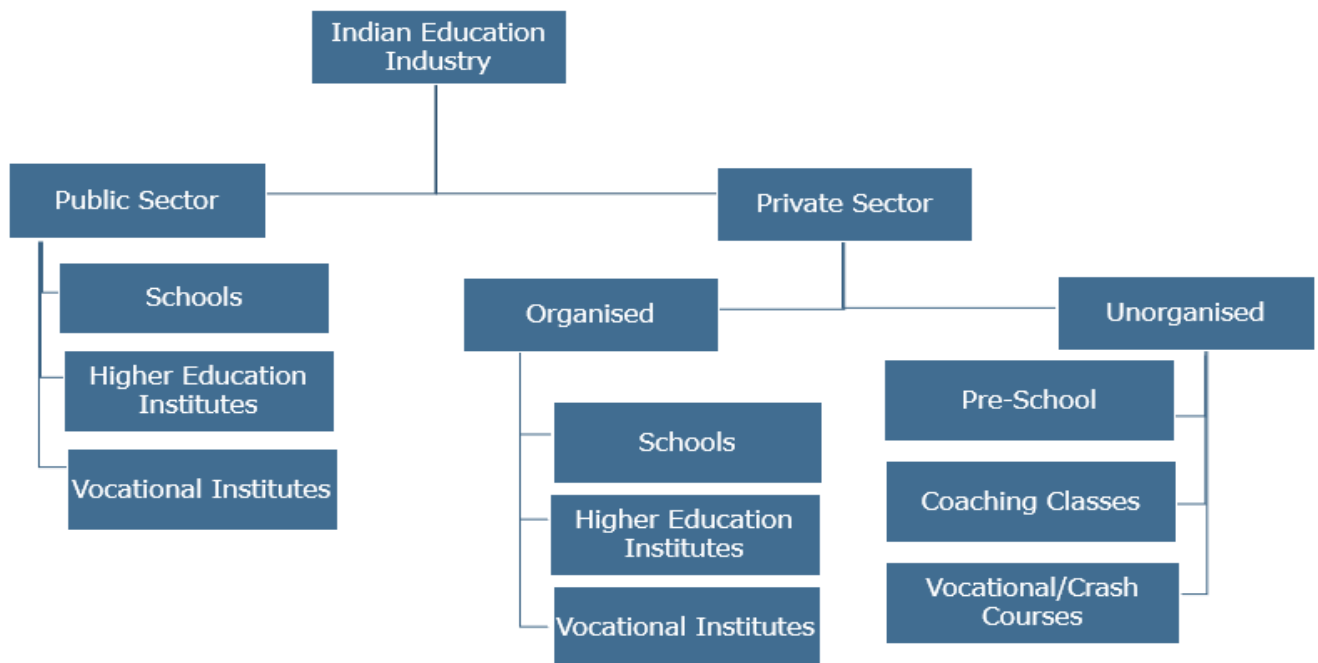
Comments:

1. Comparing the Revenue from Operations, the average year-on-year growth of the peer group was 20.3% for FY23, while Innovision recorded a higher growth rate of 21.8%, above the peer average. The peer group's average CAGR growth rate for FY21-23 was 17.9%, whereas Innovision Ltd achieved a significantly higher rate of 25.9%, well above the peer average.
2. Comparing the EBITDA, the peer group's average year-on-year growth for FY23 was 13.6%, while Innovision Ltd exceeded this significantly, with a growth rate of 39.4%. Additionally, the peer group's average CAGR for FY21-23 was 6.7%, whereas Innovision Ltd achieved a substantially higher rate of 21.8%, significantly surpassing the peer average.
3. The entire peer set experienced a year-on-year decline in EBITDA margin in FY23, except for Innovision Ltd and Checkmate Services Private Limited, which saw a 13.7% and 7.6% growth respectively. Innovision's EBITDA margin was the second highest at 5.8%, after Eagle Hunter Solutions Limited which was at 7.7%, above the peer set average of 4.57%. The peer group's average year-on-year growth for FY23 was negative at (5.8%), while Innovision Ltd achieved a 13.7% growth rate. Additionally, the peer group's average CAGR for FY21-23 was negative at (9.5%).
4. In FY23, Innovision Ltd achieved the second highest PAT margin among its peers, at 3.3%, trailing behind Eagle Hunter Solutions Limited which had a margining of 6.6%.
5. For the FY21-23 period, Innovision reported the highest ROCE at 26.6%, 25.2%, and 28.5% for FY21, FY22, and FY23 respectively. The peer averages were 16.75%, 14.81%, and 14.62% for the FY21, FY22 & FY23 respectively.

4. Skill development (vocational training) Service and Education industry in India

Structure of the Indian Education System

The education sector in India comprises primary and higher secondary education, followed by the higher education segment, and vocational education which includes professional and technical education. While these are more organised segments in addition, the unorganised segment comprises of pre-school, vocational/crash courses, coaching classes, distance education through e-learning platforms and the like. The Indian Education Sector can be broadly classified into two categories, public sector and private sector as shown below:



Source: CAREEDGE Research

Pre-Schools

Also known as play group schools are primarily aimed to cater to urban children belonging to the age group of 1 to 3 years. The segment has witnessed growth supported by increasing awareness among parents about the benefits of quality. With rising urbanization, increasing proportion of working women and rising disposable income; the segment is likely to witness significant penetration. The industry is highly fragmented and unorganized due to low entry barriers. However, recently the organized chains have set up schools across the country led by the entry of corporate entities and entities in other value chain of the education sector.

Schools (Pre-primary – Higher Secondary Education)

The system is divided into distinct levels: pre-primary (age 3-5), primary (grades 1-5), upper primary (grades 6-8), secondary (grades 9-10), and higher secondary (grades 11-12). This follows the widely known "10+2" pattern. This represents the largest segment within the education space and is delivered primarily through the schools affiliated to State Education Board, Indian Certificate of Secondary Education (ICSE), Central Board of Secondary Education (CBSE), International General Certificate of Secondary Education (IGCSE) and International Baccalaureate (IB). These schools are run by the Government or the private sector. While the public system (Government sponsored) offers free and compulsory education, with a focus on core subjects like Mathematics, Science, English, Hindi (or other state specific languages), and Social Studies. Private schools have more freedom in curriculum design, often incorporating additional subjects, activities, and advanced teaching methods.

Higher Education Institutions

Higher education in India includes undergraduate and postgraduate programs offered by colleges, universities, deemed universities, Institutes of National Importance (IITs, NITs, etc.), private universities and specialized institutions. These institutions offer undergraduate programs (bachelor's degrees) in various disciplines including arts, sciences, engineering, medicine, law, management, and more. Followed by postgraduate programs (master's degrees) and doctoral programs (Ph.D.). Professional programs (both undergraduate and postgraduate) like engineering, medicine, law, and management also fall under this category.

Vocational Institutes

Vocational institutes in India plays a crucial role in shaping the nation's workforce. Vocational education is a distinct educational path that equips individuals with job-specific skills and practical knowledge, preparing them for immediate employment in various sectors. Vocational education emphasizes hands-on training, allowing students to develop competencies directly applicable to their chosen field.

This emphasis on practical skills aids in producing a skilled workforce for India's job market. Vocational education enhances the country's industrial productivity and caters to the needs of the informal sector, a significant chunk of the Indian economy. It empowers individuals to not only secure jobs but also fosters self-employment through a diverse range of vocational courses/programs. These courses/programs focus on equipping students with practical skills and knowledge relevant to specific trades and industries.

As a part of public sector, All India Council for Technical Education (AICTE) oversees the approval and regulation of vocational institutions in India. The process and guidelines for such approvals are detailed in the AICTE Approval Process Handbook, which is updated periodically to reflect new policies and standards.

For the academic years 2024-2027, the AICTE has introduced several updates in its Approval Process Handbook. These include provisions for extending approval up to three years for well-performing institutions, relaxing the upper limit on intake for courses, and introducing off-campus provisions for existing institutions. Additionally, all AICTE-approved institutions now have default approval for offering skilling and vocational courses using their existing infrastructure and resources.

Unorganised Education

Non-formal education is a unorganized education operated by the private sector. Non-formal education includes preschools for children, vocational training/ crash courses and coaching classes (organised as well as unorganised) and for both the school children as well as for the candidates appearing for the competitive examinations. This type of education is not governed by any regulatory authority. These education service providers remain fragmented with players catering to diverse areas of unorganised education.

Public vs Private

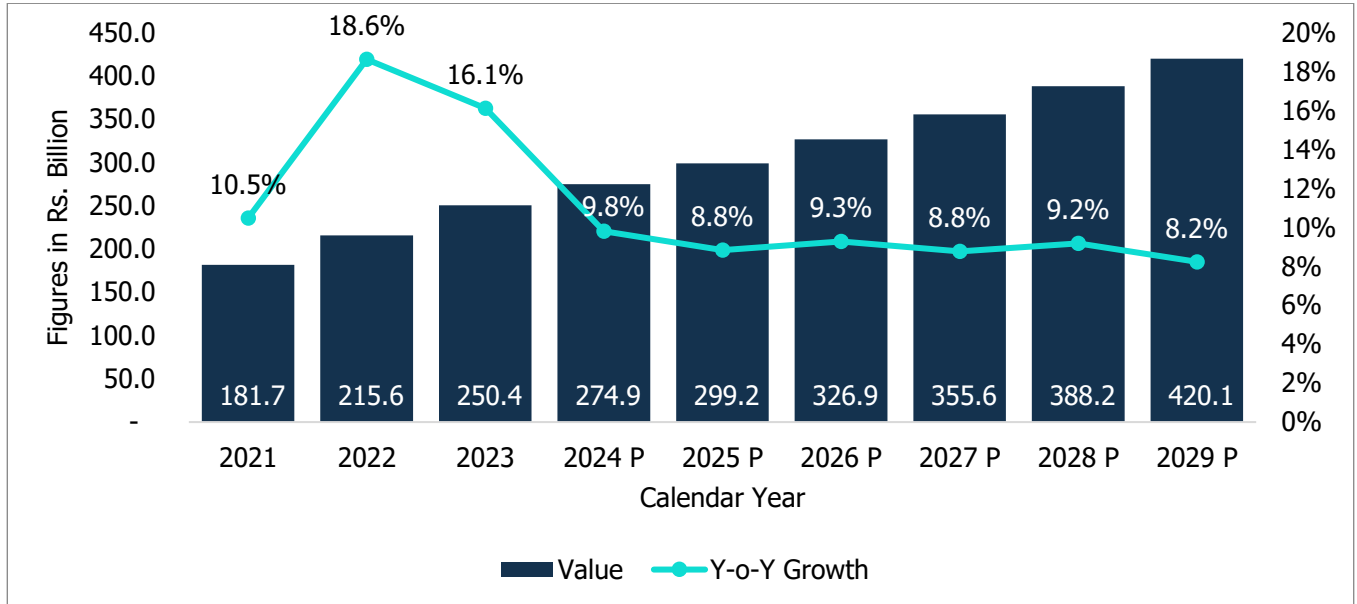
Two primary sectors dominate the education sector landscape in India - public schools (government-funded), and private schools. The public system forms the backbone, aiming to provide free or low cost and compulsory education to children aged 6-14 years as mandated by the Right of Children to Free and Compulsory Education Act (2009). Public institutions are often more affordable, private institutions may offer better infrastructure and facilities. Additional, private schools offer a wider range of curriculums, amenities, and often cater to specific socio-economic groups. The rise of private education has led to concerns about accessibility and affordability, particularly for economically disadvantaged students.

The education industry in India faces several challenges, including inadequate infrastructure, uneven quality of education, teacher shortages, outdated curricula, and socio-economic disparities in access to education. The economy can overcome these challenges through policy reforms, investments in infrastructure, teacher training

programs, and initiatives to promote inclusive education. Overall, the education industry in India is dynamic and evolving, driven by efforts made to improve access, quality, and relevance across all levels of education.

4.1 Market size of Vocational Education Industry in India

Chart 22: Market Size of Vocational Education Industry – In Value Terms



Source: MAIA, CAREEDGE Research
Note: P indicates Projected

The value of the vocational education industry in India has continued growing at an upward trajectory reaching Rs. 250.4 Billion during CY23, indicating 16% y-o-y growth over CY22. By 2029, the value of the vocational education industry is projected to reach Rs. 420.1 Billion, growing at a 9.0% CAGR between 2023-29. This growth is likely to be supported by continued demand for skilled labour led by Indian economic growth and continued government support for vocational education. The government has launched several initiatives to promote vocational education, such as the National Education Policy (NEP), Pradhan Mantri Kaushal Vikas Yojana (PMKVY), and Skill India program. These initiatives help in making vocational education more accessible and attractive to the working-age population.

4.2 Overview of key govt schemes supporting vocational training and skill India initiative

The Government of India has launched several key schemes to support vocational training and skill development under the broader umbrella of the Skill India Mission. Under the Government of India’s Skill India Mission (SIM), the Ministry of Skill Development and Entrepreneurship (MSDE) delivers skill, re-skill and up-skill training through an extensive network of skill development centres/colleges/institutes etc. under various schemes, viz. Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Jan Shikshan Sansthan (JSS), National Apprenticeship Promotion Scheme (NAPS) and Craftsman Training Scheme (CTS) through Industrial Training Institutes (ITIs), to all the sections of the society across the country. This initiative aims to equip India's workforce with the skills needed to meet the demands of the job market.

Some of the key schemes are mentioned below:

Skilling programme and Skilling Loans

In the FY25 budget, the government introduced a new centrally sponsored scheme focusing on skilling in collaboration with state governments and industry. This scheme aims to skill 20 lakh youth over five years. As part of the initiative, 1,000 Industrial Training Institutes (ITIs) will be upgraded using a hub-and-spoke model with a focus on outcomes.

Moreover, the government will revise the Model Skill Loan Scheme to facilitate loans of up to ₹7.5 lakh, backed by a guarantee from a government-promoted fund. The enhanced loan scheme is expected to benefit 25,000 students annually, providing them with the financial support needed to pursue vocational training and skill development courses.

National Education Policy (NEP)

The National Education Policy (NEP), approved by the Government of India in July 2020, represents a transformative reform in India's education system from pre-school to higher education. It is designed to address the evolving needs of the nation and the global education landscape. NEP works to break the traditional view of vocational education as a secondary option. The policy envisions a comprehensive integration of vocational education into the mainstream education system, addressing the long-standing gap between academic education and practical skill development.

NEP recognizes the ever-changing job market. The policy is comprehensive, encompassing school and higher education with a strong emphasis on multidisciplinary and holistic education. It seeks to create an inclusive, equitable, and vibrant knowledge society by providing high-quality education to all. This allows students to explore vocational options alongside traditional academic subjects. Additionally, the credit system allows students to seamlessly switch between vocational and academic streams based on their evolving interests. It promotes a flexible curriculum that allows students to choose vocational courses based on their interests and industry demands. The focus is on developing not only job-specific skills but also transferable skills like critical thinking, problem-solving, and communication – crucial for success in any field.

The objective of the NEP was that vocational education will be integrated into all school and higher education institutions in a phased manner by 2030. By 2025, at least 50% of learners shall have exposure to vocational education through the school and higher education system.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

The Pradhan Mantri Kaushal Vikas Yojana 4.0 (PMKVY 4.0) is a flagship initiative of the Ministry of Skill Development and Entrepreneurship (MSDE) implemented by the National Skill Development Corporation (NSDC). PMKVY Scheme is for imparting skill development training through Short-Term Training (STT) and Up-skilling and Re-skilling through Recognition of Prior Learning (RPL). It aims to empower Indian youth by providing them with industry-relevant skill training, enhancing their employability, and enabling them to secure better livelihoods.

This flagship scheme offers free and subsidized skill development courses across various sectors. It caters to both fresh graduates and individuals seeking to upskill or reskill themselves. PMKVY focuses on industry partnerships, ensuring the training aligns with current job market needs. It also offers Recognition of Prior Learning (RPL) for those with prior experience or skills, but don't have formal certification. RPL assesses these skills and grants formal certification, making it easier for people to find jobs.

Pradhan Mantri Kaushal Kendra (PMKK)

Pradhan Mantri Kaushal Kendra (PMKK) is a flagship program of the Ministry of Skill Development and Entrepreneurship (MSDE) in India. PMKK establishes advanced skill development centers across the country, providing localized training opportunities in high-demand sectors. These centers offer industry-standard infrastructure and qualified trainers, making quality skill development accessible in geographically diverse areas. PMKKs focus on transforming the skill training system from quota-driven to needs-based. The program prioritizes employability by offering industry-relevant courses and equipping graduates with the specific skills companies require.

Jan Shikshan Sansthan (JSS) Scheme

Jan Shikshan Sansthan (JSS) formerly known as Shramik Vidyapeeth creation of Government of India was being implemented through NGOs in India since 1967. The scheme was renamed as Jan Shikshan Sansthan in 2000. JSS scheme was transferred from Ministry of Education (erstwhile Ministry of Human Resource Development) to Ministry of Skill Development & Entrepreneurship in July, 2018.

JSS aims to impart vocational skills to the non-literates, neo-literates and the persons having rudimentary level of education and school dropouts upto 12th standard in the age group of 15-45 years, with due age relaxation in case

of “Divyangjan” and other deserving cases. Priority is given to Women, members of Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), and Minorities in the rural areas and urban low-income areas.

National Apprenticeship Promotion Scheme (NAPS)

This Scheme is designed to promoting apprenticeship training and increasing the engagement of apprentices by providing financial and reimbursement support to industrial establishments undertaking apprenticeship programme under the Apprentices Act, 1961. NAPS aims to bridge the skill gap by providing practical training that consists of Basic Training and On-the-Job Training / Practical Training at workplace in the industry. NAPS is applicable to all sectors, including manufacturing, services, and trade, and is implemented through an online portal that facilitates registration, tracking, and monitoring of apprenticeship programs. By promoting a culture of apprenticeship, NAPS aims to create a skilled workforce that is industry-ready and capable of contributing to economic growth. NAPS benefits both employers, who can train a skilled workforce tailored to their needs, and apprentices, who gain on-the-job experience while earning a stipend.

Pradhan Mantri Vishwakarma Scheme

Launched on 17th September, 2023, PM Vishwakarma is a Central Sector Scheme to provide end-to-end support to artisans and craftspeople who work with their hands and tools. The Scheme covers artisans and craftspeople engaged in 18 trades like Carpenters, Armourer, Blacksmiths, Hammer and Tool Kit Makers, Locksmiths, Goldsmiths, Potters, Sculptors, Barbers, Garland makers, Cloth Launderers, Tailors and more. The objective of the scheme is to enable recognition of artisans and craftspeople as Vishwakarma through PM Vishwakarma certificate and ID card.

This scheme also provides candidates skill upgradation by providing basic training of 5-7 days and advanced training of 15 days or more, with a stipend of Rs.500 per day to polish their existing skill set. The scheme aims to not only provide ease of access to collateral free credit at subsidized interest rate to reduce cost of credit. Collateral free 'Enterprise Development Loans' of up to Rs. 3 lakhs in two tranches of Rs. 1 lakh and Rs.2 lakhs with tenures of 18 months and 30 months, respectively, at a concessional rate of interest fixed at 5%, with Government of India subvention to the extent of 8%. Beneficiaries who have completed basic training become eligible to avail the first tranche of credit support of up to Rs. 1 lakh. The second loan tranche is made available to beneficiaries who have availed the 1st tranche and maintained a standard loan account and have adopted digital transactions in their business or have undergone Advanced Training.

Apart from these benefits, the scheme also offers toolkit incentive of up to Rs. 15,000 in the form of e-vouchers at the beginning of basic skill training. Additionally, incentivizes beneficiaries for each digital receipt or pay-out made by crediting Re. 1 per digital transaction, up to maximum 100 transactions monthly to the beneficiary's account.

Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi (PM-DAKSH)

PM-DAKSH Yojana is a National Action Plan launched in 2020-21 by Government of India for skilling of marginalized persons Scheduled Castes (SCs), Other Backward Classes (OBCs), Economically Backward Classes (EBCs), De-notified, Nomadic and Semi-Nomadic Tribes (DNTs), Safai Karamcharis (sanitation workers) and waste pickers. This scheme aims to empower these individuals by equipping them with skills that lead to better employment opportunities and ultimately, higher income. The program also offers training that equips artisans and individuals interested in entrepreneurship with the necessary skills to start and manage their own businesses, fostering self-employment and income generation.

The scheme offers four types of training programs at free of cost:

- Short Term Training Programs (up to 3 months)
- Long Term Training Programs (3 to 12 months)
- Upgradation Training Programs (of existing skills)
- Re-skilling Training Programs (for new skills)

The scheme incentivizes the candidates by giving monthly stipend to candidates with 80% and above attendance in their respective training programs.

Craftsmen Training Scheme (CTS)

The Craftsmen Training Scheme, also known as CTS, is a vocational training program in India. Launched in 1950, by the Directorate General of Employment and Training (DGET), CTS focuses on skill training in various trades to meet the needs of domestic industries. This scheme provides long-term training programs ranging from six months to two years, that are delivered through Industrial Training Institutes (ITIs) across the country. The training is designed to meet the curriculum set by the National Council for Vocational Training (NCVT). The ITIs offer a range of vocational/skill training courses covering a large number of economic sectors with an objective to provide skilled workforce to the industry, boost industrial production, promote technical mindsets reduce youth unemployment.

Admission to CTS courses is generally based on merit, with eligibility criteria including a minimum educational qualification of 8th to 12th grade, depending on the specific trade. Upon successful completion of the training, trainees receive a National Trade Certificate (NTC), which is recognized across industries in India and often abroad, boosting their employment prospects significantly.

To maintain the quality and relevance of the training, CTS regularly updates its curriculum in consultation with industry experts and stakeholders. Additionally, the scheme encourages public-private partnerships, inviting industries to participate in the training process through various collaborative models. This integration ensures that the training programs are aligned with current industry standards and practices. Furthermore, CTS plays a pivotal role in addressing the skill gap in the Indian workforce, contributing to the nation's economic growth by producing skilled manpower.

Skill Loan Scheme

The Skill Loan Scheme is a financial initiative launched by the Government of India to support individuals seeking to enhance their employability through skill development programs. This scheme is a collaborative effort involving the Ministry of Skill Development and Entrepreneurship, various banks, and financial institutions. Recognizing the financial constraints some individuals may face, the government offers skill loans at subsidized interest rates. It aims to provide easy and affordable access to loans for students aspiring to enroll in vocational courses offered by training institutes affiliated with the National Skill Development Corporation (NSDC). This scheme enables them to pursue vocational training courses without financial burden.

Strategic Advancement of Knowledge through Learning and Partnerships (SANKALP)

SANKALP is a World Bank-supported project under the MSDE that seeks to enhance the quality and market relevance of skill development programs. SANKALP aims to strengthen institutional frameworks at both national and state levels, improving the capacity of institutions involved in skill development. The project focuses on creating an inclusive skill development ecosystem by reaching out to marginalized communities, women, and persons with disabilities, ensuring that no one is left behind. SANKALP also emphasizes the importance of quality assurance by establishing standardized training curricula and assessment processes aligned with the National Skills Qualification Framework (NSQF). This initiative promotes public-private partnerships to leverage expertise and resources from the private sector, enhancing the effectiveness and reach of training programs. By fostering innovation and ensuring inclusivity, SANKALP aims to equip the Indian workforce with skills that are in demand in the global market, thereby improving employability and livelihood opportunities.

Further, below mentioned are other schemes/ initiatives undertaken to boost growth of vocational institutes.

Schemes & Initiatives through Directorate General of Training (DGT)

- Crafts Instructor Training Scheme (CITS)
- Apprenticeship Training under the Apprentices Act, 1961
- Advanced Vocational Training Scheme (AVTS)
- Vocational Training Programme For Women
- Schemes for Up gradation of it is
- Flexi MoUs
- STRIVE

- Initiatives in the North East and LWE Regions
- Trade Testing
- Current Initiatives in the DGT Landscape
- Dual System of Training (DST)
- Polytechnics

Other Schemes and Initiatives

- Indian Institute of Skills (IISs)
- Academic Equivalence to Vocational Qualifications
- Aspirational Districts
- Swachh Bharat Abhiyan
- Technology Initiatives

Schemes & Initiatives through National Skill Development Corporation (NSDC)

- Rozgar Mela
- Capacity Building Scheme
- Udaan
- School Initiatives and Higher Education
- India International Skill Centres (IISCs)
- Pre Departure Orientation Training (PDOT)

National Skill Development Corporation (NSDC), endeavors to create a sustainable and enabling skill ecosystem. In order to foster skill development across the country, NSDC provides funding support to enterprises, companies and organizations to build capacity by extending resources, technical assistance, thought leadership and knowledge management. Playing the role of a market-maker, NSDC is responsible for enhancing and strengthening the skill development initiatives and ensuring long-term stability and spurring growth.

However, NSDC itself cannot directly train the number of individuals needed to meet India's skilling goals. In order to overcome this barrier, NSDC partners with a vast network of Training Partners (TPs) which allows them to reach a wider geographical area and train a larger pool of candidates. Training Partners actively research industry trends and analyze job market demands. This allows them to design and deliver training programs that equip individuals with the most relevant and up-to-date skills. They work closely with Sector Skill Councils (SSCs) to ensure their curriculum aligns with the specific needs of different sectors. This industry-driven approach ensures graduates possess the exact skillsets employers are looking for, enhancing their employability.

NSDC with the support of training partners and sector skill councils has contributed significantly to the overall achievement of Skill India mission. Proactively catalyzing creation of large, quality vocational training institutions and facilitate the creation of support systems required for skill development of the nation. As of August 2022, NSDC had over 698 training partners (including innovation TPs) providing trainings for 564 job roles; with 3,22,451 training completed; 1,46,177 Total Placed, 38 industry-led Sector Skill Councils (SSCs) and various enabling systems and initiatives, NSDC is a major contributor to the Skill India Mission.

Process of Training Partners conducting trainings under the NSDC scheme:

Planning and Preparation (Pre-Training):

- **Requirement Assessment:** Training Partners collaborate with domestic industries and potential employers to understand the specific skill sets required in the job market. This ensures the training program addresses the most relevant industry needs.
- **Selection of Candidates:** Partners establish criteria and conduct selection processes to identify suitable candidates for the training program. This may involve entrance exams, interviews, or prior educational qualifications.

- **Course Design & Planning:** Based on the requirement assessment and selected candidates group, Training Partners design the curriculum using the NSDC framework provided by the relevant Sector Skill Council (SSC). They develop lesson plans, identify training materials, and schedule trainers.

Training Delivery:

- **Qualified Trainers:** The NSDC mandates qualified trainers with industry experience to deliver the training programs. Training Partners either have their own pool of qualified trainers or collaborate with external experts.
- **Infrastructure & Learning Resources:** Partners provide access to proper training facilities, equipment, and learning materials to ensure effective knowledge transfer. This might include classrooms, workshops, labs, and digital learning resources.
- **Delivery Methods:** Training Partners can utilize various training methodologies to cater to different learning styles. This could include classroom lectures, practical demonstrations, group projects, case studies, or e-learning modules.

Post-Training:

- **Assessment & Certification:** Upon completion of the program, trainees undergo assessments based on the SSC's standards. Post clearance the candidates receive NSDC-recognized skill certificates, enhancing their employability.
- **Placement Assistance:** Training Partners can also offer placement assistance to graduates. And can conduct mock interviews, resume workshops, or connect them with potential employers through job fairs or industry partnerships.
- **Quality Assurance:** The NSDC monitors Training Partners to ensure they adhere to quality standards. This is done through inspections, reviewing training materials, and evaluating trainer qualifications.

4.3 Key trends and drivers in the industry

Skill Development to meet Industry Demand

One of the major key drivers for skill development industry is the growing need to bridge the gap between the skills of the current workforce and requirements of industry. India has a young population, but many lacks the specific skills demanded by industries. Rapid economic growth and technological advancements have created a demand for new skillsets. Vocational training equips them to meet these needs as it focuses on industry-aligned training, and is well-positioned to address this gap by equipping graduates with the specific skills employers seek.

Unemployment and Literary Rate

The sector has growth potential as the unemployment rate in country as of April 2024 was 8.1%, this indicates that there is a skill gap and vocational education, with its targeted training programs, can bridge by equipping individuals with industry-relevant skills, making them more employable.

Additionally, there are states that have low literacy rates (in the range of 60%-70%) such as Bihar, Arunachal Pradesh, Rajasthan, Jharkhand and more that indicate that they have higher concentration of jobs in the informal sector. Low literacy rates also indicate that the unemployed population lacks formal education. This creates demand for vocational training focused on practical skills like carpentry, welding, or garment making that can empower individuals to find decent work and improve their livelihoods, irrespective of their academic background.

Government Initiatives

The Indian government plays a proactive role through its numerous programs/ initiatives like Skill India Mission, which aims to enhance vocational training and skill development of large chunk of population in various job-ready skills, catering to the diverse needs of different sectors and regions across the country.

Additionally, the National Skill Development Corporation (NSDC), a public-private partnership organization, plays a key role in implementing Skill India initiatives. NSDC collaborates with various stakeholders including government agencies, industry bodies, training providers, and employers to develop industry-relevant skill training programs,

establish training centers, and facilitate job placements for trained candidates. NSDC also focuses on standardizing and certifying vocational training to ensure quality and credibility in the skill ecosystem.

These initiatives involve setting up new vocational training institutes, promoting apprenticeships, and collaborating with industry leaders to ensure curriculum relevance. These programs aim to enhance the employability of the youth by providing skill-based training and certifications, thereby addressing the skills gap prevalent in the job market.

Rise of E-Learning

Technological advancements have the ability to influence the delivery of vocational education to a broader audience, including those in remote and underserved regions. E-learning platforms can provide wider access to training modules, making geographically dispersed learning opportunities more accessible. Learners can access course materials at their own pace and on their own schedule, which is particularly beneficial for working professionals and individuals with other commitments. Furthermore, the integration of multimedia elements such as videos, simulations, and interactive quizzes enhances the learning experience in e-learning platforms. The growth demand for E-learning supported by ease of access, cost-effectiveness, flexibility and relevant training is likely to drive the growth of skill development industry.

Public Perception Shift

Over the years there has been a shift in perception towards vocational education. There is a growing acknowledgment that skill-based education is crucial for economic development and individual career success. The changing dynamics of the job market, where practical skills are often valued more than theoretical knowledge, have underscored the importance of vocational training. And vocational graduates are increasingly seen as valuable assets, contributing significantly to the economic growth of India. This shift is likely to continue attracting more students to consider vocational education as a viable career path.

Focus on Emerging Technologies

The integration of technology into vocational training has revolutionized the sector, making education more accessible and efficient. E-learning platforms, virtual classrooms, and simulation-based training are increasingly being used to impart skills. Additionally, introduction of courses with focus in robotics, automation, and artificial intelligence, ensures graduates remain competitive in the ever-changing job market and can acquire relevant skills in a flexible and cost-effective manner.

Industry Collaboration

A key trend is the growing emphasis on collaboration between vocational training institutes and industries ensures that training programs are aligned with industry requirements. This allows for the development of industry-specific curriculum, internships, and placement opportunities, and guest lectures from industry professionals. This collaboration also enables graduates to possess the practical skills and industry knowledge employers require. Additionally, many companies have established their own training programs to create a pipeline of skilled workers tailored to their specific needs, further enhancing the quality and relevance of vocational education.

The growth in manufacturing industry driven by the various Government initiatives such as Make in India and Production-Linked Incentive (PLI) scheme is likely to increase demand for skilled work force, thereby creating growth opportunity for vocational education industry.

International collaborations

International collaborations have emerged as a key driver in the growth and transformation of the vocational education industry in India. These partnerships bring several benefits and contribute significantly to enhancing the quality, relevance, and global competitiveness of vocational training programs.

There are bilateral engagements and collaborations between India and other countries on Skill Development. It includes two types of MoUs (Memorandums of Understanding):

Government to Government (G2G) MoUs –

Ministry of Skill Development & Entrepreneurship (MSDE) has signed MoUs with 11 countries including Australia, United Kingdom, Germany, and Japan in the field of skill development and vocational education training.

Business to Business (B2B) MoUs –

National Skill Development Corporation (NSDC) has signed 18 MoUs with countries like Japan, Australia, Germany, UAE, Malaysia, Canada in the field of hospitality and MEP (mechanical, electrical and, plumbing), truck driver, drill fitter, chef, machinist.

Collaborations with international educational institutions and organizations help in enhancement of curriculum and training standards of Indian vocational training programs with global standards. Additionally, international partnerships often provide access to cutting-edge technologies, tools, and educational resources that might otherwise be unavailable. International collaborations often lead to joint certification programs where students receive credentials recognized both in India and internationally.

4.4 Key risks and challenges faced by the industry in India

Insufficient Funding

The vocational education sector often suffers from insufficient funding which hampers their ability to deliver effective training programs that meet the evolving demands of the job market. Government funding for vocational education is often inadequate, affecting the ability of institutions to upgrade facilities, hire qualified trainers, and offer scholarships. This can restrict the ability to provide adequate infrastructure, training materials, and competitive faculty salaries. Increased government and private investment is necessary to improve the overall quality and accessibility of vocational education programs.

Insufficient Infrastructure and Lack of Qualified Trainers

Skill development industry is highly unorganised and private. Vocational training institutions lack sufficient fund and have inadequate Government funding which impacts their ability to upgrade facilities, hire qualified trainers, and offer scholarships. Vocational institutions have insufficient infrastructure which encompasses of lack of properly equipped workshops, outdated tools and machinery, or limited access to practical learning environments. Without these resources, students struggle to gain the hands-on experience necessary to excel in their chosen vocations. Additionally, a shortage of qualified trainers can hinder the outcome of vocational education. Instructors with real-world experience are essential for transferring practical knowledge and industry best practices to students. An inadequate number of such trainers can result in theoretical learning with little practical application. This gap between theory and application can leave graduates unprepared for the workforce.

Lack of Standardised Courses and Outdated Curriculum

There is a lack of standardization in vocational training courses across different institutions. The inconsistency in course content across institutions makes it difficult to ensure all programs provide a good level of training. This can affect the quality of training and the employability of graduates. Additionally, most of vocational training programs follow outdated curriculum that often fails to reflect the ever-evolving needs and technological advancements of industry. This results in a mismatch between the skills imparted and the skills required by employers, this disconnect between vocational trainers and industries continues to remain a key challenge for the skill development industry.

Limited Industry Collaborations

There is a significant gap between the curriculum of vocational institutions and requirements of the industries. The limited collaborations with industry experts impact the ability of training programs to reflect the actual expectations of employers. Small Industries are usually hesitant to invest time and resources in training programs. Whereas vocational institutions often lack the resources or connections to effectively reach out and establish partnerships with relevant industries. This disconnect hinders the development of curriculum aligned with industry needs and

limits student access to real-world experience through internships or guest lectures. However, this challenge can be overcome with the help of Government initiatives that can provide funding for joint curriculum development projects between vocational institutes and industry experts. Additionally, internship programs and guest lectures from industry professionals can expose students to practical applications of their skills. These collaborations can ensure that graduates possess the specific skillsets sought by employers, improving their employability and career prospects.

4.5 Peer Comparison

The following players in the Skill Development segment have been considered for peer benchmarking of Innovision Limited:

Table 14: Key Skill Development Peers

Name of the Company	Business Overview
Innovision Limited	<p>INNOVISION began its operations in Delhi and has since expanded significantly across India. Its service offerings include Security Services (Manned and Electronic), Facilities Management (technical and non-technical), Manpower Sourcing, HR & Payroll solutions, Toll Management, and Skills Development. With over 100 training centers approved by the National Skills Development Corporation (NSDC) across every state in India, it has a pool of more than 100,000 trained and certified candidates.</p> <p>Innovision has collaborated with key governmental bodies like the NSDC, MoRD, and NCVT to implement Ajeevika projects and provide vocational training, assessment, and certifications. Further, it is affiliated with sector skills councils in security, logistics, BFSI, and retail, Innovision operates training centers nationwide. It is registered with the National Apprenticeship Promotion Scheme and conducts training under the PM Vishwakarma and Recognition of Prior Learning programs. Additionally, Innovision has established model training centers in Palwal, Mewat, Mahendergarh, Gurgaon, and Rewari under the Pradhan Mantri Kaushal Kendra scheme.</p>
Orion Edutech Pvt. Ltd.	<p>Orion began its journey in 2006, specializing in ITES/BPO industry skill development then expanding to diverse sectors such as healthcare, logistics, retail, and hospitality. Diversifying into CSR skilling, Orion collaborated with major corporates. It has entered staffing, offering hassle-free resourcing for corporates. Transitioning to technology-enabled training, Orion emphasizes continuous education and growth.</p>
Centum Learning Ltd.	<p>Centum's new-age learning solutions, driven by cutting-edge technology, yield measurable business and individual outcomes. Their corporate training proficiency aids organizations in enhancing employee productivity, fostering future leaders, and tailoring learning journeys. They also integrate livelihood skilling and capability development into CSR strategies. With over 17 years of organic growth, Centum serves leading brands globally across various industries, impacting over 5 million learners.</p>
CMC Skills Pvt. Ltd.	<p>CMC Skills Private Limited (CSPL) incorporated on September 16, 2015, with its registered office in Mumbai, Maharashtra. The organization aims in enhancing skills across various segments of society. With a widespread presence throughout India and a team of over 120 professionals, its mission focuses on delivering impactful training to elevate individuals' socio-economic status. By doing so, it seeks to drive positive changes that directly contribute to the nation's overall prosperity.</p>
Empower Pragati	<p>Empower Pragati was among the first companies to become funded partners of the National Skill Development Corporation (NSDC) in 2010. Over the past decade, Empower Pragati has trained over 450,000 youth in both formal and informal sectors. In addition to implementing</p>

large-scale government projects like PMKVY/PMKK, DDUGKY, and NSQF, the organization assists corporations in strategizing and executing their CSR initiatives.

Table 15: Comparison of Revenue from Operations (In INR Million)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	1,282.82	1,971.67	2,035.09	NA
Centum Learning Ltd.	911.98	894.63	727.24	NA
CMC Skills Pvt. Ltd.	7.60	11.90	17.50	NA
Empower Pragati	447.00	407.70	336.50	NA
Innovision Limited	1,612.90	2,097.70	2,555.40	5,103.26

Source: Audited financial statements, CAREEDGE Research

Table 16: Comparison of EBITDA (In INR Million)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	(322.28)	(54.79)	(85.06)	NA
Centum Learning Ltd.	57.42	42.54	(913.76)	NA
CMC Skills Pvt. Ltd.	(4.04)	23.30	30.60	NA
Empower Pragati	36.40	32.80	8.40	NA
Innovision Limited	100.40	106.80	145.01	180.61

Source: Audited financial statements, CAREEDGE Research

Table 17: Comparison of EBITDA Margin (In %)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	-25.1%	-2.8%	-4.2%	NA
Centum Learning Ltd.	6.3%	4.8%	-125.6%	NA
CMC Skills Pvt. Ltd.	-53.2%	19.8%	17.6%	NA
Empower Pragati	8.1%	8.0%	2.5%	NA
Innovision Limited	6.2%	5.1%	5.7%	3.5%

Source: Audited financial statements, CAREEDGE Research

Table 18: Comparison of PAT Margin (In %)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	-28.6%	-2.7%	-6.6%	NA
Centum Learning Ltd.	6.4%	4.1%	-129.9%	NA
CMC Skills Pvt. Ltd.	-106.6%	58.0%	100.0%	NA
Empower Pragati	0.4%	0.4%	-0.1%	NA
Innovision Limited	3.4%	3.1%	3.2%	2.2%

Source: Audited financial statements, CAREEDGE Research

Table 19: Comparison of ROCE (In %)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	-188.3%	-53.6%	-331.0%	NA
Centum Learning Ltd.	4.1%	3.4%	-1170.8%	NA
CMC Skills Pvt. Ltd.	-4.0%	15.7%	24.0%	NA
Empower Pragati	4.6%	6.4%	-2.3%	NA
Innovision Limited	26.6%	25.2%	28.5%	24.8%

Source: Audited financial statements, CAREEDGE Research

Table 20: Comparison of Cash Flow from Operations (In Millions)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	(2.09)	(34.44)	39.15	NA
Centum Learning Ltd.	113.14	229.13	(315.28)	NA
CMC Skills Pvt. Ltd.	(7.40)	(3.10)	(17.70)	NA
Empower Pragati	13.20	(22.60)	24.60	NA
Innovision Limited	(74.43)	16.68	34.46	61.82

Source: Audited financial statements, CAREEDGE Research

Table 21: Comparison of Total Debt (Short Term & Long Term- In Millions)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	425.82	472.01	481.20	NA
Centum Learning Ltd.	-	-	167.88	NA
CMC Skills Pvt. Ltd.	-	-	-	NA
Empower Pragati	212.30	229.10	218.40	NA
Innovision Limited	255.00	296.50	303.30	481.46

Source: Audited financial statements, CAREEDGE Research

Table 22: Comparison of Net Worth (In Millions)

Peers	FY21	FY22	FY23	FY24
Orion Edutech Pvt. Ltd.	(11.25)	(65.17)	(200.06)	NA
Centum Learning Ltd.	984.22	1,023.15	48.73	NA
CMC Skills Pvt. Ltd.	4.60	12.50	30.00	NA
Empower Pragati	130.90	132.50	132.10	NA
Innovision Limited	261.20	306.91	394.74	524.18

Source: Audited financial statements, CAREEDGE Research

Comments:

1. Comparing the Revenue from Operations, the average year-on-year growth of the peer group was 19.9% for FY23, while Innovision recorded a similar growth rate of 21.8%, little above the peer average. The peer group's average CAGR growth rate for FY21-23 was 18.8%, whereas Innovision Ltd achieved a significantly higher rate of 25.9%, well above the peer average.
2. For the FY21-23 period, Innovision reported the highest ROCE in FY21 and FY22, whereas second highest in FY23, at 26.6%, 25.2%, and 28.5% for FY21, FY22, and FY23 respectively.

5. Assessment of Structure of Staffing Industry in India

5.1 Overview of Structure of Staffing Industry in India

The staffing industry in India has evolved significantly over the past few decades, transitioning from a fragmented and largely unorganized sector to a more structured and dynamic industry. This transformation has been driven by the rapid growth of the Indian economy, the expansion of various industries, and the increasing demand for a flexible workforce. At its core, the staffing industry in India functions as an intermediary that matches job seekers with employers, providing a range of services from temporary staffing to permanent placements and specialized human resource solutions.

Variety of Services offered by Staffing agencies

Permanent Staffing	Flexible Staffing	HR Solutions
<ul style="list-style-type: none"> • Search • Recruitment 	<ul style="list-style-type: none"> • Professional & White Collar • Blue Collar 	<ul style="list-style-type: none"> • Consulting • Outsourcing • Training • Talent

Source: CAREEDGE Research

One of the key characteristics of the Indian staffing industry is its diverse range of services. Temporary staffing, or temping, is focused on providing workforce solutions for short-term needs, such as project-based assignments, seasonal demands, or sudden increases in workload. Temporary staffing remains the dominant segment, catering to industries such as manufacturing, retail, information technology, and services. This model allows companies to scale their workforce up or down based on fluctuating business demands, thereby enhancing operational efficiency and cost-effectiveness. Permanent staffing, on the other hand, involves recruiting candidates for long-term employment, often for mid to senior-level positions. This segment is crucial for companies looking to build a stable and skilled workforce.

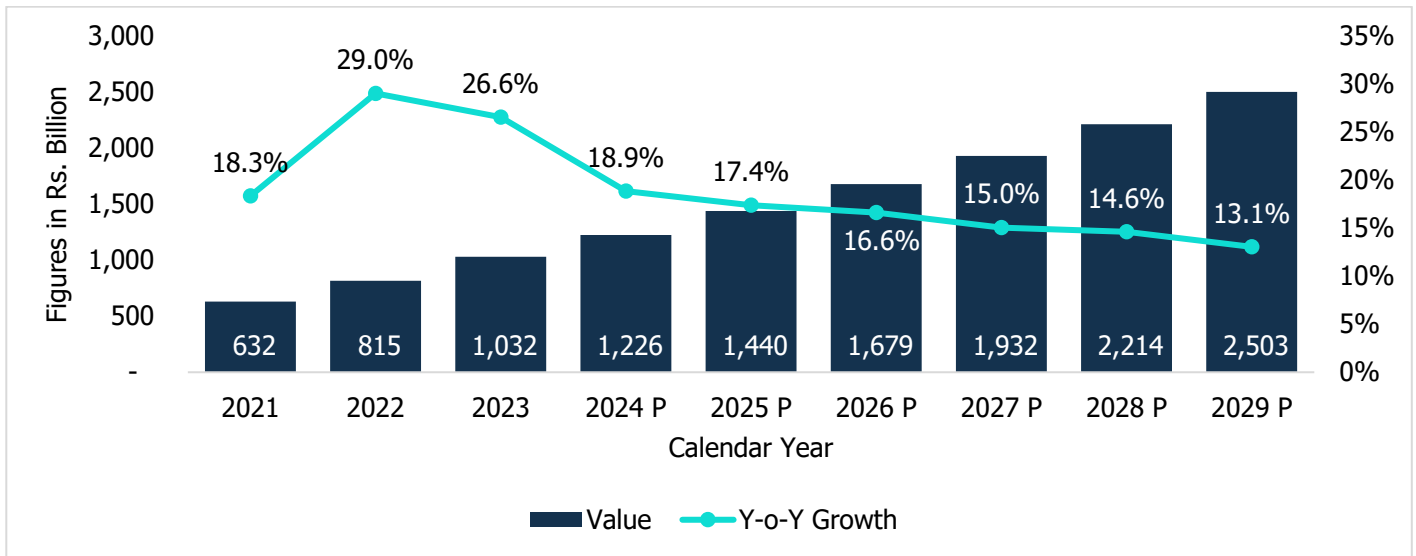
Another significant aspect of the Indian staffing industry is the rise of professional staffing, which focuses on placing highly skilled professionals in sectors like IT, finance, healthcare, and engineering. This segment has seen robust growth due to the increasing need for specialized skills and the burgeoning startup ecosystem in India. Additionally, Recruitment Process Outsourcing (RPO) and Managed Services Provider (MSP) models are gaining traction, wherein companies outsource part or all of their recruitment processes to staffing firms. This trend is driven by the need for greater efficiency, cost reduction, and access to a broader talent pool.

The regulatory environment in India has also shaped the staffing industry. Recent legislative reforms, such as the introduction of the Code on Wages and the Code on Social Security, aim to formalize employment conditions and provide social security benefits to temporary workers. These changes are expected to enhance worker protection and bring more workers into the formal employment fold. However, navigating the complex regulatory landscape remains a challenge for staffing firms, necessitating robust compliance mechanisms and adaptive strategies.

Technological advancements have further revolutionized the staffing industry in India. The adoption of digital platforms, artificial intelligence, and data analytics has streamlined recruitment processes, improved candidate matching, and enhanced overall efficiency. Online job portals, social media, and mobile applications have expanded the reach of staffing firms, enabling them to tap into a larger and more diverse talent pool. These technologies also facilitate better tracking and management of the workforce, providing valuable insights to employers.

5.2 Market size in value terms of staffing services industry in India

Chart 23: Market Size of General Staffing Industry – In Value Terms



Source: MAIA, CAREEDGE Research

Over the years, there has been significant increase in the value of general staffing services industry. In 2023, the general staffing services industry reached Rs. 1,032 Billion, indicating 26.6% y-o-y growth. The industry is expected to bode-well in the near term, with the value of industry crossing Rs. 2,503 Billion USD by 2029, growing at a CAGR of over 15.9% between 2023-2029.

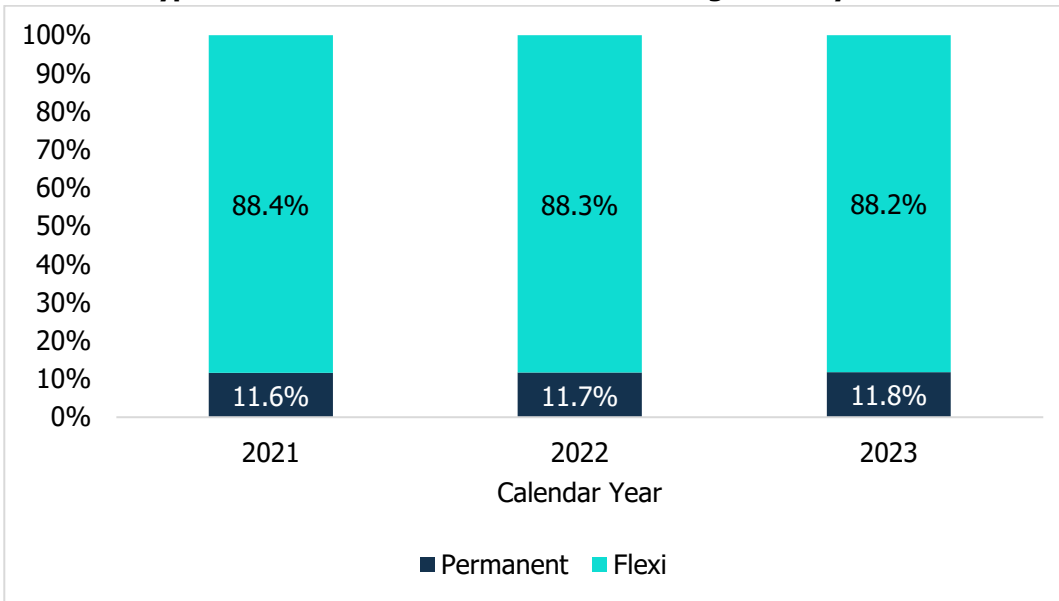
5.3 Estimated current share of permanent vs flexible staffing

Aspect	Permanent Staffing	Flexible Staffing
Employment Type	Permanent staffing involves hiring employees for long-term roles with no predetermined end date. These positions are usually full-time and come with the expectation of a lasting employment relationship.	Flexible staffing includes hiring employees for a specific period or project. These positions can be temporary, seasonal, or based on the duration of a particular contract, without an expectation of long-term employment.
Nature of Work	Employees in permanent positions are typically engaged in continuous, ongoing work that is integral to the company’s core operations.	Employees in flexible positions often handle work that varies in intensity and duration, such as projects with specific deadlines, seasonal spikes in demand, or ad-hoc assignments.
Employee Commitment	Permanent employees are usually more committed to the organization, focusing on long-term growth and career advancement within the company.	Flexible employees may have a lower level of commitment to the organization as their engagement is usually short-term and focused on completing specific tasks or projects.
Recruitment Process	Hiring for permanent roles often involves a rigorous recruitment process to ensure the candidate is a good long-term fit, including multiple interviews, detailed background checks, and extensive evaluations.	The recruitment process for flexible roles is typically faster and less comprehensive, focusing on quickly finding candidates who meet the immediate skill requirements for the job.
Training and Onboarding	Permanent employees undergo detailed onboarding processes and continuous training programs to align them with the company’s goals and operations.	Flexible employees receive limited training, as they are often hired for specific tasks and short durations, with the expectation that they can quickly adapt to the role.
Cost of Recruitment	Permanent staffing involves significant initial costs, including recruitment expenses,	Flexible staffing can be more cost-effective as companies hire workers only when necessary, reducing long-term financial

Aspect	Permanent Staffing	Flexible Staffing
	benefits, training, and long-term compensation packages.	commitments and avoiding costs associated with training and benefits such as employee insurance, pension, gratuity, etc.
Turnover Rates	Permanent employees tend to stay longer with the company, resulting in lower turnover rates and more workforce stability.	Flexible staffing typically has higher turnover rates, as employees are engaged for shorter periods and may frequently move between different employers or assignments.
Adjusting Workforce Size	Scaling up or down with permanent staff can be challenging and slow, requiring careful planning and significant resources.	Flexible staffing allows companies to quickly adjust their workforce size in response to market demands, making it easier to scale operations up or down as needed.
Skill Utilization	Permanent employees develop and utilize their skills over time, contributing to the company's core competencies and benefiting from continuous professional development opportunities.	Flexible staffing provides access to a diverse talent pool with specialized skills for specific projects or short-term requirements, without long-term commitments.
Regulatory Considerations	Permanent staffing requires adherence to stringent and comprehensive labor laws, including benefits like health insurance, retirement plans, and paid leave, which can be complex and costly.	Flexible staffing involves different regulatory considerations, often with fewer benefits and protections, but still requiring compliance with essential labor laws to ensure fair treatment of temporary workers.

Source: CAREEDGE Research

Chart 24: Type-wise Market Share in General Staffing Industry



Source: MAIA, CAREEDGE Research

In CY2023, permanent staffing accounted for 11.8% of the aggregate industry value and flexi (flexible/temporary) staffing continued to form a major chunk of general staffing industry as it is cost-effective, require limited training and benefits.

5.4 Key trends and drivers in the industry

Embracing Automation and Digital Transformation

Technology is one of the key drivers of change in the staffing industry. The adoption of artificial intelligence (AI), machine learning (ML), big data, and cloud computing has revolutionized the operations staffing companies. These technologies aid in better selection of candidates with job requirements, streamline the recruitment process, and enhance candidate engagement. Moreover, digital platforms and mobile applications have made it easier for job seekers to find opportunities and for employers to access a larger talent pool. The integration of technology in staffing processes has improved efficiency, reduced time-to-hire, and enhanced the overall candidate experience.

Need for Organised Workforce

The Indian economy has been experiencing good growth, driven by sectors such as IT, manufacturing, retail, and healthcare. This economic expansion has led to an increased demand for skilled and unskilled labor. Moreover, the government's push towards formalization of the workforce through initiatives like the Goods and Services Tax (GST) and the Pradhan Mantri Rojgar Protsahan Yojana (PMRPY) has incentivized companies to hire through formal staffing agencies. These measures are expected to further boost the staffing industry growth by encouraging the transition of a large segment of the workforce from informal to formal employment.

As per the Periodic Labour Force Survey (PLFS), in the year 2017-18, the total employment in both organized and unorganized sector in the country was around 470 million. Out of this, around 90 million are engaged in the organized sector and the balance of 380 million are in the unorganized sector. The workers in the unorganized sector constitute more than 81 per cent of the total employment in the country.

In order to maintain to create a national database of unorganised workers the e-Shram portal was launched in 2021. As on 05 June 2024, total over 296 million unorganised workers have been registered on e-Shram portal.

Rise in Trend of Temporary Jobs

The traditional 9-to-5 work model is giving way to a more agile and flexible work environment. In CY2023, the share for flexible staffing accounted for over 88% of the aggregate general staffing industry. The demand for temporary jobs is gaining traction in India, with more professionals opting for freelance, contractual, and part-time work. The growing acceptance of flexible work arrangements by both employers and employees is reshaping the staffing landscape, as companies look to staffing agencies to manage this flexible workforce. This shift is driven by the need for agility in operations and the desire to reduce long-term labor costs while maintaining productivity.

Rise in outsourcing of recruitment process

Businesses are recognizing the value of partnering with specialized third-party for recruitment Process Outsourcing (RPO) to manage their entire recruitment process. This reduces internal HR workloads and ensures access to a wider talent pool and specialized expertise. These RPO service providers can tailor their services to specific industry needs, ensuring a more targeted and effective recruitment strategy. This collaborative approach offers significant cost-saving advantages for companies, allowing them to focus on core competencies while securing top talent.

Growth in End-User Industries

CAREEDGE Research expects key end-user sectors such as logistics and warehousing industry, e-commerce, manufacturing, FMCG and pharmaceuticals and expansion of the manufacturing activity to witness good growth in the medium term. This is likely to further increase demand for staffing for these end-user industries, leading to growth in overall staffing services industry in India.

5.5 Key risks and challenges faced by the industry in India

De-growth in IT industry

The IT software industry is anticipated to see a dip in demand in FY24 as clients are cautiously investing in businesses due to the ongoing geopolitical headwinds between Russia-Ukraine, middle east tension. The impact on IT industry is likely to impact the demand for staff required further impacting the employment rates.

Compliance with Regulations

The Indian government is constantly revising labor laws. Compliance with regulations such as the Contract Labour (Regulation and Abolition) Act, and state-specific laws requires significant efforts. Staffing firms need to stay up-to-date on these changes to ensure they are operating legally and ethically. Frequent changes in labor regulations and compliance requirements can create uncertainty and necessitate constant adjustments in business practices, hampering continued operations.

Technological Disruption

Artificial intelligence and other technologies are transforming the recruitment landscape. While the rise of automation and AI in recruitment processes offers efficiency, it also requires staffing firms to make significant investment in technology and reskilling of staff to remain competitive. Unlike large firms that can make huge investments, small staffing firms may struggle with the financial and technical capabilities to adopt advanced digital tools and platforms.

Intense Competition

The staffing industry in India is highly fragmented with numerous small and unorganized players, leading to intense competition and price wars. Staffing firms need to offer innovative solutions and a strong candidate experience to attract and retain qualified workers. Further, the entry of global staffing firms into the Indian market has raised the bar for service quality and operational efficiency. Domestic firms need to invest in upgrading their systems and processes to meet international standards, which can be costly and time-consuming.

Skill Gaps

The rapid pace of technological change creates a demand for new skills, there is a significant gap between the skills required by employers and those available in the job market. This mismatch makes it difficult to connect qualified candidates with open positions. This challenge mainly pertains to in sectors like IT, healthcare, and engineering. Staffing firms need to invest in training and development programs to bridge this gap.

6. Toll Plaza Management Services Market in India

6.1 Overview of Structure of Roads & Highway Industry in India

The Central Government is authorized to impose fees on national highways for various services like ferries, permanent bridges, temporary bridges, and tunnels. Toll collection typically operates under an open system, where fees are determined based on the length of the road segment, usually around 60 kilometers. Toll plazas are positioned approximately every 60 kilometers, with exceptions made under certain circumstances such as land availability or traffic congestion.

Concessions are sometimes provided to local or frequent users as a welfare measure. Toll rates undergo annual revision, rounded off to the nearest Rs 5. Collection may commence when a project reaches 75% completion, allowing users to access completed sections while paying tolls only for the portion in use. Toll collection continues until the concession period ends.

Once the construction costs are recouped, tolls may be reduced to 40% to cover maintenance expenses. Exemptions for specific vehicles vary based on the regulations applicable at the time of road construction.

- **Road Network Length:** As of the end of 2023, India boasts a vast road network covering approximately 6.67 million kilometers, making it the second-largest in the world. This network is categorized into National Highways, State Highways, and Other Roads.
- **National Highways:** The National Highway network spans 1,46,145 kilometers, serving as vital arteries for the country's economic and social development.
- **State Highways:** Comprising 1,79,535 kilometers, State Highways complement the National Highways in facilitating intra-state transportation and connectivity.
- **Other Roads:** This category encompasses the bulk of the road network, totaling 63,45,403 kilometers. These roads play a crucial role in connecting rural areas, urban centers, and local communities, contributing significantly to transportation and accessibility nationwide.
- **Growth and Expansion:**
 - Over the past nine years, the Ministry of Road Transport and Highways (MoRTH) and its implementing agencies have embarked on various initiatives to enhance the capacity and efficiency of the National Highway infrastructure.
 - The National Highway network has witnessed remarkable growth, with a 60% increase from 91,287 kilometers in 2014 to 1,46,145 kilometers by the end of 2023.
 - Notably, the length of National Highways with four lanes or more has surged by 2.5 times, reaching 46,179 kilometers by November 2023. Conversely, the length of less than two-lane National Highways has decreased significantly, demonstrating a strategic focus on upgrading and widening existing infrastructure.
- **Construction Pace and Expenditure:**
 - The average pace of National Highway construction has soared by 143%, reaching 28.3 kilometers per day from 2014 onwards. This accelerated construction rate reflects concerted efforts to expedite infrastructure development and meet growing transportation demands.
 - Expenditure on road infrastructure has also witnessed a substantial increase, expected to rise by 9.4 times to Rs 3.17 Trillion by 2023. This heightened investment underscores the government's commitment to modernizing and expanding the road network to support economic growth and development.
- **Special Initiatives and Programs:**
 - The Ministry has launched several special campaigns and initiatives to address specific challenges and enhance road safety, efficiency, and consumer empowerment. These include the Bharat New Car Assessment Programme, aimed at providing safety ratings for passenger cars, and the Vehicle Scrapping Policy, which aims to remove old and polluting vehicles from the roads.
 - Furthermore, the implementation of digital tools and mobile applications, such as Rajmarg Yatra and NHAI One, demonstrates a concerted effort to leverage technology for customer redressal and on-site project execution.

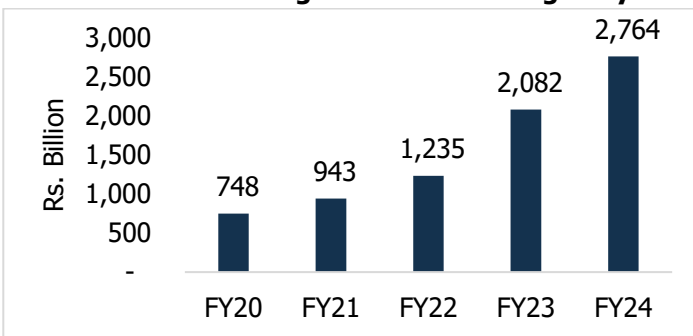
In summary, the quantitative overview of India's Roads & Highway industry showcases significant progress and strategic investments in infrastructure development, aimed at fostering economic growth, improving connectivity, and ensuring road safety and efficiency across the nation

6.2 Investment Trend (in value terms) in Road & Highway Industry in India Budgetary Allocations

The 2024-25 budget by the Government highlights the impetus for growth by focusing on big public investments for modern infrastructure, which shall be guided by PM Gati Shakti and benefited from the synergy of a multi-modal approach.

- The Ministry of Road and Highways gross budgetary outlay has doubled from Rs. 1.28 trillion in fiscal 2019 to 2.64 trillion in fiscal 2024. In fiscal 2025, the capex witnessed a modest 3% y-o-y growth with an allocation of Rs. 2.72 trillion which is expected to normalise the order book of road EPC companies for the coming fiscal.
- The assets monetization target has increased to Rs. 150 billion in fiscal 2025 from Rs. 100 billion in fiscal 2024.
- The budgetary outlay of Rs 1.68 trillion towards the NHAI for fiscal 2025 has remained flattish as compared to fiscal 2024.
- The NHAI aims to increase project awards by modifying the build-operate-transfer (BOT) model with fast-tracked clearance, as its share has decreased in recent years.

Chart 25: MoRTH budget for National Highway



Source: PIB

Road construction is amongst the critical sub-segments for infrastructure development, economic growth, and employment creation. Besides, the government is primarily focusing on infrastructure. For instance, in the Union budget 2024-25, the government budgeted to incur higher expenditure toward road construction. Wherein, the central government made the highest ever outlay of Rs 2,780 billion (compared to the estimated expenditure of Rs 2,764 billion for 2023-24).

Overall, the Union Budget for 2024-25 emphasized infrastructure development. The budget plan aims for multi-modal logistics facilities and connectivity systems under the PM Gati Shakti. For infra push, financial assistance of Rs 1,300 billion in interest-free loans for 50 years has been allocated to states from the Centre. This augurs well for the roads sector alongside the government’s plans to generate employment opportunities.

Moreover, Rs 111 trillion of investments have been projected in infrastructure projects for FY20-FY25 by the Task Force on National Infrastructure Pipeline (NIP), with ~18% of the targeted investment expected to be made in the road sector in India. Also, under the recently announced Asset Monetization Pipeline, around Rs 1,600 billion are to be raised through the monetisation of roads.

With increased budgetary allocation over the years, the quality of roads has improved substantially. The Ministry of Road Transport and Highways (MoRTH) is primarily responsible for the development and maintenance of national highways. The National Highway (NH) network in the country has expanded from about 1,32,995 km in March 2020 to about 1,46,145 km in January 2024.

MoRTH has decided to focus on development of High Speed Access controlled NHs for improving the logistics efficiency of the country. In addition, the MoRTH has also adopted a policy to improve all NHs as per the traffic requirement but minimum Two Lane with paved shoulders standards except for ecologically sensitive Himalayan region where development plan is finalised considering the geological, environmental factors etc.

Table 23: Investments/ Funds allocated for development of NHs**Amount in Rs. Million**

Sr. No	States/UTs	FY21		FY22		FY23	
		Allocation	Expenditure	Allocation	Expenditure	Allocation	Expenditure
1	Andhra Pradesh	18,460	19,220	21,160	21,010	22,920	23,720
2	Arunachal Pradesh	1,420	1,500	3,100	3,800	6,530	6,730
3	Assam	4,200	4,200	3,500	3,570	4,180	4,080
4	Bihar	20,820	21,700	25,420	24,760	17,050	17,920
5	Chhattisgarh	6,830	7,910	6,480	6,300	8,350	8,520
6	Goa	10,620	7,260	6,430	6,080	8,110	6,610
7	Gujarat	7,300	8,280	8,000	8,100	9,000	6,960
8	Haryana	1,600	1,430	1,100	960	1,000	1,000
9	Himachal Pradesh	1,760	1,820	7,220	7,480	8,830	8,220
10	Jharkhand	3,300	3,010	3,500	3,550	3,700	3,370
11	Karnataka	12,100	12,240	10,790	10,850	15,760	13,160
12	Kerala	4,700	5,250	3,310	3,050	2,000	1,890
13	Madhya Pradesh	17,500	19,580	13,060	12,550	7,520	7,560
14	Maharashtra	98,490	92,260	60,990	61,450	45,250	46,260
15	Manipur	1,470	1,450	1,300	1,240	1,050	940
16	Meghalaya	170	190	600	690	650	580
17	Mizoram	910	890	1,250	1,250	500	490
18	Nagaland	3,550	3,080	3,640	3,460	2,450	2,480
19	Odisha	6,010	6,760	7,550	7,680	9,980	9,430
20	Punjab	8,200	6,750	5,280	5,010	4,800	3,740
21	Rajasthan	8,420	9,110	8,360	8,460	14,560	14,590
22	Sikkim	50	40	450	400	1,000	910
23	Tamil Nadu	7,160	6,180	12,000	11,510	11,800	11,920
24	Telangana	10,000	10,150	9,700	8,860	10,000	8,530
25	Tripura	1,050	1,000	1,250	1,290	1,000	1,000
26	Uttar Pradesh	17,150	17,980	12,650	13,290	19,840	20,080
27	Uttarakhand	9,600	10,390	6,650	6,540	6,000	5,850
28	West Bengal	7,130	7,510	5,930	5,320	8,090	9,170
29	Andaman & Nicobar Islands	10	-	10	-	10	-
30	Chandigarh	10	-	10	-	10	-
31	Dadar & Nagar Haveli	250	430	320	300	400	260
32	Delhi	920	500	980	580	750	570
33	Jammu & Kashmir	700	520	900	680	3,900	1,010
34	Ladakh	200	170	110	-	30	-
35	Puducherry	210	190	30	10	500	510
36	Other projects and adjustments under NH(O) / First come first served	-3,030	-	-2,060	-	-7,340	-
Total		2,89,240	2,88,950	2,50,970	2,50,080	2,50,180	2,48,060

Source: Press Information Bureau

In FY23, allocation of funds for development of NHs executed through State Governments, State / Union Territory (UT) constitute about Rs. 250,180 million and the expenditure incurred for the same was Rs. 248,060 million.

6.3 Trend of Annual National Highway Awards (in kms) and share of HAM, BOT and EPC categories

National Highways play a very important role in the economic and social development of India as it enables efficient movement of freight and passengers and improving access to markets. Ministry of Road Transport and Highways of India (MoRTH) and its implementing agencies have undertaken multiple initiatives in the past decade to augment

the capacity of the National Highway infrastructure in India. India has over 6.6 million km of road network, which is the second largest in the world. This comprises National Highways, Expressways, State Highways, Major District Roads, Other District Roads and Village Roads. As of 5th January 2024, the length of various categories of roads is as under:

- National Highways: 1,46,145 km
- State Highways: 1,79,535 km
- Other Roads: 63,45,403 km

The government's steadfast commitment to infrastructure development has been highlighted by a significant increase in project awards following Covid-19, particularly during FY22-FY23. This period accounted for nearly 50% of the projects awarded in the last five years ending in FY23. However, FY24 witnessed a downturn, with project awards declined. Decline in awards was steeper than expected, primarily due to pending approval of revised cost from cabinet towards projects under Bharatmala Pariyojana. A decrease in awards was already anticipated due to legislative elections and the subsequent imposition of the code of conduct. However, these factors combined have led to a further reduction in the pace of project awards.

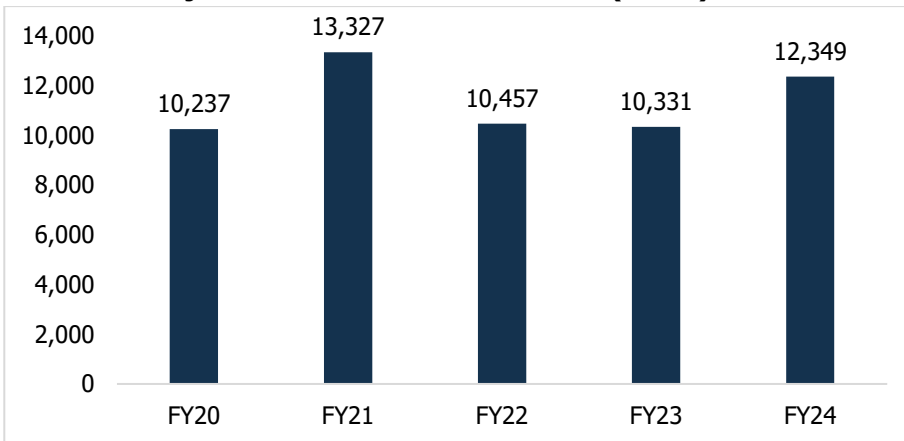
Table 24: Mode-wise Projects Awarded by NHAI

Mode	2021-22	2022-23	2023-24
HAM	3,493	3,032	726
EPC	2,411	4,742	2,824
Item Rate	334	2,665	4,623
BOT Toll	67	33	52
Total	6,306	10,473	8,225

Source: NHAI, CAREEDGE Research

6.4 Trend of Annual National Highway Execution (in kms)

Chart 26: Project Constructed under MORTH (in Km)



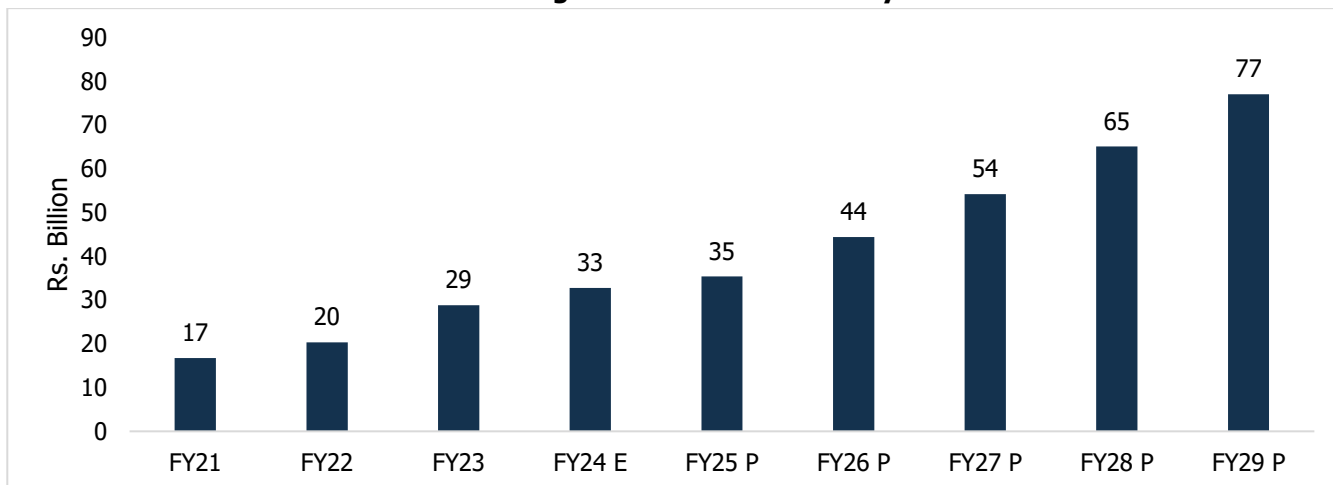
Source: Ministry of Road Transport and Highways of India, CAREEDGE Research

Note: Data for FY24 are provisional

The pace of National Highways (NH) construction has increased consistently over the years led by systematic push through corridor-based National Highway development approach. During FY24, over 12,000 km length was constructed under MoRTH, indicating nearly 20% growth over previous year.

6.5 Market Size in value terms of Toll Plaza Management Services Industry for National Highways in India

Chart 27: Market Size of Toll Plaza Management Services Industry – In value terms



Source: CAREEDGE Estimates

Note: E indicates Estimated, P indicates Projected

The market size of toll management services industry has seen significant growth at 21% CAGR between FY21-FY29, this increase is largely supported by boost in construction of national highway, Government's initiatives towards Roads and Transport sector. In FY24, the market size of toll management services industry in value terms is estimated to have reached Rs. 33 billion, indicating nearly 14% y-o-y growth over FY23.

6.6 Management of Toll Plaza in India – general contract structure for outsourced toll management

The Central Government has the authority to levy fees for the use of ferries, bridges, tunnels, and sections of national highways. This can be done through competitive e-bidding for Public Funded/Annuity/SPV projects or by allowing the Concessionaire to collect toll for private investment/OMT Projects. Tolling in India typically follows an open system, where the fee is based on the length of the stretch under one project, usually around 60 kilometers. Toll plazas are spaced approximately 60 kilometers apart for various reasons including land availability, sightlines for acceleration and deceleration, municipal or town limits, bypass locations, major diversions, state boundaries, revenue optimization, and project viability. In some cases, two plazas may be established within 60 kilometers to maximize revenue potential or make the project economically feasible. Concessions may be offered to local or frequent users as welfare measures, with variations in concessions available depending on the time and rules under which they were granted. Toll fees are revised annually and rounded off to the nearest Rs 5, with exceptions for older roads where fees are rounded off to Re 1. Toll collection may commence when a project is 75% complete, allowing travelers to use the completed portion while paying only for the open section. Once the cost of construction is recovered, toll fees may be reduced to 40% for maintenance purposes. Exemptions from toll fees vary based on the rules in place at the time of road construction.

In India, the management of toll plaza operates under a structured contract framework when outsourced to private entities. This system encompasses various stages and procedures to ensure effective toll collection and infrastructure management.

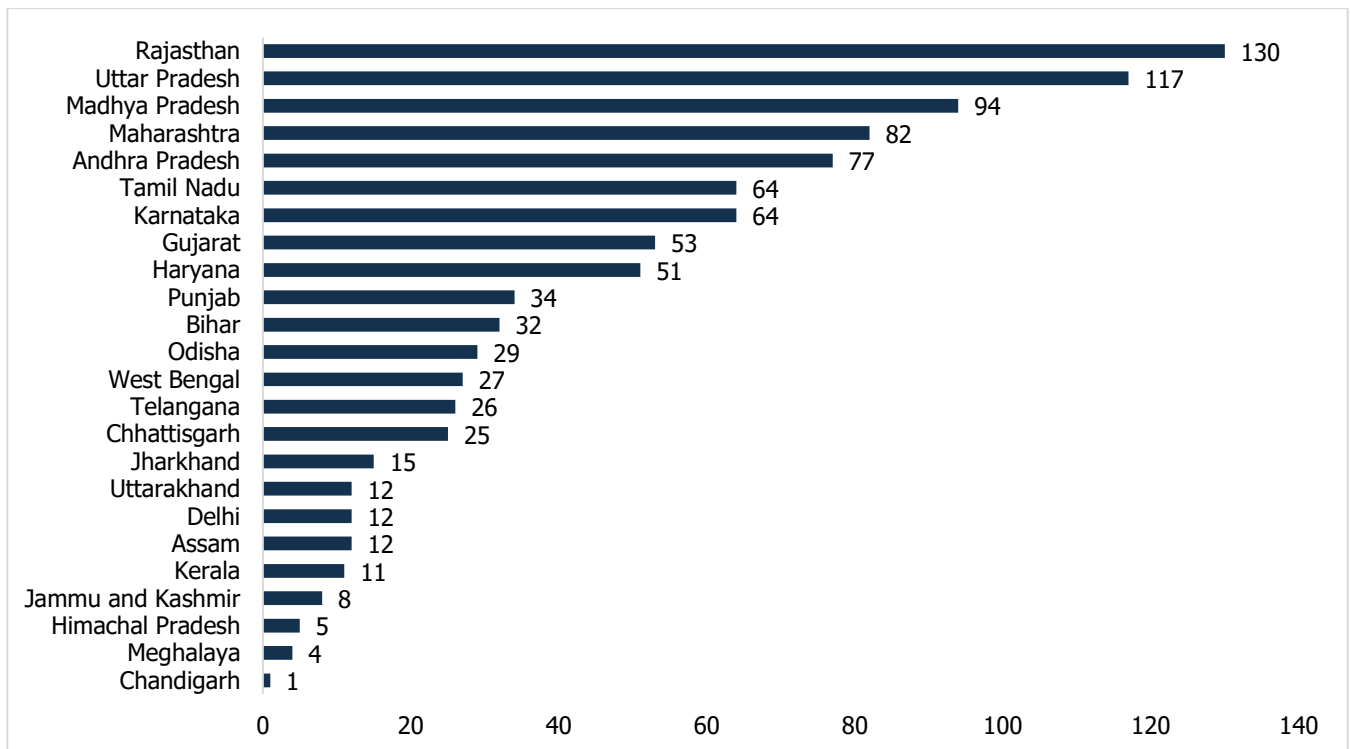
- 1. Initiation of User Fee Collection:** User fee collection typically commences within 45 days of the Commercial Operation Date (COD) of the National Highway Project, as per the National Highway Fee Rules of 2008. To facilitate this, all User Fee Plazas must be substantially completed, along with necessary infrastructure, at least 60 days prior to the COD.
- 2. Proposal Submission and Approval:** State Government Chief Engineers or relevant authorities such as NHAI/NHIDCL initiate proposals for issuing User Fee Notifications at least six months before project completion. These proposals, accompanied by essential details and draft notifications, are submitted to the Ministry for approval. Proposals seeking deviations from prescribed norms must be justified adequately.

3. **Approval and Handover Process:** After examination and approval by concerned Project Zones and the Toll Division of the Ministry, User Fee Notifications are published, authorizing NHAI or designated agencies to collect User Fees. Upon successful processing, NHAI assumes management responsibilities for tolling at the designated plaza, while the respective agency retains control over the highway section.
4. **Electronic Toll Collection (ETC) Compliance:** User Fee Plazas are mandated to be ETC compliant. NHAI is tasked with converting all lanes to Hybrid ETC compliant systems, ensuring dedicated lanes for vehicles equipped with ETC technology.
5. **Conversion and Implementation:** NHAI prepares proposals and cost estimates for converting Plazas to ETC compliance and engages vendors for implementation. Once approved, NHAI commences Plaza conversion works upon receipt of necessary approvals and funds.
6. **Timelines and Responsibilities:** The outlined procedures adhere to specific timelines and responsibilities, ensuring timely completion of toll plaza construction and ETC conversion well in advance of the COD.
7. **Applicability:** The contractual framework applies to both new highway projects and existing toll plazas, including BOT(Annuity), HAM projects, and ongoing BOT(Toll) projects.

This structured approach ensures efficient toll management and infrastructure maintenance, contributing to the overall effectiveness of India's national highway network.

6.7 Total Number of Toll Plaza in India and Key Players Managing Toll Plaza

Chart 28: Total Number of Toll Plaza in India



Source: NHAI

As indicated in the above chart, as of May 2024, Rajasthan has the highest number of toll plaza at 130, followed by Uttar Pradesh and Madhya Pradesh at 117 and 94 respectively. Maharashtra has the fourth highest number of toll plaza at 82. Whereas Chandigarh has the least number of toll plaza at 1.

Tolls are managed by concessionaires these are companies that are awarded contracts by the government to build and operate toll roads. They collect tolls from drivers in order to recoup their investment and make a profit. Toll roads are a way for the government to finance the construction and maintenance of roads without having to raise taxes.

Table 25: Key Players Managing over 60% of toll plaza

Concessionaire	Number of Toll Plaza Managed
NHAI	539
IRB	33
L&T	20
Ashirwad	16

Source: NPCI

NHAI is the largest concessionaire manages over 500 toll plazas, managing more than 50% of the total 985 toll plazas. IRB Infrastructure Developers Limited is the second largest concessionaire of toll plaza and manages over 30 national toll plazas, followed by Larsen & Toubro (L&T) that manages 20 toll plazas. Ashirwad Infrastructure Private Limited manages 16 toll plaza and Reliance Infrastructure Limited manages 15 toll plazas. As on June 2020, 115 entities were empaneled with the National Highways Authority of India (NHAI) as toll collecting contractors which increased to 122 as on June 2024, with Innovision Limited being one of them.

6.8 Key Trends & Drivers in the Industry

- Infrastructure Development:** The construction of new roads, highways, bridges, and expressways increases connectivity between cities and regions, encouraging more vehicles to use toll roads as they offer better quality and faster travel compared to alternative routes.
- Roads & Highways:** Growing freight movement, focus on national connectivity projects like Bharatmala Pariyojana, and increasing vehicle ownership will drive road and highway construction. Increasing urbanization drives the need for better transportation networks to accommodate growing populations. Road infrastructure development is closely linked to economic growth. Improved roads enhance access to markets, reduce transportation costs, and stimulate trade and commerce. Government funding and policies play a significant role in driving road infrastructure construction. Moreover, the collaboration between public and private sectors through PPPs can provide additional funding and expertise for road infrastructure projects, enabling their timely completion and maintenance.
- Economic Growth and Trade:** National highways serve as vital routes for the movement of goods and people across the country. As India's economy grows and trade activities expand, the demand for efficient transportation increases, leading to higher traffic volumes on national highways. National highways connect major industrial and commercial hubs, ports, and economic centers. As industrial and commercial activities flourish, there is a greater need for transportation of raw materials, finished goods, and personnel, resulting in increased toll traffic on these highways.
- Government Policies and Investments:** Government policies aimed at promoting infrastructure development, including highways, stimulate investment in road construction and maintenance. Public-private partnership (PPP) models for highway development and toll operation incentivize private sector participation, leading to the expansion of toll roads and increased toll traffic.
- Technological Advancements:** Implementation of electronic toll collection (ETC) systems such as FASTag improves toll collection efficiency, reduces congestion at toll plazas, and enhances the overall travel experience for motorists. The convenience of electronic toll payment encourages more motorists to use national highways, thereby boosting toll traffic.
- Improved Connectivity and pick-up in tourism:** Toll roads often offer better connectivity between major cities, tourist hubs, ports, and religious places. This enhanced connectivity attracts more traffic as businesses and individuals opt for faster and safer transportation options. National highways are often preferred for their better road quality, safety features, and faster travel times compared to state or district roads.

These factors collectively drive the growth of toll plaza at national highways in India, making toll roads an essential component of the country's transportation infrastructure.

6.9 Key Risks & Challenges faced by the Industry in India

Despite the government's continuous support by way of finance and tweaking PPP models many challenges still persist for the sector

- **Land Acquisitions:** Post Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2003, many land owners demand higher compensation and refuse to hand over possession of their land. With the Act coming into effect, the cost of land has increased, while in some cases, land cost is higher than the project cost.
- **Mismatches between Project Cashflows and Debt Repayment Tenure:** Revenue from large infrastructure projects is spread over 20-30 years whereas the loan for the same project is for 10-15 years. This results in cash flow mismatches in the initial years of operations till the project stabilizes and overall tenure mismatch between project cashflows and debt repayment, thereby resulting in private players funding cashflow mismatches from their own sources.
- **Projects Delays Impact on Financial Institutions:** As debt is on the rise due to the push for road projects, many projects get stuck or delayed, turning the loans into non-performing assets (NPAs), which leads to a contraction in the lending capacity of the banks.
- **Financial Stress:** Due to failed BOT projects on account of lower than-estimated traffic or delays in project completion due to approvals/ land acquisition, private players have come under financial stress due to significantly leveraged balance sheets in anticipation of high levels of project revenue growth.
- **Highly Stressed Loan Portfolios:** With lower than anticipated revenues, the private players' debt servicing capacity has been impacted. To mitigate the risk of failure of the company, restructuring of loans has been opted by the private players. Restructuring of loans for the first time does not impact asset classification but subsequent restructuring leads to NPA recognition in the books of financial institutions.

6.10 Peer Comparison

The following players in the Toll Management segment have been considered for peer benchmarking of Innovision Limited:

Table 26: Key Toll Management Peers

Name of the Company	Business Overview
Innovision Limited	INNOVISION's Toll Management focuses on implementing a unified and interoperable toll collection system for National Highways in India. Specializing in Toll Management, INNOVISION aims to facilitate seamless movement by offering efficient toll collection services nationwide. Furthermore, the company is empaneled with NHAI for collecting user fee collection at its various toll plazas'. It ensures a smooth collection process by minimizing exempted vehicles and reducing transaction times, enhancing the user experience.
Prakash Asphaltting's & Toll Highways (India) Ltd.	Prakash Asphaltting's & Toll Highways (India) Limited, established in July 1996, is a construction company in Central India's transportation and infrastructure sector. PATH focuses on its efficiency, effectiveness, high-quality projects, constructing roads and

Name of the Company	Business Overview
	bridges and works in both traditional EPC contracts and modern PPP models like BOT, DBFOT, OMT, Annuity, and HAM.
Skylark Infra Engineering Pvt. Ltd.	Skylark Infra Engineering Pvt. Ltd. specializes in Highway Operations and Maintenance (O&M), providing comprehensive services to ensure road safety and longevity. Their expertise includes routine maintenance, emergency response, and infrastructure repairs. Skylark's management and advanced technology integration ensure optimal performance and minimal disruptions.
Sahakar Global Limited	Sahakar Global Limited (SGL) is a major toll collection player in India, operating across 13 states with over 200 tolling projects. Founded in 1996 by Mr. Kishore Agrawal, SGL's key clients include NHAI, MSRDC, and various state PWDs. Initially focusing on octroi collection for Municipal Councils around Mumbai, SGL secured its first road toll project for NHAI in 2011.
M/s Eagle Infra India Ltd	Established in 1981, M/s. Eagle Construction Co. transitioned to EAGLE INFRA INDIA LTD., a Limited Company, in 2011. Accredited with ISO 9001-2008, it is a contractor for government departments. The company is present in various sectors including infrastructure development, highways, BOT and OMT projects, toll collection, and public utility services.
Feedback Highway OMT Pvt. Ltd	It operates under the Ezeeway brand, a subsidiary of Feedback Infra Pvt. Ltd., drawing on over 31 years of infrastructure expertise. Established in 2009, FHOMT is a provider of outsourced OMT services in India. FHOMT's services encompass OMT, periodic maintenance, ETC, User Fee Collection for NHAI, and Project Management for InVITs, including ticketing and cash management for Hyderabad Metro projects.
Ashmi Road Carriers Pvt. Ltd.	In 2020, Ashmi Road Carriers (ARCPL) adopted a balanced vertical integration approach, entering the toll plaza collection domain. Within a year, ARCPL's service delivery in toll management, route handling, and manpower supply enabled the profitable operation of more than five toll plazas across India.

Table 27: Comparison of Revenue from Operations (In INR Million)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	18,790.46	21,374.92	39,412.26	NA
Skylark Infra Engineering Pvt. Ltd.	6,497.69	12,126.71	18,910.72	NA
Sahakar Global Limited	1,301.80	21,080.00	27,714.10	NA
M/s Eagle Infra India Ltd	25,869.42	28,790.12	30,242.33	NA
Feedback Highway OMT Pvt. Ltd	2,230.60	2,384.96	2,913.66	NA
Ashmi Road Carriers Pvt. Ltd.	1,865.69	2,398.83	4,034.95	NA
Innovision Limited	1,612.90	2,097.70	2,555.40	5,103.26

Source: Audited financial statements, CAREEDGE Research

Table 28: Comparison of EBITDA (In INR Million)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	3,906.06	4,474.86	5,859.23	NA
Skylark Infra Engineering Pvt. Ltd.	514.44	925.84	1,426.18	NA
Sahakar Global Limited	555.35	610.70	851.80	NA
M/s Eagle Infra India Ltd	2,176.94	2,570.28	3,099.75	NA

Peers	FY21	FY22	FY23	FY24
Feedback Highway OMT Pvt. Ltd	160.81	67.49	74.92	NA
Ashmi Road Carriers Pvt. Ltd.	74.76	107.61	298.97	NA
Innovision Limited	100.40	106.80	145.01	180.61

Source: Audited financial statements, CAREEDGE Research

Table 29: Comparison of EBITDA Margin (In %)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	20.8%	20.9%	14.9%	NA
Skylark Infra Engineering Pvt. Ltd.	7.9%	7.6%	7.5%	NA
Sahakar Global Limited	42.7%	2.9%	3.1%	NA
M/s Eagle Infra India Ltd	8.4%	8.9%	10.2%	NA
Feedback Highway OMT Pvt. Ltd	7.2%	2.8%	2.6%	NA
Ashmi Road Carriers Pvt. Ltd.	4.0%	4.5%	7.4%	NA
Innovision Limited	6.2%	5.1%	5.7%	3.5%

Source: Audited financial statements, CAREEDGE Research

Table 30: Comparison of PAT Margin (In %)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	10.1%	13.3%	11.1%	NA
Skylark Infra Engineering Pvt. Ltd.	3.6%	3.3%	5.2%	NA
Sahakar Global Limited	10.2%	0.9%	1.4%	NA
M/s Eagle Infra India Ltd	3.3%	4.3%	4.7%	NA
Feedback Highway OMT Pvt. Ltd	3.6%	0.8%	1.7%	NA
Ashmi Road Carriers Pvt. Ltd.	1.2%	0.9%	2.2%	NA
Innovision Limited	3.4%	3.1%	3.2%	2.2%

Source: Audited financial statements, CAREEDGE Research

Table 31: Comparison of ROCE (In %)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	21.8%	22.7%	24.1%	NA
Skylark Infra Engineering Pvt. Ltd.	23.6%	33.3%	40.8%	NA
Sahakar Global Limited	12.0%	13.8%	20.8%	NA
M/s Eagle Infra India Ltd	24.4%	20.4%	16.6%	NA
Feedback Highway OMT Pvt. Ltd	35.0%	16.1%	16.9%	NA
Ashmi Road Carriers Pvt. Ltd.	27.5%	9.8%	17.0%	NA
Innovision Limited	26.6%	25.2%	28.5%	24.8%

Source: Audited financial statements, CAREEDGE Research

Table 32: Comparison of Cash Flow from Operations (In Millions)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	3,005.65	3,395.48	1,999.90	NA
Skylark Infra Engineering Pvt. Ltd.	489.55	579.93	1,375.94	NA
Sahakar Global Limited	482.09	498.80	585.70	NA

Peers	FY21	FY22	FY23	FY24
M/s Eagle Infra India Ltd	668.60	1,860.82	(2,128.60)	NA
Feedback Highway OMT Pvt. Ltd	164.22	(84.22)	129.70	NA
Ashmi Road Carriers Pvt. Ltd.	56.49	(160.75)	(465.89)	NA
Innovision Limited	(74.43)	16.68	34.46	61.82

Source: Audited financial statements, CAREEDGE Research

Table 33: Comparison of Total Debt (Short Term & Long Term- In Millions)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	6,061.28	6,104.17	9,875.91	NA
Skylark Infra Engineering Pvt. Ltd.	1,487.83	1,929.95	2,522.83	NA
Sahakar Global Limited	2,384.15	2,273.50	2,216.50	NA
M/s Eagle Infra India Ltd	3,772.71	7,902.07	11,378.41	NA
Feedback Highway OMT Pvt. Ltd	331.65	265.79	163.72	NA
Ashmi Road Carriers Pvt. Ltd.	269.74	648.34	1,387.85	NA
Innovision Limited	255.00	296.50	303.30	481.46

Source: Audited financial statements, CAREEDGE Research

Table 34: Comparison of Net Worth (In Millions)

Peers	FY21	FY22	FY23	FY24
Prakash Asphaltting's & Toll Highways (India) Ltd.	6,956.89	9,842.17	14,218.02	NA
Skylark Infra Engineering Pvt. Ltd.	1,378.93	1,783.00	2,772.36	NA
Sahakar Global Limited	2,961.23	3,144.20	3,539.40	NA
M/s Eagle Infra India Ltd	4,250.77	5,560.09	6,994.66	NA
Feedback Highway OMT Pvt. Ltd	359.14	376.74	424.30	NA
Ashmi Road Carriers Pvt. Ltd.	183.85	220.07	364.80	NA
Innovision Limited	261.20	306.91	394.74	524.18

Source: Audited financial statements, CAREEDGE Research

1. Comparing the Revenue from Operations, the peer group's average year-on-year growth for FY23 was 41.3%, driven by significantly high growth from Prakash Asphaltting's & Toll Highways (India) Ltd., Ashmi Road Carriers Pvt. Ltd. and Skylark Infra Engineering Pvt. Ltd., while Innovision recorded a respectable growth rate of 21.8%. For FY21-23, the peer group's average CAGR was 81.7%, with Sahakar Global Limited as the outlier, whereas Innovision Ltd achieved a growth rate of 25.9%.
2. Comparing the EBITDA, the peer group's average year-on-year growth for FY23 was 53.3% primarily because of ASHMI Road Carriers being the outlier, while Innovision Ltd saw a growth rate of 39.4%. Additionally, the peer group's average CAGR for FY21-23 was 31.7%, whereas Innovision Ltd achieved a growth rate of 21.8%, hence surpassing the peer average.
3. Innovision Ltd along with Ashmi Road Carriers Pvt. Ltd. and M/s Eagle Infra India Ltd experienced a healthy y-o-y growth in EBITDA margin at 13.7%, 65.2% and 14.6% respectively. Additionally, the peer group's average CAGR for FY21-23 was negative at (-12.6%), except for ASHI Roads Carriers which scored a margin of 36.0%, whereas for Innovision Ltd, it was (3.3%).
4. For the FY22-23 period, Innovision reported the second highest ROCE at 25.2%, and 28.5% for FY22 and FY23 respectively. The peer averages were 24.4%, 20.2%, and 23.5% for the FY21, FY22 & FY23 respectively.

7. Drones Market in India

7.1 Overview of Structure of Drone Industry in India

A drone, commonly known as UAV (Unmanned Aerial Vehicle) is an aircraft without any human pilot, crew or passengers on board. A drone is essentially a remote controlled, autonomously software controlled or both; flying robot that works in conjunction with onboard sensors and global positioning system (GPS).

Chart 29: Evolution of Drones

Origin of Drones: 1800-1940

- 1849- Drone technology invented as balloons in Austria
- 1917- Military drones first used in World War 1
- 1936-Federal Aviation Administration (FAA) – US Drone Program
- 1939-First Remote Control aircraft developed by US Navy

Rise of Consumer Drone: 2006-2016

- 2006- Drones allowed to be used in civilian airspace by US Govt.
- 2010- First UAV controlled by a smartphone
- 2013- Drones being used to shoot films and aerial photography
- 2014- Amazon announced drones to make deliveries

Research & Development: 1940-2006

- 1947- R&D for surveillance started gaining popularity
- 1973- Two unmanned surveillance development by Israel
- 1985- Large scale UAV development programme by US military
- 1986- Development of medium sized UAV by IS & Israel

- 2016- Disney using 300 drones for light show
- 2017- Development of solar powered drones by Facebook
- 2018- Research on drone began in US, China, Israel
- 2020- During Covid-19, drones used for first aid, Lightweight and compact drones gained popularity
- 2021- FAA reports; 90k+ drones registered in US
- 2022- Sea air integrated drone showcased by Japanese Co.

Source: CAREEDGE Research

The first drones were actually balloons, torpedoes, and aerial targets. In 1849, 200 incendiary balloons were dropped by the Austrian Navy to capture Venice.

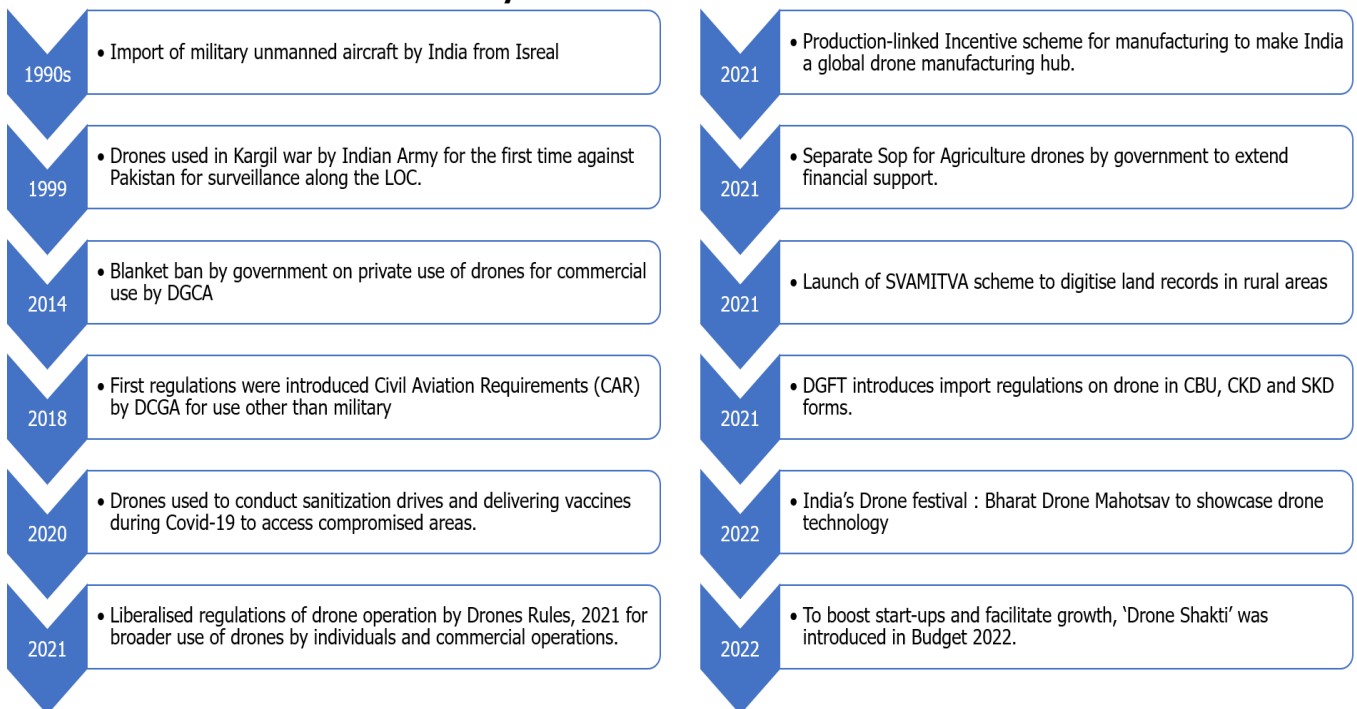
The first pilotless vehicle was used during the World War 1 and was developed in Britain and USA. The first pilotless vehicle that was tested was the Britain's Aerial Target in March 1917, which was a small radio-controlled aircraft. Later, in October 1918 the American aerial torpedo known as Kettering Bug was tested. Even though both of these were tested, they weren't operational during the war.

In 1935, a number of radio-controlled aircraft were produced in Britain as targets for training purposes. The term drone was used during this time inspired from one of the models that was DH.83B Queen Bee. The drones for survey and other military purpose were first deployed in the Vietnam War on large scale.

Following the war, drones were used for a variety of purposes like decoys in combat, launching missiles against fixed targets, dropping leaflets, etc. The endurance and ability to maintain the greater height were improved as new models became sophisticated. Drones now have various uses from monitoring climate change to carrying out search and rescue operations, photography, videography, delivering goods, inspection and data collection, etc. The use of commercial drone started in 2006, when the Federal Aviation Administration started issuing its first commercial drone permit.

Evolution of Drone Industry in India

Chart 30: Evolution of Drone Industry in India



Source: CAREEDGE Research

7.2 Market Structure in Value Terms of Drones Industry in India

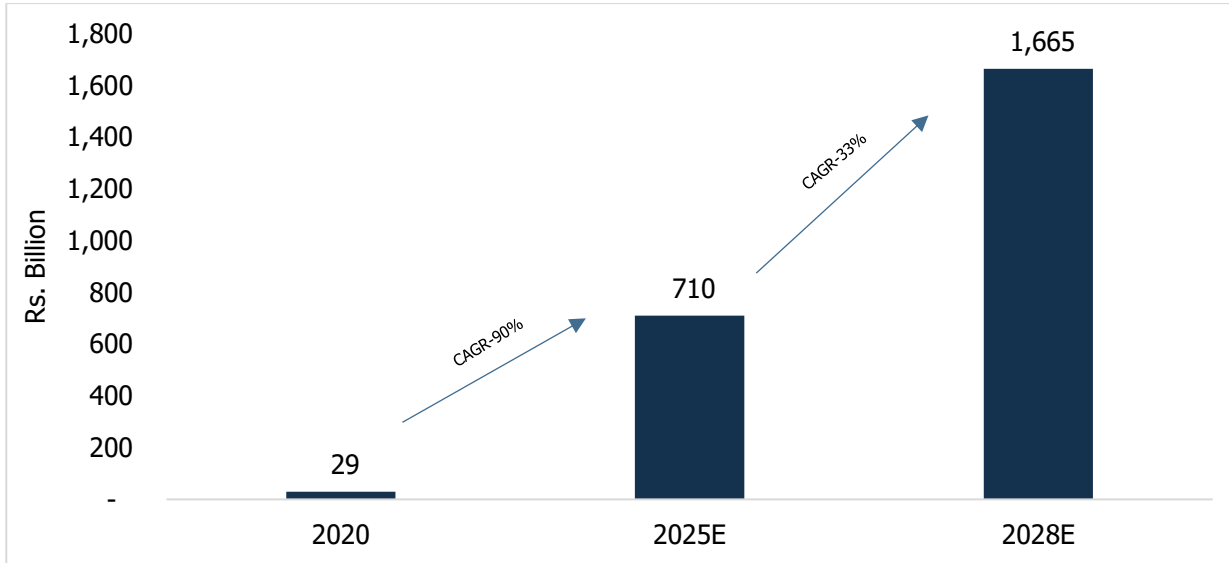
8.2.1 Market Potential of the Indian Drone Industry

The drone industry in India is at a nascent stage and is evolving. Initially drones were used as defence equipment in India, and its uses have expanded over time.

Drones market is made up of drone hardware, software and service market. Services can be availed on subscription basis, while hardware and software can be bought and leased, with hardware currently commanding a major share of the market.

As of CY2020, the size of Indian drone industry was estimated to be Rs. 2.9 billion with defence as the major end-user segment. However, the use of drones in non-defence applications such as agriculture is on the rise supported by government initiatives.

Chart 31: Indian Drone Market Size



Source: CAREEDGE Research

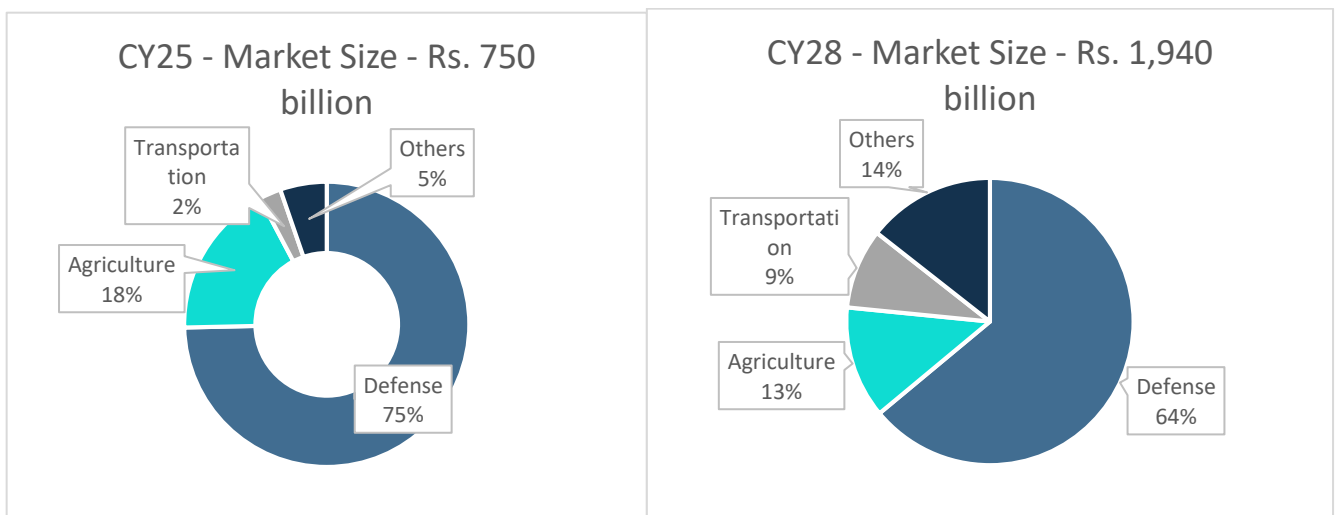
Note: This does not include exports

8.2.2 Outlook of the Indian Drone Industry

The Indian drone industry (domestic use and exports) is expected to reach a market size of around Rs. 750 billion by CY25 and Rs. 1,940 billion by CY28. The domestic drone market (excluding exports) is expected to reach Rs. 710 billion by CY25 and Rs. 1,665 billion by CY28 with an implied CAGR of 90% between CY20-25 and 33% between CY25-28. While defence is expected to remain the largest consuming segment in the domestic market, its share is expected to decline from 85%+ currently to 75% in CY25 and 64% in CY28.

The next highest end-user segment is expected to be agriculture, where the share of around 18% in CY25 and 13% in CY28.

Chart 32: Domestic Drone Market – Market Size for CY25 and CY28



Source: CAREEDGE Research

The drone sector has been witnessing significant support and push from the government of India for manufacturing of drones and drone components. The liberalization of the drone’s usage guidelines and ban on the imports of drones has resulted in the quick growth in the industry. The Government of India’s ‘Atmanirbhar Bharat’ initiative is expected to drive the support for domestic manufacturing and support the domestic enterprises with the help of policies and regulatory interventions.

The Government of India aims to make India a global manufacturing hub for drones by 2030 and hence exponential growth is expected in the sector. The goal of the government is to enhance the entire value chain of drones' industry including research and development, testing, production, operations and exports of the drone and drone equipment and establish India a global powerhouse in this segment.

The rise in defence budgets coupled with increasing adoption of drones for surveillance, logistics, combat etc. will drive the procurement of drones by the Ministry of Defence. The increase in adoption of drones for non-defence purposes i.e. by consumers and enterprises is expected in coming years. India is currently in the experimental stage and is exploring the uses of drones across various sectors. The most prominent end-users in non-defence are the agriculture, photography and videography, energy utilities, disaster management, geospatial mapping and by the law enforcement industries.





The drones' sector is also expected to open various employment opportunities in the manufacturing, services and software sector as the sector sees tremendous growth in the coming years.

7.3 Types of Drones and Qualitative Overview of Key Drone Application Industries/ Use Cases

There are various components in the drones such as electric speed controllers, flight controller, GPS module, antenna, receiver, cameras, sensors (ultrasonic and collision avoidance), accelerometer, altimeter and battery. Feature based drones include other components like high performance cameras, AI (Artificial Intelligence), augmented reality, media storage, hover accuracy, live video feed, flight logs, etc.

Another type of drones is under water drones. There are called ROVs (Remotely Operated Vehicles) and are unoccupied underwater robot that is connected to a ship/vessel with a help of series of cable. These cables transmit the signals for commanding and controlling the ROV. ROVs are generally used for underwater exploration and science, inspections, search and rescue, etc.



Majorly there are four main types of drones as mentioned in the following table:




Type	Description	Application	
Single Rotor	These are strong and durable drones and look like actual helicopters in structure and design. This type of drone has just one rotor which looks like a big spinning wing, plus a tail rotor to control direction and stability.	Carry heavy payloads, survey purposes	
Multi-Rotor	These are one of the easiest and cheapest available option. These drones have more than one motor, more commonly tricopters (3 rotors), quadcopters (4 rotors), hexacopters (6 rotors) and octacopters (8 rotors).	Can be used for all purposes including aerial photography and video	
Fixed-Wing	These energy efficient drones have one rigid wing that is designed to look and work like an aeroplane. This drone only needs the energy to move forward and not to hold itself in air.	Aerial mapping, surveys, agriculture and construction purposes, surveillance	
Fixed Wing Hybrid	These drones are hybrid of fixed wing and rotor-based designs. It has rotors attached to the fixed wings, allowing it to hover and take off and land vertically. These drones are typically used for delivery purposes.	Delivery	

Source: Trade Promotion Council of India, CAREEDGE Research

Some of the other types of drones are tactical, reconnaissance, large-combat, non-combat, target and decoy, GPS and photography drones.

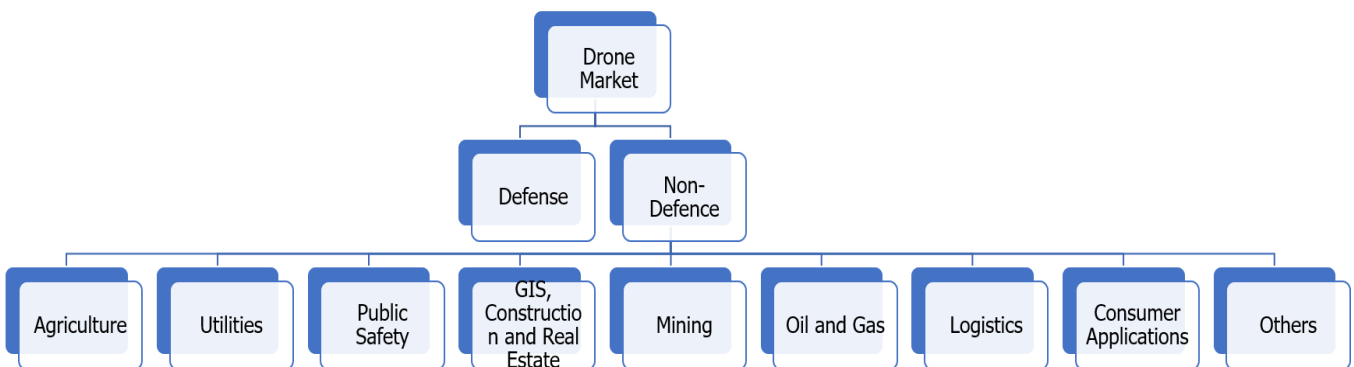
The applications of drone are broadly divided in four categories: surveillance, mapping, inspection and delivery.

	Surveillance	Drones in surveillance are used for high performance aerial vision and providing real time feed during the day and night. They provide a bird's eye view of larger areas, and when equipped with advanced features, they can provide with features like target detection, tracking and moving target indicator.
	Agriculture	Drones in agriculture are being used for crop spraying of fertilizer and pesticide, crop monitoring, geo fencing, plantation, soil and field analysis, to monitor the growth of the crop, livestock management, etc.

	<p>Mapping</p>	<p>Drones in mapping purposes are used by surveyors and geographic information system (GIS) services by way of aerial photography. They are able to survey unreachable areas and provide high resolution maps and images in safe and cost-effective way. Drones can be used for mapping in mines exploration/planning, physical terrain mapping, contour mapping, 3D modelling, etc.</p>
	<p>Inspection</p>	<p>Drones used in inspection are replacing risky, labor intensive human work. Inspections of property, railway, bridge, pipeline can be carried out with the help of drones.</p>
	<p>Delivery</p>	<p>Drones can be used in delivery services for delivering drugs, packages, groceries, food and other home/healthcare supplies.</p>

The potential of using drones across multiple use cases have been increasing and ultimately the growth of drones in a particular sector is driven by its benefits. The applications are divided into military and civil applications.

Chart 33: Drone market segmentation by end use



Source: CAREEDGE Research

7.4 Key Trends & Drivers in the Industry

- **Steady Procurement by Defence**

As mentioned in earlier section, the Indian defence budget has been increasing steadily over the past few years. Further, the adoption and usage of drones by the defence forces has been on a rise especially for surveillance purposes due to the escalated tensions on the west and east borders. There is also opportunity for counter drone and anti-drone system. The need for counter drone has further advanced after the UAV attack on Indian Air Force in Kashmir. Domestic procurement has increased due to advent of multiple high-quality manufacturers and is expected to increase going forward given the strength and abilities that drones bring to a country’s defence establishments. Further, defence tenders have a minimum indigenous component criterion which will also boost the drone component industry.

- **Increasing Adoption by Commercial End-users**

There has been exponential growth in the commercial UAV market, due to drones being widely used in sectors like agriculture, forestry, mining, infrastructure, construction, roads/highways, e commerce, security, rural and urban development projects, etc. The application of drones in these sectors include surveillance, inspection, monitoring and data collection.

As the end users gradually explore and understand the benefits of using drones including lower labor requirement, human safety, lower time requirement, ability to access difficult terrain etc., the penetration of drones in the commercial segment will increase. The government, through various fairs and outreach programmes, is also taking efforts to increase awareness of drones in various commercial segments.

- **Growth of Drone-as-a-Service**

Some of the more cost-conscious end-users may find the drone to be expensive, along with its operational and maintenance expenses. Hence a lot of companies are opting for drone-as-a-service model where the drones are hired/scheduled for on demand flights and customers can also opt for a 'pay per use' model. The drone-as-a-service model is gaining huge traction since enterprises can optimize the use of drone without the hassle of owning the hardware, software or trained pilots. The drone-as-a-service model has increased efficiency and lower costs.

- **Low operation cost**

When compare to conventional methods, there are significant lower costs in operation of drones, when used at optimum scale of operation, due to lower fuel and labor costs. Drones are able to cover greater geographical areas at lower costs and in comparatively a lot lesser time is required. They can also reach terrain that are difficult to reach otherwise and would require additional resources and workers to work in dangerous environment.

With additional technologies and software, drones are able to provide better quality images and data.

- **Environmentally friendly**

Drones are battery-operated devices which make them environmentally friendly. They are also rechargeable and can work on renewable energy sources.

- **Advancement in technology**

There are new emerging products/services with the new technology advancement and standardization of mapping, surveillance, etc. Drone services have begun in software solutions, which will complement data collection with Big Data, ML, AI, cloud and analytics to offer full-stack solutions. The sector is also expected to grow further due to development in custom built and technologically advanced variants of the drones.

- **Drones for leisure and Travel**

Consumer drones are expected to increase due to growing popularity of aerial capturing, videography and photography. Drones will be used for personal uses in the near future for film making, videography, film making, recording, photography, gaming, leisure, etc. Drones will come in all sizes and shapes, small to inexpensive devices to larger devices multiple cameras, GPS, first person control, etc.

7.5 Key Risks & Challenges faced by the Industry in India

- **Approval requirement**

In India, all commercial drones must be registered with DGCA and the operators need to have license to fly them. Drones used in public events need to have a UIN (Unique Identification Number) or permit from the government and should only take off when given permission from the Digital Sky Platform. The operators must also need to complete a training course from required DGCA approved institute.

All drones (except Nano in uncontrolled airspace up to 50ft) before their operations require mandatory permission. The permission is automatically granted or rejected through the Digital Sky "No Permission-No Takeoff" (NPNT).

Obtaining these approvals is a cumbersome process and may pose a challenge as the industry gathers scale.

- **Privacy Issues**

Due to various features like video surveillance, sensors that detect sounds, magnetic fields etc, the UAV can collect abundant data. There is a chance that sensitive information may end up in wrong hands. There is also menace for unauthorized drones.

The drones use cameras to record videos and pictures and many people are discontent over being captured without permission. There is a need for rules to prevent drones from invading people's privacy.

- **Safety Issues**

Commercial drones rely on global positioning (GPS) technology for navigation and hence this gives the controller accurate data on the location of vehicle however the GPS system fails to alert the controller of the surrounding areas. UAV's can interfere with the flight patterns of other aircraft and pose a potential safety threat.

The drones also have a potential to fall when they are at great heights due to limited battery power at a time and can pose a risk to people and property.

- **Weather Dependence**

Weather conditions can be unfavorable for drones like rains, strong winds, and cold temperatures can affect the flight of the drones. The operations of the drones are dependent on the weather conditions unless the technology develops to overcome and communicate it beforehand.

- **Consistent airspeed and steady capacities**

For accurate data and output, the drones need to fly at consistent height and speed with a lot of precision. It is a challenge since the technology has not advanced that much along with limited battery life. Activities like inspection, surveillance, cinematography require consistent speed and flight for precision output.

- **Cross Border Risk**

There is cross border risk exists for drones where drones are used to supply of illegal substance across borders. This is major internal and external security concern for India.

- **Supply Chain Issues**

There has been supply chain issues in the drone sector since most of the drones and components are imported. India is does not have the technology and components for its manufacturing. There are various initiatives by the government to push for indigenous manufacturing like the PLI scheme and band on import of drones.

- **Technological Disruptions**

The drone market is high-tech and continuously evolving, every application sector of the drone has its own technological specifications requirements in terms of power, speed, carrying capacity, battery life, etc. There are various technological challenges faced with the upgradations and accessing and analyzing the information. Safety is one of the major technological challenge specially in air traffic management and automated drones piloted by the AI.

7.6 Key Regulations Governing use of Drones in India and Overview of Key Initiatives by the government to encourage drone manufacturing in India.

Drone Rules 2021

On Aug 2021, Government of India released the 'Drone Rules, 2021' which allowed the use of drones commercially and made the drone market more liberal and conducive for various user segments thus boosting its market. The Drones Rules 2021 is the new improved version of the Unmanned Aircraft System (UAS) Rules 2021 where there was excessive licensing and permissions required for research & development, manufacturing, importing & exporting, and operating drones.

The government aims to liberalize the drone market and aid use of drone technology by individuals and businesses.

Key features of the Drone Rules 2021 are as follows:

- Reduction in the licensing fees irrespective of the drone size.
- For non-commercial micro drones and nano drones, no pilot license is required.
- Relaxation on various approvals and certificates like unique authorization number, unique prototype identification number, certificate of manufacturing and airworthiness, certificate of conformance, certificate of maintenance, import clearance, acceptance of existing drones, operator permit, authorization of R&D organization, student remote pilot license, remote pilot instructor authorization, drone port authorization, etc.
- Number of forms reduced from 25 to 4.
- Easy process of transfer and deregistration of drones.
- Setting up of drone corridors for cargo deliveries and promotion council for business communications.

- Removal of flight permission requirements up to 400 ft in the green zones and up to 200 ft in areas ranging 8-12 kms from the airport perimeter.
- Digital sky platform being developed which is a user-friendly single-window system. The human interface will be minimal and the permissions will be self-generated.
- Requirement of import clearance from Directorate General of Civil Aviation (DGCA) removed and import of drones regulated by DGFT.
- DGCA shall provide drone training, requirements, overseas drone schools and pilot licenses online.
- No restriction on foreign ownership in Indian drone companies.
- Drone promotion council to be set up by government with participation from academia, start-ups and other stakeholders to facilitate a growth-oriented regulatory regime.

SVAMITVA Scheme

The Svamitva scheme – Survey of Villages and Mapping with Improvised Technology in Village Areas, is a government initiative to enable property validation solutions in rural areas using modern drone technology. Technologies like drone surveying and Continuous Operating Reference Station (CORS) are used for demarcation of rural areas. The scheme is applicable in Haryana, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh and Uttarakhand.

With the help of drones, inhabited rural areas would be mapped and drones would generate high resolution and accurate maps to confer ownership of the property rights.

Regulation on Import of Drones

Earlier import clearance was required from the DGCA which has been abolished now. The import is regulated by the DGFT. According to the notification dated Feb 2022 issued by the DGFT, the imports of completely built-up (CBU), semi-knocked-down (SKD) or completely knocked-down (CKD) is prohibited while the import of drone components is permitted.

Production linked Incentive (PLI) Scheme for drones and Drone Components

The Production linked incentive scheme was notified by the government on September 30, 2021 for manufacturing of drones and drone components. The scheme and the new drone rules are introduced for creating growth in the upcoming drone sector and make India a global manufacturing hub by 2030.

Key features of the PLI scheme are as follows:

- The scheme has a total allocated amount of Rs 1.2 billion spread over 3 years.
- There is a 20% of incentive on the value addition by the manufacturer on drones and its components which is constant for all three years.
- The PLI scheme covers wide range of drone components including airframe, propulsion systems, power systems and batteries, inertial measurement unit, navigation system, communication systems, camera, sensors and spraying system, detect and avoid system, etc.
- The government has also included incentive system to include developers of drone-related IT products.

Table 35: Estimated Payouts of PLI for drones and drone components (INR Billion)

Year	Sales-Net of GST	Purchase-Net of GST	Eligible value additions	PLI rate for value additions	Applicable PLI	Disbursement Year
FY 21-22	2.0	1.2	0.8	20%	0.16	FY 22-23
FY 22-23	4.0	2.4	1.6	20%	0.32	FY 23-24
FY 23-24	9.0	5.4	3.6	20%	0.72	FY 24-25
TOTAL	15.0	9.0	6.0	20%		

Source: PIB, CAREEDGE Research

Drone (amendment) Rules, 2022

The Ministry of Civil Aviation has issued the Drone (Amendment) Rules, 2022 as an amendment to the Drone Rules, 2021. The major change under the Drone (amendment) Rules, 2022 is that the drone pilot license requirement is abolished with effect from 11th Feb 2022. Earlier individuals were required to obtain a valid remote pilot license issued by the DGCA for operating a drone. As per the Drone (Amendments) Rules, 2022, a remote pilot certificate by the authorized remote pilot training organization permits the individual to operate a drone. This simplifies the requisite approval process.

Other Developments:

- **Digital Sky Platforms**

The Digital Sky Platform was launched by the Ministry of Civil Aviation, and it is unmanned traffic management (UTM) system to facilitate registration and licensing of drones and operators. The clearances are instant and online. The registration will be online for pilots, devices, service providers and NPNT (no permission, no take-off) through the Digital Sky Platforms.

The standard operating procedures (SOP) and training procedures manuals (TPM) will be prescribed by the DGCA for self-monitoring users on the platform. There are no approvals required unless there is a significant departure from the prescribed procedures.

- **Drone Aerospace Map**

The drone aerospace map was published on 24th Sep 2021, which shows that 90% of India is in green zone i.e. there is no permission required to operate a drone. The mapping created by DGCA is interactive and will act as a backbone for drone operators to check the no-fly zones. The map is available at the DGCA's digital sky platform.

The zones specified in the Drone Aerospace Map are as follows:

Table 36: Zones defined as per the Drone Aerospace Map

Type	Definition	Permission to Operate
Red	Airspace of defined dimensions, above the land areas or territorial waters of India, or notified port limits	Central Government
Yellow	Airspace above 400 feet in designated green zone, and airspace above 200 feet in area between lateral distance of 8 km and 12kms from the perimeter of an operational airport.	Air Traffic control Authority
Green	Up to 400 feet excluding red and yellow zones	No permission for all-up weight up to 500 kg

Source: Digital Sky, DGCA, CAREEDGE Research

- **Drone Shakti**

Drone Shakti was introduced in Budget 2022 to facilitate the growth of the drone sector along with liberalization of drone rules. Drone Shakti is an integrated office in Ministry of Civil Aviation to facilitate faster growth, coordination and approvals.

The Union government pushed for promotion of drones through startups and skilling at Industrial Training Institutes (ITIs). Startups will be promoted to facilitate 'Drone Shakti' through varied applications and for Drone-as-a-Service.

- Agriculture drones monetary grant program- Kisan Drones

The government has approved the use of drones in agriculture sector for various activities including spraying of pesticides and insecticides using drones. For promotion of Kisan Drones, the following promotions have been made under the guidelines of Sub-Mission on Agricultural Mechanism (SMAM):

- Financial assistance of 100% of the cost of the drones up to a maximum of Rs 1 million per drone is provided for purchase of drones.
- In order to make available drones services to farmers on rental basis. financial assistance of 40% up to a maximum Rs. 0.4 million are provided for purchase of drones.

- For purchase of drones on individual ownership basis, financial assistance of 50% up to a maximum of Rs 5 lakhs.

A total of Rs. 1,291.9 million have been released towards Kisan Drones promotion including Rs. 525 million released to the ICAR for purchase of 300 Kisan Drones and organizing their on-field demonstrations to the farmers.

- **Remote Pilot Training Organization (RPTO)**

The DCGA Remote Pilot Training Organization provides training to individuals for becoming certified remote pilots in India. The national aviation authority i.e. DGCA has approved RPTOs to provide the training and certification. The goal of the institute is to provide individuals with knowledge and skills necessary to becoming certified remote pilots.

Impact of the Government Rules and Incentives:

The Drone rules are based on minimum compliance and self-monitoring. The aim of the rules is to balance technological advancement with safe and secure drone operations. The Digital Sky platform is a single window online platform that has eased the process of obtaining approvals. The interactive airspace ensures a safe and security by dividing the airspace in zones requiring prior approvals.

Foreign companies are being encouraged to invest in India by allowing foreign-owned and controlled Indian companies for manufacturing and operating drones. This will ensure advanced know-how and technologies in India. As per Invest India, the Production Linked Incentives Scheme is expected to attract investments of over Rs. 500 billion in the next five years. The Civil Aviation Ministry also expects that the Indian Drone industry to achieve Rs. 120-150 billion turnovers by 2026 creating 10,000 job opportunities.

The government has banned import of drones in India with exception of import of drone components. This essentially means that the domestic manufacturers do not need approval from DGFT to import the components. This will boost the domestic drone manufacturing and drone component manufacturing industry along with the incentives through the PLI scheme.

There has been a massive push to the drone industry in the recent years. The government is aiming to create India a global hub by 2030 of not only drone manufacturing but also of the drone service sector. Businesses and startups are expected to increase the investments in the sector due to the surge in demand from various sectors like agriculture, Defence, retail, e-commerce, etc.

Remote Pilot Certificate (RPC)

In order to operate drone in India the Remote Pilot Certificate (RPC) is the mandatory certification for flying drones in India. To obtain an RPC, individuals must undergo training from a DGCA-authorized Remote Pilot Training Organisation (RPTO).

The DCGA Remote Pilot Training Organization provides training to individuals for becoming certified remote pilots in India. The national aviation authority i.e. DGCA has approved RPTOs to provide the training and certification. The goal of the institute is to provide individuals with knowledge and skills necessary to becoming certified remote pilots.

The list of DCGA approved RPTO are as follows:

Sr. No.	Institute Name	State
1	Aarav Unmanned Systems Private Limited	Karnataka
2	Academy of Carver Aviation Pvt. Ltd.	Maharashtra
3	Acharya N.G. Ranga Agricultural University	Andhra Pradesh
4	AdiSa Drona Pvt. Ltd.	Maharashtra
5	Aeroaeon Avionics Private Limited	Chhattisgarh
6	AeroDrone Robotics Private Limited	Haryana
7	Aerophile Academy Pvt. Ltd.	Karnataka

Sr. No.	Institute Name	State
8	Aerotech Destination Private Limited	Haryana
9	Agni Aero Sports Adventure Academy	Karnataka
10	Airbus Group India Pvt. Ltd.	Karnataka
11	AITMC Ventures Ltd	Haryana
12	Aman Aviation and Aerospace solution Pvt. Ltd	Maharashtra
13	Asia Soft Lab Private Limited	Kerala
14	Assam Electronics Development Corporation Limited	Assam
15	Autonomous Unmanned Aerial Systems Private Limited	Kerala
16	Blue Ray Aviation Private Limited	Gujarat
17	CASR Anna University	Tamil Nadu
18	Center for Aerospace Research	Karnataka
19	Centurion School of Rural Enterprise Management Trust	Andhra Pradesh
20	Centurion University of Technology and Management,	Odisha
21	Cerebrospark Academy Private Limited	Maharashtra
22	Clearskies Learning & Research Pvt Ltd	Karnataka
23	CSC ACADEMY	Haryana
24	Defy Aerospace Private Limited	Karnataka
25	DROGO DRONES PRIVATE LIMITED	Andhra Pradesh
26	Dronachariya Drone Academy LLP	Uttar Pradesh
27	DRONE ACADEMY PVT LTD	Telangana
28	DroneAcharya Aerial Innovation Limited	Rajasthan
29	DroneAcharya Aerial Innovation Limited	Punjab
30	DroneAcharya Aerial Innovations Pvt. Ltd.	Maharashtra
31	Drone Acharya Udaan LLP	Uttar Pradesh
32	Drone Destination Limited	Uttar Pradesh
33	Drone Destination Private Limited	Uttar Pradesh
34	Drone Destination Private Limited	Punjab
35	Drone Destination Private Limited	Haryana
36	Drone Guru India Technologies Private Limited	Haryana
37	Drone Imaging & Information Services of Haryana Limited	Haryana
38	DroneLab Technologies Private Limited	Madhya Pradesh
39	DroneLab Technologies Private Limited	Gujarat
40	Drone Sphere Private Limited	Rajasthan
41	DRONETECH SOLUTIONS PRIVATE LIMITED,	Maharashtra
42	Drone Van Private Limited	Uttar Pradesh
43	Droneverse Aviation Private Limited	Madhya Pradesh
44	Droneverse Aviation Private Limited	Haryana
45	Dronier Avigation Private Limited	Bihar
46	Flapone Aviation Private Limited	Haryana
47	Flytech Aviation Academy	Telangana
48	Fore Institute Of Drone Technology And Research	Haryana
49	Ganpati Aviation Solutions	Haryana
50	Garuda Aerospace Private Limited	Chennai
51	Government Aviation Training Institute	Haryana
52	Indian Institute of Technology	Assam
53	Indira Gandhi Rashriya Uran Akademi	Tamil Nadu
54	Indira Gandhi Rashriya Uran Akademi	Tamil Nadu
55	Indira Gandhi Rashriya Uran Akademi	Madhya Pradesh

Sr. No.	Institute Name	State
56	Indira Gandhi Rashtriya Uran Akademi	Haryana
57	Indira Gandhi Rashtriya Uran Akademi	Madhya Pradesh
58	Indira Gandhi Rashtriya Uran Akademy	Karnataka
59	Indira Gandhi Rashtriya Uran Akademy	Himachal Pradesh
60	IOTECHWORLD AVIGATION Private Limited	Haryana
61	J VE KONNECT PRIVATE LIMITED (OPC)	Maharashtra
62	Karnataka State Police Remote Pilot Training Institute	Karnataka
63	Kasegaon Education Societys Rajarambapu Institute of Technology	Maharashtra
64	Kaushalya The Skill University	Gujarat
65	KITE AERO PRIVATE LIMITED	Gujarat
66	Marut DroneTech Private Limited	Telangana
67	Mahatma Phule Krishi Vidyapeeth	Maharashtra
68	MULTIPLEX DRONE PRIVATE LIMITED	Karnataka
69	Naini Aerospace Limited	Uttar Pradesh
70	NEOSKY INDIA LIMITED	Karnataka
71	North East Centre for Technology Application and Reach	Assam
72	OVCT Venture Pvt Ltd	Haryana
73	PAVAMAN AVIATION PRIVATE LIMITED	Telangana
74	PBC's AERO HUB	Maharashtra
75	Phoenix Drone Flying LLP	Haryana
76	Pioneer Flying Academy Pvt. Ltd	Uttar Pradesh
77	PJTSAU Drone Academy	Hyderabad
78	RAO INDUSTRIES	Maharashtra
79	Raxa Security Services Ltd	Andhra Pradesh
80	REDBIRD FLIGHT TRAINING ACADEMY PRIVATE LIMITE	New Delhi
81	Rotorize Aviation Private Limited	Maharashtra
82	RRU – DroneAcharya	Gujarat
83	Sanskar Dham Campus	Gujarat
84	Shaurya Drone Pvt Ltd	Uttar Pradesh
85	SIPNA Shikshan Prasarak Mandal	Maharashtra
86	Skyvan Aviation (OPC) Private Limited	Odisha
87	Skyview UAV LLP	Gujarat
88	Soaring Aerotech Private Limited	Madhya Pradesh
89	SPH Aviation Private Limited	Haryana
90	Sri Eshwar Drone tech Pvt Ltd	Coimbatore
91	Tamil Nadu Agriculture University	Tamil Nadu
92	TaraMitra Drone Academy Private Limited	Maharashtra
93	TARA UAV Private Limited	Hyderabad
94	Telangana State Aviation Academy	Telangana
95	Terna Public Charitable Trust	Maharashtra
96	The Bombay Flying Club	Maharashtra
97	ULTIMATE ENERGY RESOURCE PRIVATE LIMITED	Madhya Pradesh
98	Vama Skylight LLP	Daman & Diu
99	Virginia Tech India Research and Education Forum	Chennai
100	Vision Leap Technologies	Himachal Pradesh
101	VSP Flight Training Academy Private Limited	Haryana
102	Wissmo Agventure Private Limited	Rajasthan
103	Woahage Aviation Private Limited	Telangana

Sr. No.	Institute Name	State
104	WOW GO GREEN LLP	Gujarat
105	WOW GO GREEN LLP	Haryana

Source: Digital Sky, DGCA, CAREEDGE Research

7.7 Peer Comparison

The following players in the Drone industry segment have been considered for peer benchmarking of Innovision Limited:

Table 37: Key Drone industry Peers

Name of the Company	Business Overview
AeroDrone Robotics Private Limited	Innovision Limited holds a 51% stake in Aerodrone Robotics Private Limited (Earlier Known as Fulcrum Manpower Private limited). ARPL specializes in providing comprehensive drone training, including both Basic and Advanced courses. These courses cover fundamental maneuvers to advanced techniques and are meticulously crafted to meet the standards set by the Directorate General of Civil Aviation (DGCA). This ensures that trainees receive high-quality education and are well-prepared to obtain their RPAS Drone Pilot License.
Drone Desination Ltd.	Drone Destination, India's largest Drone Pilot Training and leading Drone-as-a-Service (DAAS) company, along with Hubblefly Technologies, a DGCA-approved manufacturer, has created an integrated drone ecosystem encompassing manufacturing, certified training, and DAAS. It became the first drone company to go public on the NSE-Emerge exchange with one of the highest subscribed IPOs of 2023. Additionally, Drone Destination has entered the agricultural sector, partnering with IFFCO to deploy 200+ drones for over 25,000 demonstrations in Uttar Pradesh to promote drone adoption in rural India.
Droneacharya Aerial Innovations Ltd	Established in 2017, DroneAcharya Aerial Innovations is a Deep Tech Data Science Company, focused on innovation in Defence, Space, Drones, and Information Technology. It is a provider of drone technology solutions, specializing in aerial data acquisition, analysis, and drone pilot training. The company leverages cutting-edge technology to offer services in various sectors, including agriculture, infrastructure, and environmental monitoring, aiming to enhance operational efficiency and data accuracy.
ideaForge	ideaForge, a drone manufacturer in India, specializes in high-performance, indigenous UAV systems. ideaForge's drones are used in various sectors, including defense, homeland security, and enterprise applications.
Asteria Aerospace Pvt. Ltd.	It specializes in the development, manufacturing, and operation of unmanned aerial systems. The company provides innovative solutions for various sectors including defense, industrial inspections, and agriculture, leveraging advanced technology to enhance efficiency and safety. With ISO 9001 certification & DSIR-recognized R&D lab is driving innovation.
Garuda Aerospace Pvt. Ltd.	Garuda Aerospace Pvt. Ltd. specializes in drone technology, offering innovative solutions for various sectors including agriculture, infrastructure, and defense. Offering 30 drone models and a suite of 50+ services, the company caters to diverse industry needs. The company focuses on drone manufacturing, services, and pilot training, aiming to enhance operational efficiency and safety.

Table 38: Comparison of Revenue from Operations (In INR Million)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	3.92	25.65	120.72	NA
Droneacharya Aerial Innovations Ltd	0.10	35.87	185.70	NA
ideaForge	347.10	1,594.30	1,860.10	3,140.00

Peers	FY21	FY22	FY23	FY24
Asteria Aerospace Pvt. Ltd.	79.93	187.05	255.51	NA
Garuda Aerospace Pvt. Ltd.	21.30	153.10	469.90	NA

Source: Audited financial statements, CAREEDGE Research

Table 39: Comparison of EBITDA (In INR Million)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	(0.26)	3.93	47.91	NA
Droneacharya Aerial Innovations Ltd	(1.49)	5.59	41.32	NA
ideaForge	(108.60)	731.20	471.10	554.80
Asteria Aerospace Pvt. Ltd.	(63.17)	(11.57)	(10.16)	NA
Garuda Aerospace Pvt. Ltd.	(4.17)	51.38	108.03	NA

Source: Audited financial statements, CAREEDGE Research

Table 40: Comparison of EBITDA Margin (In %)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	-6.5%	15.3%	39.7%	NA
Droneacharya Aerial Innovations Ltd	-1488.0%	15.6%	22.3%	NA
ideaForge	-31.3%	45.9%	25.3%	17.7%
Asteria Aerospace Pvt. Ltd.	-79.0%	-6.2%	-4.0%	NA
Garuda Aerospace Pvt. Ltd.	-19.6%	33.6%	23.0%	NA

Source: Audited financial statements, CAREEDGE Research

Table 41: Comparison of PAT Margin (In %)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	-30.9%	7.4%	21.2%	NA
Droneacharya Aerial Innovations Ltd	-1489.0%	11.3%	18.5%	NA
ideaForge	-42.1%	27.6%	17.2%	14.4%
Asteria Aerospace Pvt. Ltd.	-102.3%	-24.0%	-22.0%	NA
Garuda Aerospace Pvt. Ltd.	-25.0%	23.7%	13.1%	NA

Source: Audited financial statements, CAREEDGE Research

Table 42: Comparison of ROCE (In %)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	-25.3%	15.4%	19.0%	NA
Droneacharya Aerial Innovations Ltd	-14.1%	3.7%	6.2%	NA
ideaForge	-14.5%	37.6%	10.4%	5.1%
Asteria Aerospace Pvt. Ltd.	-11.4%	-4.4%	-3.8%	NA
Garuda Aerospace Pvt. Ltd.	38.4%	76.6%	22.6%	NA

Source: Audited financial statements, CAREEDGE Research

Table 43: Comparison of Cash Flow from Operations (In Millions)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	NA	NA	8.30	NA
Droneacharya Aerial Innovations Ltd	(0.38)	(20.01)	(250.55)	NA
ideaForge	(308.10)	665.20	(468.00)	965.00
Asteria Aerospace Pvt. Ltd.	(229.26)	(219.39)	(89.32)	NA

Peers	FY21	FY22	FY23	FY24
Garuda Aerospace Pvt. Ltd.	NA	NA	NA	NA

Source: Audited financial statements, CAREEDGE Research

Table 44: Comparison of Total Debt (Short Term & Long Term- In Millions)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	5.47	15.11	15.92	NA
Droneacharya Aerial Innovations Ltd	0.13	4.63	-	NA
ideaForge	505.74	56.76	865.00	-
Asteria Aerospace Pvt. Ltd.	349.81	510.49	1,143.14	NA
Garuda Aerospace Pvt. Ltd.	-	-	138.60	NA

Source: Audited financial statements, CAREEDGE Research

Table 45: Comparison of Net Worth (In Millions)

Peers	FY21	FY22	FY23	FY24
Drone Desination Ltd.	(0.51)	1.39	176.01	NA
Droneacharya Aerial Innovations Ltd	10.41	144.78	662.72	NA
ideaForge	597.40	1,633.00	3,247.00	6,606.00
Asteria Aerospace Pvt. Ltd.	340.44	295.14	235.82	NA
Garuda Aerospace Pvt. Ltd.	(14.50)	59.40	299.60	NA

Source: Audited financial statements, CAREEDGE Research

Note: Innovision's data includes financial data of all division (Manpower division, toll management, skill development etc). AeroDrone Robotics financials are not available, hence, not considered in drone sections.

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