



Industry Report on Third Party Testing, Inspection & Certification (TIC) Services

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ISSPL Limited

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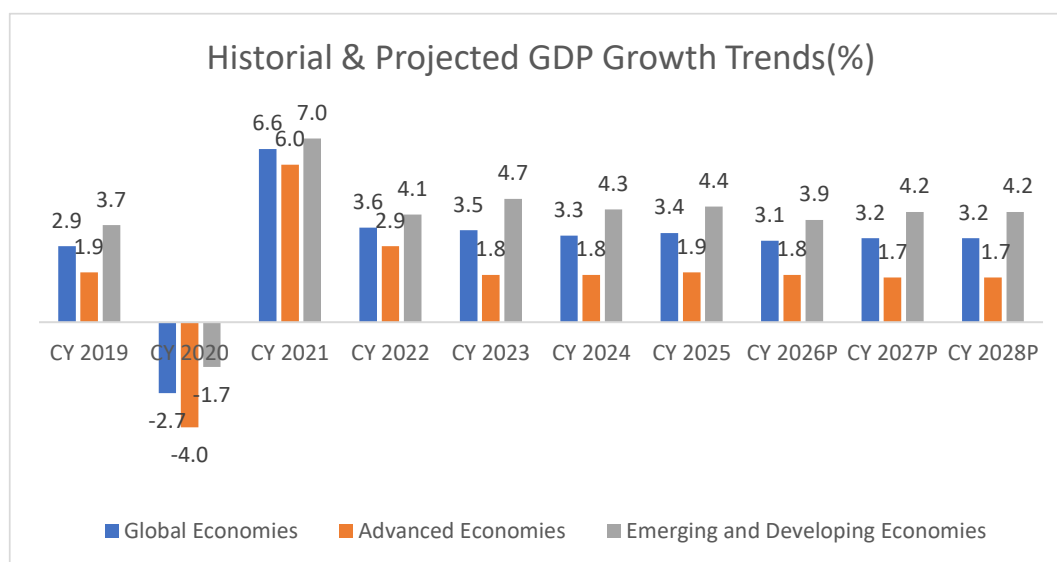


Global Macroeconomic Scenario

Global Economic Overview

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

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



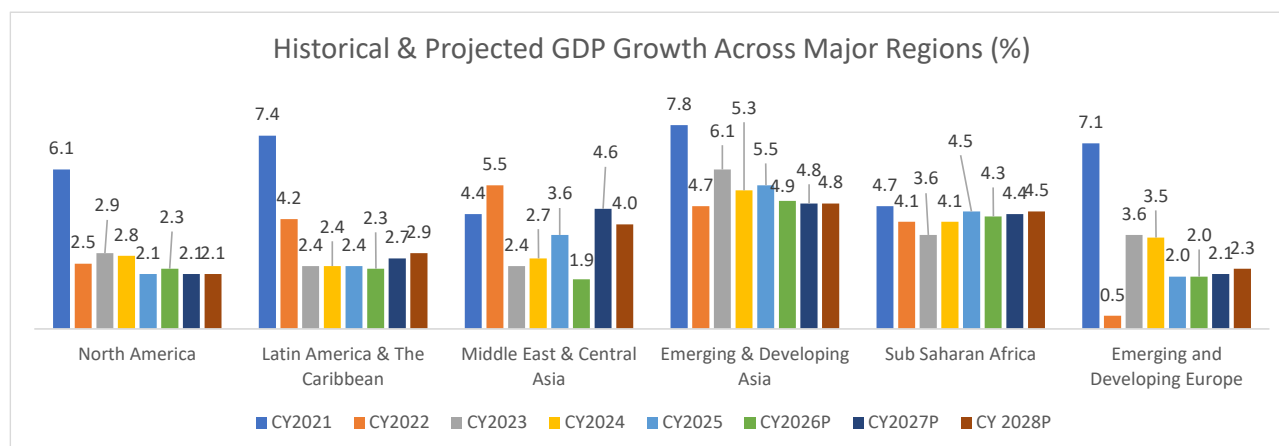
Note: Advanced Economies and Emerging & Developing Economies are as per the classification of the World Economic Outlook (WEO). This classification is not based on strict economic criteria and has evolved over time. It comprises 40 countries in the Advanced Economies category, including the G7 (the United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

Historical and Projected GDP Growth

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

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

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



Source- IMF World Economic Outlook, April 2026

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

Growth in sub-Saharan Africa is projected to remain relatively stable at 4.3% in 2026 and 4.4% in 2027 and 4.5% in 2028. However, this regional outlook masks significant variation across countries, with some economies expected to face more pronounced challenges than others. In particular, oil-importing and non-resource-intensive economies are likely to be adversely affected by the conflict in the Middle East, as

heightened external pressures may weigh on economic activity and weaken growth prospects. In emerging and developing Europe, economic growth is expected to slow sharply to 2.0% in 2025 and recover only marginally thereafter, with the region projected to expand at an average rate of 2.0% in 2026, 2.1% in 2027 and 2.3% in 2028.

Global Economic Outlook

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

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

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

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

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

Latin America: In Latin America, the U.S.-Israel-Iran conflict has increased energy market pressures, with higher Brent crude prices raising input costs and inflation risks across the region. Consequently, net hydrocarbon exporters such as Brazil, Colombia, and Ecuador are benefiting from stronger external balances, while net energy importers—including Panama, Chile, and much of Central America—are facing higher import costs. Elevated fertilizer prices are also weighing on agricultural output and margins, including in Brazil and Argentina. In response, governments have introduced fuel subsidies and price controls.



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

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

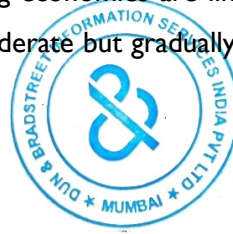


Global Growth Projection

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

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

In the Middle East and Central Asia, growth is projected to decline from 3.6% in 2025 to 1.9% in 2026, before rebounding to 4.6% in 2027 and 4.0% in 2028, reflecting the region's direct exposure to the conflict. The downturn is expected to be most severe among affected commodity exporters, particularly Bahrain, Iran, Iraq, Kuwait, and Qatar, while the impact is expected to be less severe in other economies. Accordingly, Iran's economy is projected to contract by (-) 6.1% in 2026, before rebounding to 3.2% in 2027 and moderating to 1.5% in 2028. By contrast, Saudi Arabia's growth is projected at 3.1% in 2026, rising to 4.5% in 2027 before easing to 3.6% in 2028. In sub-Saharan Africa, growth is expected to remain broadly stable at 4.3% in 2026, 4.4% in 2027, and 4.5% in 2028, although oil-importing economies are likely to face greater pressure, while Nigeria and South Africa are expected to record moderate but gradually improving growth



profiles. In Latin America and the Caribbean, growth is projected at 2.3% in 2026, 2.7% in 2027, and 2.9% in 2028, with Brazil expected to benefit modestly in the near term from its position as a net energy exporter, while Mexico is projected to recover gradually to 1.6% in 2026, 2.2% in 2027, and 2.1% in 2028.

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

Key factors impacting Global Macroeconomic landscape

- Geopolitics continues to constitute a major source of global macroeconomic and business risk. The Russia–Ukraine war remains a persistent driver of instability, as Russia has intensified large-scale missile and drone attacks on Ukrainian cities and infrastructure, while Ukraine has stepped up strikes on Russian ports, refineries, and export infrastructure, reportedly contributing to a reduction in Russian oil output in April. The Israel–Iran–U.S. confrontation has emerged as the most significant near-term external shock to the global economy, with the IMF warning that disruptions to the Strait of Hormuz and regional energy infrastructure could materially weaken global growth and raise inflation; under its April 2026 reference forecast, global growth has been lowered to 3.1% and inflation raised to 4.4%, with materially worse outcomes under prolonged disruption scenarios. In parallel, the Pakistan–Afghanistan border conflict remains a significant regional flashpoint, although China-mediated talks are seeking to secure a ceasefire and reopen border crossings after months of cross-border attacks and trade disruption. At the same time, U.S. strategic activism continues to influence regional risk perceptions: Washington has removed sanctions on Venezuela's interim leadership and deepened engagement with Caracas, tensions over Greenland have re-emerged amid renewed U.S. rhetoric and ongoing diplomatic discussions with Denmark and Greenland, and U.S.–Nigeria security cooperation has continued to deepen in response to regional instability and counterterrorism concerns. In addition, resource nationalism and strategic competition over rare earths and other critical minerals have become increasingly operational concerns rather than distant strategic risks. The IEA's April 2026 assessment notes that demand for magnet rare earths has doubled since 2015 and is projected to increase by more than 30% by 2030, while supply chains remain highly concentrated, with China accounting for around 60% of mined output, more than 90% of refining, and nearly 95% of permanent magnet production, thereby heightening global exposure to export controls, supply concentration, and industrial policy interventions
- The period of relatively frictionless trade supported by multilateral liberalisation and free trade agreements is increasingly giving way to regionalisation, nearshoring, friend-shoring, and



diversification of production networks. Rising tariffs, policy uncertainty, and strategic realignment are creating a more fragmented trade environment and raising the premium on resilience over pure efficiency

- Technology adoption and sustainability have become core strategic priorities. Organizations are advancing digital transformation by embedding AI, automation, and cybersecurity into their operations to enhance productivity and safeguard critical assets. AI adoption is emerging as a visible driver of optimism, particularly within the information and communications sectors. Growth in cloud computing, streaming, IoT, and AI and Advancements in hardware and cooling technologies aim to reduce energy consumption and improve performance is driving the need for more powerful and scalable data centres.



India Macroeconomic Analysis

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

Country	CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026 P	CY 2027 P	CY 2028P
India ¹	-5.8%	9.7%	7.6%	9.2%	6.5%	7.6%	6.5%	6.5%	6.5%
China	2.3%	8.6%	3.1%	5.4%	5.0%	5.0%	4.4%	4.0%	4.0%
United States	-2.2%	6.1%	2.5%	2.9%	2.8%	2.1%	2.3%	2.1%	2.1%
Japan	-4.2%	2.7%	0.9%	1.4%	-0.2%	1.2%	0.7%	0.6%	0.6%
United Kingdom	-10.3%	8.6%	4.8%	0.4%	1.1%	1.3%	0.8%	1.3%	1.6%
Russia	-2.7%	5.9%	-1.4%	4.1%	4.3%	1.0%	1.1%	1.1%	1.0%
Germany	-4.1%	3.9%	1.8%	-0.9%	-0.5%	0.2%	0.8%	1.2%	1.2%

Source: World Economic Outlook, April 2026

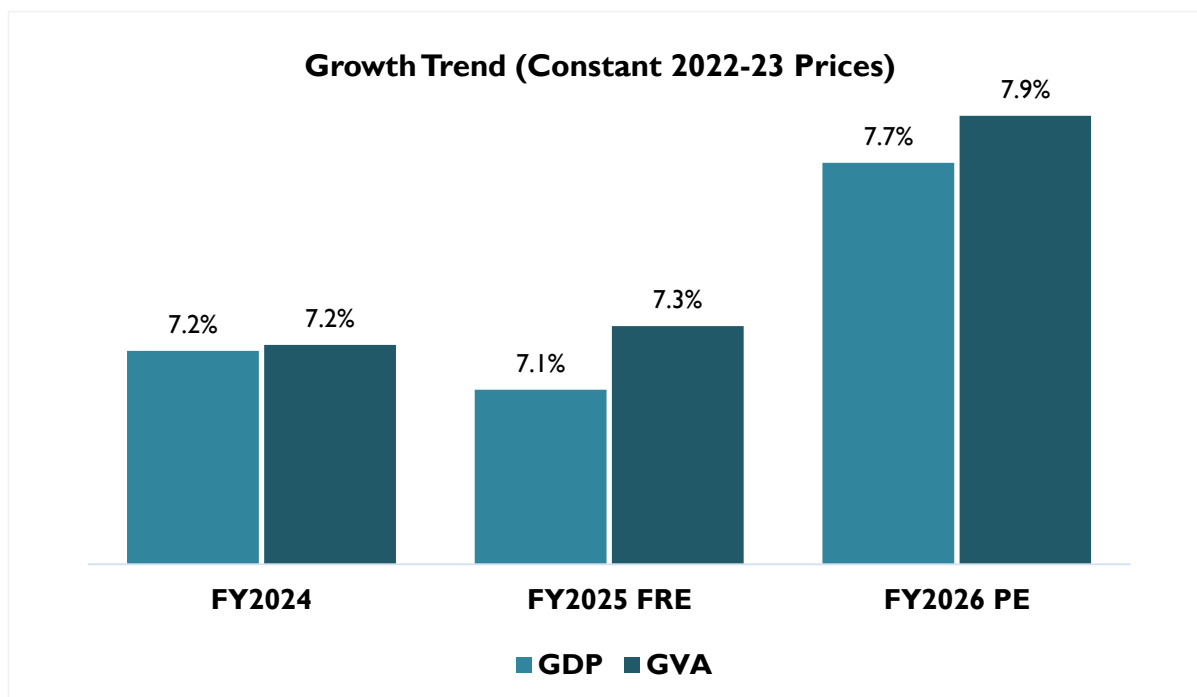
Historical GDP and GVA Growth Trend

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

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

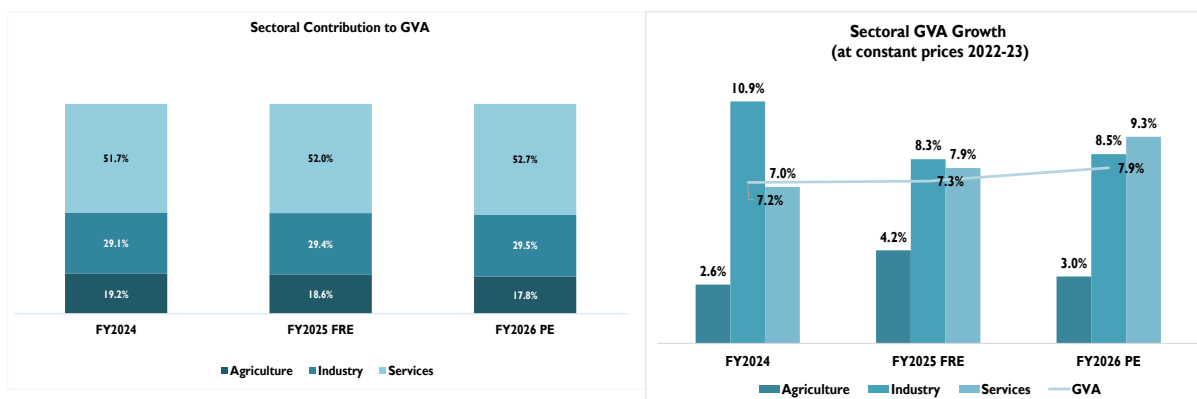
¹ For India, data and forecasts are presented on a fiscal year basis, and GDP from 2022 onward is based on GDP at market prices with fiscal year 2022/23 as a base year





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

Sectoral Contribution to GVA and Annual Growth Trend



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

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

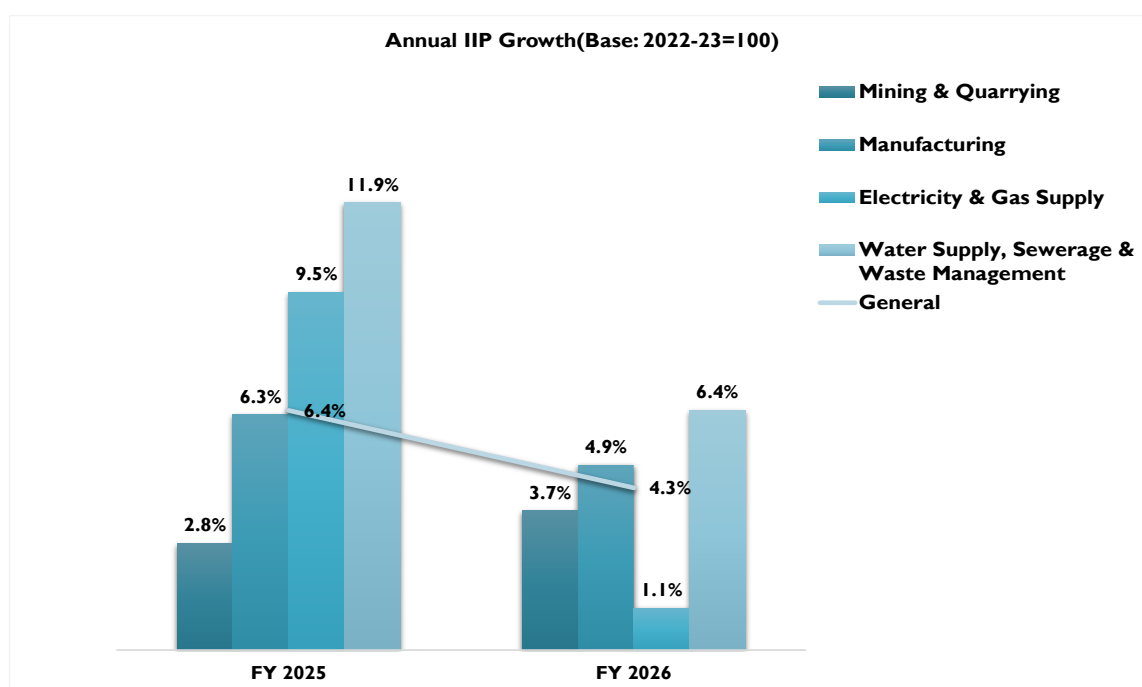
² https://www.mospi.gov.in/uploads/latestReleases/latest_release_1780655857536_5ac01869-ca4a-422d-b7a7-57b81da60932_Press_Note_on_GDP_Estimates_for_Q4_2025-26_and_PE_FY_2025-26.pdf

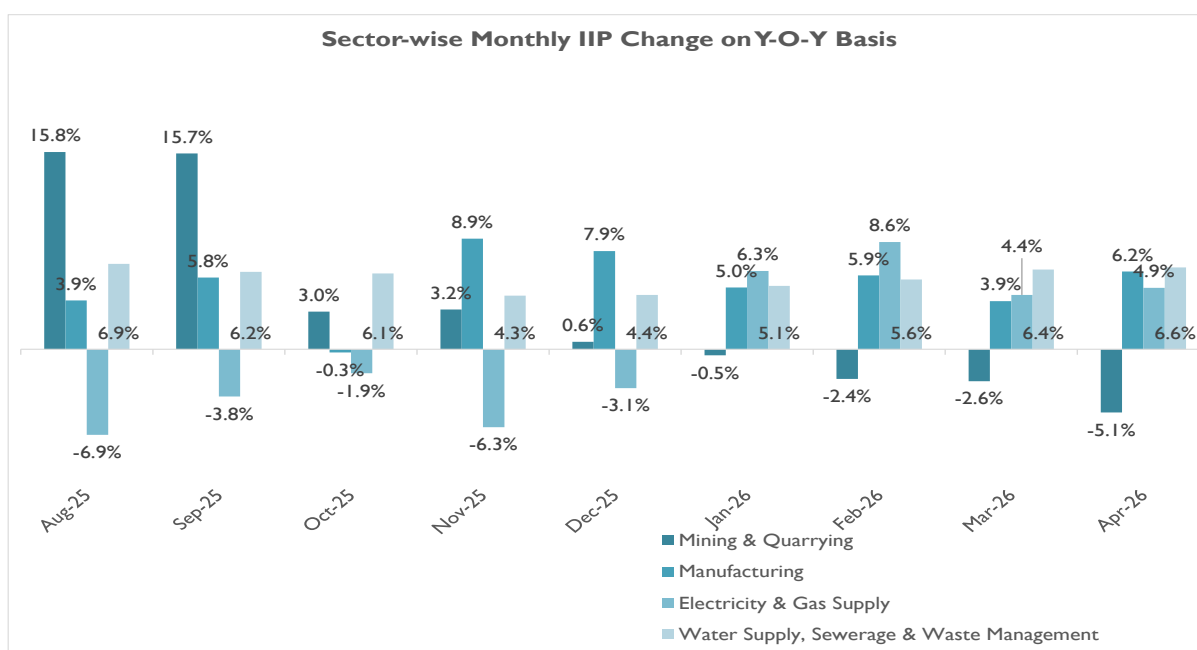
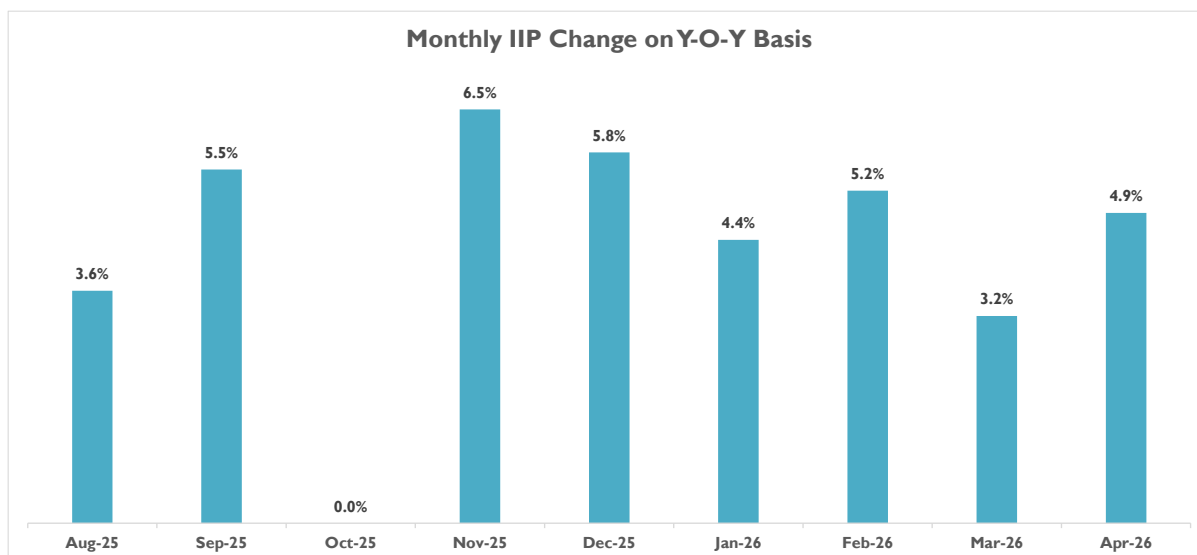
The services sector continued to be the main driver of economic growth. It expanded by 9.3% in FY 2026 from 7.9% in FY 2025. The services sector retained its position as the largest contributor to GVA, rising from 51.7% in FY 2024 to 52.0% in FY 2025, with a further increase to 52.7% in FY 2026.

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

Annual & Monthly IIP Growth

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



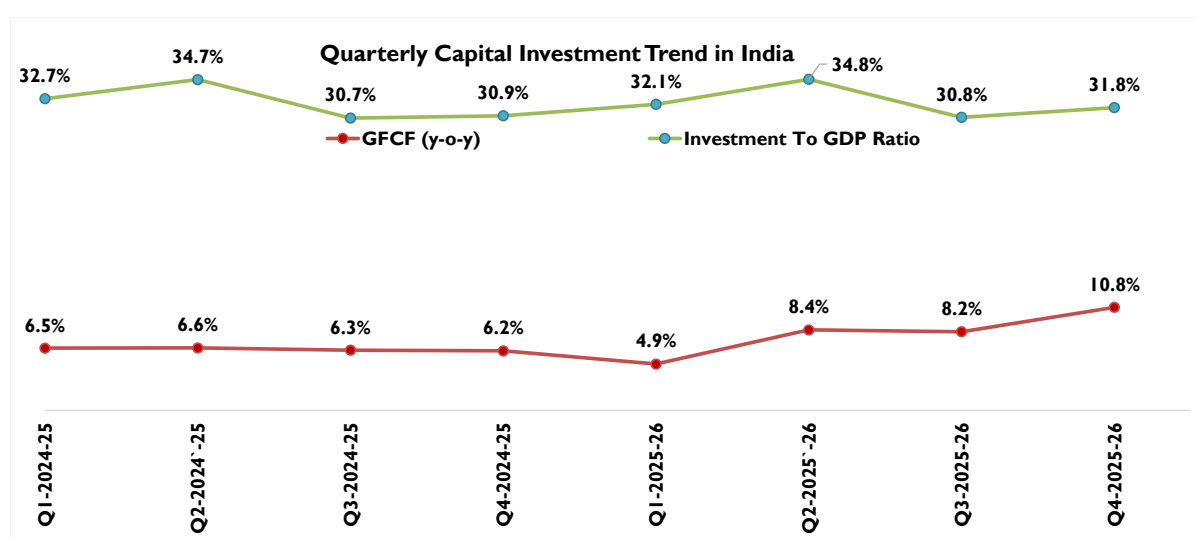
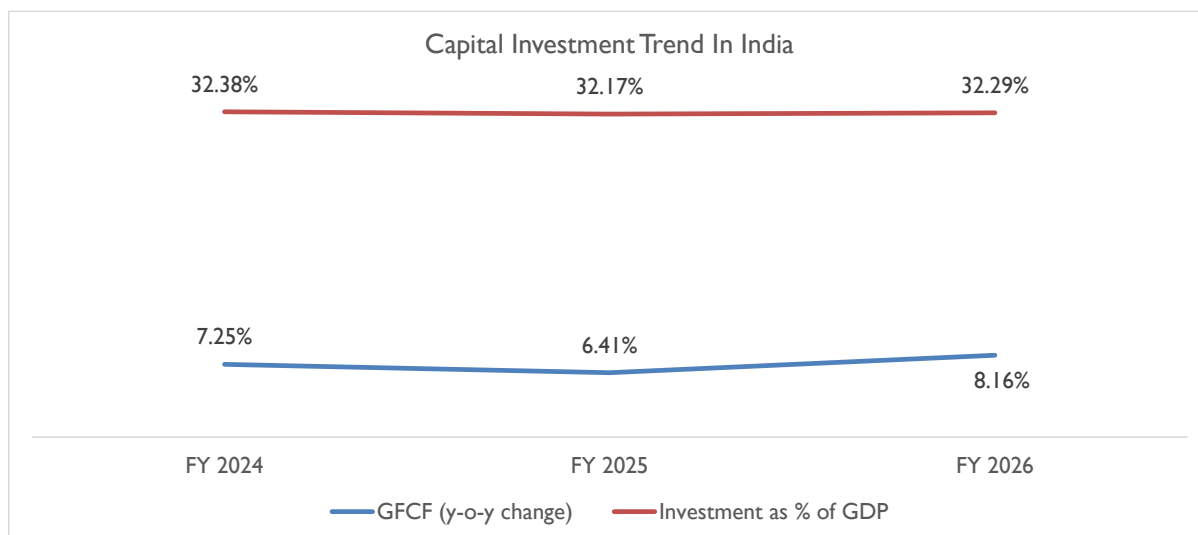


Source: Ministry of Statistics & Programme Implementation (MOSPI)

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

Annual and Quarterly: Investment & Consumption Scenario

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



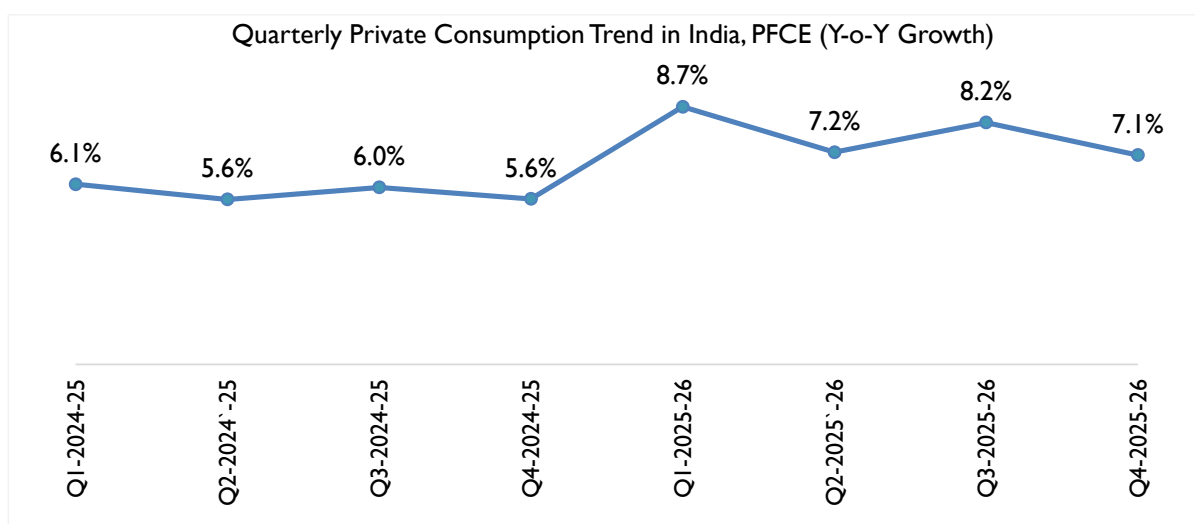
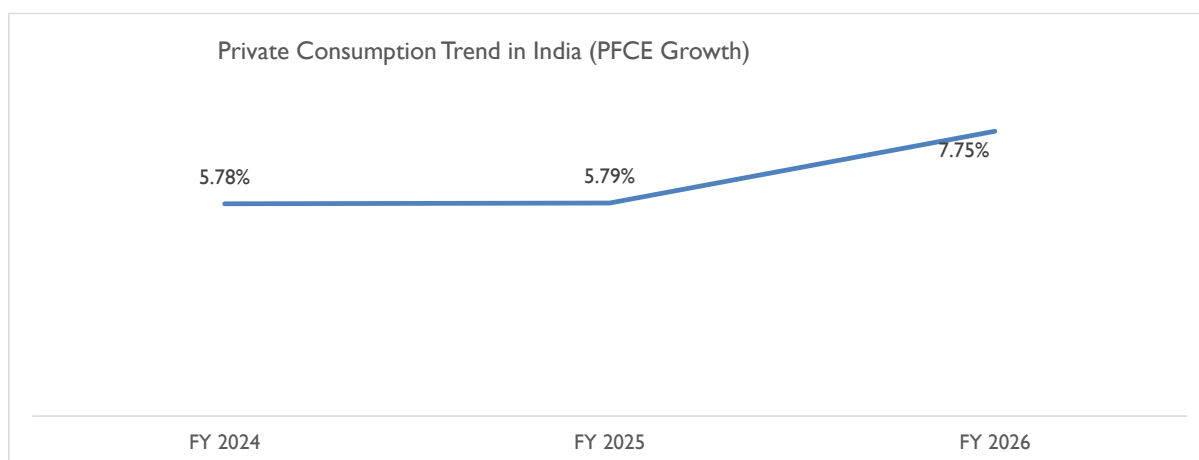
Source: Ministry of Statistics & Programme Implementation (MOSPI), CMIE Economics Outlook

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

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

reflecting stronger capital spending, better investment confidence, and continued support for economic growth.

Private Consumption Scenario



Sources: MOSPI, CMIE Economics Outlook

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

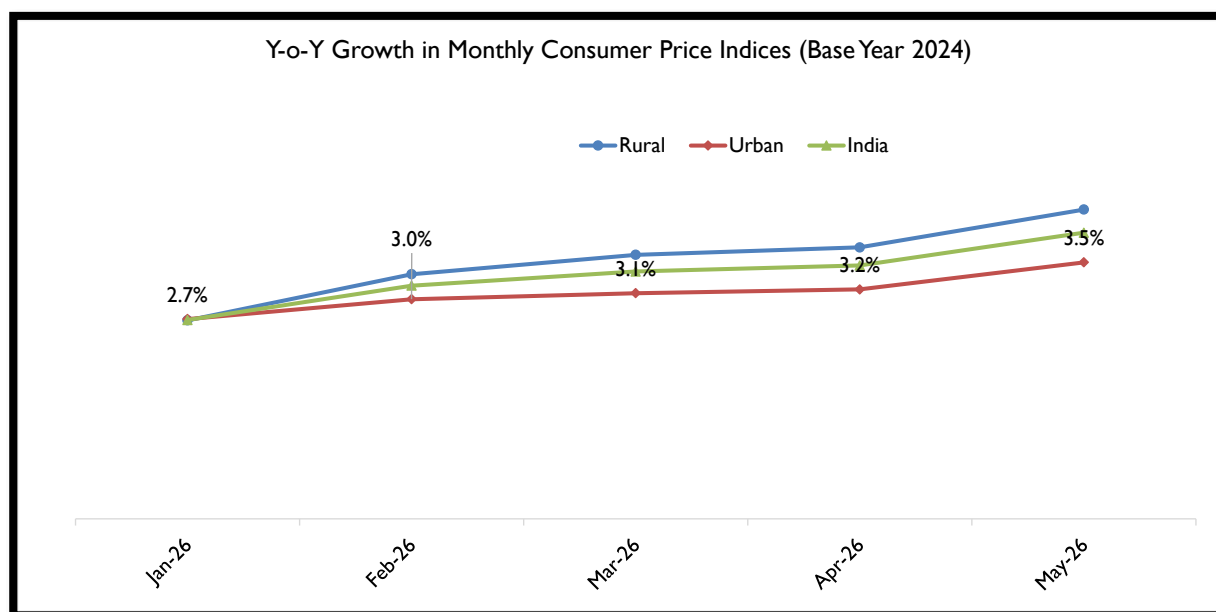
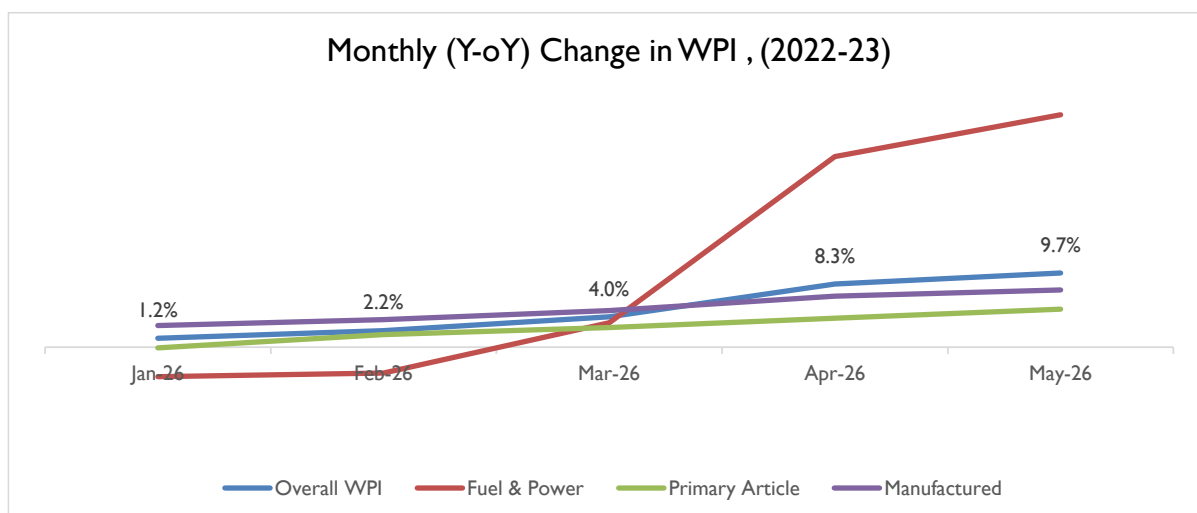
Inflation Scenario

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

All India Wholesale Price Index (WPI) inflation for May 2026 is 9.68 per cent on year-on-year (YoY) basis, compared to 8.26 per cent in April 2026. The index for All Commodities for May 2026 stands at 109.9, whereas it was 108.8 in April 2026. Across Groups, 'Mineral Oils (containing Petroleum Products)', 'Crude

Petroleum and Natural Gas', 'Manufacture of Chemicals and Chemical Products', and 'Manufacture of Basic Metals', have been major drivers of WPI inflation in April and May 2026.

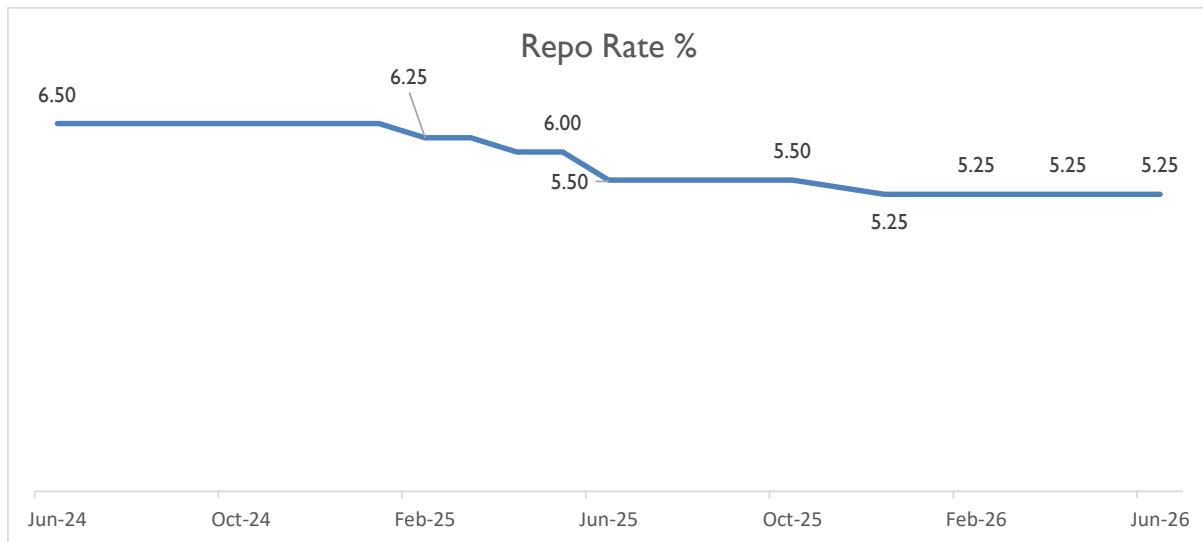
Across Major Groups, YoY inflation for Primary Articles, Fuel and Power, and Manufactured Products is 4.99 per cent, 30.33 per cent, and 7.48 per cent, respectively in May 2026, whereas it was 3.78 per cent, 24.89 per cent, and 6.68 per cent, respectively, in April 2026. The indices for Primary Articles,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



Source: MOSPI, Office of Economic Advisor

With effect from January 2026, the National Statistics Office (NSO) introduced a revised CPI series with base year 2024=100, drawing revised item weights from the Household Consumption Expenditure Survey (HCES) 2023-24. Year-on-year inflation rate based on All India Consumer Price Index (CPI) with base year 2024 for

the month of May, 2026 over May, 2025 is 3.93%(Provisional). Corresponding inflation rates for rural and urban are 4.25% and 3.53%, respectively. On the monetary policy front, the RBI had cumulatively raised the repo rate by 250 basis points between May 2022 and February 2023, bringing it to 6.50%, where it was held steady through January 2025 to anchor inflationary expectations. With inflation moderating below target and growth requiring support, the RBI's Monetary Policy Committee (MPC) commenced an easing cycle in February 2025, delivering a cumulative 125 basis points of rate cuts through four reductions — 25 bps each in February 2025, April 2025, and December 2025, and a larger 50 bps cut in June 2025 — interspersed with pauses in August and October 2025. The repo rate currently stands at 5.25%, in June 2026.



Sources: CMIE Economic Outlook

Growth Outlook

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

This domestic push is complemented by targeted measures to strengthen strategic supply chains. Dedicated rare earth corridors in Odisha, Kerala, Andhra Pradesh, and Tamil Nadu; customs exemptions for capital goods used in critical mineral processing and battery cells; and the India Semiconductor Mission 2.0 aim to pull manufacturing deeper into components and materials. If executed well, these measures could reduce import dependence in magnets, batteries, and chip inputs and lift the share of higher-productivity manufacturing jobs — thereby raising household incomes durably.

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

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

However, these gains remain exposed to external geopolitical risks. The escalation of the Middle East crisis represents an external shock for India, transmitted primarily through energy markets, logistics, and trade-linked business exposure. The Gulf–Levant II⁴ (GL II) economies account for around 15% of India’s merchandise exports and 21% of its imports, with trade concentrated in high-value categories such as mineral fuels, precious metals, and electronics; disruptions in this region therefore have an outsized impact despite its modest share of global GDP.

Export exposure is unevenly distributed across India, with risks concentrated in specific districts that serve as production hubs. Discretionary exporters, such as gems and jewellery firms in the districts of Surat, Jaipur, and Mumbai; apparel manufacturers in Tiruppur; automotive producers in Ahmedabad; and electronics

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

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

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



assemblers in Kanchipuram and Kolar, are vulnerable to demand slowdown and order deferrals in Gulf markets.

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



Key Growth/Demographic Drivers for Economic Growth

Government focus on infrastructure development

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

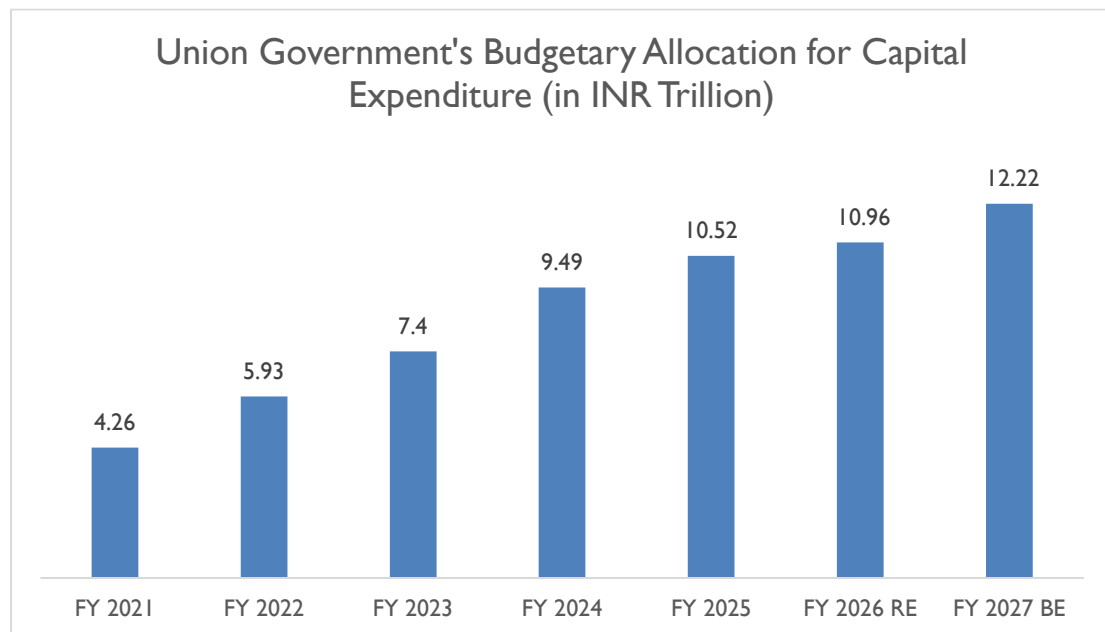
⁵<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2222521®=3&lang=1#:~:text=Reinforcing%20the%20role%20of%20public,p roductive%20capacity%20across%20the%20economy.>

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

⁷ https://www.indiabudget.gov.in/doc/budget_speech.pdf

⁸<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2221817®=3&lang=1>





Union Budget, Government of India

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

Development of Domestic Manufacturing Capability

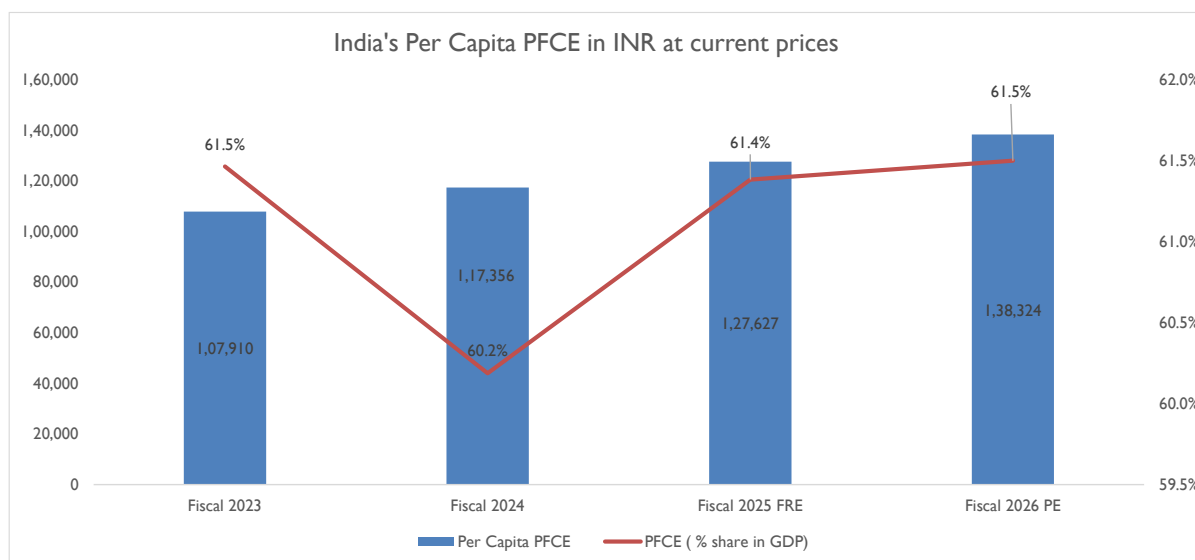
The Government launched the Production Linked Incentive (PLI) scheme in early 2020, initially aimed at improving domestic manufacturing capability in large-scale electronic manufacturing and gradually extended to other sectors. At present it covers 14 sectors, ranging from medical devices to solar PV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

Strong Domestic Demand

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

India's per capita Private Final Consumption Expenditure (PFCE) at current prices has shown a consistent upward trend, indicating steady improvement in household consumption levels over the years. Per capita PFCE increased from INR 1,07,910 in Fiscal 2023 to INR 1,17,356 in Fiscal 2024, and further rose to INR 1,27,627 in Fiscal 2025 FRE. It is estimated to increase further to INR 1,38,324 in Fiscal 2026 FE, reflecting continued growth in consumer spending and improving consumption capacity.

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



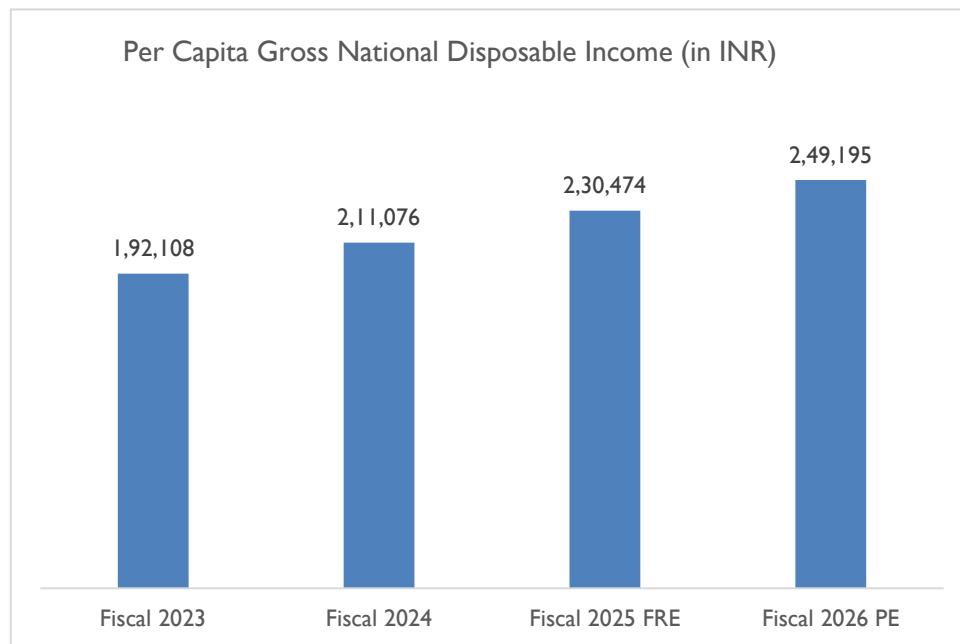
Source: Ministry of Statistics & Programme Implementation (MOSPI)

FRE is First Revised Estimate; PE is Provisional Estimates

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

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

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



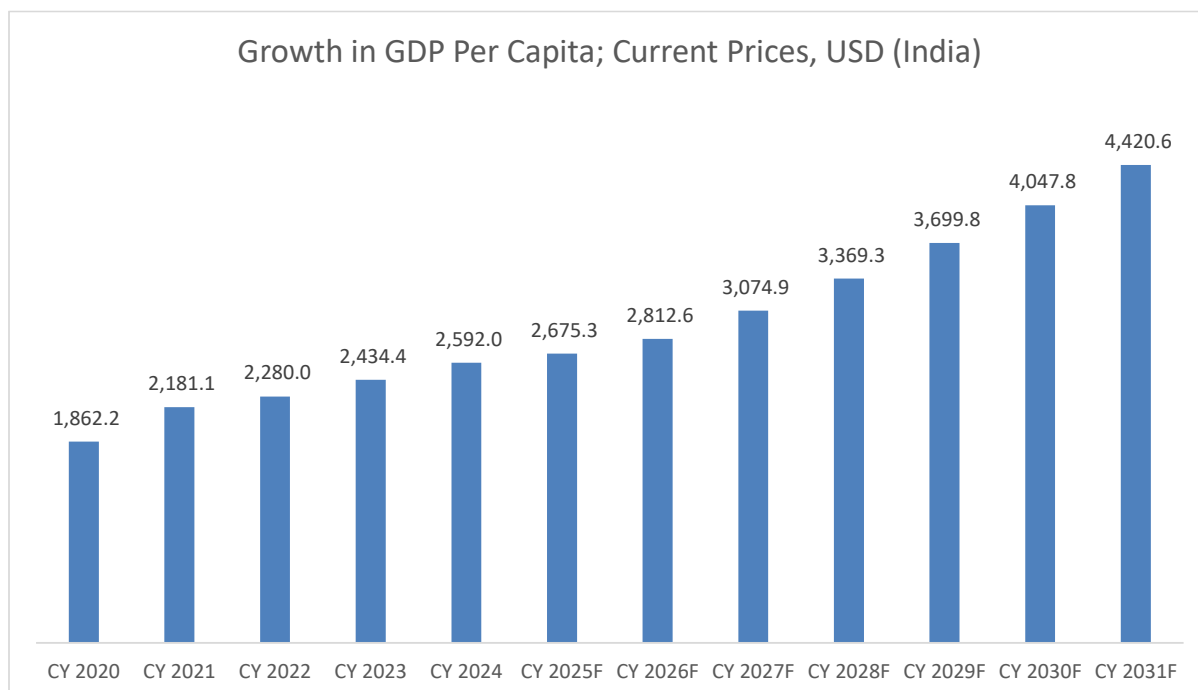
Source: Ministry of Statistics & Programme Implementation (MOSPI)

FRE is First Revised Estimate; PE is Provisional Estimates

India's Per Capita GDP Trends

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

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

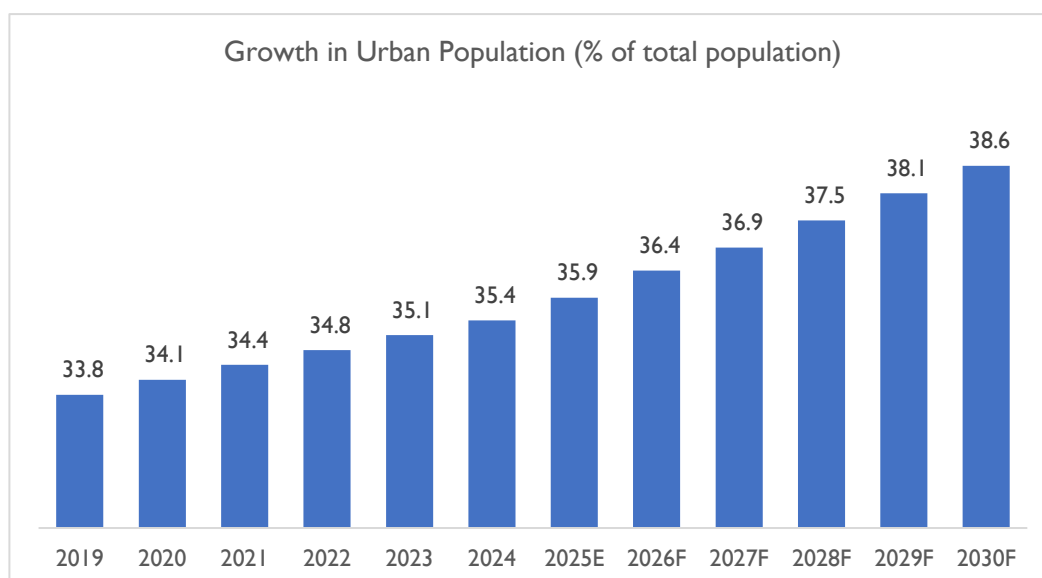


Source: IMF

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

Increasing Urbanization

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



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

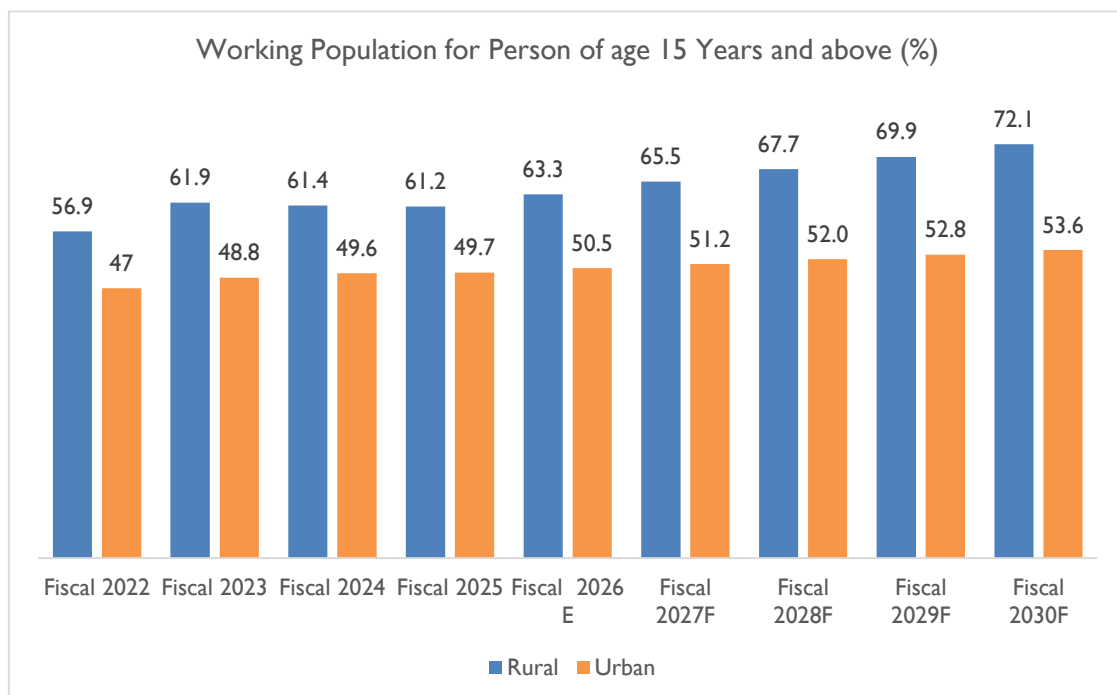
¹⁰ <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?end=2022&locations=IN&skipRedirect=true&start=1960&view=chart>

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

Rural vs. Urban Working Population by Age Group

As India continues to experience economic growth and development, the working population in both rural and urban areas is increasing. In the case of the urban population, this growth is reflected in the increase from a share of 47% in FY22 to 49.7% in FY25, whereas in rural areas, it grew from 56.9% in FY22 to 61.2% in FY25.

This growth is driven by a combination of factors, including demographic changes, economic policies, and the expansion of various industries. The rise in employment opportunities across sectors such as agriculture, manufacturing, services, and information technology has contributed to the overall increase in the working population, thereby fostering economic stability and enhancing the standard of living for many Indians.



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

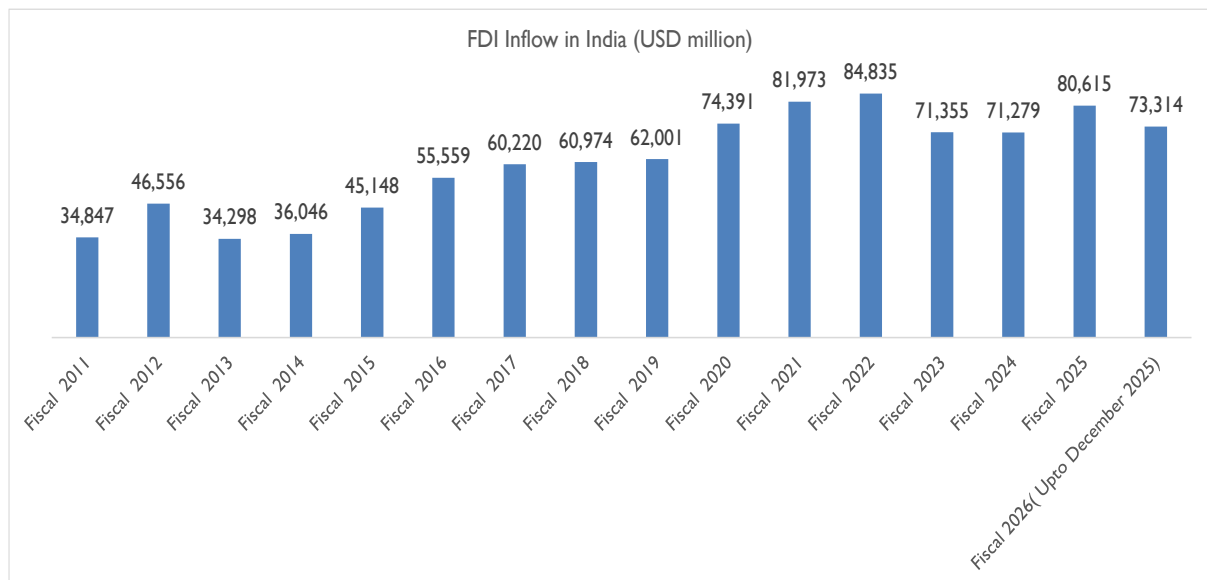
Note: 2025 refers to the period January 2025 – December 2025 and likewise for 2024, 2023 and 2022

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

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

Foreign Direct Investment Trend in India

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



Sources: Department for Promotion of Industry and Internal Trade

Overview

Testing, Inspection & Certification Services

Testing, Inspection & Certification (TIC) services comprise a set of independent conformity assessment activities conducted to verify that products, materials, processes, systems, or services meet specified technical standards, regulatory requirements, and quality benchmarks. These services are typically provided by third-party organizations, ensuring objectivity, credibility, and impartiality in evaluating compliance. As a result, TIC acts as a crucial bridge between producers, regulators, and end-users, enabling trust and transparency in both domestic and international markets.

In today's globalized and highly regulated economy, products often move through complex, multi-country supply chains before reaching end users, increasing the risks of quality inconsistencies, safety hazards, and regulatory non-compliance. TIC services help mitigate these risks by offering structured and standardized verification mechanisms at every stage of the value chain from raw material sourcing and production to final delivery and post-market surveillance. As an integral part of the Quality Infrastructure (QI) ecosystem, alongside standardization and accreditation bodies, TIC services ensure that industries consistently operate within globally accepted norms and standards.

Range and Types of Services under Testing, Inspection & Certification (TIC) Services

➤ Testing

Involves the scientific and technical evaluation of a product or material to determine its characteristics and performance under defined conditions. It is typically conducted in laboratories or field environments and follows recognized national and international standards such as ISO, IEC, BIS, and ASTM. The process generates measurable, data-driven results that support compliance assessment and performance validation.

Testing encompasses various types, including:

- **Physical Testing** – To evaluate strength, durability, hardness, and wear resistance of materials.
- **Chemical Testing** – To analyse composition, toxicity, and contamination levels for safety and compliance.
- **Electrical and Electronics Testing** – To ensure operational safety, performance, and electromagnetic compatibility.
- **Microbiological Testing** – To detect microbial contamination, particularly critical in food, pharmaceuticals, and healthcare sectors.
- **Metallurgical Testing** – To assess material properties through microstructural analysis, coating thickness measurement, and failure analysis
- **Environmental and Water Testing** – To monitor environmental impact, ensure regulatory compliance, and support sustainability requirements



➤ Inspection

Refers to the systematic examination and verification of products, processes, or installations to ensure adherence to specified requirements. It may be visual, dimensional, or functional in nature and is carried out at multiple stages of the product or project lifecycle, often on-site. Inspection plays a vital role in maintaining quality control and identifying deviations at an early stage.

- **Pre-production inspection:** Assessment of raw materials and suppliers
- **In-process inspection:** Monitoring during manufacturing
- **Pre-shipment inspection:** Final quality checks before dispatch
- **Periodic inspection:** Ongoing maintenance and safety evaluations during operation

Advanced inspection services include:

- Third-party inspection and expediting
- Vendor assessment and technical audits
- Statutory inspections (IBR, PESO, PNGRB)
- Asset integrity and residual life assessment
- Project Management Consultancy (PMC) and Lender's Independent Engineer services

➤ Certification

It is the formal attestation by an accredited third-party body that a product, system, or organization complies with specific standards or regulatory requirements. It is generally based on the outcomes of testing and/or inspection activities and provides official recognition of compliance, often serving as a prerequisite for market entry.

Certification services include

- **Product certification-** To ensure compliance with safety and performance standards.
- **Management system certification such as** ISO 9001 for quality management and ISO 14001 for environmental management
- **Personnel certification-** Validating skills and competencies through auditor and training programs.
- **Specialized certifications-** IATF 16949 (automotive), ISO 50001 (energy), ISO 13485 (medical devices), and sustainability-related certifications

The TIC industry is evolving rapidly, driven by technological advancements and changing regulatory landscapes. Digitalization is transforming the sector through the use of AI, IoT, and data analytics, enabling remote inspections, predictive quality control, and smart laboratories.



Need for Robust Testing, Inspection & Certification (TIC) Services

Aspect	Need
Regulatory Compliance	- Helps businesses meet stringent national and international standards, avoiding legal penalties and market restrictions. - Also ensures alignment with evolving regulatory frameworks, reducing the risk of non-compliance due to frequent policy changes. - Supports smoother approvals and faster market entry by adhering to predefined certification requirements.
Quality Assurance	- Ensures consistent product quality, performance and reliability across the value chain. - Enhances process standardization by implementing uniform testing & inspection protocols. - Drives continuous improvement by identifying gaps in production & operational processes.
Risk Mitigation	- Identifies defects and safety issues early, reducing failures, recalls and operational losses. - Minimizes financial & reputational risks associated with product failures or compliance breaches. - Enables proactive decision-making through early-stage detection & preventive measures.
Consumer Trust and Brand Credibility	- Certifications build confidence among customers and stakeholders regarding product safety and quality. - Strengthens brand positioning by demonstrating commitment to high standards & transparency. - Differentiates products in competitive markets, improving customer loyalty & retention.
Facilitation of International Trade	- Enables smooth cross-border trade by ensuring compliance with importing country standards. - Reduces trade barriers & delays by meeting global certification & documentation requirements.
Supply Chain Complexity Management	- Provides standardized verification across multi-country production and distribution networks. - Improves traceability & accountability across different stages of supply chain.

Types of TIC Service Providers & Comparison

Aspect	First-Party	Second-Party	Third-Party
Who Provides the Service	The organization itself manufacturer, supplier, or service provider.	The customer/buyer or their representative (or an agent acting on behalf of the buyer)	Independent external organization or accredited certification/inspection body (no direct stake in buyer or seller)
Objective	Internal quality control and improvement	Ensure supplier meets contractual requirements	Provide external validation and compliance assurance
Typical Activities	Internal quality checks, self-testing of products/materials, internal audits	Factory acceptance tests (FAT) witnessing, pre-shipment inspection, vendor surveillance, site inspections	Product testing, independent inspection, management system certification (e.g., ISO), regulatory conformity assessment
Deliverable	Internal reports or self-declaration	Factual inspection reports	Formal certificates, verification statements, or accredited reports

Advantages Accrued from TIC Services

Assured Quality and Technical Reliability
Strong Regulatory Compliance Framework
Enhanced Safety and Asset Integrity
End-to-End Project Lifecycle Support
Sustainability and ESG Enablement
Cybersecurity and Digital Risk Protection
Market Access and Certification Credibility

• Assured Quality & Technical Reliability

With extensive testing capabilities (mechanical, chemical, metallurgical, civil, food, and environmental) and NABL-accredited labs (ISO/IEC 17025), TIC services ensure that materials and products meet required standards. Advanced methods such as LC-MS/MS, GC-MS, NDT, and microstructural analysis help detect defects early, ensuring consistent quality and performance.



- **Strong Regulatory Compliance Framework**

TIC services help organizations comply with multiple regulatory bodies and standards such as FSSAI, APEDA, CPCB, ISO standards, and PESO rules. This reduces legal risks, ensures smooth approvals, and enables adherence to statutory inspection requirements across sectors like oil & gas, infrastructure, and food.

- **Enhanced Safety & Asset Integrity**

Services like Advanced NDT, HSE audits, statutory inspections, and asset integrity management ensure safe operations of critical infrastructure such as pipelines, pressure vessels, and storage tanks. Lifecycle coverage from design appraisal to decommissioning minimizes operational failures and enhances long-term asset reliability.

- **End-to-End Project Lifecycle Support**

TIC companies provide integrated services across planning, feasibility (DPR, TEV), design review, construction monitoring, and operations. Roles such as Lender's Engineer, PMC, and third-party inspection ensure quality control at every stage, improving project execution and reducing delays.

- **Sustainability & ESG Enablement**

With services like ESG assurance, carbon footprint (ISO 14064/14067), GRI reporting, and waste management certifications, TIC supports organizations in meeting sustainability goals. This aligns businesses with global environmental and governance frameworks while improving transparency.

- **Cybersecurity & Digital Risk Protection**

The inclusion of SOC monitoring, penetration testing, threat intelligence, and compliance audits reflects the expansion of TIC into digital assurance. These services help organizations safeguard critical data and infrastructure, especially in increasingly digital industrial environments.

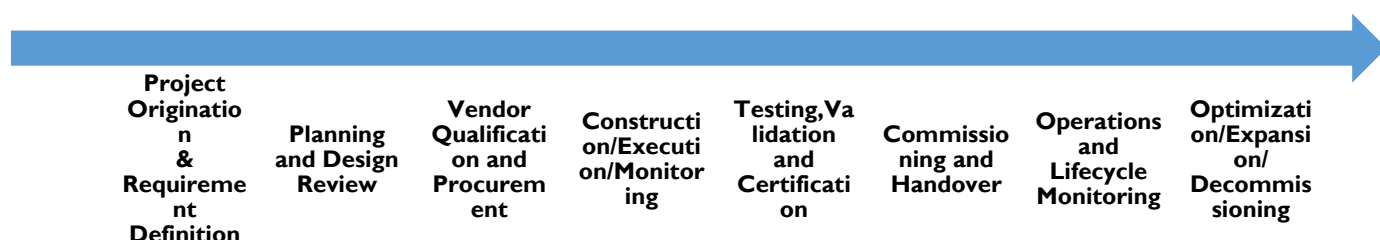
- **Market Access & Certification Credibility**

Accreditations from bodies like NABCB, ANAB, and international schemes (ISO, IATF, FSSC) enhance global acceptance. This enables companies to enter new markets, meet buyer requirements, and strengthen export competitiveness.



Industry Value Chain

An industry value chain refers to the end-to-end sequence of activities involved in delivering a product or service, starting from initial planning and inputs to final delivery and post-service support. In the context of Testing, Inspection, and Certification (TIC) and allied services, the value chain extends across the entire lifecycle of a project or asset from feasibility studies and design to construction, operation, and eventual decommissioning. At each stage, TIC services function as a critical enabler of quality, safety, and compliance by ensuring adherence to standards and regulatory requirements. Additionally, TIC services bring independence and objectivity through third-party assessments, enhancing transparency and stakeholder confidence. A well-defined value chain allows organizations to maintain consistency in processes, minimize risks, and improve operational efficiency while optimizing costs over the lifecycle. It also facilitates better decision-making through data-driven insights, supports sustainability and ESG objectives, and strengthens overall governance. Overall, the TIC value chain plays a vital role in enhancing reliability, ensuring regulatory compliance, and supporting sustainable, transparent, and efficient project execution.



- **Project Origination & Requirement Definition:** The process begins with defining the project scope, applicable standards, and regulatory requirements. At this stage, the third-party TIC provider offers independent inputs on compliance obligations and potential risk areas, ensuring the project is aligned with quality and safety expectations from the outset.
- **Planning & Design Review:** During the planning phase, feasibility studies (DPR, TEV) and design evaluations are conducted. TIC experts review designs and technical specifications to identify gaps, ensure adherence to standards, and validate the project's technical and economic viability before execution begins.
- **Vendor Qualification & Procurement:** In this stage, suppliers and vendors are assessed through audits and evaluations. Materials are tested to verify compliance with specifications. Third-party TIC ensures that only qualified vendors and quality inputs are used, reducing risks in later stages.
- **Construction / Execution / Monitoring:** This is a critical phase where on-site activities are monitored. TIC services such as Third-Party Inspection (TPI), Non-Destructive Testing (NDT), and HSE audits ensure that construction follows approved designs, quality standards, and safety norms.

- **Testing, Validation & Certification:** Once execution is complete, products, systems, or infrastructure undergo rigorous testing and validation. Accredited laboratories and certification bodies verify performance and compliance, issuing necessary certifications (ISO, statutory approvals).
- **Commissioning & Handover:** Before operations begin, final inspections and compliance checks are conducted. TIC providers ensure that all statutory requirements are fulfilled and that the project is safe and ready for use. Documentation and certifications are formally handed over to the client.
- **Operations & Lifecycle Monitoring:** Post-commissioning, TIC services continue through periodic inspections, asset integrity assessments, environmental testing, and cybersecurity audits. This ensures ongoing compliance, safety, and optimal performance throughout the asset's lifecycle.
- **Optimization / Expansion / Decommissioning:** In the final stage, TIC supports technical audits, sustainability (ESG) assurance, and due diligence for expansion or restructuring. It also ensures safe and compliant decommissioning of assets, completing the lifecycle loop.

Mapping the consumer segments / end user industries who consume TIC services & benefits.

Industry / Segment	Typical TIC Services Consumed	Key Benefits Accrued
Energy (Oil & Gas, Power, Renewable Energy, Thermal energy)	Asset integrity assessment, NDT, statutory inspections, pipeline inspection, certification and testing.	Ensures safety of critical assets, regulatory compliance, reduced operational risks, improved reliability
Infrastructure (Buildings, Bridges, Water & Wastewater, SEZs, Agri Infra)	Material testing (cement, steel), civil NDT, project inspection, PMC, environmental testing	Enhances construction quality, ensures structural safety, reduces rework and project delays
Transportation (Railways, Ports, Inland Waterways, Aviation, Roads)	Inspection, safety audits, quality testing, certification, asset condition monitoring	Improves operational safety, ensures regulatory compliance, enhances asset lifespan
Process Industries (Chemicals, Petrochemicals, Fertilizers)	Equipment inspection, risk assessment, HSE audits, lifecycle monitoring, certification	Minimizes hazards, ensures safe operations, reduces downtime and failure risks
Metals & Core Materials (Steel, Cement)	Metallurgical testing, material testing, inspection, coating analysis, certification	Ensures material quality, structural integrity, and compliance with industry standards
Manufacturing & Capital Goods	Product testing, calibration, certification (ISO, IATF), vendor audits, quality assurance	Ensures product quality, improves process efficiency, enhances global market acceptance



Pharmaceuticals & Healthcare (including Hospitals)	Laboratory testing, certification (ISO, GMP), audits, validation services, hygiene assessments	Ensures product safety and efficacy, regulatory compliance, and quality healthcare delivery
Food & Agriculture (including Agri Infra)	Food testing, FSSAI audits, hygiene rating, certification (ISO 22000, HACCP), supply chain audits	Ensures food safety, compliance with export standards, enhances consumer trust
Water & Environment	Water testing, environmental monitoring, pollution audits, ESG-related services	Ensures environmental compliance, supports sustainability goals, reduces ecological risks
IT & Digital / Cybersecurity	SOC monitoring, penetration testing, risk assessment, compliance audits, cybersecurity certification	Protects data and infrastructure, ensures cybersecurity compliance, reduces digital risks
Education & Institutions	ISO certification (ISO 21001), audits, training and assessment services	Improves institutional quality, standardization, and global recognition
Retail, Hospitality & Logistics (including Recreational Facilities)	Safety audits, ESG assessments, certification, hygiene audits, supply chain inspection	Enhances customer safety, ensures compliance, improves brand reputation and service quality

Use Cases of Third-Party TIC Services Across Key Industrial & Manufacturing Segments

Industry / Segment	Key Assets	Stage in Value Chain	Typical Use Cases	Key Benefits
Energy (Oil & Gas, Power, Renewable Energy, Thermal Energy)	Pipelines, refineries, turbines, solar panels, substations, thermal power plants	Design, procurement, construction, operations, maintenance	Asset integrity assessment, NDT, statutory inspections, pipeline inspection, performance testing, certification, Coal testing	Ensures asset safety, regulatory compliance, operational reliability, reduced failure risks
Infrastructure (Buildings, Bridges, Water & Wastewater, SEZs, Agri Infra)	Buildings, bridges, water systems, urban infrastructure	Design, construction, commissioning, operations	Material testing, civil NDT, site inspection, PMC, quality audits	Enhances construction quality, ensures structural safety, minimizes rework and delays
Transportation (Railways, Ports, Inland Waterways, Aviation, Roads)	Rail tracks, ports, vessels, aircraft systems, highways	Manufacturing, construction, operations, maintenance	Safety inspections, certification, performance testing, compliance audits	Improves safety, ensures regulatory compliance, enhances asset lifecycle performance
Process Industries (Chemicals,)	Reactors, pressure vessels,	Procurement, installation,	Equipment inspection, risk assessment, HSE audits	Minimizes operational hazards, ensures safe

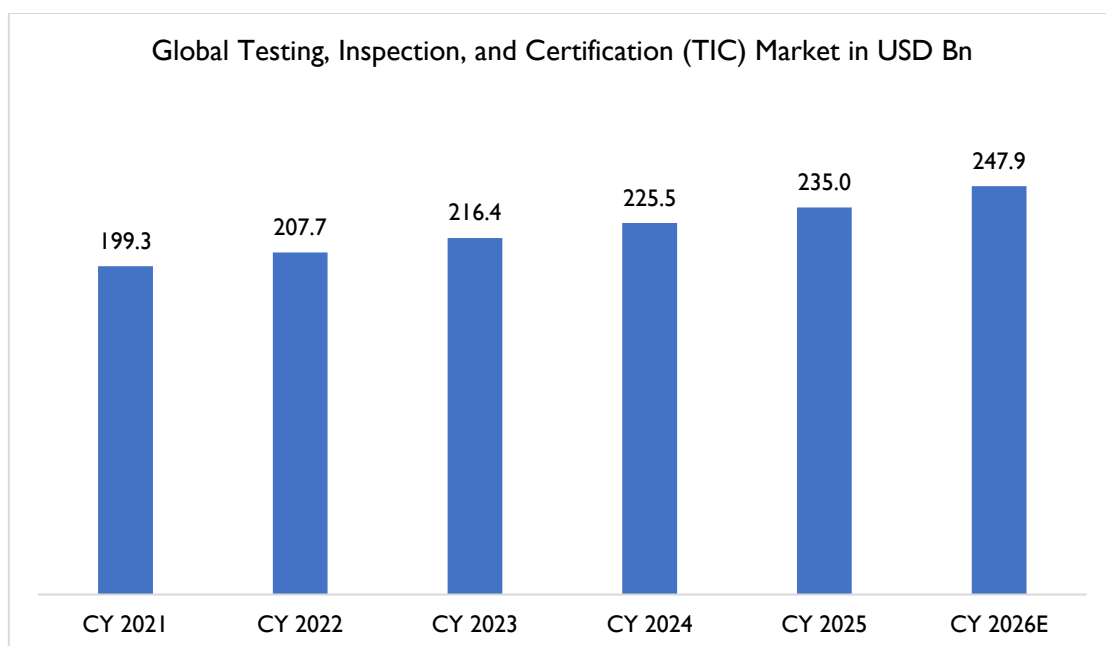
Petrochemicals, Fertilizers)	storage tanks, pipelines	operations, maintenance	audits, corrosion monitoring	handling, reduces downtime risks
Metals & Core Materials (Steel, Cement)	Steel plants, furnaces, kilns, raw materials	Production, quality control, dispatch	Metallurgical testing, material certification, coating inspection, failure analysis	Ensures material quality, consistency, and compliance with standards
Manufacturing & Capital Goods	Machinery, components, production lines	Design, production, quality control, pre-shipment	Product testing, calibration, certification (ISO/IATF), vendor audits	Enhances product quality, process efficiency, and global market acceptance
Pharmaceuticals & Healthcare	Drugs, medical devices, hospital systems	R&D, production, validation, distribution	Laboratory testing, GMP audits, validation services, certification	Ensures product safety, efficacy, and regulatory compliance
Food & Agriculture	Raw food materials, processing units, supply chains	Sourcing, processing, packaging, distribution	Food testing, hygiene audits, FSSAI compliance, certification (ISO 22000, HACCP)	Ensures food safety, traceability, and export compliance
Water & Environment	Water bodies, treatment plants, industrial discharge systems	Monitoring, operations, compliance	Water testing, environmental monitoring, pollution audits, ESG assurance	Ensures environmental compliance, supports sustainability goals
IT & Digital / Cybersecurity	IT systems, networks, industrial control systems	Development, deployment, operations	Penetration testing, SOC monitoring, cybersecurity audits, compliance testing	Protects digital infrastructure, ensures data security and compliance
Education & Institutions	Educational institutions, training systems	Operations, accreditation	ISO 21001 certification, audits, training and assessment	Improves institutional quality, standardization, and global recognition
Retail, Hospitality & Logistics (including Recreational Facilities)	Warehouses, hotels, retail outlets, logistics networks	Operations, service delivery	Safety audits, ESG assessments, hygiene audits, certification	Enhances customer safety, ensures compliance, improves brand credibility

Global Market Scenario: Current Scenario

Current Scenario: Global TIC Market Scenario

Current and Historic Market Scenario: Global Third-Party TIC Industry Market

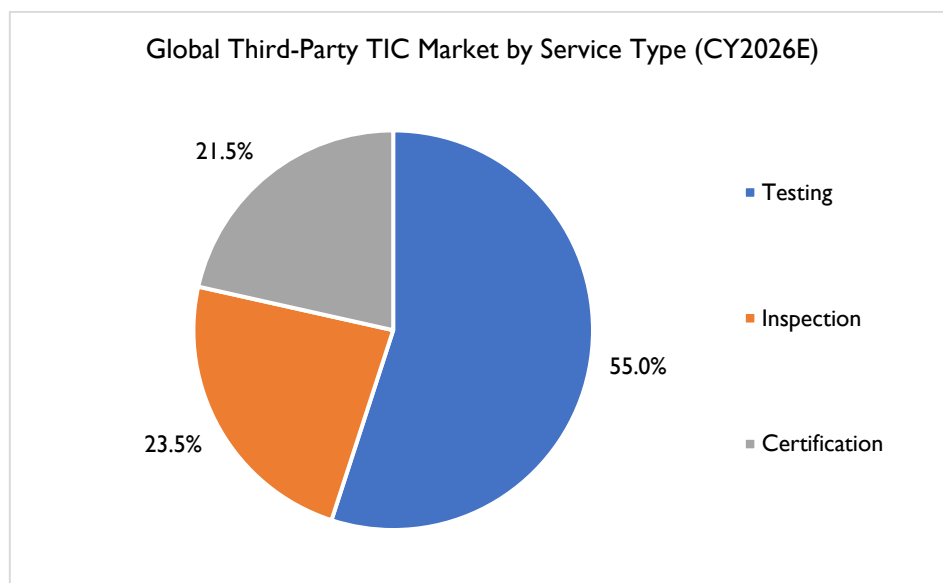
The global third-party Testing, Inspection, and Certification (TIC) market has demonstrated steady expansion during CY2021–25, increasing from USD 199.3 billion in CY2021 to USD 247.9 billion in CY2025, reflecting sustained growth supported by rising regulatory requirements, increasing product complexity, and growing reliance on independent conformity assessment services across industries. The market maintained a consistent upward trajectory over the period, indicating resilient demand for outsourced testing, inspection, and certification services despite broader macroeconomic uncertainties, supply chain disruptions, and inflationary pressures observed during the period.



Source: Dun & Bradstreet Research

The growth momentum has been supported by multiple structural factors, including tightening global quality and safety regulations, increasing adoption of international standards, expansion of global trade flows, and rising compliance requirements across sectors such as power and energy, infrastructure, automotive, pharmaceuticals, consumer goods, and industrial manufacturing. Additionally, increasing outsourcing of conformity assessment activities to specialized third-party service providers has supported market expansion, as enterprises continue to prioritize independent verification, risk mitigation, operational reliability, and market access. The growing complexity of emerging technologies, energy transition investments, ESG-linked compliance requirements, and digital assurance needs have further contributed to sustained demand growth in the global TIC market.

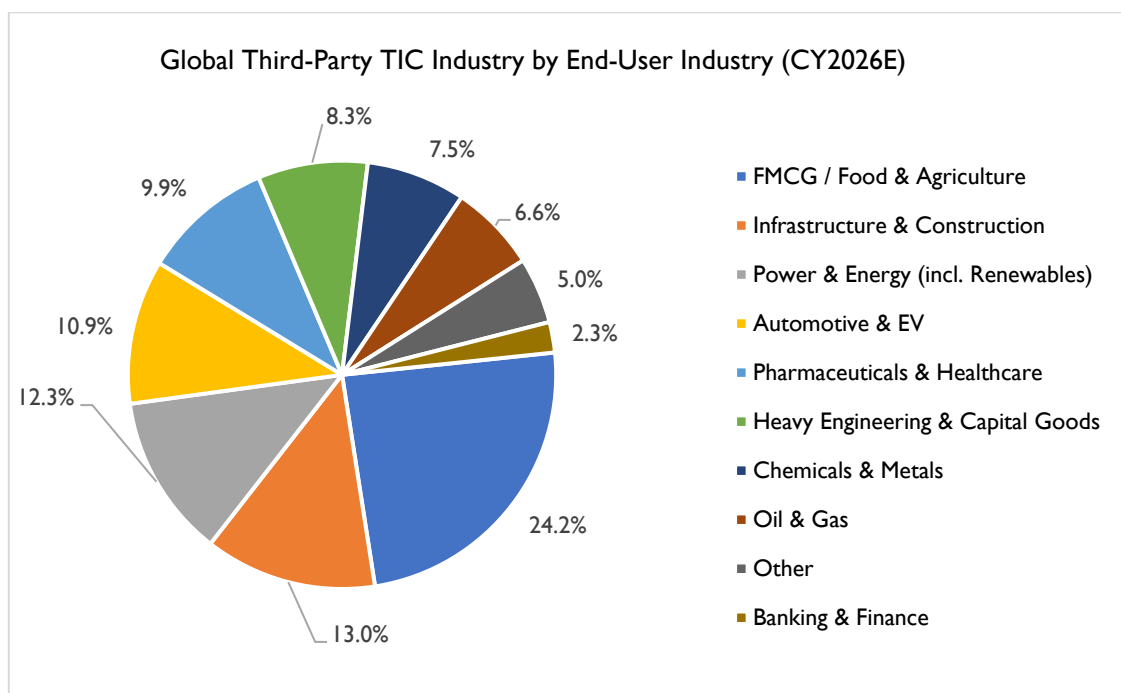
Market Segmentation of the Global Third-Party TIC Industry by Type of Services



Source: Dun & Bradstreet Research

The global third-party TIC market by service type in CY2025 is led by testing services, accounting for 55.0% of the market, reflecting the high frequency, technical complexity, and recurring demand associated with laboratory validation, product qualification, and compliance testing across industries. Inspection services represent 23.5% of the market, supported by demand for asset integrity assessments, site inspections, vendor inspections, and compliance verification, particularly in infrastructure, industrial, and energy-related applications. Certification services account for the remaining 21.5%, driven by demand for management system certifications, product certifications, and regulatory approvals required for market access and standards compliance. The segmental mix indicates that while testing forms the core of third-party TIC demand, inspection and certification continue to play complementary roles, supported by tightening regulatory requirements, increasing quality assurance needs, and growing reliance on independent conformity assessment services globally.

Market Segmentation of the Global Third-Party TIC Industry by End-User Industry



Source: Dun & Bradstreet Research

The global third-party TIC industry by end-user in CY2025 is led by FMCG / Food & Agriculture, accounting for 24.2% of the market, supported by stringent product safety, food quality, traceability, and regulatory compliance requirements. Infrastructure & Construction (13.0%) and Power & Energy, including renewables (12.3%), also represent significant shares, reflecting demand for testing, inspection, and certification services linked to asset integrity, project compliance, safety standards, and energy transition investments. Automotive & EV (10.9%), Pharmaceuticals & Healthcare (9.9%), and Heavy Engineering & Capital Goods (8.3%) further contribute materially to market demand, driven by increasing technical standards, product validation requirements, and regulatory oversight across industrial and advanced manufacturing applications. Meanwhile, Chemicals & Metals (7.5%), Oil & Gas (6.6%), and other industries (5.0%) provide diversified support to the market, while Banking & Finance (2.3%) represents a relatively smaller share, reflecting comparatively lower dependence on traditional physical conformity assessment services. Overall, the segmental mix indicates that the global third-party TIC market is broadly diversified, with demand supported by both compliance-intensive consumer sectors and asset-heavy industrial end-use industries.

Global Landscape: Major players operating in global third-party TIC industry

Det Norske Veritas (DNV)

Company Overview

DNV is an independent global assurance and risk management company headquartered in Norway, with operations in more than 100 countries. Established in 1864, the company is driven by its core purpose of safeguarding life, property, and the environment, and it supports organizations by providing reliable insights and technical expertise to make critical decisions with confidence. DNV is widely recognized as a leading classification society in the maritime sector and a trusted advisor across industries such as energy, healthcare, and infrastructure. It offers a broad range of services including testing, inspection, certification, and technical advisory, helping businesses ensure compliance, improve safety, and enhance operational performance.

In addition to its traditional assurance services, DNV has evolved into a provider of digital and data-driven solutions that help organizations manage risk and optimize asset performance across sectors like oil & gas, renewables, electric grids, and smart cities. The company also invests significantly in research and development to support innovation and address global challenges such as energy transition and sustainability. With a strong global presence, multidisciplinary expertise, and a reputation as a “trusted voice,” DNV plays a key role in setting industry standards and enabling businesses to operate safely, efficiently, and sustainably in an increasingly complex environment.

Services Offered:

Services Category	Subsegments
Assurance & Certification	• ISO certification • product certification • training
Inspection & Testing	• Vendor inspection • lab testing • verification
Energy Advisory	• Renewables • power grid • decarbonization
Maritime Services	• Classification • Ship certification • Technical assurance
Risk & Sustainability	• ESG audits • supply chain assurance • risk advisory
Risk Management Software	• Software • Data & analytics • Asset performance management tools



Key Customer Segments Served:

- **Large Enterprises & MNCs:** Compliance, safety, and operational assurance
- **Government & Regulators:** Standards verification and infrastructure oversight
- **Energy & Utilities Companies:** Renewable energy, power grids, and energy transition advisory
- **Oil & Gas Sector:** Asset integrity, risk management, and technical assurance
- **Maritime & Shipping Companies:** Classification, certification, and fleet performance services
- **Financial & ESG Organizations:** Sustainability assurance and reporting verification
- **Manufacturers & Supply Chain Players:** Product certification and supply chain risk management
- **Healthcare Institutions:** Accreditation and patient safety assurance

Key Strengths:

- **Strong Global Reputation & Brand Trust:** DNV is widely recognized for its credibility in assurance, certification, and risk management, which helps build high customer trust across industries.
- **Deep Technical Expertise:** The company has extensive domain knowledge in sectors like maritime, energy, oil & gas, and sustainability, supported by experienced engineers and specialists.
- **Focus on Safety, Quality, and Innovation:** Continuous investment in research, innovation, and safety standards keeps DNV at the forefront of industry developments.
- **Comprehensive Service Portfolio:** DNV offers end-to-end services including certification, testing, inspection, advisory, and digital solutions, enabling it to serve multiple client needs under one platform.

Bureau Veritas (BV)

Company Overview:

Bureau Veritas is a global leader in testing, inspection, and certification (TIC) services, with a long history dating back to its founding in 1828. Headquartered in France, the company operates as a “Business to Business to Society” service provider, helping organizations ensure that their products, assets, infrastructure, and processes comply with international standards related to quality, safety, environmental protection, and social responsibility.

The company has a strong global presence, with more than 80,000 employees, over 1,600 offices and laboratories, and operations in around 140 countries, serving approximately 400,000 clients worldwide. Its services are widely used across industries such as construction, oil & gas, power & utilities, consumer products, marine, automotive, and agri-food. Bureau Veritas focuses on helping clients improve performance, manage risks, and enhance trust by ensuring compliance with regulatory and industry standards. Its core service lines include laboratory testing, on-site inspection, and certification of systems, products, and processes. The company’s mission “shaping a world of trust” reflects its role in supporting sustainable development, operational efficiency, and transparency in global supply chains.



Services Offered:

Services Category	Subsegments
Inspection & Certification	- Laboratory testing, - On site Inspection - Product & system certification
Certification & Management Systems	- ISO Certification - Audits & assessments - Process certification
Product Assurance	- Safety testing - Performance testing - product certification
Digital & Cybersecurity Services	- Cybersecurity testing - digital inspection tools - remote auditing
Industry-Specific Assurance	- Oil & gas inspection & testing - Power & utilities services - Infrastructure & construction inspection
Marine & Offshore	- Ship classification - Marine certification - Offshore asset assurance
Agri-food & Commodities	- Food safety testing - Commodity inspection & certification - Traceability & quality assurance

Key Customer Segments Served:

- **Consumer Product Manufacturers & Retailers:** Brands in electronics, textiles, toys, and retail that need product safety testing and certification.
- **Financial Services & ESG-driven Organizations:** Firms seeking sustainability verification, ESG audits, and certification for regulatory and investor requirements
- **Agri-food, Commodities & Supply Chain Companies:** Producers, traders, and retailers needing product testing, traceability, and quality verification.
- **Energy, Marine & Industrial Players:** Oil & gas firms, renewable energy companies, shipowners, and heavy industries requiring risk management and asset integrity service

Key Strengths:

- **Advanced Technology & Digital Solutions:** Uses data, analytics, and digital platforms for efficient service delivery
- **Diverse Service Portfolio:** Offers a wide range of testing, inspection, certification (TIC), and sustainability services



- **Strong Regulatory Recognition:** Holds accreditations from international standards and regulatory bodies
- **Focus on Sustainability & ESG:** Expands capabilities in environmental and social compliance services

SGS

Company Overview:

SGS is a leading global testing, inspection, and certification (TIC) company headquartered in Geneva, Switzerland. Founded in 1878, SGS operates in more than 140 countries with a vast network of laboratories and offices, making it one of the most extensive TIC service providers worldwide. The company's core mission is to enable a better, safer, and more interconnected world by ensuring quality, safety, and compliance across industries. SGS provides independent services that help organizations meet regulatory requirements, improve operational efficiency, and build trust with stakeholders. It is recognized as a global benchmark for quality and integrity, supporting businesses throughout their value chains from raw material sourcing to final product delivery.

Beyond traditional inspection and certification, SGS has expanded into digital assurance, sustainability services, and advanced analytics. The company plays a significant role in areas such as ESG compliance, supply chain transparency, and environmental impact assessment. With continuous investment in innovation, digitalization, and laboratory capabilities, SGS helps organizations navigate complex regulatory environments and evolving global standards.

Services Offered:

Services Category	Subsegments
Testing Services	• Laboratory testing • Material testing • Consumer product testing
Inspection Services	• Vendor inspection • Pre-shipment inspection • Asset integrity inspection
Certification Services	• ISO certification • Product certification • System certification
Sustainability & ESG	• ESG verification • Sustainability reporting • Carbon footprint assessment
Industrial & Energy Services	• Oil & gas inspection • Renewable energy advisory • Power and utilities testing



Digital & Innovation Services	• Digital assurance • Data analytics solutions • Supply chain traceability platforms
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Key Customer Segments Served:

- **Large Enterprises & MNCs:** Quality assurance, compliance, and risk mitigation across global operations
- **Governments & Regulatory Bodies:** Standards enforcement, inspections, and certification support
- **Manufacturers & Industrial Firms:** Product testing, certification, and supply chain verification
- **Energy & Utilities Companies:** Asset integrity, renewable energy advisory, and safety compliance
- **Retail & Consumer Goods Companies:** Product quality, safety testing, and brand protection
- **Financial & ESG Stakeholders:** Sustainability assurance and ESG verification services

Key Strengths:

- **Global Leadership in TIC Industry:** SGS is one of the largest and most recognized TIC companies globally, known for its credibility and neutrality
- **Extensive Global Network:** Presence in over 140 countries with a strong laboratory and inspection infrastructure
- **Broad Industry Coverage:** Serves diverse sectors including agriculture, mining, oil & gas, manufacturing, and consumer goods
- **Strong Focus on Quality & Integrity:** SGS is widely regarded as a benchmark for trust, transparency, and compliance
- **Advanced Testing & Lab Capabilities:** Continuous investment in cutting-edge laboratory technologies and methodologies
- **Sustainability & ESG Expertise:** Strong capabilities in environmental, social, and governance assurance aligned with global standards

TUV Rheinland

Company Overview:

TUV Rheinland is a globally recognized testing, inspection, certification (TIC), and technical services company headquartered in Cologne, Germany. Established in 1872, the company operates in over 60 countries with a strong presence across Europe, Asia, and the Americas. TUV Rheinland's core mission is to ensure safety, quality, and efficiency across products, systems, and services while supporting sustainable development. The company provides independent assurance services that help organizations comply with international standards, reduce risk, and improve operational performance. It is widely known for its expertise in industrial testing, product certification, mobility solutions, and digital transformation services.

TUV Rheinland serves a broad spectrum of industries including manufacturing, automotive, energy, healthcare, information technology, and infrastructure. In recent years, the company has expanded into



digitalization, cybersecurity, and sustainability services, helping organizations navigate evolving regulatory environments and technological disruptions. With a strong focus on innovation and safety, TUV Rheinland invests in advanced laboratories, testing facilities, and R&D initiatives to address global challenges such as energy transition, climate change, and digital security. Its reputation as a trusted independent third party makes it a key partner for organizations seeking compliance, reliability, and market access worldwide.

Services Offered:

Services Category	Subsegments
Testing & Certification	- Product testing & certification - ISO certification - Management system certification
Inspection Services	- Industrial inspection - Vendor inspection - Construction & infrastructure inspection
Mobility Services	- Vehicle testing & certification - Automotive homologation - Transport safety solutions
Energy & Environment	- Renewable energy testing - Energy efficiency audits - Environmental impact assessment
Digital & Cybersecurity	- Cybersecurity certification - Data protection & IT security - Industrial digital solutions
Training & Consulting	- Technical training - Compliance consulting - Process optimization

Key Customer Segments Served:

- Large Enterprises & MNCs:** Product certification, compliance, and global market access
- Manufacturers & Industrial Players:** Quality assurance, testing, and inspection services
- Automotive & Mobility Sector:** Vehicle testing, homologation, and safety certification
- Government & Regulatory Bodies:** Infrastructure inspection and safety compliance
- Energy & Utilities:** Renewable energy validation and efficiency audits
- Technology & IT Firms:** Cybersecurity certification and digital assurance



Key Strengths:

- **Strong Global Brand & Legacy:** TUV Rheinland has over 150 years of credibility in safety, quality, and compliance services
- **Extensive Testing Infrastructure:** Advanced labs and testing facilities across multiple geographies and industries
- **Diverse Industry Expertise:** Deep domain knowledge in automotive, industrial, energy, and digital sectors
- **Focus on Safety & Compliance:** Strong adherence to international standards and regulatory frameworks
- **Expansion into Digital & Cybersecurity:** Growing capabilities in IT security, digital transformation, and Industry 4.0
- **End-to-End Service Offering:** Covers the full lifecycle from testing and inspection to certification and consulting

Brief insight on the prevalent business models



❖ Fee-for-Service / Project-Based Model:

The fee-for-service model is the most widely adopted business model in the TIC industry, wherein companies charge clients on a per-assignment basis for services such as inspection, testing, and certification. The scope of work is typically defined at the outset, and pricing is determined based on parameters such as project size, complexity, duration, and the level of technical expertise required. This model is particularly prevalent in project-driven industries such as oil & gas, infrastructure, construction, and heavy engineering. Under this model, revenues are closely linked to industrial activity and capital expenditure cycles.

During periods of strong investment in infrastructure and industrial projects, demand for third-party inspection and testing services tends to increase, leading to higher revenue generation. Conversely, any slowdown in project execution or delays in capital spending can impact revenue visibility, making this model relatively cyclical in nature. Additionally, the model offers flexibility to both clients and service providers, as services can be availed on an as-needed basis without long-term commitments. However, for TIC companies, this may result in variability in revenue streams and higher dependence on continuously acquiring new projects, thereby increasing competitive intensity and pricing pressures in the market.

❖ Long-Term Contracts / Retainer-Based Model:

In the long-term contract or retainer-based model, TIC companies enter into multi-year agreements with clients to provide ongoing inspection, testing, and compliance monitoring services. These contracts are typically structured around large industrial clients, utilities, or government projects where continuous quality assurance and regulatory compliance are critical. The scope may include periodic inspections, vendor audits, site supervision, and certification support. This model provides greater revenue stability and predictability compared to project-based engagements, as it ensures a steady stream of income over the contract duration. It also enables TIC companies to deepen their engagement with clients, leading to stronger relationships, better understanding of operational requirements, and opportunities for cross-selling additional services. From a client perspective, long-term contracts ensure consistent quality oversight and reduce the need to onboard multiple service providers. For TIC firms, while the margins may sometimes be lower compared to one-time projects, the model offers improved capacity utilization and reduced business development costs, making it an important component of a balanced revenue portfolio.

❖ Certification & Audit-Based Model:

The certification and audit-based model is a key segment within the TIC industry, focused on providing conformity assessment services against established standards such as ISO certifications, product certifications, and regulatory compliance frameworks. TIC companies generate revenue through initial certification audits, followed by periodic surveillance audits and recertification processes over the certification cycle. This model is characterized by relatively high margins due to the specialized expertise, accreditation requirements, and brand credibility associated with certification bodies.

Demand for such services is driven by increasing regulatory requirements, globalization of trade, and the need for companies to demonstrate compliance with international quality and safety standards, particularly in export-oriented sectors. Furthermore, the recurring nature of surveillance and renewal audits provides a stable and predictable revenue stream for TIC companies. As organizations increasingly prioritize quality assurance, environmental compliance, and operational safety, the certification and audit segment continues to witness sustained demand, making it a strategically important and less cyclical component of the TIC business model.

❖ Laboratory Testing / Asset-Based Model:

The laboratory testing or asset-based model involves TIC companies investing in specialized laboratory infrastructure to conduct testing and analysis of samples across sectors such as food, pharmaceuticals, environmental services, and materials engineering. Revenue is generated based on the volume and type of samples tested, with pricing varying depending on the complexity and turnaround time of the analysis. This model is capital-intensive, requiring significant investment in equipment, technology, and skilled personnel, as well as compliance with stringent accreditation standards.



However, once established, laboratory operations can achieve economies of scale, enabling companies to handle large volumes of testing with relatively stable margins. The model also benefits from repeat business, particularly in industries with ongoing testing requirements such as food safety and pharmaceuticals. In contrast to project-based inspection services, laboratory testing tends to be less dependent on capital expenditure cycles and more aligned with consumption-driven sectors. As regulatory scrutiny around product quality, environmental standards, and health and safety continues to increase, demand for laboratory testing services is expected to remain strong, supporting long-term growth and diversification for TIC companies.

Brief insight on key global accreditation standards

Global accreditation standards form the backbone of the Testing, Inspection, and Certification (TIC) industry, ensuring that service providers operate with recognized levels of competence, impartiality, and consistency. These standards are typically developed by international standard-setting bodies and are adopted across countries to harmonize quality and compliance frameworks. Accreditation against such standards enhances the credibility of TIC providers and facilitates cross-border acceptance of test results and certifications. Such accreditation is granted by recognized national accreditation bodies, which formally authorize TIC service providers to perform testing, inspection, and certification activities in accordance with applicable international standards.

One of the most widely recognized frameworks is the **ISO/IEC series of standards**, which govern different aspects of TIC operations. For instance, ISO/IEC 17025 applies to testing and calibration laboratories, ensuring technical competence and reliability of results, while ISO/IEC 17020 is applicable to inspection bodies, focusing on independence and consistency in inspection processes. Similarly, ISO/IEC 17021 pertains to certification bodies conducting audits for management systems such as ISO 9001 (quality management) and ISO 14001 (environmental management). Compliance with these standards is often a prerequisite for operating in regulated industries and for participating in global supply chains.

In addition to ISO frameworks, global accreditation is reinforced through international cooperation bodies such as the **International Accreditation Forum (IAF)** and the **International Laboratory Accreditation Cooperation (ILAC)**. These organizations establish mutual recognition arrangements (MRAs), enabling certificates and test reports issued by accredited bodies in one country to be accepted in others. This significantly reduces duplication of testing and certification efforts, thereby facilitating international trade and improving efficiency across industries.

Overall, adherence to global accreditation standards not only ensures quality and reliability in TIC services but also strengthens trust among stakeholders, including regulators, manufacturers, and end-users. As regulatory requirements continue to evolve and global trade expands, the role of standardized accreditation frameworks is becoming increasingly critical in maintaining consistency and transparency across the TIC ecosystem.



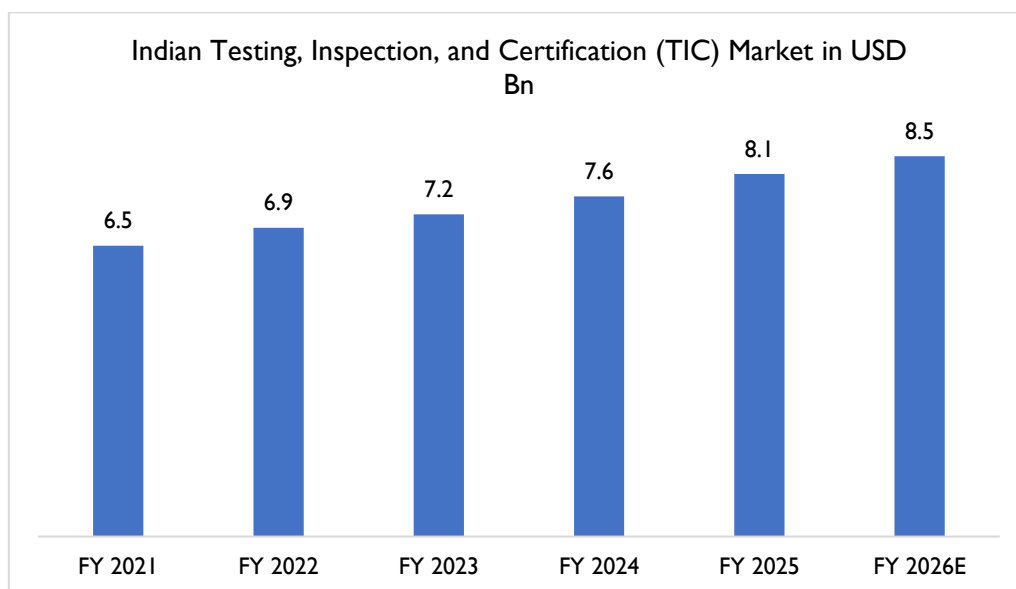
- Global accreditation standards ensure **uniform quality, reliability, and technical competence** across TIC service providers worldwide.
- The **ISO/IEC 17000 series** serve as the primary framework governing laboratories, inspection bodies, and certification agencies.
- Accreditation by recognized bodies enhances **international acceptance of test reports and certifications**, supporting global trade.
- Frameworks such as **IAF and ILAC mutual recognition arrangements (MRAs)** enable cross-border validity of certifications.
- Compliance with these standards is often **mandatory for participation in regulated industries and global supply chains**.
- Increasing regulatory scrutiny is driving **greater adoption of standardized accreditation across emerging and developed markets**.



Indian Market Scenario: Current Scenario

Current Scenario: India TIC Market Scenario

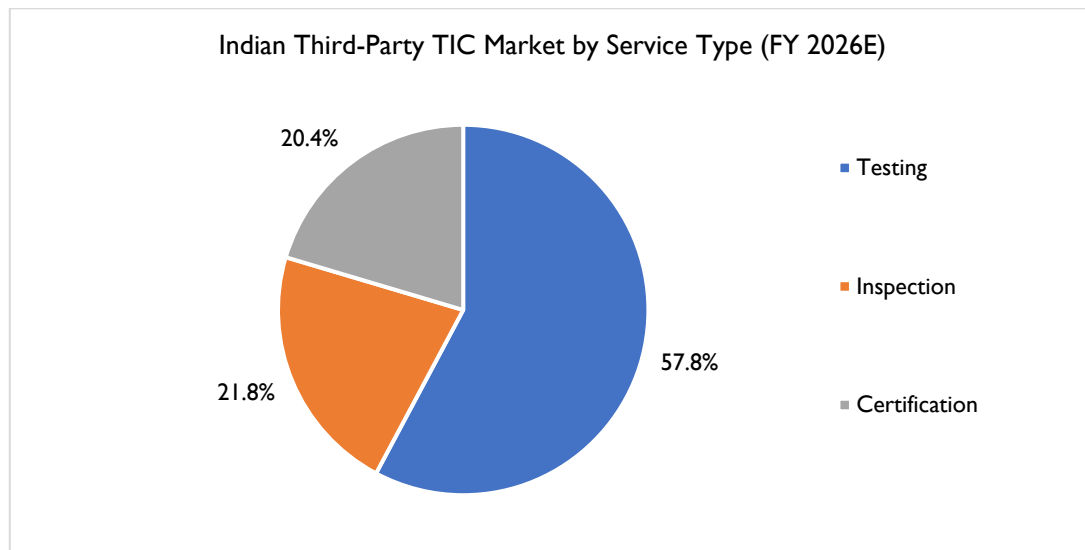
The Indian TIC market has demonstrated steady expansion over the historical period, increasing from USD 6.5 billion in FY2021 to USD 8.1 billion in FY2025 and estimated to value at USD 8.5 billion in FY 2026, reflecting sustained growth in demand for outsourced testing, inspection, and certification services across industrial and consumer sectors. The market growth has been supported by rising regulatory compliance requirements, increasing quality assurance needs across sectors such as power, automotive, pharmaceuticals, infrastructure, and manufacturing, as well as growing adoption of certification and inspection services linked to exports, product safety, and operational risk management. Additionally, increasing industrial formalization, expanding infrastructure activity, and stronger emphasis on environmental and safety standards have contributed to higher demand for third-party conformity assessment services.



Source: Dun & Bradstreet Research

The growth trajectory is expected to continue at healthy rate, supported by continued outsourcing of compliance-related functions, rising complexity of technical standards, and growing demand for specialized testing and certification services in emerging areas such as renewable energy, digital systems, and industrial quality assurance. The consistent increase in market size also reflects a structural shift toward greater reliance on independent TIC service providers, driven by the need for credibility, technical expertise, and compliance with domestic and international standards.

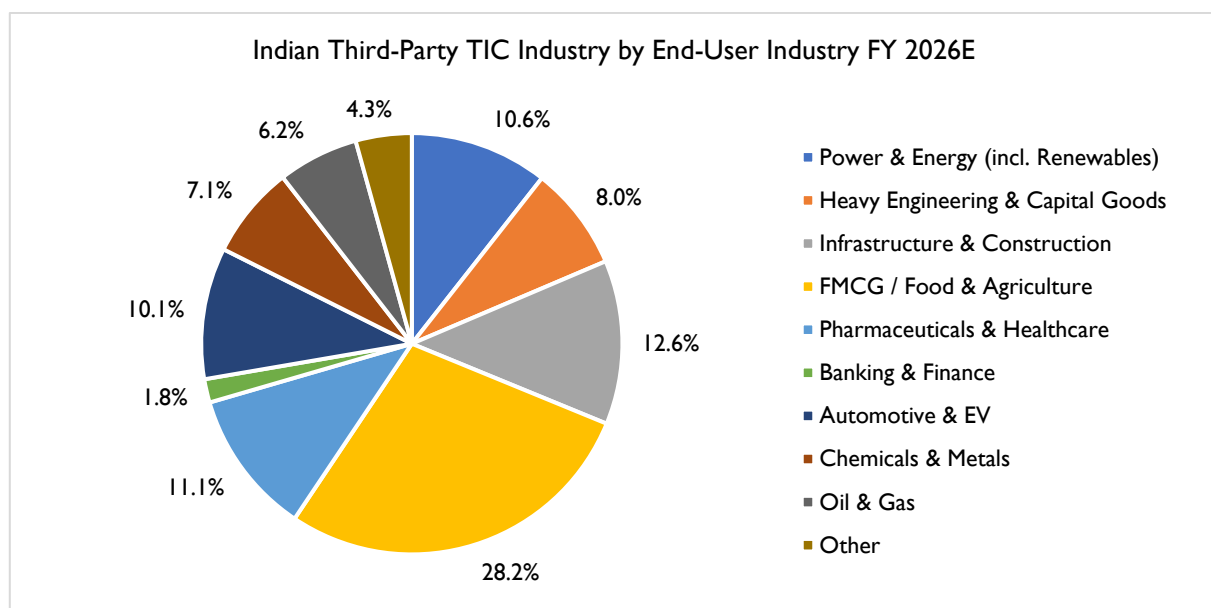
Market Segmentation of the Indian Third-Party TIC Industry by Type of Services



Source: Dun & Bradstreet Research

The Indian third-party TIC market is predominantly led by Testing, which accounts for 57.8% of the market, reflecting strong demand for laboratory-based evaluation, product validation, and compliance testing across industries with stringent quality and safety requirements. Inspection represents 21.8% of the market, supported by demand for asset verification, site inspections, and process compliance across industrial and infrastructure applications, while Certification accounts for 20.4%, driven by regulatory compliance, management system certifications, and product conformity requirements. The segmental mix reflects the higher frequency and technical breadth of testing services, while inspection and certification continue to play important supporting roles in the broader conformity assessment ecosystem.

Market Segmentation of the Indian Third-Party TIC Industry by End-User Industry



Source: Dun & Bradstreet Research

The Indian third-party TIC market demonstrates diversified demand across end-user industries, with FMCG / Food & Agriculture accounting for the largest share at 28.2%, supported by stringent quality, safety, and compliance requirements. Infrastructure & Construction (12.6%), Pharmaceuticals & Healthcare (11.1%), and

Power & Energy (10.6%) also represent significant demand centers, reflecting strong reliance on testing, inspection, and certification services across regulated and asset-intensive sectors. Other sectors such as Automotive & EV, Heavy Engineering, Chemicals & Metals, and Oil & Gas contribute to a balanced industry mix, while the relatively lower share of Banking & Finance reflects the market's stronger concentration in industrial and product-driven conformity assessment services.



Regulatory Landscape governing third party TIC industry in India

The regulatory landscape for the third-party Testing, Inspection, and Certification (TIC) industry in India is shaped by a combination of statutory regulations, voluntary standards, and accreditation frameworks. Third-party TIC services, which provide independent verification of products, processes, and systems, are governed by agencies such as the Bureau of Indian Standards (BIS), Food Safety and Standards Authority of India (FSSAI), Central Drugs Standard Control Organization (CDSCO), and sector-specific regulators depending on industries like electrical, automotive, and pharmaceuticals. While some certifications are mandatory under laws like the Legal Metrology Act or Food Safety Act, many quality and safety certifications are voluntary but widely recognized by industry players, including EPC contractors, utilities, and multinational corporations, to ensure market acceptance and compliance with international standards.

The accreditation ecosystem plays a pivotal role in ensuring the credibility of third-party TIC providers. The National Accreditation Board for Testing and Calibration Laboratories (NABL) and the National Accreditation Board for Certification Bodies (NABCB) provide formal recognition of technical competence for laboratories, inspection bodies, and certification agencies, aligning them with ISO/IEC standards.

Statutory authorities and their roles

- **Bureau of Indian Standards (BIS)**

The Bureau of Indian Standards (BIS) is the national standards body responsible for formulating and enforcing product quality standards across a wide range of industries in India. It operates mandatory and voluntary certification schemes such as the ISI mark, which ensures that products meet defined safety and quality benchmarks before entering the market. BIS plays a central role in the TIC ecosystem by mandating third-party testing for notified products through BIS-recognized laboratories and certification bodies. It also develops Indian Standards aligned with international norms, thereby enabling global acceptance of Indian products.

BIS conducts factory inspections, product sampling, and surveillance activities to ensure ongoing compliance with standards. It regulates multiple sectors including electronics, consumer goods, steel, cement, and electrical appliances. The institution also provides licensing for manufacturers based on conformity assessment processes. Through its regulatory framework, BIS ensures consumer safety, product reliability, and quality assurance. It also facilitates trade by harmonizing Indian standards with ISO and IEC frameworks. Overall, BIS is a key driver of mandatory TIC demand in India.

- **Food Safety and Standards Authority of India**

The Food Safety and Standards Authority of India (FSSAI) is a statutory body established under the Food Safety and Standards Act, 2006, and it became operational in 2008 under the Ministry of Health and Family Welfare, Government of India. Its primary mandate is to lay down science-based food standards and regulate the manufacture, storage, distribution, sale, and import of food to ensure safe and wholesome food for



consumers. As per official government data, FSSAI consolidates multiple food-related laws into a single framework and acts as the central authority for food safety regulation in India.

Financial Year	Budget Estimate (In INR Crores)
2021-2022	288.35
2022-2023	300.00
2023-2024	574.86
2024-2025	620.00
2025-2026	525.00

Source: Food Safety and Standards Authority of India

In terms of funding, FSSAI receives budgetary support from the Government of India along with its own revenue from licensing and service fees. As per official government budget disclosures, the authority received budget allocations of **INR 300.00 crore in FY 2022–23, INR 574.86 crore in FY 2023–24, INR 620.00 crore in FY 2024–25, and INR 525.00 crore in FY 2025–26**. These funds are utilized to strengthen regulatory operations, expand laboratory infrastructure and mobile food testing units, enhance food surveillance and enforcement activities, and support nationwide capacity-building, training, and consumer awareness initiatives. Overall, government support, supplemented by FSSAI's internally generated revenue, enables the authority to strengthen India's food safety ecosystem and improve plementation of food quality and safety standards across the country.

The Food Safety and Standards Authority of India (FSSAI) establish a science-based standards for food products and ensures compliance through mandatory testing and certification. FSSAI mandates the use of accredited laboratories for food testing, thereby driving demand for third-party TIC services. It regulates the entire food supply chain including manufacturing, storage, distribution, and retail. The authority issues licenses and registrations to food businesses based on compliance with safety norms. It also conducts inspections, sampling, and surveillance to monitor food quality in the market. FSSAI plays a crucial role in preventing food adulteration and contamination risks. It aligns Indian food standards with global Codex Alimentarius guidelines to support exports. The authority also promotes consumer awareness regarding food safety and hygiene.

- **Central Drugs Standard Control Organisation**

The Central Drugs Standard Control Organisation (CDSCO) is India's national regulatory authority for drugs, medical devices, and cosmetics, functioning under the Directorate General of Health Services, Ministry of Health and Family Welfare. It operates under the Drugs and Cosmetics Act, 1940 and Rules, 1945, and is responsible for ensuring the safety, efficacy, and quality of medical products in India, while coordinating with state drug regulators for uniform enforcement of drug laws.



CDSCO oversees approval and regulation of drugs, vaccines, and medical devices, including market authorization, import controls, manufacturing oversight, clinical trials, bioequivalence studies, and post-market surveillance. It mandates laboratory testing, clinical validation, inspections, and quality audits to ensure compliance with prescribed standards, while progressively aligning Indian regulatory frameworks with international standards such as WHO and USFDA benchmarks.

In terms of funding, CDSCO operates through budgetary allocations from the Government of India under the Ministry of Health and Family Welfare, rather than as an independent revenue-generating authority. Recent government initiatives, including the proposed Biopharma Shakti program, are aimed at strengthening pharmaceutical and regulatory infrastructure, including laboratory systems and regulatory capacity. Through its stringent compliance and quality requirements, CDSCO acts as a key regulatory driver for testing, inspection, and certification (TIC) services in India's healthcare and life sciences sector.

- **Agricultural and Processed Food Products Export Development Authority (APEDA)**

The Agricultural and Processed Food Products Export Development Authority (APEDA) is a statutory body under the Ministry of Commerce that regulates and promotes exports of agricultural and processed food products. It plays a key role in ensuring export quality compliance through certification, inspection, and traceability systems. APEDA establishes quality standards for products such as fruits, vegetables, meat, dairy, and processed foods. It mandates testing and certification to meet international phytosanitary and safety requirements. The authority also supports accredited laboratories and inspection agencies for export certification processes. APEDA develops protocols for residue monitoring, packaging standards, and hygiene compliance. It facilitates certification for organic products and traceability systems for export markets. The organization works closely with global import regulations to ensure Indian exports meet destination-country standards. It also provides infrastructure and technical support for quality assurance systems. Overall, APEDA strengthens the role of TIC services in enabling export competitiveness.

- **Petroleum and Explosives Safety Organization (PESO)**

The Petroleum and Explosives Safety Organization (PESO) is a statutory authority under the Ministry of Commerce responsible for regulating safety in hazardous materials including explosives, petroleum, and compressed gases. It ensures strict compliance through testing, inspection, and certification of storage facilities, equipment, and transport systems. PESO grants approvals for pressure vessels, pipelines, and hazardous installations based on safety standards. It mandates third-party inspection of critical industrial equipment before commissioning and during operations. The organization enforces compliance with the Explosives Act and Petroleum Act through rigorous safety audits. It plays a key role in preventing industrial accidents related to flammable and explosive substances. PESO also certifies cylinders, storage tanks, and safety systems used in energy infrastructure. It collaborates with accredited inspection agencies for technical evaluation and certification. The authority ensures lifecycle safety management of hazardous materials.



- **Petroleum and Natural Gas Regulatory Board (PNGRB)**

The Petroleum and Natural Gas Regulatory Board (PNGRB) is the statutory regulator for downstream oil and gas infrastructure in India. It regulates the development and operation of pipelines, city gas distribution networks, and related infrastructure. PNGRB ensures technical and safety compliance through mandatory standards and third-party inspections. It authorizes pipeline projects based on design, safety, and operational conformity assessments. The board enforces regulations for transportation of petroleum, natural gas, and LNG through pipelines. It also mandates compliance audits and safety inspections during project execution and operations. PNGRB plays a key role in ensuring infrastructure integrity and preventing leakages or failures. It promotes transparency and efficiency in infrastructure development through regulated certification processes. The authority supports technical standardization aligned with global oil and gas safety norms.

- **Central Pollution Control Board (CPCB)**

The Central Pollution Control Board (CPCB) is the apex statutory authority responsible for environmental monitoring and pollution control in India. It sets emission and effluent standards for industries to ensure environmental compliance. CPCB mandates regular environmental testing for air, water, and soil quality through approved laboratories. It monitors industrial pollution and enforces compliance with the Environment Protection Act. The board conducts inspections and sampling of industrial units to assess environmental impact. It also regulates hazardous waste management and disposal practices. CPCB plays a key role in environmental impact assessment and compliance certification. It coordinates with State Pollution Control Boards for enforcement at the regional level. The authority promotes sustainable industrial practices through regulatory oversight.

- **Legal Metrology Division (Ministry of Consumer Affairs)**

The Legal Metrology Division is a statutory authority responsible for ensuring accuracy and fairness in weights, measures, and packaged goods in India. It regulates compliance related to measurement standards used in trade and commerce. The division mandates verification and certification of weighing and measuring instruments used across industries. It ensures that packaged goods comply with labeling, quantity declaration, and pricing norms. Legal metrology officers conduct inspections to prevent malpractices in trade measurement systems. It plays a key role in consumer protection by ensuring transparency in commercial transactions. The authority regulates import, manufacture, and sale of measurement instruments. It enforces compliance through penalties and corrective actions in case of violations. It also supports calibration and testing infrastructure through accredited labs. Overall, Legal Metrology is an important enabler of TIC services in trade compliance.

- **Ministry of Road Transport and Highways (MoRTH)**

The Ministry of Road Transport and Highways (MoRTH) is the statutory authority responsible for setting vehicle safety, design, and performance standards in India. It regulates homologation and certification of vehicles before they are introduced in the market. MoRTH mandates testing of vehicles and automotive components through notified testing agencies. It ensures compliance with safety, emission, and



roadworthiness standards under the Motor Vehicles Act. The ministry oversees inspection of vehicle prototypes and certification of automotive systems. It enforces regulations related to crash safety, emission norms, and fuel efficiency standards. MoRTH works with testing agencies like ARAI and ICAT for technical validation. It also regulates periodic vehicle fitness testing to ensure road safety compliance. The authority aligns Indian automotive standards with global benchmarks such as UNECE norms. Overall, MoRTH is a key regulator driving automotive TIC demand.

- **Central Electricity Authority (CEA)**

The Central Electricity Authority (CEA) is a statutory body under the Ministry of Power responsible for regulating technical standards in the electricity sector. It prescribes safety and performance standards for electrical equipment and power systems. CEA mandates testing and inspection of electrical infrastructure to ensure grid safety and reliability. It regulates generation, transmission, and distribution system standards across India. The authority ensures compliance through technical inspections and approval of electrical installations. It plays a key role in preventing electrical hazards and system failures. CEA also sets guidelines for equipment testing and certification before deployment in the power grid. It works closely with utilities and testing agencies for system validation. The authority ensures integration of renewable energy into the grid through technical compliance standards. Overall, CEA is a critical driver of TIC services in the power sector.

- **Directorate General of Shipping (DGS)**

The Directorate General of Shipping (DGS) is the statutory authority under the Ministry of Ports, Shipping and Waterways responsible for regulating maritime safety, shipping operations, and seafarer standards in India. It ensures compliance with national and international maritime conventions such as SOLAS and MARPOL. DGS plays a key role in mandating inspection, testing, and certification of ships, marine equipment, and port-related infrastructure. It oversees classification, certification, and survey requirements for vessels through recognized organizations and inspection agencies. The authority regulates ship design approval, seaworthiness certification, and periodic safety inspections. It also ensures compliance with pollution control norms in marine environments. DGS is responsible for certification and training standards of seafarers and maritime personnel. It collaborates with third-party classification societies for technical inspections and audits. The organization enforces safety standards across India's shipping fleet and coastal operations. Overall, DGS is a critical regulator driving TIC services in the maritime and shipping sector.

Comparison of mandatory vs voluntary certification regimes

India's certification framework, administered by the Bureau of Indian Standards (BIS), follows a hybrid model combining voluntary and mandatory regimes. In principle, certification is voluntary, meaning manufacturers may choose to obtain BIS certification to demonstrate conformity with Indian Standards and enhance product credibility in the market. However, the government retains the authority to make certification mandatory for specific products where regulation is necessary.

The mandatory certification regime is enforced through Quality Control Orders (QCOs) issued by the Central Government, requiring products to comply with prescribed standards and bear the Standard Mark before being manufactured, imported, or sold. This shift from voluntary to mandatory is typically driven by considerations such as public safety, health, environmental protection, and prevention of unfair trade practices, ensuring that critical products meet minimum quality and safety benchmarks while allowing flexibility in non-critical sectors.

Aspect	Voluntary Certification Regime	Mandatory Certification Regime
Definition	BIS certification scheme is basically voluntary in nature.	Compliance to Indian Standards is made compulsory by the Central Government
Legal Status	Not required by law	Legally enforced
Applicability	All products (optional adoption)	Only notified products
Trigger Mechanism	Manufacturer's choice	Government notification
Enforcement Tool	Not applicable	Mandatory use of Standard Mark. through issuance of Quality Control Orders (QCOs)
Objective	Implied: Quality assurance and standard compliance	Public interest, protection of health, safety of environment & prevention of unfair trade practices and national security
Compliance Requirement	Optional	No person shall manufacture, import, distribute or sell without the Standard Mark
Certification Mark Usage	Optional ISI/BIS mark	Mandatory Standard Mark
Extent of Coverage	Broad (open to all products)	Over 450 products are under the ambit of mandatory certification.

Acceptance of Third-Party Certification

In India, acceptance of third-party certification refers to the formal recognition by government authorities and public sector entities of independent, accredited agencies to conduct testing, inspection, and certification of products, materials, and systems. This framework is embedded within the national conformity assessment system governed by the Bureau of Indian Standards under the BIS Act, 2016. The system allows compliance to be established not only through manufacturer declarations but also through independent third-party testing and certification, provided such agencies are recognized or accredited under government-approved mechanisms. Conformity may also be established through third-party laboratory testing conducted by recognized or accredited laboratories. BIS accepts test reports issued by BIS-recognized laboratories as part of conformity assessment processes. This confirms that third-party certification is institutionally accepted within India's national standards and certification regime.



➤ **Acceptance by Utilities**

Government utilities in the power sector formally accept third-party inspection and testing as part of procurement and quality assurance. The Central Power Research Institute (CPRI), functioning under the Ministry of Power, provides third-party inspection services specifically for electrical equipment procured by utilities. These services are officially recognized and widely used by state electricity boards and transmission/distribution companies to ensure compliance with technical standards. CPRI has been carrying out Third Party Inspection of electrical equipment procured by Utilities, services have been extensively utilized for inspection of equipment procured by many Power Utilities. This demonstrates that government utilities formally rely on and accept third-party inspection reports as part of procurement decisions and technical validation processes.

Government utilities in the power sector formally accept third-party inspection and testing as part of procurement and quality assurance. The Central Power Research Institute (CPRI), under the Ministry of Power, states that its third-party inspection services have been **extensively utilized by many power utilities**, specifically naming utilities such as **OPTCL, HVPNL, UHBVNL, DHBVNL, RRVPNL, KPTCL and BESCOM**, among others. This shows multi-utility acceptance of third-party inspection reports as part of procurement and technical validation processes.

➤ **Acceptance in PSUs**

Within government procurement systems, third-party certification is explicitly required as part of quality control and contract compliance. The Central Public Works Department (CPWD), through its Works Manual (Government of India), mandates that materials used in public works must be supported by third-party certification where applicable. This ensures that quality verification is carried out by independent agencies rather than relying solely on supplier claims. CPWD provisions require materials, where applicable, to be supported by third-party certification certificates.

This establishes that in PSUs and government departments:

- Third-party certification is a contractual requirement
- It is part of tender and material approval processes
- Independent verification is mandatory for quality assurance in public works

➤ **Acceptance by EPC Players**

Acceptance of third-party certification by EPC players in India is contractually embedded within government-issued procurement frameworks, technical specifications, and project guidelines, making it a mandatory part of project execution rather than a voluntary practice. As per the Ministry of Finance Manual for Procurement of Works (2019), government contracts explicitly state that “quality assurance may include third party inspection, testing and certification as specified in the contract,” establishing the formal role of independent agencies in public works and EPC projects.



Similarly, technical standards and bidding documents aligned with the Central Electricity Authority require that equipment inspection and testing be conducted in the presence of or by approved third-party agencies, while renewable energy project frameworks issued by the Ministry of New and Renewable Energy mandate inspection and certification by designated authorities for project approval and commissioning.

Together, these confirm that EPC contractors must accept and comply with third-party inspection and certification requirements as a condition for quality assurance, regulatory compliance, and project completion in India. Collectively, acceptance by regulators, utilities, PSUs and EPC players indicates that third-party certification is institutionally embedded within India's compliance, procurement and project execution ecosystem, thereby supporting structural demand for third-party TIC services.

Accreditation Ecosystem in India

India has established a structured accreditation ecosystem to support the credibility, technical competence, and global acceptance of Testing, Inspection, and Certification (TIC) services. The accreditation framework operates through the Quality Council of India and its constituent accreditation boards, particularly the National Accreditation Board for Testing and Calibration Laboratories and the National Accreditation Board for Certification Bodies, which provide accreditation to laboratories, inspection bodies, and certification agencies.

This framework is aligned with international standards such as **ISO/IEC 17025, ISO/IEC 17020, ISO/IEC 17021, ISO/IEC 17065, ISO 15189, ISO/IEC 17043, ISO 17034 and ISO 20387**, supporting competence, impartiality, and consistency in conformity assessment activities. In addition, India's accreditation ecosystem benefits from international recognition through ILAC Mutual Recognition Arrangement (MRA) and APAC/IAF-linked arrangements, facilitating broader acceptance of accredited test reports and certifications in global markets.

Key Components and Indicators of the Accreditation Ecosystem

India's accreditation ecosystem provides a structured framework that underpins the credibility, reliability, and global acceptance of third-party Testing, Inspection and Certification (TIC) services. It plays a critical role in enabling standardized quality assurance and conformity assessment across industrial and service sectors.

➤ **Scale and Depth of Accredited Infrastructure**

India has developed a significant base of accredited laboratories, with over 8,500 accredited facilities across testing, calibration, and medical segments. This widespread infrastructure supports standardized testing and validation across sectors such as manufacturing, healthcare, food, and infrastructure, reflecting increasing formalization of quality assurance practices.

➤ **Broad-Based Accreditation Coverage Across Conformity Assessment Bodies**



The accreditation ecosystem extends across laboratories, certification bodies, inspection agencies, and validation entities, enabling end-to-end conformity assessment from testing and inspection to certification and compliance verification. This integrated coverage strengthens the reliability of third-party assessment mechanisms across the value chain.

➤ **International Recognition and Cross-Border Acceptance**

India's accreditation framework is aligned with global recognition systems, enabling acceptance of test reports and certifications in international markets. This reduces duplication of testing, supports export compliance, and enhances the competitiveness of Indian products globally.

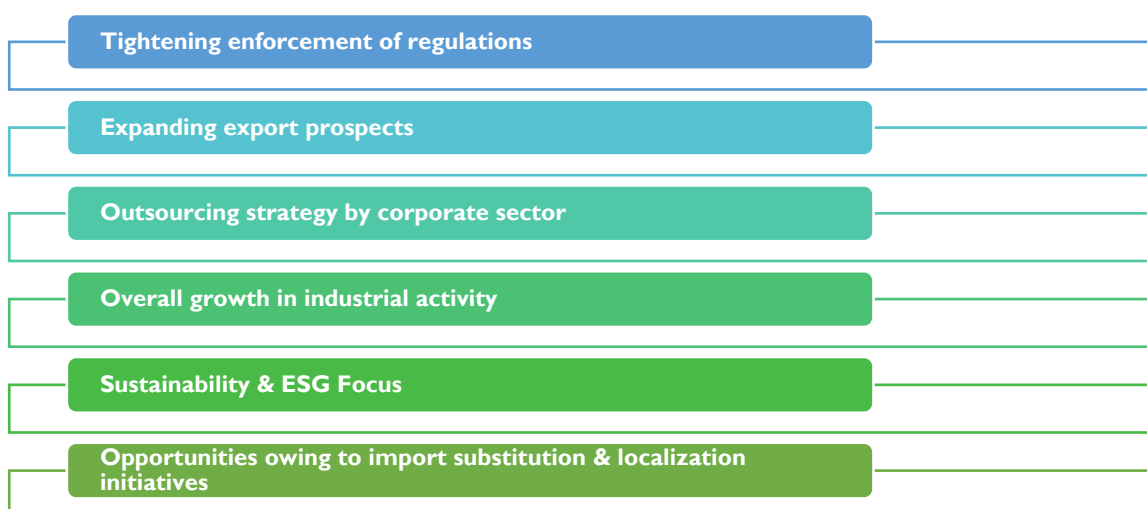
➤ **Increasing Institutional and Sectoral Adoption**

Accredited entities are increasingly mandated by regulators, utilities, and industrial users for testing, inspection, and certification activities. This reflects a growing emphasis on independent validation, regulatory compliance, and risk mitigation across sectors.

➤ **Implications for TIC Industry Growth**

The expanding scale, wider adoption, and global alignment of the accreditation ecosystem are strengthening reliance on accredited TIC providers. As regulatory scrutiny and quality expectations increase, this ecosystem is expected to support sustained growth in demand for third-party TIC services.

Key Demand Drivers



➤ Tightening Enforcement of Regulations

India's regulatory framework is undergoing a structural shift toward enhanced enforcement, risk-based inspections, and stricter compliance monitoring across key sectors. Regulatory authorities are increasingly adopting data-driven inspection mechanisms, technology-enabled surveillance, and risk profiling approaches to identify high-risk entities and ensure targeted enforcement. This shift is accompanied by a visible increase in the frequency, scale, and depth of inspections, along with a stronger focus on traceability, accountability, and documentation across the value chain. In parallel, regulators are also strengthening institutional capacity and technical expertise to improve the effectiveness of enforcement actions. This evolving framework reflects a transition from a largely reactive compliance approach to a proactive and preventive regulatory regime, particularly in highly regulated sectors such as food safety, pharmaceuticals, and public health.

Key Enforcement Indicators:¹¹

- Food Safety and Standards Authority of India conducted **56,269 risk-based inspections** between FY2022–23 and FY2024–25, with annual inspections increasing from **11,904 (FY2023)** to **18,098 (FY2024)** and further to **26,267 (FY2025)**, indicating a consistent escalation in compliance scrutiny.
- FSSAI has analysed over **5.18 lakh food samples** across states and Union Territories, demonstrating large-scale surveillance through testing and inspection frameworks.
- In FY2025–26, nearly **4 lakh food establishments were inspected**, with over **1.6 lakh food samples tested**, reflecting a significant expansion in enforcement coverage.

¹¹ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2239633&lang=1®=3&utm>
<https://www.ibef.org/news/fssai-tightens-food-safety-net-states-drive-enforcement-push-in-fy-2025-26?>
<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2241083®=3&lang=2>
<https://economictimes.indiatimes.com/news/india/fssai-tightens-food-safety-net-states-drive-enforcement-push-in-fy-2025-26/articleshow/130119407.cms?from=mdr>

- Enforcement actions have intensified, with **23,000+ adjudication cases** and **1,756 criminal convictions**, indicating stricter penal action for non-compliance.
- Central Drugs Standard Control Organization has planned to onboard **1,500 experts** to strengthen its scientific and regulatory capacity, reflecting increased technical depth in regulatory oversight.

The increasing frequency of inspections, expansion in sample testing, and heightened penal enforcement collectively indicate a **tightening and more stringent regulatory environment**. As compliance expectations become more rigorous and enforcement actions more frequent, organizations are increasingly required to demonstrate adherence to prescribed standards on a continuous basis rather than at a single point in time.

This has led to a growing reliance on third-party TIC service providers for **independent validation, pre-compliance testing, periodic inspections, and certification support**, enabling companies to proactively address regulatory requirements and minimize the risk of penalties or operational disruptions. Additionally, the rising complexity of regulations and technical standards is encouraging businesses to engage specialized TIC providers to ensure **accuracy, credibility, and global acceptability of compliance processes**, thereby structurally driving demand for third-party TIC services across regulated industries such as food, pharmaceuticals, and allied sectors.

➤ Expanding Export Prospects

India's emergence as a larger export-oriented economy is increasing the need for compliance with international quality, safety, testing, inspection, and certification requirements. As Indian exporters expand into regulated and quality-sensitive global markets, adherence to destination-country technical regulations, buyer specifications, product standards, labelling requirements, and conformity assessment frameworks has become increasingly important. This structural shift is strengthening demand for third-party TIC services, particularly in sectors such as engineering goods, pharmaceuticals, chemicals, food products, electrical equipment, and other export-oriented manufacturing segments.

Key Indicators Supporting the Export–TIC Linkage¹²

- **Growth in India's overall exports (merchandise + services)** USD 860.09 billion in FY 2025–26, reflecting 4.22% growth, indicates increasing integration with global markets, thereby driving demand for testing, inspection, and certification services to ensure compliance with international standards.

¹² <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2252272®=3&lang=1>
<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2219966®=1&lang=1#:~:text=TRENDS%20IN%20INDIA%27S%20TRADE%20PERFORMANCE&text=According%20to%20the%20WTO%27s%20World,pective%20quarters%20despite%20global%20uncertainties.>



- **Growth in non-petroleum merchandise exports:** India's non-petroleum exports reached USD 387.88 billion in FY 2025–26 (April–March), compared to USD 374.32 billion in FY 2024–25, registering a growth of 3.62%.
- **Rising global export integration:** India's share in global merchandise exports increased from **1.70% in 2014 to 1.81% in 2024**, while India's ranking among global merchandise exporters improved from **19th to 18th**.
- **Government emphasis on export compliance and certification:** The Export Promotion Mission approved with an outlay of INR 25,060 crore includes support for export quality and compliance, while DGFT has separately initiated collection of data on export-related testing and certification requirements / non-tariff measures, indicating policy recognition of certification-led export competitiveness.
- **Increasing importance of technical compliance in exports:** Expansion of export-oriented sectors such as engineering, electronics, and pharmaceuticals has increased reliance on testing, inspection, product certification, and conformity assessment to meet buyer and regulatory requirements in overseas markets.

The expansion of exports and increasing integration with global markets are structurally driving demand for third-party TIC services, as exporters increasingly require independent testing, inspection, and certification support to demonstrate compliance with destination-country standards and buyer quality requirements. In addition, the growing prevalence of **non-tariff measures, technical barriers to trade, and certification-led market access requirements** is increasing reliance on accredited third-party TIC providers for product qualification, export approvals, and supply chain compliance. As India continues to strengthen its position as a manufacturing and export hub, expanding export prospects are expected to remain a key demand driver for third-party TIC services.

➤ **Outsourcing Strategy by Corporate Sector¹³**

The growing adoption of outsourcing strategies by corporates is a significant driver for third-party TIC services in India. Companies are increasingly opting to outsource testing, inspection, and certification activities to specialized third-party providers rather than maintaining in-house laboratories and inspection teams. This shift is primarily driven by the need to reduce capital expenditure, access advanced technical expertise, and ensure compliance with evolving regulatory standards. Outsourcing TIC services also enables companies to improve operational efficiency and focus on core business functions such as production, innovation, and market expansion. Third-party providers offer scalability, faster turnaround times, and access to

¹³ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2058603®=3&lang=2>



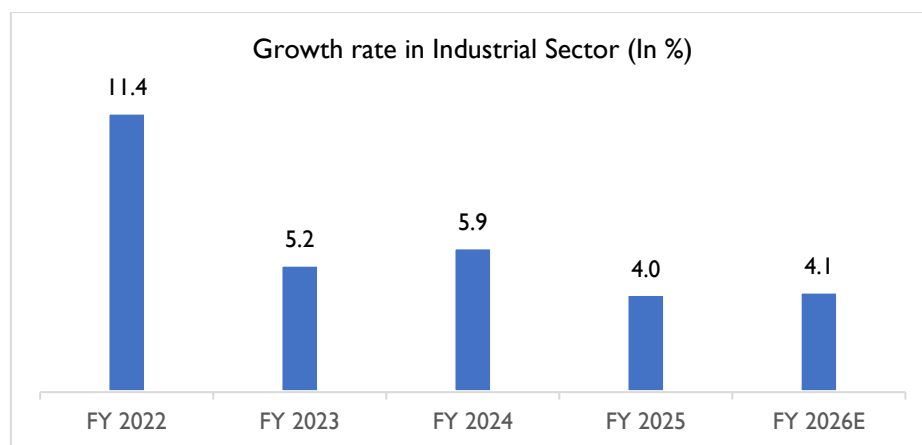
internationally recognized certifications, which are critical for companies operating in competitive and regulated industries.

Additionally, independent testing and certification enhance credibility and transparency, particularly in sectors where regulatory compliance and product quality are critical. This trend is further supported by the expansion of India's industrial base and increasing foreign investments. India attracted cumulative FDI equity inflows of USD 165.1 billion in the manufacturing sector during (2014 – 2024), marking a ~69% increase from USD 97.7 billion in (2004 – 2014), supporting capacity expansion and global supply chain integration. As companies scale operations and align with international standards, the reliance on third-party TIC providers for unbiased verification and compliance assurance is expected to increase significantly.

➤ Overall Growth in Industrial Activity

India's industrial sector has exhibited a steady growth trajectory over recent years, as reflected in the industrial growth rate trend rising from ~5.2% in FY2023 to ~5.9% in FY2024, before moderating to ~4.0% in FY2025, following a high base of ~11.4% in FY2022 driven by post-pandemic recovery. This trend indicates a transition from recovery-led expansion to a more stable and normalized growth phase. The sustained momentum is supported by factors such as increasing infrastructure investments, policy-led manufacturing push (PLI schemes, Make in India), and improving capacity utilization across sectors like manufacturing, mining, and electricity.

From a demand perspective, this consistent industrial activity directly drives the need for Testing, Inspection, and Certification (TIC) services, as industries increasingly require compliance with quality standards, safety regulations, and export requirements. As production volumes scale and supply chains become more integrated globally, manufacturers rely on third-party TIC providers to ensure adherence to regulatory frameworks, reduce operational risks, and maintain product reliability across domestic and international markets.



Source: Ministry of Statistics and Programme Implementation (MOSPI)¹⁴

¹⁴ <https://www.mospi.gov.in/themes/product/54-index-of-industrial-production>

India's industrial sector is currently witnessing a phase of **moderated yet stable growth**, following the sharp post-pandemic expansion in FY2022. Growth levels have normalized in the range of ~4- 6% during FY2023–FY2026E, indicating a shift towards a more sustainable and broad-based industrial expansion. This trajectory is supported by continued government-led infrastructure spending, increasing manufacturing activity under initiatives such as PLI, and rising investments in sectors like renewables, electronics, and data centres. At the same time, industrial operations are becoming more complex, involving advanced technologies, multi-location supply chains, and export-oriented production. This evolving landscape is leading to a **greater need for standardized quality checks, safety compliance, and certification processes**, thereby strengthening the role of TIC services across the industrial ecosystem. Following is the industrial challenges supporting TIC Service Demand

- **Evolving Regulatory Frameworks:** Increasingly stringent and frequently updated quality, safety, and environmental norms necessitate continuous testing, inspection, and certification support.
- **Global Supply Chain Integration:** Export-oriented manufacturing requires compliance with diverse international standards, driving reliance on third-party TIC services for certification and validation.
- **Rising Product & Process Complexity:** Adoption of advanced manufacturing technologies and automation increases the need for high-precision inspection and specialized testing protocols.
- **Infrastructure & Capacity Expansion:** Growth in industrial and infrastructure projects across sectors such as renewables, electronics, and data centres drives demand for end-to-end TIC services across project lifecycles.

➤ **Sustainability & ESG Focus**

The increasing emphasis on sustainability and Environmental, Social, and Governance (ESG) compliance is emerging as a significant driver for TIC services in India. Regulatory authorities such as MoEFCC and CPCB have introduced stricter norms related to emissions, waste management, and water quality, compelling industries to adopt environmentally responsible practices. Companies are now required to conduct regular environmental monitoring and comply with evolving sustainability regulations. In addition to regulatory requirements, there is growing pressure from investors, consumers, and global stakeholders for companies to demonstrate their commitment to sustainability.

ESG considerations are becoming a critical factor in investment decisions, particularly for companies seeking to access global capital markets. This has led to increased demand for third-party verification of sustainability metrics, including carbon footprint assessments, environmental audits, and ESG reporting. India's commitment to achieving net-zero emissions and promoting sustainable development further reinforces the importance of TIC services in this domain. Third-party providers play a crucial role in ensuring the credibility and transparency of sustainability claims, thereby enabling companies to align with global ESG standards. This



has created new growth opportunities for TIC services, particularly in environmental testing, green certifications, and sustainability audits.

➤ **Opportunities Owing to Import Substitution & Localization Initiatives**

Government initiatives aimed at promoting domestic manufacturing and reducing dependence on imports have created significant opportunities for the TIC industry. Programs such as **Make in India**, **Atmanirbhar Bharat**, and the **Production Linked Incentive (PLI) scheme** are encouraging the development of local manufacturing capabilities across strategic sectors, including electronics, pharmaceuticals, and renewable energy. These initiatives are driving increased production and investment within the country. In FY 2026 the PLI scheme has attracted investments of approximately **INR 2 lakh crore**, with incremental production exceeding **INR 18.7 lakh crore** across multiple sectors. This rapid expansion of domestic manufacturing necessitates robust testing, inspection, and certification infrastructure to ensure product quality and compliance with regulatory standards.

As industries scale up operations, the demand for accredited TIC services is expected to increase significantly. Furthermore, localization efforts are leading to the development of indigenous testing capabilities for critical and high-value components that were previously tested abroad. This shift not only reduces dependency on foreign testing infrastructure but also strengthens India's quality ecosystem. As the government continues to focus on self-reliance and global competitiveness, TIC providers are expected to play a pivotal role in supporting domestic manufacturing and ensuring compliance with international standards.

Emerging Opportunities

The third-party Testing, Inspection and Certification (TIC) industry in India is witnessing emerging growth opportunities beyond traditional compliance-led services, driven by evolving export compliance requirements, expansion of certification to new product categories, and increasing focus on lifecycle reliability of industrial assets. As regulatory standards become more stringent, technology adoption increases, and industrial users place greater emphasis on quality assurance and risk mitigation, new service opportunities are emerging in areas such as export-linked testing, new product certifications, and asset integrity & life extension services.

➤ **Export-linked Testing¹⁵**

Increasing prevalence of technical regulations, product standards, testing requirements, and non-tariff measures (NTMs) in export markets is expanding demand for export-linked testing and conformity assessment services. Government initiatives to strengthen understanding of export-related testing and certification requirements, along with the expanding institutional export inspection framework, indicate growing recognition of testing and certification as an important component of export competitiveness. This is creating significant opportunities for TIC providers in destination-market compliance testing, product certification, and export-oriented conformity assessment support.

- **Export certificates issued increased from 61,000 to over 120,000** over the last decade
- **Approved export establishments increased by 82%, from 794 in FY2013–14 to 1,446 in FY2023–24.¹⁶**
- **78 accredited testing laboratories** support the export testing ecosystem
- The Export Inspection Council operates through **5 Export Inspection Agencies and 24 sub-offices**

➤ **New Product Certifications¹⁷**

The emergence of new product categories in sectors such as electric mobility, batteries, medical devices, electronics, and machinery is creating fresh certification opportunities for TIC companies. This opportunity is supported both by expansion of India's certification framework and by growth in emerging regulated product markets. Increasing use of Quality Control Orders, expansion of compulsory certification coverage,

¹⁵ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2089382®=3&lang=2>
[https://www.eicindia.gov.in/VWebApp1/pages/menuInfo/aboutUs.xhtml#:~:text=Besides%20its%20advisory%20role%2C%20the%20Export%20Inspection,certification%20is%20of%20two%20types%20E%80%93%20\(I\)](https://www.eicindia.gov.in/VWebApp1/pages/menuInfo/aboutUs.xhtml#:~:text=Besides%20its%20advisory%20role%2C%20the%20Export%20Inspection,certification%20is%20of%20two%20types%20E%80%93%20(I))

¹⁶ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2089382&lang=2®=48&utm>

¹⁷ [https://www.pib.gov.in/PressReleasePage.aspx?PRID=1986653®=3&lang=2#:~:text=Renovation%20%20Modernisation%20\(R&M\)/Upgradation,Sabha%20on%20December%2014%2C%202023](https://www.pib.gov.in/PressReleasePage.aspx?PRID=1986653®=3&lang=2#:~:text=Renovation%20%20Modernisation%20(R&M)/Upgradation,Sabha%20on%20December%2014%2C%202023)
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and growth in sectors requiring product safety validation are expanding the scope for certification-led conformity assessment.

- **84 Quality Control Orders (QCOs)** issued in the last three years, covering **343 products**
- The scope of compulsory BIS certification has expanded to **769 products** covered under **187 Quality Control Orders (QCOs)** as of FY2025, significantly higher than the **450+ products** covered in FY2022.¹⁸
- **40+ products** covered under the Compulsory Registration Scheme (CRS)
- **11,49,334 electric two-wheelers** sold in FY2024–25 (**21% growth**)
- **Electric three-wheeler (L5) sales increased by 57% year-on-year, from 1,01,581 units in FY2023–24 to 1,59,235 units in FY2024–25.** ¹⁹
- **Medical device exports increased from US\$ 2.9 billion to US\$ 4.1 billion (FY2021–22 to FY2024–25)**

These trends are expanding opportunities in certification of new products, components, and systems, particularly as manufacturers increasingly require independent validation to support regulatory compliance and market access.

➤ **Asset Integrity & Life Extension Services²⁰**

Aging industrial assets and power infrastructure are creating strong demand for integrity assessment, residual life evaluation, and life-extension services. This opportunity is being driven by the large installed base of aging thermal and hydro assets requiring technical inspection, condition assessment, non-destructive testing, and reliability evaluation. As operators seek to improve performance, defer replacement capex, and reduce operational risk, demand for third-party TIC services in asset integrity and life extension is expected to increase.

- **223 thermal generating units (63,440 MW)** identified as candidates for R&M/LE
- **64 hydro plants (11,718 MW)** planned for R&M/LE during 2022–27
- **21 hydro plants (2,879 MW)** planned during 2027–32

These trends indicate a sizeable and growing opportunity for TIC providers in integrity assessment, remaining life evaluation, and life extension support across power and industrial process sectors.

¹⁸ <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=2110935&lang=2®=48&utm>

¹⁹ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2117485&lang=2®=48&utm>

²⁰ https://powermin.gov.in/sites/default/files/uploads/RSI6032026_Eng.pdf
<https://powerline.net.in/2024/05/06/reenergising-power-plants-rm-trends-challenges-and-solutions/>
<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1986653®=3&lang=2#:~:text=Further%2C%20The%20Renovation%2C%20Modernization%2C,through%20Life%20Extension%20and%20Uprating.>



Collectively, these trends indicate that future growth in third-party TIC services is likely to be supported not only by traditional regulatory compliance, but also by **export compliance complexity, expanding certification scope for new products, and lifecycle optimization of aging industrial assets**. As India strengthens its position as a manufacturing and export hub while simultaneously managing a large base of aging infrastructure, these segments are expected to provide meaningful incremental growth opportunities for TIC service providers.

Emerging High-Growth Testing Segments

Solar PV Module Testing:

Solar PV Module Testing refers to the process of evaluating the performance, reliability, durability, and safety of photovoltaic (PV) modules to ensure they meet prescribed technical and regulatory standards before deployment. The testing assesses a module's ability to generate electricity efficiently while withstanding various environmental and mechanical stresses throughout its operational life. It includes testing, inspection, qualification and certification, covering performance verification, environmental simulation, mechanical load assessment, and electrical safety evaluation in accordance with applicable Indian and international standards. Accredited Solar PV Module Testing helps manufacturers, project developers, and certification agencies validate product quality, reliability, and compliance for both domestic and export markets.

India's policy focus on achieving energy security, strengthening domestic manufacturing, and reducing dependence on imported solar products has accelerated the development of the domestic solar PV ecosystem. Government initiatives such as the **Production Linked Incentive (PLI) Scheme for High Efficiency Solar PV Modules**, the **Approved List of Models and Manufacturers (ALMM)**, and the **Basic Customs Duty (BCD)** on imported solar cells and modules have encouraged local manufacturing while increasing compliance with prescribed Indian and international quality standards. As domestic production expands and regulatory requirements become more stringent, manufacturers, project developers, and investors increasingly rely on accredited third-party laboratories for product qualification, performance validation, reliability assessment, and certification. These industry developments are expected to support sustained demand for Solar PV Module Testing services.

The Company proposes to establish a specialised laboratory to address the growing demand for independent testing, qualification, and certification of photovoltaic modules. The proposed laboratory is expected to undertake design qualification, performance evaluation, reliability assessment, environmental testing, and electrical safety testing in accordance with applicable Indian and international standards, including **IS 14286 / IEC 61215** and **IS/IEC 61730**. The proposed laboratory is expected to provide testing services covering performance evaluation, flash testing, thermal cycling, damp heat testing, humidity freeze testing, UV preconditioning, mechanical load testing, hail impact testing, salt mist corrosion testing, ammonia corrosion testing, reliability testing, electrical safety assessment, wet leakage current testing, ground continuity testing, and product qualification and type approval testing. The proposed facility is expected to strengthen the



Company's capabilities in the renewable energy testing segment and address the increasing testing and compliance requirements associated with the expansion of domestic solar PV module manufacturing.

Factors Driving Market Growth:

- **Growing Domestic Manufacturing Base:** India's solar PV manufacturing ecosystem is expanding through investments in wafer, cell, and module manufacturing, increasing the need for independent testing and certification throughout the product lifecycle.
- **Approved List of Models and Manufacturers (ALMM):** The Ministry of New and Renewable Energy (MNRE) has implemented the ALMM framework, under which only approved solar PV modules and manufacturers are eligible for specified Government-supported solar projects. The policy promotes product quality, reliability, and domestic manufacturing, driving demand for accredited testing and certification services.
- **Basic Customs Duty (BCD) on Imported Solar PV Modules and Cells:** The Government of India has imposed Basic Customs Duty (BCD) on imported solar PV cells and modules to encourage domestic manufacturing and reduce import dependence. This is expected to increase demand for testing, certification, and quality assurance of domestically manufactured solar products.
- **Reduction in Dependence on Chinese Solar Imports:** The Government of India has strengthened domestic solar manufacturing through the implementation of ALMM and domestic sourcing requirements for solar PV cells and modules, reducing reliance on imported products, particularly from China. These measures are expected to increase demand for testing, certification, and quality assurance services for domestically manufactured solar products.
- **Increasing Bankability Requirements:** Financial institutions, project developers, and investors increasingly rely on independently tested and certified PV modules to evaluate product quality, long-term performance, and project reliability.
- **Technology Advancements:** The adoption of advanced technologies such as TOPCon, HJT, bifacial modules, and larger-format PV modules requires specialized testing infrastructure and updated qualification methodologies.

Electrical Home Appliance Testing:

Electrical Home Appliance Testing is the process of evaluating household and consumer electrical products to verify their safety, performance, durability, and compliance with applicable regulatory requirements. The testing ensures that appliances operate safely under normal and abnormal conditions, minimizing risks such as electric shock, overheating, fire hazards, and mechanical failures. It includes safety verification, performance assessment, electrical measurements, endurance testing, and compliance evaluation in accordance with Indian Standards and internationally accepted technical requirements. Accredited testing enables manufacturers to demonstrate product quality, meet certification requirements, and ensure consumer safety before products are introduced into the market.



India's electrical home appliance industry is benefiting from Government initiatives aimed at strengthening domestic manufacturing, improving product quality, and enhancing consumer safety. The expansion of **Bureau of Indian Standards (BIS) certification**, implementation of **Quality Control Orders (QCOs)**, and initiatives such as **Make in India** and **Atmanirbhar Bharat** have increased regulatory compliance requirements for manufacturers of household electrical appliances. As a result, manufacturers are increasingly required to undertake accredited third-party testing and certification to demonstrate product safety, performance, and conformity with applicable standards before commercialisation. The growing emphasis on regulatory compliance and domestically manufactured products is expected to drive sustained demand for Electrical Home Appliance Testing services.

The Company proposes to establish a specialised laboratory for testing electrical home appliances such as electric irons, kettles, water heaters, immersion heaters, electric fans, mixer grinders, food processors, induction cooktops, microwave ovens, electric ovens, toasters, rice cookers, vacuum cleaners, washing machines, refrigerators, room heaters, hair dryers, personal care appliances, kitchen appliances, and other electrical home appliances covered under applicable standards. The proposed laboratory is expected to undertake testing including protection against electric shock, leakage current measurement, high-voltage withstand testing, earthing continuity testing, temperature rise testing, abnormal operation testing, mechanical strength evaluation, moisture resistance testing, endurance testing, component evaluation, product safety verification, and compliance testing. The proposed facility is expected to support manufacturers in meeting applicable safety, quality, and regulatory requirements for electrical home appliances.

Factors Driving Market Growth:

- **Rising Product Portfolio:** Rapid introduction of new electrical appliances and smart home products is increasing the frequency of product validation and compliance testing before commercialization.
- **Growing Consumer Safety Awareness:** Increasing consumer awareness regarding electrical safety and product quality is encouraging manufacturers to undertake comprehensive third-party testing.
- **Expansion of Organized Manufacturing:** Growth in domestic manufacturing facilities under initiatives such as **Make in India** is expected to generate higher demand for product testing during product development, production, and certification stages.
- **Increasing Regulatory Surveillance:** Strengthening market surveillance and product quality enforcement by regulatory authorities is encouraging manufacturers to ensure continued compliance with prescribed standards.
- **Support for Product Innovation:** As manufacturers introduce technologically advanced and energy-efficient appliances, testing requirements are becoming more comprehensive to validate safety, durability, and performance.



Mapping the TIC application/ use cases in Engineering Sector

❖ Engineering Products Requiring TIC Services:

The engineering sector comprises a diverse and complex range of products that require rigorous Testing, Inspection & Certification (TIC) services to ensure compliance with safety, performance, and regulatory standards. This includes electrical equipment such as transformers, switchgear, cables, and control systems that are critical for power transmission and distribution networks. Mechanical systems such as boilers, pressure vessels, piping systems, and rotating machinery require extensive testing to validate structural integrity, durability, and operational efficiency under varying conditions. Additionally, structural components used in infrastructure development such as steel frameworks, bridges, and industrial structures must undergo material testing and load-bearing assessments to ensure long-term reliability and safety in real-world environments.

Given the breadth of the engineering sector, TIC requirements span across the entire product lifecycle, from initial design validation and raw material testing to final product certification and performance evaluation. Industrial machinery used in manufacturing processes, including CNC equipment and heavy-duty machines, also require calibration, functional testing, and compliance verification to meet operational standards.

Adherence to national and international standards such as BIS, ISO, ASME, and IEC is essential not only for regulatory compliance but also for ensuring compatibility with global markets. As engineering products become more technologically advanced and application-specific, the demand for specialized TIC services continues to grow, positioning third-party providers as critical enablers of quality assurance and risk mitigation across industries.

Key product segments requiring TIC include:

- Electrical equipment (transformers, switchgear, cables, control panels)
- Mechanical systems (boilers, pressure vessels, piping systems, rotating equipment)
- Structural components (steel structures, bridges, construction frameworks)
- Industrial machinery (CNC machines, heavy equipment, process machinery)

❖ Testing Requirements in Engineering Sector:

Testing services form a critical layer of quality assurance in the engineering sector, supporting validation of material properties, product performance, technical conformity, and operational reliability across diverse engineering applications. Engineering products and systems often require testing at multiple stages, including raw material qualification, in-process quality control, final product validation, and performance verification,

to ensure compliance with applicable technical, safety, and regulatory standards. This is particularly important in safety-critical and performance-sensitive engineering products, where failure risks can have significant operational, financial, and safety implications.

Testing requirements in the engineering sector span a broad range of disciplines depending on product type, end-use application, and applicable standards. **Mechanical testing** is undertaken to evaluate strength, durability, and load-bearing performance of materials and components. **Chemical testing** is used to verify material composition, detect contaminants, and confirm conformance to required specifications. **Metallurgical testing** supports evaluation of microstructure, coating performance, and failure mechanisms, while calibration services ensure measurement accuracy and traceability of instruments and equipment used across engineering processes. In addition, non-destructive testing (NDT) methods are widely used to detect defects or discontinuities without damaging the product, particularly in critical components such as welds, pressure systems, and structural assemblies. Third-party TIC providers play a vital role in providing independent and technically competent testing services, thereby supporting quality assurance, compliance validation, and risk mitigation across the engineering value chain.

Key types of testing services include:

- Mechanical testing (tensile, hardness, impact, fatigue)
- Chemical testing (composition, contamination, material verification)
- Metallurgical testing (microstructure, coating, failure analysis)
- Non-destructive testing (UT, RT, PT, MT)
- Calibration services (instrument accuracy and traceability)

❖ Inspection Requirements in Engineering Sector:

Inspection services form a critical layer of quality control in the engineering sector, ensuring that products and systems conform to technical specifications and regulatory requirements at every stage of development. Vendor inspection is conducted at the supplier level to assess the quality and compliance of raw materials and components before they are incorporated into the manufacturing process, thereby minimizing the risk of defects at later stages. In-process inspection involves continuous monitoring of production activities to ensure adherence to design specifications, manufacturing standards, and process controls. This stage is particularly important in complex engineering systems where even minor deviations can lead to significant operational inefficiencies or safety risks.

Pre-dispatch inspection (PDI) serves as the final checkpoint before products are delivered to customers or deployed in projects, ensuring that all contractual, technical, and regulatory requirements have been met. Site inspection, conducted during installation and commissioning phases, verifies that equipment and systems are installed correctly and function as intended under actual operating conditions. These inspections are essential for large-scale infrastructure and industrial projects where operational failures can have significant



financial and safety implications. Third-party TIC providers play a crucial role by offering independent, unbiased inspection services, which enhance transparency, build stakeholder confidence, and ensure that engineering outputs meet both domestic and international quality benchmarks.

Key types of inspection services include:

- Vendor inspection (supplier quality verification)
- In-process inspection (monitoring during manufacturing stages)
- Pre-dispatch inspection (final quality check before delivery)
- Site inspection (installation, commissioning, and operational checks)

❖ **Certification Requirements in Engineering Sector:**

Certification is a fundamental component of TIC services in the engineering sector, providing formal validation that products and systems meet defined regulatory and quality standards. Product certification ensures that engineering goods comply with applicable technical norms such as BIS standards for domestic markets and CE marking or IEC standards for international markets. This is particularly critical for safety-sensitive equipment such as electrical systems, pressure vessels, and industrial machinery, where compliance failures can result in operational hazards and legal liabilities. Certification processes involve rigorous testing, documentation review, and compliance verification to ensure that products meet required performance and safety benchmarks before entering the market.

In addition to product-level certification, system certification focuses on evaluating the processes and management frameworks within an organization to ensure consistent quality and operational excellence. Certifications such as **ISO 9001** (Quality Management Systems), **ISO 14001** (Environmental Management Systems), and **ISO 45001** (Occupational Health & Safety) are widely recognized and often mandatory for participation in large-scale projects and global supply chains. These certifications demonstrate an organization's commitment to quality, sustainability, and workplace safety, thereby enhancing credibility and competitiveness. Third-party TIC providers facilitate the certification process through audits, assessments, and ongoing compliance monitoring, enabling organizations to meet regulatory requirements and strengthen their market positioning.

Key certification categories include:

- Product certification (BIS, CE, IEC, ASME compliance)
- Quality management systems (ISO 9001)
- Environmental management systems (ISO 14001)
- Occupational health & safety systems (ISO 45001)

Demand for third party TIC services from Power / Energy & Infrastructure Sector

Brief insight on the type of third-party TIC services provided to power / energy and infrastructure sector

- **Material Testing & Quality Assurance Services:** Third-party TIC providers conduct comprehensive testing of raw materials such as cement, steel, cables, and polymers used in power and infrastructure projects to ensure compliance with specified standards. These services include mechanical, chemical, and durability testing to verify material strength, composition, and performance under operational conditions. In power projects, testing of components like transformers, conductors, and insulation materials is critical to ensure long-term reliability. Independent quality assurance helps minimize the risk of structural failures and enhances project durability. Such services are typically required across all stages of project execution, from procurement to construction.
- **Inspection Services (Pre-Construction and During Construction):** Inspection services involve on-site verification of construction activities, equipment installation, and adherence to engineering specifications. TIC agencies conduct vendor inspections, site inspections, and stage-wise checks to ensure that construction is carried out as per approved designs and safety norms. In power plants and infrastructure projects, inspections cover critical assets such as turbines, boilers, substations, transmission lines, and civil structures. These services help identify defects early, ensure proper installation, and prevent cost overruns due to rework. Regular inspections also support compliance with regulatory and contractual requirements.
- **Certification & Regulatory Compliance Services:** Certification services ensure that projects, equipment, and processes comply with national and international standards and regulatory frameworks. TIC providers issue certifications related to safety, environmental compliance, quality standards (such as ISO), and grid code requirements in the power sector. In infrastructure projects, certifications are essential for approvals related to structural safety, environmental clearances, and operational readiness. These services help project developers meet statutory obligations and gain stakeholder confidence. Certification by independent third parties enhances credibility and facilitates smoother project execution and commissioning.
- **Non-Destructive Testing (NDT) & Structural Integrity Assessment;** Non-destructive testing (NDT) is widely used to evaluate the integrity of materials and structures without causing damage. Techniques such as ultrasonic testing, radiography, magnetic particle testing, and visual inspection are used to detect cracks, corrosion, and internal defects in critical components. In power plants, NDT is essential for boilers, pipelines, pressure vessels, and turbines, while in infrastructure it is used for bridges, roads, and buildings. These services help in early detection of faults, ensuring safety and extending asset life. NDT plays a crucial role in both construction and maintenance phases.



- **Commissioning & Performance Testing Services:** TIC providers conduct commissioning and performance testing to ensure that installed systems and equipment operate as per design specifications. In the power sector, this includes testing of generators, transformers, substations, and renewable energy systems to verify output efficiency and stability. In infrastructure, it includes load testing of structures, system validation, and operational readiness checks. These services are critical before project handover and commercial operations. Independent performance validation ensures reliability, reduces operational risks, and supports long-term asset performance.
- **Asset Integrity Management & Maintenance Support:** Post-commissioning, TIC services extend to asset integrity management, including periodic inspections, condition monitoring, and predictive maintenance. These services help identify wear and tear, corrosion, and performance degradation in infrastructure and energy assets. In power and energy sectors, continuous monitoring of critical systems ensures uninterrupted operations and minimizes downtime. Advanced techniques such as digital inspection tools and analytics are increasingly being used to improve efficiency. Asset integrity services support lifecycle management and enhance operational safety and reliability.

Capital expenditure trends in power & energy space in India

➤ Electricity Generation

Period	Outstanding Projects (INR Billion)	New Projects (INR Billion)
Mar 2025	37,117.4	10,972.6
Jun 2025	38,156.3	3,314.4
Sep 2025	38,546.2	1,266.1
Dec 2025	41,671.6	3,299.5
Mar 2026	42,277.7	1,062.2

Source: CMIE Data

The electricity generation segment demonstrates a strong and expanding project pipeline, with outstanding investments increasing from ~INR 37,117.4 billion in March 2025 to ~INR 42,277.7 billion in March 2026, indicating sustained capacity addition across conventional and renewable energy sources, despite fluctuations in new project announcements. From the perspective of demand for third-party Testing, Inspection, and Certification (TIC) services, this large-scale and capital-intensive pipeline is a key driver, as power generation projects require rigorous inspection of equipment, quality assurance of materials, and compliance verification across installation and commissioning stages. The increasing integration of renewable energy further intensifies the need for specialized TIC services, particularly for performance testing, grid synchronization validation, and safety compliance. Additionally, the complexity of generation assets such as turbines, boilers,



and solar/wind systems necessitates continuous monitoring and certification, thereby supporting sustained demand for third-party TIC services throughout the project lifecycle.

➤ Electricity Distribution

Period	Outstanding Projects (INR Billion)	New Projects (INR Billion)
Mar 2025	0.5	0.5
Jun 2025	1.6	1.6
Sep 2025	1.3	1.1
Dec 2025	2.7	2.4
Mar 2026	0.08	0.06

Source: CMIE Data

The electricity distribution segment, while relatively smaller in scale, shows intermittent growth in project investments, with outstanding projects peaking at ~INR 2.7 billion in December 2025 before moderating to ~INR 0.08 billion by March 2026, alongside fluctuations in new project activity. Despite the lower investment base, this segment plays a critical role in driving demand for third-party TIC services, particularly due to increasing focus on grid modernization, smart metering, and strengthening of transmission and distribution networks. Distribution infrastructure requires extensive testing and certification of transformers, substations, cables, and metering systems to ensure operational reliability and adherence to regulatory standards. Furthermore, the transition toward smart grids and advanced distribution systems is increasing the need for specialized inspection, calibration, and validation services.

Capital expenditure trends in infrastructure domain in India

Period	Outstanding Projects (INR Billion)	New Projects (INR Billion)
Mar 2025	13,809.4	2,250.9
Jun 2025	14,808.7	1,726.8
Sep 2025	13,568.7	175.5
Dec 2025	14,552.5	1,154.6
Mar 2026	13,914.0	582.6

Source: CMIE Data

The road transport infrastructure segment reflects a relatively stable project pipeline, with outstanding investments ranging from ~INR 13,568.7 billion to ~INR 14,808.7 billion between March 2025 and March

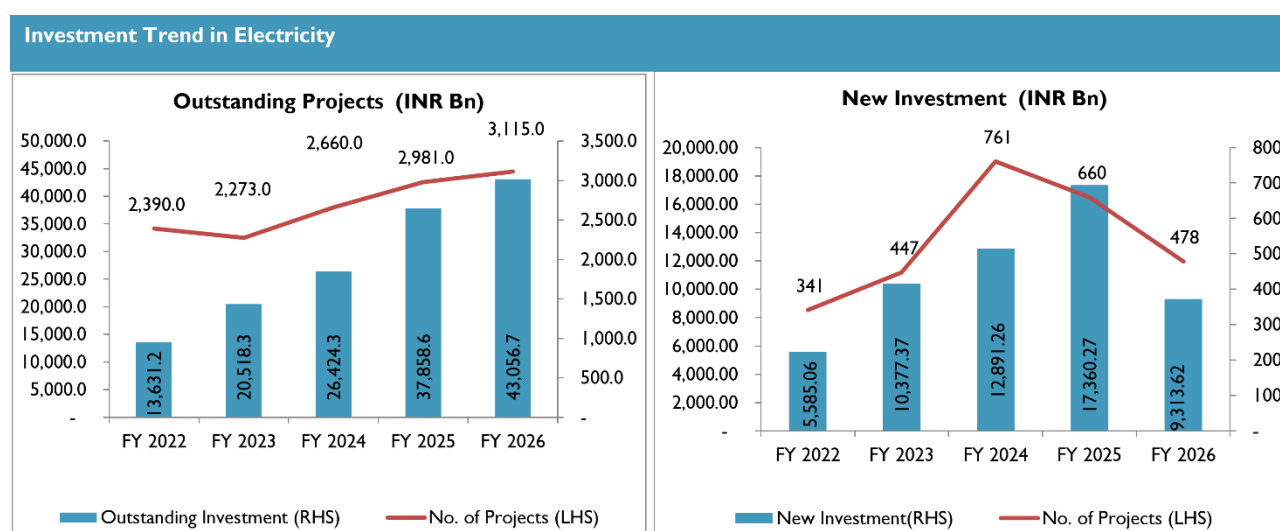


2026, while new project announcements show moderation from ~INR 2,250.9 billion in March 2025 to ~INR 582.6 billion in March 2026, indicating a shift from aggressive project announcements toward execution and completion of existing projects.

From the perspective of demand for third-party Testing, Inspection, and Certification (TIC) services, this sustained pipeline and ongoing execution phase are key demand drivers, as large-scale road and highway projects require continuous quality assurance, material testing, structural inspections, and compliance verification across construction stages. The increasing complexity of projects, adherence to regulatory standards, and focus on long-term durability and safety are driving higher reliance on independent TIC providers. Additionally, continued inflow of new projects, albeit at a moderated pace, supports demand for pre-construction testing and certification, ensuring steady and recurring opportunities for third-party TIC services in the infrastructure sector.

Expected growth in demand for third party TIC services, owing to the planned capex spending

Power/Energy Sector

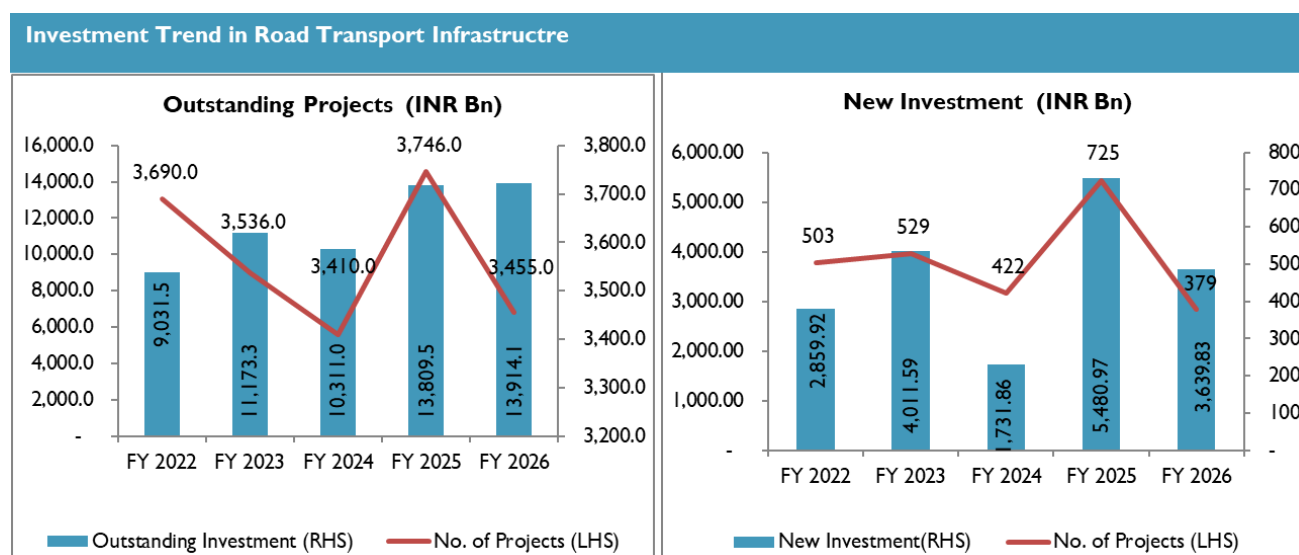


Source: CMIE Data

The power and energy sector exhibits a strong and expanding capex trajectory, with outstanding investments increasing significantly from ~INR 13,631.2 billion in FY2022 to ~INR 43,056.7 billion in FY2026, indicating a robust and growing project pipeline despite moderate fluctuations in project count. New investment activity also remains substantial, rising sharply to ~INR 17,360.3 billion in FY2025 before moderating to ~INR 9,313.6 billion in FY2026, reflecting continued project announcements alongside phased execution cycles. This sustained and large-scale planned capex spending is expected to drive significant growth in demand for third-party Testing, Inspection, and Certification (TIC) services, as power generation, transmission, and distribution projects require stringent quality assurance, safety validation, and regulatory compliance throughout their lifecycle. The increasing complexity of projects, particularly with the integration of renewable energy and advanced grid infrastructure, further necessitates specialized inspection, performance testing, and certification

services. Additionally, the expanding base of ongoing projects is expected to generate recurring demand for asset integrity and maintenance-related TIC services, thereby supporting long-term growth in the sector.

Infrastructure Sector



Source: CMIE Data

The power and energy sector demonstrates a strong and sustained capex pipeline, with outstanding investments increasing from ~INR 9,031.5 billion in FY2022 to ~INR 13,914.1 billion in FY2026, despite minor fluctuations in project count, indicating a shift toward larger and more capital-intensive projects. New investment activity also shows cyclical but robust trends, peaking at ~INR 5,480.9 billion in FY2025 before moderating to ~INR 3,639.8 billion in FY2026, reflecting continued project inflow and execution momentum.

This expanding and evolving capex landscape is expected to significantly drive demand for third-party Testing, Inspection, and Certification (TIC) services, as large-scale power generation, transmission, and distribution projects require stringent quality assurance, safety validation, and regulatory compliance across all stages. The increasing complexity of energy infrastructure, particularly with the integration of renewable energy and advanced grid systems, further necessitates specialized inspection, performance testing, and certification services. Additionally, the steady base of ongoing projects ensures recurring demand for maintenance, asset integrity, and lifecycle inspection services, thereby supporting long-term growth in TIC services within the power and energy sector.

Industry Trends / Developments

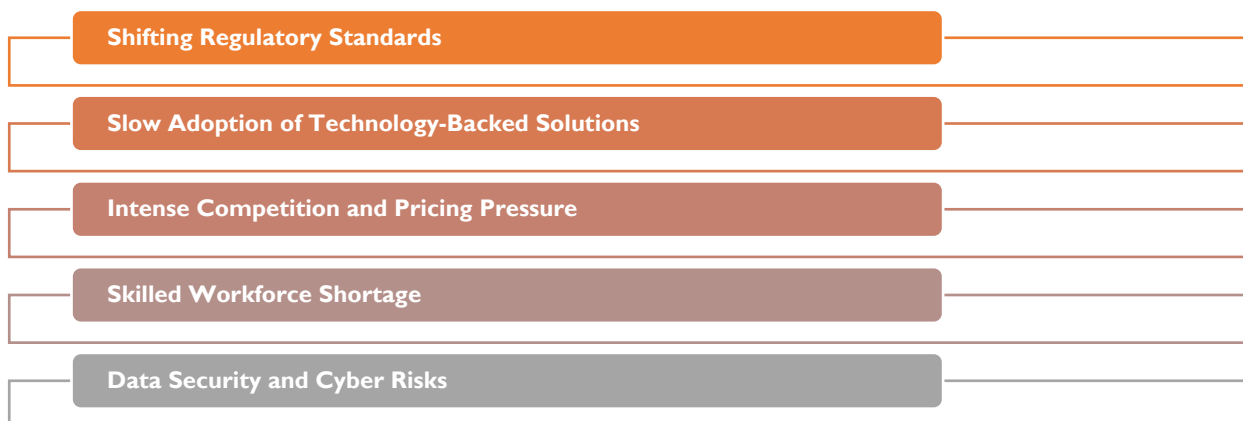
Trend	Description
Digitization & AI Adoption	The increasing digitization of industrial and business processes is transforming the way Testing, Inspection & Certification (TIC) services are delivered. Industries are rapidly adopting automated systems, digital platforms, and data-driven workflows to enhance operational efficiency and ensure real-time monitoring of processes. This shift is driving the demand for technologically advanced TIC solutions that can integrate seamlessly with digital ecosystems. Artificial Intelligence (AI) and data analytics are being increasingly utilized to improve the accuracy, speed, and reliability of testing and inspection processes, enabling better detection of anomalies and quality deviations. Furthermore, AI-powered tools are enabling predictive analytics, automated reporting, and intelligent decision-making in TIC services. These technologies allow service providers to analyse large volumes of data generated during testing and inspection, thereby enhancing quality control and reducing human error. As industries move towards Industry 4.0, TIC providers are expected to invest in digital capabilities and advanced technologies to remain competitive. This trend is particularly relevant for sectors such as manufacturing, pharmaceuticals, and infrastructure, where precision, compliance, and efficiency are critical.
Remote & Virtual Inspections	The adoption of remote and virtual inspection technologies is emerging as a significant trend in the TIC industry, driven by the need to improve efficiency and reduce operational costs. Technologies such as drones, remote sensors, video inspection tools, and augmented reality (AR) are enabling inspections to be conducted without the need for physical presence at the site. This is particularly beneficial in geographically remote, hazardous, or hard-to-reach locations such as offshore facilities, high-rise structures, and large industrial plants. In addition to cost efficiency, remote inspection solutions offer improved flexibility and faster turnaround times. They enable real-time data transmission and remote expert evaluation, allowing quicker decision-making and reducing project delays. The adoption of virtual inspections also gained momentum during the COVID-19 pandemic and continues to be integrated into standard operating practices. TIC providers leveraging these technologies can expand their service reach, optimize resource utilization, and enhance client convenience while maintaining compliance and quality standards.
Influx of IoT & its Impact	The increasing adoption of the Internet of Things (IoT) across industrial sectors is significantly transforming the landscape of Testing, Inspection & Certification (TIC) services. IoT-enabled devices such as sensors and connected equipment

	are being widely deployed to capture real-time data on parameters including temperature, pressure, vibration, and operational performance. This continuous flow of data enhances visibility across industrial processes and assets, enabling companies to monitor performance more effectively and ensure adherence to quality and safety standards. As industries move towards smart manufacturing and digital ecosystems, IoT integration is becoming a critical component of operational efficiency and compliance management. In the context of TIC services, IoT is enabling a transition from traditional, periodic inspection models to more advanced, data-driven approaches. Continuous monitoring through IoT devices allows for early detection of anomalies and potential failures, reducing reliance on manual inspections and minimizing operational risks. TIC providers are increasingly leveraging IoT-generated data to offer predictive maintenance, remote diagnostics, and real-time compliance verification. This evolution is particularly relevant in sectors such as manufacturing, energy, and infrastructure, where asset reliability and uptime are critical to operational success. Key Impacts of IoT on TIC Services: • Shift from periodic inspections to continuous, real-time monitoring • Enables predictive maintenance and early fault detection • Reduces downtime and improves asset reliability • Enhances accuracy and data-driven decision-making • Supports remote inspection and digital compliance verification
Cybersecurity certifications	With the increasing digitalization of industrial operations and the integration of connected systems, cybersecurity has become a critical concern across industries. Organizations are facing growing risks from cyber threats, data breaches, and system vulnerabilities, particularly in sectors that rely heavily on digital infrastructure and IoT-enabled systems. This has led to a rising demand for cybersecurity-related testing, certification, and compliance services within the TIC industry. TIC service providers are expanding their offerings to include cybersecurity audits, vulnerability assessments, and certifications aligned with global standards such as ISO/IEC 27001 and other information security frameworks. These certifications help organizations ensure the integrity, confidentiality, and security of their systems and data. As regulatory frameworks around data protection and cybersecurity continue to evolve, TIC providers are expected to play a key role in helping organizations achieve compliance and mitigate cyber risks, thereby creating a new and growing segment within the TIC market.



Key Threats & Challenges

Analysis of the major threats & challenges facing the third-party TIC services industry



➤ **Shifting Regulatory Standards:**

Frequent updates in regulatory standards driven by technological advancements, safety requirements, and global harmonization create ongoing challenges for TIC providers. Continuous changes in testing methods, inspection protocols, and certification frameworks require regular upgrades in technical capabilities, equipment, and compliance systems. This increases operational complexity, administrative burden, and compliance costs, while delays in adapting to evolving standards may create risks relating to accreditation, service continuity, and market credibility. In addition, evolving requirements often necessitate periodic investments in new testing methodologies, process revalidation, and workforce training, which can increase cost pressures and affect service turnaround. The need to simultaneously align with both domestic and international standards further adds to compliance complexity, particularly for providers serving multiple regulated sectors.

➤ **Slow Adoption of Technology-Backed Solutions:**

Slow adoption of advanced technologies such as automation, artificial intelligence, remote inspection tools, and digital reporting systems poses a challenge for TIC providers in meeting evolving client expectations. Limited digital infrastructure, integration challenges, high implementation costs, and shortage of skilled personnel can slow technology adoption, affecting efficiency, turnaround time, and competitiveness against technologically advanced players. This challenge is further amplified as clients increasingly expect digitally enabled service delivery, real-time reporting, and predictive capabilities as part of modern TIC solutions. Delayed adoption may constrain operational scalability, reduce responsiveness to evolving client needs, and place traditional service providers at a competitive disadvantage.

➤ **Intense Competition and Pricing Pressure**

The TIC industry faces intense competition from both global players and domestic firms, including smaller unorganized entities offering low-cost services. This creates pricing pressure, compresses margins, and poses challenges for accredited TIC providers in maintaining service quality while remaining cost competitive. Competitive intensity may also increase pressure to expand service offerings or reduce pricing in order to retain clients, which can impact profitability and investment capacity. In price-sensitive sectors, continued focus on cost over quality may create additional challenges for differentiated, accredited service providers seeking to sustain premium service standards.

➤ **Skilled Workforce Shortage**

The effectiveness of TIC services depends on availability of qualified inspectors, auditors, engineers, and laboratory professionals. However, shortage of skilled talent, coupled with the need for continuous upskilling to keep pace with evolving standards and technologies, remains a challenge for service delivery and operational scalability. High dependence on specialized technical expertise can also create resource constraints in scaling operations across sectors and geographies. In addition, higher training costs, talent retention challenges, and attrition in specialized roles may affect consistency of service delivery and increase operating costs over time.

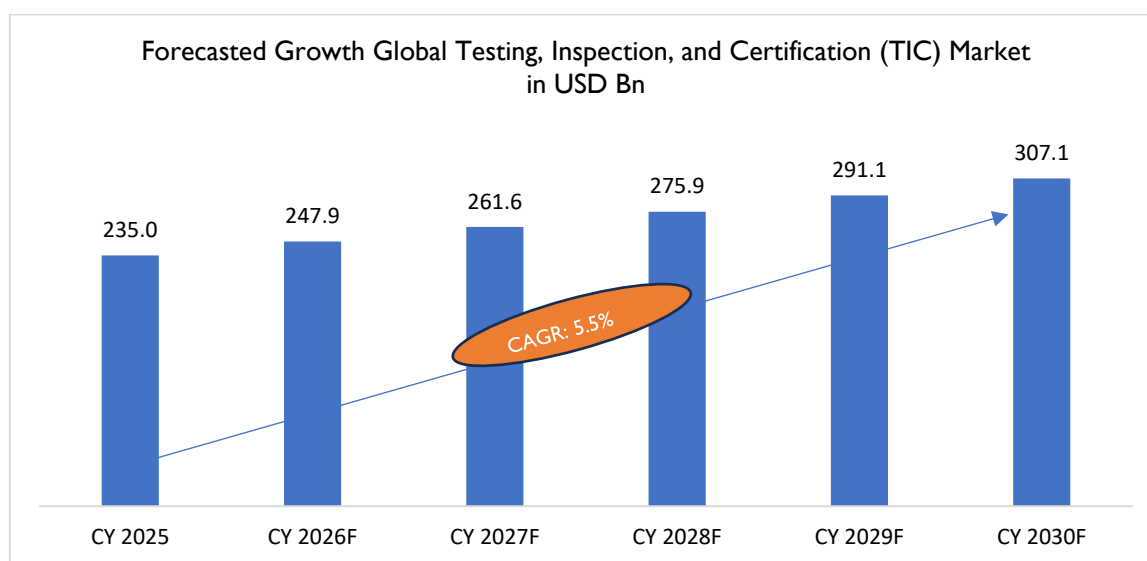
➤ **Data Security and Cyber Risks**

With increasing digitalization, remote monitoring, and use of connected systems, TIC providers are handling growing volumes of sensitive industrial, environmental, operational, and compliance-related data. This creates exposure to risks such as cyberattacks, data breaches, unauthorized access, and system vulnerabilities, which may lead to legal liabilities, reputational damage, and loss of client trust. As TIC services increasingly incorporate digital reporting, remote diagnostics, and data-driven assurance solutions, providers may need to invest in cybersecurity controls, secure data infrastructure, and risk management systems. In addition, evolving cybersecurity and data protection requirements may increase compliance obligations and operating costs, while any disruption or compromise of digital systems may affect service continuity and client confidence.

Market Outlook: Global Third-Party TIC Industry

Growth: Global Third-Party TIC Industry Market

The global third-party Testing, Inspection, and Certification (TIC) market is projected to maintain a steady growth trajectory over CY2025–CY2030, increasing from USD 235.0 billion in CY2025 to USD 307.1 billion by CY2030, reflecting a CAGR of 5.5%. **Continued** expansion supported by structural demand drivers and increasing outsourcing of conformity assessment services will continue to drive the market growth. The projected growth indicates sustained momentum in the market, underpinned by rising regulatory intensity, expanding industrial activity, and increasing demand for independent testing, inspection, and certification services across both mature and emerging economies.

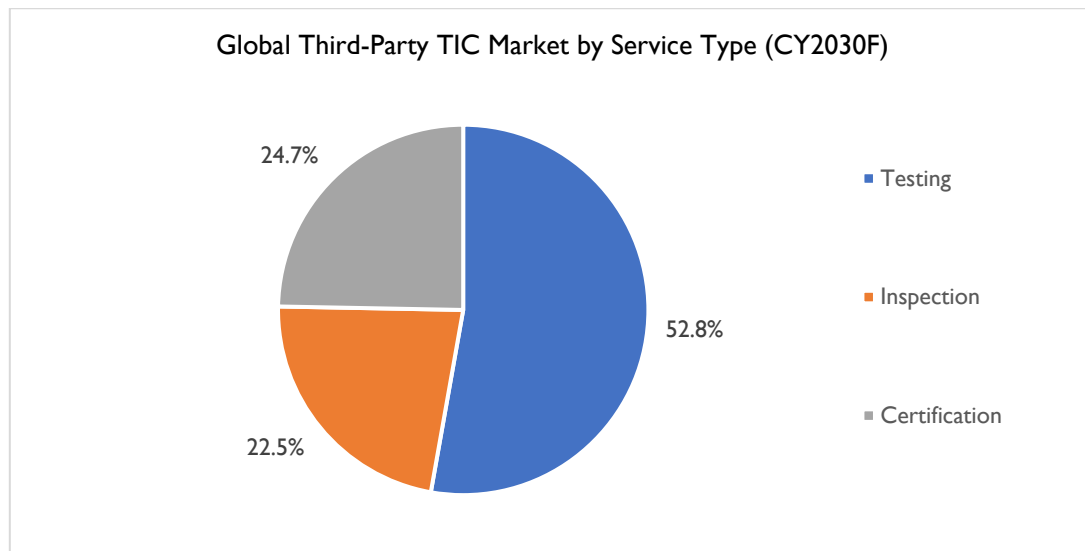


Source: Dun & Bradstreet Research

The anticipated growth is expected to be supported by factors such as increasing compliance requirements across global supply chains, rising investments in infrastructure and energy transition projects, growing demand for quality assurance in advanced manufacturing, and expanding certification requirements linked to sustainability, cybersecurity, and digital systems. Further, increasing adoption of third-party TIC services across sectors such as power, industrials, pharmaceuticals, automotive, and consumer products, along with growing complexity in technical standards and cross-border trade requirements, is expected to support long-term market expansion during the forecast period.

Market Segmentation of the Global Third-Party TIC Industry by Type of Services

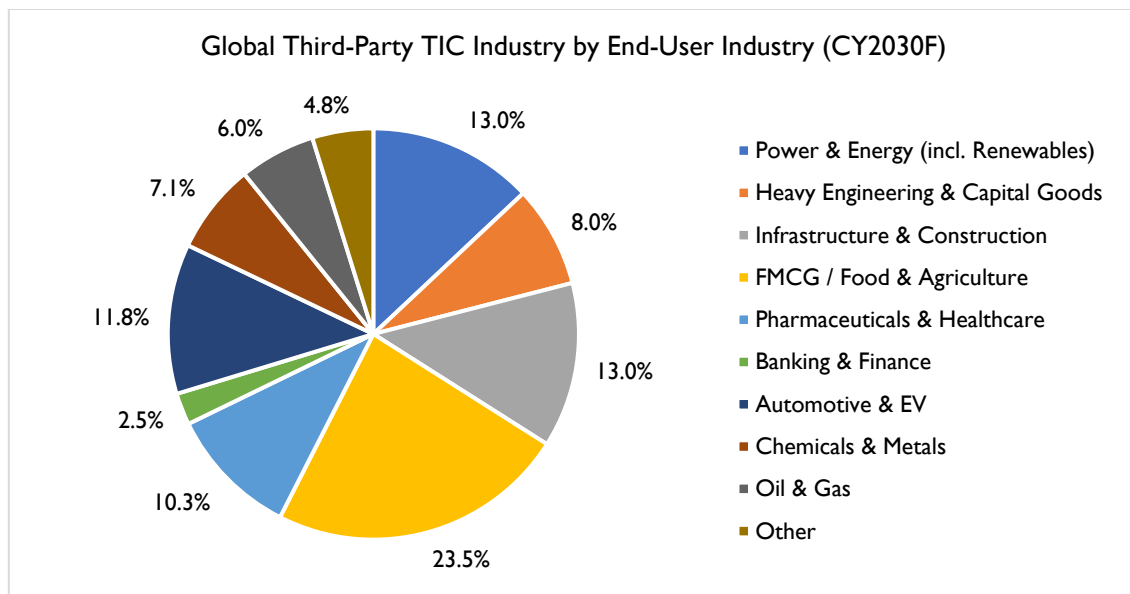
The global third-party TIC market by service type in CY2030F is expected to remain led by testing services, accounting for 52.8% of the market, reflecting continued demand for product validation, performance testing, and compliance assessment across increasingly complex industrial and consumer applications. Inspection services are projected to account for 22.5% of the market, supported by ongoing demand for asset integrity monitoring, project inspections, and operational compliance across infrastructure, energy, and industrial sectors.



Source: Dun & Bradstreet Research

Certification services are expected to increase to 24.7%, indicating a relatively higher share compared to CY2025, supported by growing demand for management system certifications, sustainability-linked certifications, cybersecurity assurance, and regulatory compliance requirements. The projected segmental mix suggests that while testing is expected to remain the dominant service segment, certification may witness relatively stronger share expansion, reflect evolving compliance requirements and increasing emphasis on formal assurance and standards-based validation globally.

Market Segmentation of the Global Third-Party TIC Industry by End-User Industry



Source: Dun & Bradstreet Research

The global third-party TIC industry by end-user in CY2030F is expected to remain broadly diversified, with FMCG / Food & Agriculture continuing to hold the largest share at 23.5%, supported by sustained regulatory scrutiny, food safety requirements, and traceability standards. Power & Energy (including renewables) and Infrastructure & Construction are each projected to account for 13.0% of the market, reflecting continued demand arising from energy transition investments, grid modernization, industrial expansion, and large-scale infrastructure development.

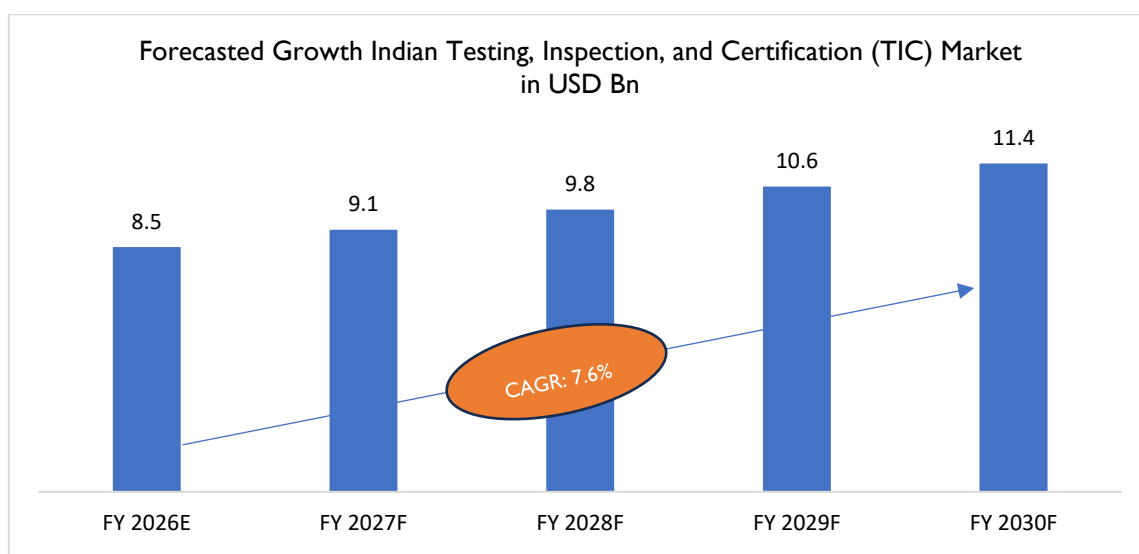
Automotive & EV is expected to increase to 11.8%, while Pharmaceuticals & Healthcare is projected at 10.3%, supported by growing compliance requirements, product validation needs, and increasing adoption of advanced technologies across both sectors. Meanwhile, Heavy Engineering & Capital Goods (8.0%), Chemicals & Metals (7.1%), Oil & Gas (6.0%), and other industries (4.8%) continue to provide diversified support to market demand, while Banking & Finance remains a relatively smaller segment at 2.5%. Overall, the projected segmental mix indicates sustained diversification in demand, with incremental share gains in sectors linked to energy transition, electrification, and regulated industrial growth.



Indian Third-Party TIC Industry Market Size and Growth Trend

Growth: Indian Third-Party TIC Industry Market

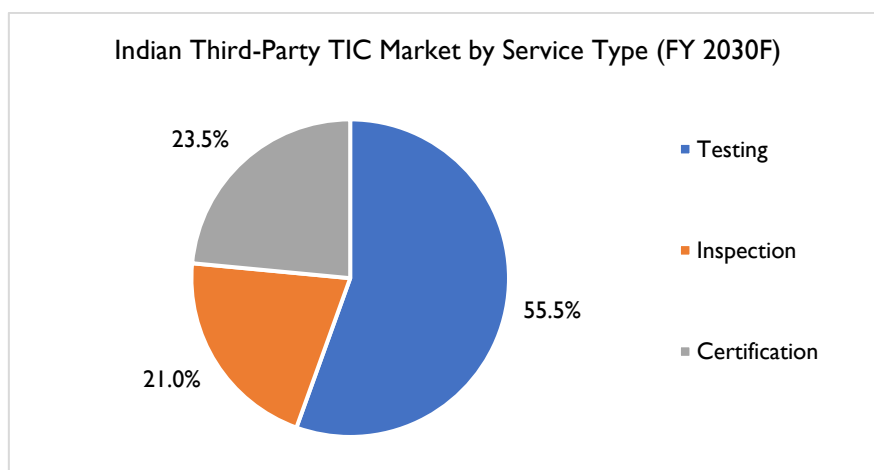
The Indian TIC market is projected to grow from USD 8.5 billion in FY2026E to USD 11.4 billion by FY2030F, reflecting a CAGR of 7.6% during the forecast period. This growth is expected to be supported by increasing regulatory compliance requirements, rising industrial activity, expanding infrastructure investments, and growing outsourcing of testing, inspection, and certification functions across key end-user sectors. Continued emphasis on quality assurance, product safety, and adherence to domestic and international standards is also expected to support market expansion.



Source: Dun & Bradstreet Research

Growth momentum is further likely to be driven by increasing demand from sectors such as power, infrastructure, automotive, pharmaceuticals, and food, alongside emerging opportunities in renewable energy, advanced manufacturing, and digital assurance services. In addition, rising export-oriented compliance requirements, increasing complexity of technical standards, and broader adoption of specialized conformity assessment services are expected to support sustained demand for TIC services over the medium term.

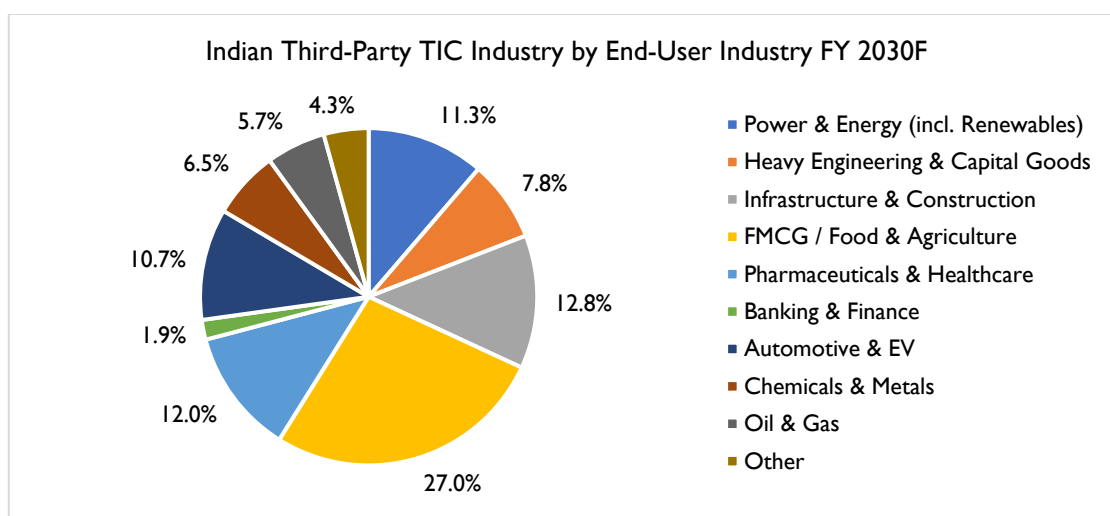
Market Segmentation of the Indian Third-Party TIC Industry by Type of Services



Source: Dun & Bradstreet Research

The Indian third-party TIC market is expected to remain led by Testing, accounting for 55.5% of the market in FY2030F, supported by continued demand for product validation, compliance testing, and specialized technical assessment services across industries. Inspection is projected to account for 21.0%, driven by ongoing requirements for asset integrity, operational compliance, and industrial quality assurance, while Certification is expected to increase to 23.5%, reflecting growing emphasis on regulatory compliance, management systems, sustainability standards, and formal conformity assessment. The segmental mix indicates continued dominance of testing services, alongside a gradual strengthening of certification-led demand within the broader TIC ecosystem.

Market Segmentation of the Indian Third-Party TIC Industry by End-User Industry



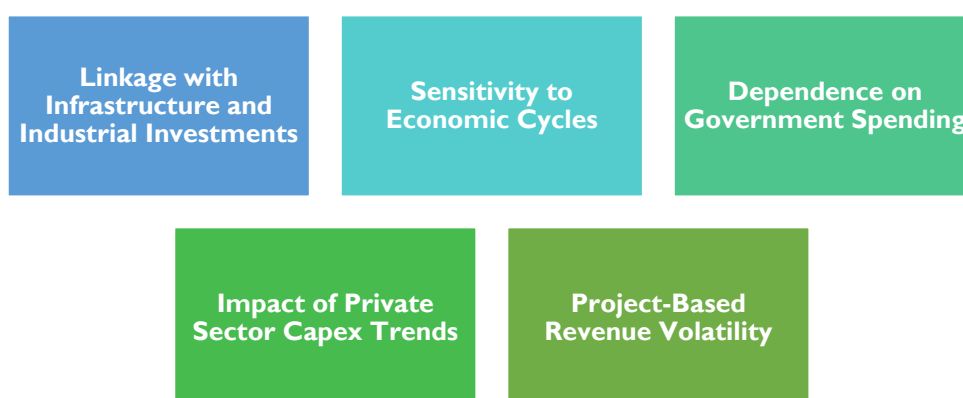
Source: Dun & Bradstreet Research

The Indian third-party TIC market is expected to remain diversified across end-user industries in FY2030F, with FMCG / Food & Agriculture continuing to account for the largest share at 27.0%, supported by sustained compliance and quality assurance requirements. Infrastructure & Construction (12.8%), Pharmaceuticals & Healthcare (12.0%), Power & Energy (11.3%), and Automotive & EV (10.7%) are expected to remain significant demand contributors, reflecting increasing testing, inspection, and certification requirements across regulated and asset-intensive sectors. The projected segmental mix also indicates growing contribution from technology- and compliance-driven sectors, while maintaining broad-based demand across industrial end-user categories.

Growth Outlook: Key Factors

Cyclicality and dependency on capex cycles

The growth trajectory of the Testing, Inspection, and Certification (TIC) industry is closely linked to capital expenditure cycles across key end-use sectors such as infrastructure, energy, construction, and manufacturing. The industry tends to experience higher demand during periods of strong investment activity, driven by both government and private sector spending, as projects require extensive quality assurance and regulatory compliance services. However, during economic slowdowns or periods of reduced capex, project delays and lower investment activity can lead to a moderation in demand. As a result, the TIC industry exhibits a cyclical growth pattern, with performance largely dependent on the pace and continuity of capital investments.



- **Linkage with Infrastructure and Industrial Investments:** The demand for TIC services is closely aligned with capital expenditure in infrastructure and core industrial sectors such as energy, construction, and manufacturing. As these sectors undertake large-scale projects, the requirement for inspection, testing, and certification services increases to ensure compliance with regulatory and quality standards. However, when investment activity slows down due to economic or policy factors, the demand for TIC services also moderates. This direct correlation makes the industry highly sensitive to investment cycles across key sectors.
- **Sensitivity to Economic Cycles:** The TIC industry's performance is influenced by broader macroeconomic conditions, as economic growth typically drives higher investment activity. During periods of economic expansion, increased industrial output and infrastructure development lead to higher demand for TIC services. Conversely, during economic downturns or uncertainty, companies tend to defer or reduce capital expenditure, which negatively impacts the demand for such services. This cyclical nature results in fluctuations in revenue growth and business performance.
- **Dependence on Government Spending:** Government expenditure on infrastructure development, including roads, railways, power, and urban infrastructure, plays a crucial role in sustaining demand for TIC services. Public sector projects often require extensive testing and certification to meet regulatory standards,

thereby generating consistent demand. However, any delays in budget allocations, project approvals, or policy shifts can affect the timing and scale of these projects. As a result, TIC companies remain dependent on government spending patterns and execution efficiency.

- **Impact of Private Sector Capex Trends:** Private sector investments in industries such as oil & gas, metals, and manufacturing significantly influence the demand for TIC services. Corporate investment decisions are often driven by factors such as profitability, demand outlook, and financing conditions. In periods of strong business confidence, private players undertake expansion and modernization projects, boosting demand for TIC services. However, cautious investment sentiment or liquidity constraints can lead to reduced capex, thereby affecting service demand.

- **Project-Based Revenue Volatility:** A substantial portion of TIC revenues is derived from project-specific assignments, which are dependent on the lifecycle and execution timeline of individual projects. This results in variability in revenue generation, as delays or disruptions in project execution can lead to uneven demand. Additionally, the completion of large projects without immediate replacement in the pipeline can create temporary slowdowns in revenue. This project-driven nature contributes to volatility in financial performance.

Competitive intensity and pricing risks

The TIC industry operates in a highly competitive environment, characterized by the presence of numerous global, domestic, and regional players across various service segments. The market structure is fragmented, particularly in standardized testing and inspection services, leading to intense competition and pricing pressures. Clients often prioritize cost efficiency through competitive bidding processes, which further compresses margins. Additionally, limited differentiation in certain service offerings and the entry of new players in select segments contribute to sustained competitive intensity, making pricing risk a key factor influencing industry profitability.



- **Fragmented Market Structure:** The TIC industry is characterized by a fragmented competitive landscape, with the presence of numerous global, domestic, and regional players. This diversity of participants leads to intense competition across various service segments, particularly in standardized testing and

inspection services. Smaller regional players often compete alongside established firms, creating pricing pressures and limiting the ability of companies to differentiate purely based on service offerings. The fragmented nature of the market contributes to competitive intensity.

- **High Degree of Price-Based Competition:** In many segments of the TIC industry, services are relatively standardized, leading to competition primarily based on pricing. Clients often evaluate multiple service providers and select vendors offering the most cost-effective solutions while meeting required standards. This results in aggressive pricing strategies among competitors, which can compress profit margins. The emphasis on cost competitiveness makes it challenging for companies to sustain premium pricing across all service lines.

- **Client Bargaining Power:** Large clients, including government bodies, EPC contractors, and multinational corporations, possess significant bargaining power due to the scale of their projects. These clients typically engage in competitive bidding processes, enabling them to negotiate favorable pricing and contractual terms. Additionally, long-term relationships and bulk contracts further strengthen their negotiating position. This dynamic places pressure on TIC companies to balance competitive pricing with profitability and service quality.

- **Low Entry Barriers in Select Segments:** Certain segments of the TIC industry, particularly basic testing and inspection services, have relatively low entry barriers in terms of capital investment and technical requirements. This encourages the entry of new players, including small and regional firms, which increases competition. New entrants often adopt aggressive pricing strategies to establish their presence in the market. As a result, the influx of competitors intensifies pricing pressure and affects overall industry margins.

- **Limited Differentiation in Standard Services:** A large portion of TIC services, especially routine testing and inspection, offers limited scope for differentiation, as they are governed by standardized procedures and regulatory requirements. This reduces the ability of companies to distinguish themselves based on service offerings alone. While factors such as turnaround time, customer service, and reliability play a role, pricing remains a key deciding factor for clients. This lack of differentiation contributes to competitive intensity and pricing risks.



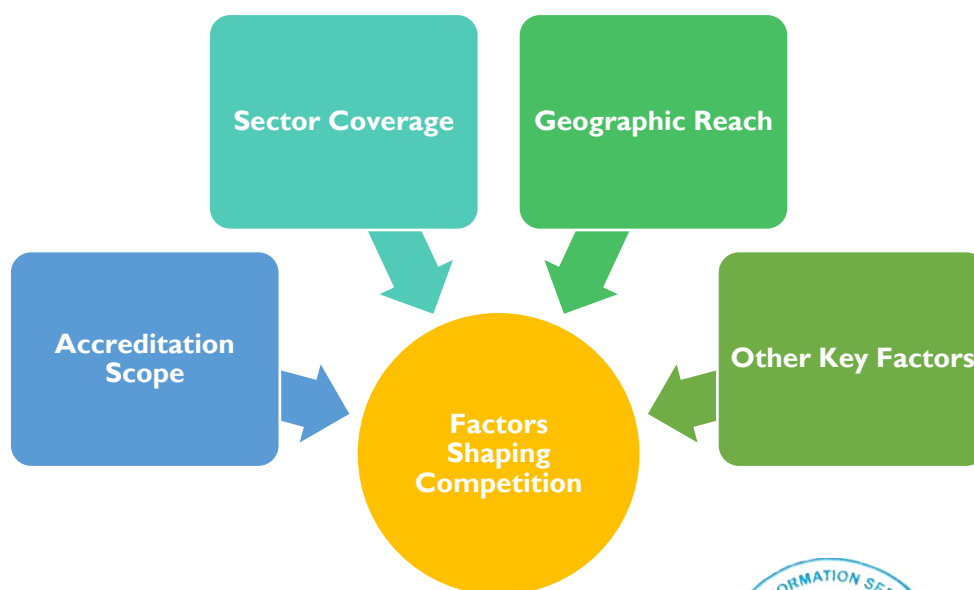
Competitive Landscape

The Indian third-party Testing, Inspection, and Certification (TIC) services industry is highly competitive and structurally fragmented, while gradually moving toward consolidation and capability-driven growth. With rising regulatory scrutiny and growing demand from sectors such as infrastructure, power, pharmaceuticals, food processing, and manufacturing, clients are increasingly preferring reliable partners who can ensure compliance, accuracy, and global acceptance of certifications making credibility, scale, and technical expertise key competitive differentiators.

Within this broader market, the TIC segment is witnessing increasing participation from organized and global players such as SGS SA, Bureau Veritas, Intertek Group plc, TUV SUD, and TUV Rheinland, which leverage strong global networks, broad service portfolios, and recognized certifications. Key players compete on parameters such as accreditation credibility, service quality, turnaround time, sector specialization, and geographic reach. Companies with strong relationships with regulators, industry bodies, and large corporates are better positioned to secure long-term contracts and repeat business.

The competitive landscape is increasingly being shaped by service diversification and value chain integration, where players are expanding beyond traditional testing, inspection, and certification into areas such as advisory, sustainability, digital solutions, and project management services. Companies that are able to offer end-to-end solutions across the asset lifecycle from design validation to operational assurance and risk management are gaining a competitive edge by increasing client stickiness and share of wallet. Furthermore, the adoption of advanced technologies such as automation, data analytics, and remote monitoring is becoming a key differentiator, enabling faster turnaround times and improved service efficiency. As a result, competition is no longer limited to core TIC capabilities but is evolving toward integrated, technology-enabled, and high-value service offerings, favouring players with strong technical capabilities, investment capacity, and innovation focus.

Factors Shaping Competition in Third-Party TIC Services Industry



- **Accreditation Scope**

Accreditation scope refers to the range of standards, certifications, and approvals under which a TIC provider is authorized to operate. This is one of the most critical factors shaping competition, as it directly determines market access and credibility. A wider accreditation scope allows providers to serve multiple industries and participate in high-value, regulated assignments, thereby increasing their competitive positioning. At the same time, accreditation requirements involve significant investment in infrastructure, skilled manpower, and compliance systems, which raises entry barriers and limits participation to qualified players. As a result, competition becomes concentrated among accredited entities, with differentiation based on the depth and recognition of accreditations rather than just pricing.

- **Sector Coverage**

Sector coverage defines the range of industries served, such as infrastructure, power, pharmaceuticals, food, and manufacturing. This factor shapes whether competition is driven by scale or specialization. Providers with broad sector coverage can diversify revenue streams, cross-sell services, and reduce dependency on any single industry, giving them a competitive edge in terms of stability and scale. On the other hand, providers focused on niche or highly regulated sectors compete on technical expertise and domain-specific knowledge. Consequently, competition varies across sectors being price-driven in standardized segments and capability-driven in specialized or regulated segments making sector coverage a key determinant of how firms position themselves.

- **Geographic Reach**

Geographic reach refers to the extent of operational presence, whether local, regional, national, or global. It plays a crucial role in shaping competitive dynamics by creating a tiered market structure. Local markets tend to be highly fragmented, with numerous small players competing primarily on cost and proximity. In contrast, broader geographic presence enables providers to serve large, multi-location clients and participate in export-linked testing and international certification, where competition is more quality- and capability-driven. Wider reach also improves service accessibility, turnaround time, and client retention, making it a key factor for scaling operations and gaining competitive advantage.

- **Other Key Factors**

- a) **Service Complexity:** The industry includes both routine testing and advanced inspection/certification. Routine services face high competition and low differentiation, whereas complex services are expertise-driven with fewer capable players, shaping a dual competitive structure.
- b) **Regulatory Environment:** Regulations and mandatory standards create consistent demand for TIC services while also restricting entry to compliant and accredited entities. This results in a structured and credibility-focused competitive environment.



- c) **Technology & Infrastructure:** Adoption of advanced testing equipment, automation, and digital tools enhances efficiency and accuracy. Providers with superior technology gain an edge, making competition increasingly innovation- and capability-driven.
- d) **Turnaround Time & Efficiency:** Faster and reliable service delivery is critical for clients with time-sensitive operations, shaping competition around operational efficiency and responsiveness.
- e) **Reputation & Trust:** Since TIC services directly impact safety and compliance, credibility plays a major role. Established trust leads to repeat business and reduced price sensitivity, making competition relationship-driven at higher levels.

Key Entry Barriers in the Third-Party TIC Services Industry

- **Liability & Accountability Exposure:**

TIC services carry a high degree of responsibility, as incorrect testing, inspection, or certification can lead to safety risks, regulatory penalties, and financial losses. New entrants must be equipped to handle such legal and financial liabilities through strong internal controls, quality assurance mechanisms, and often insurance coverage. The risk exposure associated with accountability discourages underprepared players from entering the market.

- **Standardization & Audit Compliance Burden:**

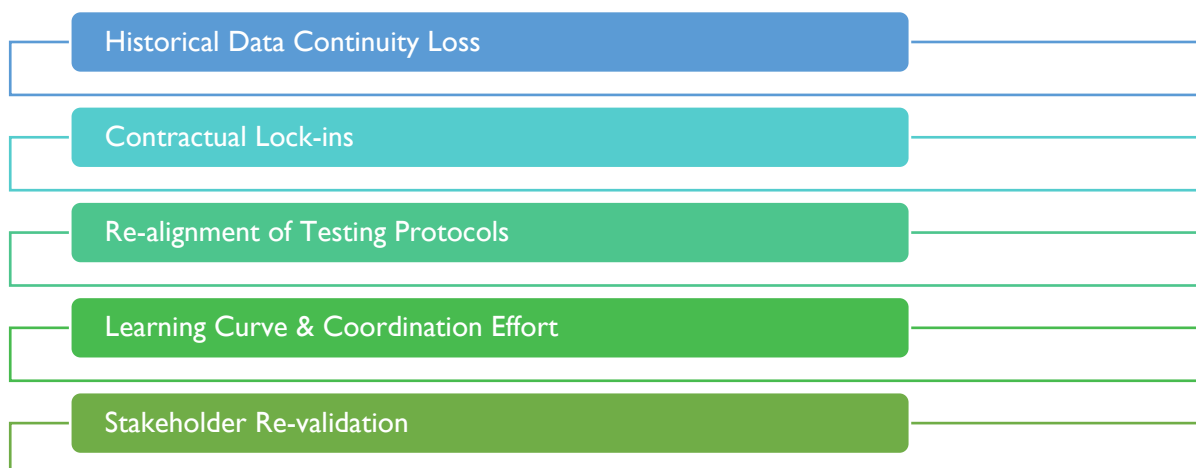
Entry into the TIC industry requires the establishment of robust quality management systems aligned with international standards, along with regular third-party audits to ensure continued compliance. These systems must be consistently maintained and updated, which involves both operational discipline and recurring costs. For new entrants, meeting these stringent and ongoing compliance requirements can be challenging, thereby acting as a significant barrier to entry.

- **Long Approval Cycles for Regulated Projects:**

In many regulated sectors such as infrastructure, pharmaceuticals, and energy, onboarding a TIC provider involves lengthy approval and validation processes. These are often tied to project timelines and include technical evaluations, documentation checks, and compliance verification. As a result, new entrants face delays in securing assignments, which slows down their ability to establish a market presence.



Switching Costs in the Third-Party TIC Services Industry



- **Historical Data Continuity Loss:**

Switching TIC providers can disrupt the continuity of historical testing and inspection data, which is often essential for regulatory audits, performance benchmarking, and long-term quality tracking. Clients may prefer to retain existing providers to maintain consistency in data records and avoid complications in compliance reporting.

- **Contractual Lock-ins:**

Many TIC engagements, particularly in large infrastructure or industrial projects, are governed by long-term contracts or framework agreements. These contracts may include fixed tenures, service obligations, and termination clauses, making it difficult or costly for clients to switch providers mid-term.

- **Re-alignment of Testing Protocols:**

Different TIC providers may follow varying methodologies, equipment standards, or reporting formats. When switching providers, clients may need to recalibrate their internal quality benchmarks and align processes with the new provider's approach, which involves time and effort.

- **Learning Curve & Coordination Effort:**

A new TIC provider requires time to understand the client's processes, specifications, and operational nuances. This initial learning phase can lead to inefficiencies, misalignment, and increased coordination efforts, making clients hesitant to switch from an already familiar provider.

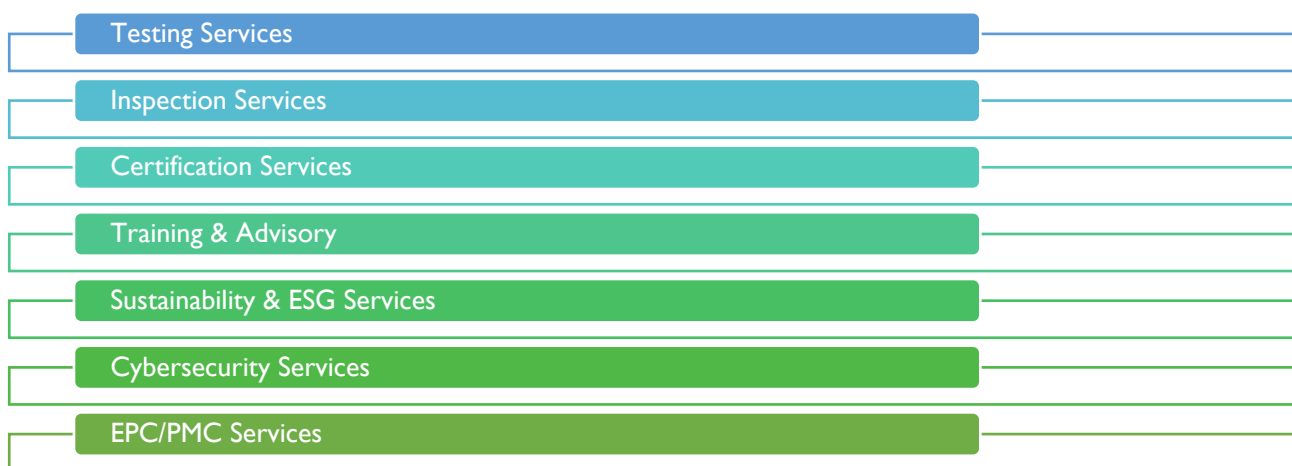
- **Stakeholder Re-validation:**

In regulated industries, test results and certifications often require acceptance from multiple stakeholders, including regulators, auditors, and end clients. When a new TIC provider is introduced, their outputs may need to be revalidated or re-approved, adding complexity and discouraging switching.

Business Model Analysis

The business model reflects a multi-layered, integrated service approach that combines core Testing, Inspection, and Certification (TIC) services with advisory, execution, and emerging digital solutions. It is designed to deliver value across the entire project lifecycle starting from feasibility and design validation, extending through construction-stage inspection and testing, and continuing into operational phases with certification, audits, and asset integrity services. This end-to-end capability reduces dependency on multiple vendors and ensures consistency in compliance, quality assurance, and risk management, especially for regulated and asset-intensive industries.

Insight on the revenue stream



- **Testing Services**

Testing services form the foundation of the revenue model, generating income through laboratory analysis of materials, food products, environmental samples, coal, and pharmaceuticals, along with calibration and failure analysis services. These activities are inherently repetitive because industries must conduct testing at multiple stages of production to comply with regulatory standards and quality benchmarks. As a result, this segment produces high-frequency, stable, and volume-driven revenues, largely independent of project cycles. The presence of accredited laboratories and standardized testing protocols further ensures continuous demand, making this stream a reliable base for consistent cash flow.

- **Inspection Services**

Inspection services contribute significantly through activities such as third-party inspections, non-destructive testing (NDT), asset integrity assessments, and statutory compliance checks. These services are typically linked to infrastructure, industrial, and energy projects, making them project-driven in nature. However, the inclusion of roles such as lender's independent engineer, project monitoring, and lifecycle inspections extends engagement over longer durations, converting part of the revenue into annuity-like streams. This dual nature—short-term project assignments combined with long-term oversight contracts provides both scalability and revenue visibility.

- **Certification Services**

Certification services generate revenue by enabling clients to obtain and maintain compliance with international standards such as ISO and other sector-specific certifications. The revenue model here is highly attractive because it involves an initial certification fee followed by periodic surveillance and renewal audits, creating a predictable and recurring income stream. Since the incremental cost of conducting audits is relatively low compared to infrastructure-heavy services, this segment tends to deliver higher margins. Additionally, regulatory and market-driven requirements for certifications ensure sustained demand across industries.

- **Training & Advisory**

Training and advisory services represent a knowledge-driven revenue stream, where income is generated through lead auditor programs, internal auditor training, compliance workshops, and specialized consulting assignments. These services require minimal physical infrastructure compared to testing or inspection, relying instead on domain expertise and intellectual capital. As a result, they are asset-light and margin-accretive, contributing disproportionately to profitability. Moreover, these offerings often complement core services by strengthening client relationships and creating opportunities for cross-selling other solutions.

- **Sustainability & ESG Services**

Sustainability and ESG-related services are an emerging revenue stream driven by increasing regulatory requirements and global emphasis on responsible business practices. Revenue is generated through activities such as ESG reporting, Business Responsibility and Sustainability Reporting (BRSR), carbon footprint measurement, greenhouse gas verification, and sustainability certifications and training. This segment is gaining rapid traction as companies face pressure from regulators, investors, and international markets to disclose and improve their environmental and social impact. Consequently, it represents a high-growth, future-oriented revenue stream with strong long-term potential.

- **Cybersecurity Services**

Cybersecurity services introduce a hybrid revenue model, combining recurring subscription-based income with project-based engagements. Recurring revenue comes from continuous monitoring services such as Security Operations Center (SOC) and threat intelligence, which require ongoing client engagement. At the same time, one-time revenues are generated from penetration testing, vulnerability assessments, incident response, and security audits. This combination allows for both steady cash flows and high-value project earnings, while also positioning the business within the rapidly expanding digital risk management space.

- **EPC / PMC Services**

EPC (Engineering, Procurement, and Construction) and PMC (Project Management Consultancy) services generate revenue through involvement in large-scale infrastructure and industrial projects. These services include design review, project planning, construction supervision, quality assurance, and lifecycle support. Revenues in this segment are typically high-value and milestone-based, linked to project progress and



completion stages. While this stream is more cyclical and dependent on capital expenditure trends, it significantly enhances overall revenue scale and allows deeper integration into client operations across the project lifecycle.

Insight on the type of engagements

1. Project-Based Engagements

Project-based engagements are time-bound and linked to specific assignments or projects, where revenue is earned based on scope, milestones, or completion of defined activities. These typically include inspection services, EPC/PMC assignments, design reviews, and one-time cybersecurity assessments such as penetration testing or audits. The engagement begins with a defined objective such as supporting an infrastructure project, conducting third-party inspection, or ensuring quality during construction and ends once the project lifecycle stage is completed. Such engagements are high-value and scalable, especially in sectors like infrastructure, oil & gas, and industrial projects, but they are also cyclical in nature, as they depend on capital expenditure trends and project pipelines. While margins can be strong, revenue visibility is limited to the project duration, making continuous deal flow important.

- **Milestone-based billing structure:** Revenues are often linked to project stages (design review, execution, completion), improving cash flow visibility within the project.
- **High ticket size but irregular flow:** large contract values, but revenue depends on project pipeline and execution timelines.
- **Client acquisition heavy:** Requires continuous bidding, tendering, and relationship management to secure new projects.
- **Exposure to external factors:** Sensitive to delays in infrastructure projects, regulatory approvals, and capex cycles.
- **Scope variability:** Revenue can increase through change orders, additional inspections, or extended project timelines.

2. Annuity-Based Engagements

Annuity-based engagements are recurring and long-term in nature, generating predictable and stable revenue over extended periods. These include services such as laboratory testing (which is repeatedly required for production and compliance), certification renewals and surveillance audits, ongoing asset integrity monitoring, and cybersecurity services like continuous SOC monitoring. In these engagements, clients require services on a regular or periodic basis, often due to regulatory mandates or operational needs, leading to repeat business and long-term contracts. This model ensures consistent cash flow, higher customer retention, and better revenue visibility, making it a stable foundation for the overall business. Additionally, annuity engagements often have lower customer acquisition costs over time and can be expanded through cross-selling of additional services.



- **Contractual recurring nature:** Often governed by annual or multi-year contracts with defined renewal cycles.
- **High customer retention:** Once integrated into client compliance systems, switching is low due to trust and regulatory dependencies.
- **Better revenue visibility & forecasting:** Predictable income allows stable planning and resource allocation.
- **Lower selling cost over time:** After initial onboarding, repeat business reduces customer acquisition cost.
- **Upselling potential:** Existing clients can be expanded into additional recurring services.

Insight on key cost drivers



➤ **Infrastructure & Laboratory Setup**

A major cost driver is the investment in laboratories, testing facilities, and advanced equipment required to perform material, environmental, and industrial testing. These facilities involve high capital expenditure for setup and continuous maintenance, calibration, and upgrades. Since accuracy and reliability are critical in testing services, regular investment is needed to keep equipment aligned with industry standards, making this a significant fixed cost component.

➤ **Accreditations & Compliance Costs**

The business operates in a highly regulated environment, requiring multiple accreditations, certifications, and approvals from regulatory bodies. Maintaining these involves periodic audits, documentation, quality control systems, and renewal fees. Continuous compliance with national and international standards also requires process upgrades and monitoring systems, adding to ongoing operational costs.

➤ **Skilled Manpower & Training**

Human capital is a critical cost driver, as the business depends on highly skilled professionals such as engineers, auditors, scientists, and inspectors. These roles demand specialized expertise and certifications, leading to

higher salary costs. Additionally, continuous training and upskilling are required to keep pace with evolving regulations, technologies, and industry practices, further increasing expenses.

➤ **Project Execution & Field Operations**

Costs associated with on-site activities such as inspections, sampling, audits, and project monitoring form a variable but significant component. These include travel, logistics, deployment of technical teams, and equipment handling. For large infrastructure or industrial projects, execution costs can be substantial and vary depending on project size, location, and duration.

➤ **Technology & Digital Investments**

With the expansion into areas like cybersecurity, AI-based monitoring, and digital solutions, investments in technology infrastructure have become increasingly important. This includes software systems, monitoring tools, data management platforms, and cybersecurity frameworks. While these costs support long-term growth and service diversification, they add to the overall cost structure, especially in the initial stages of adoption.



Peers Profiling:

Company Name	Overview
Tata Consulting Engineers Limited	Established in 1962 and headquartered in Mumbai, Tata Consulting Engineers Limited operates in the engineering and consulting sector, providing integrated solutions across infrastructure, energy, and industrial domains. The company is a part of the reputed Tata Group and focuses on delivering end-to-end engineering consultancy services. Its operations span across key stages such as concept design, feasibility studies, detailed engineering, project management consultancy (PMC), and commissioning support. Over the years, Tata Consulting Engineers Limited has built a strong presence across India and international markets including the Middle East, Africa, and Southeast Asia, serving a wide range of industries such as power, oil & gas, infrastructure, water, and manufacturing. The company has been involved in several large-scale and complex projects, leveraging advanced engineering practices, digital tools, and sustainability-focused approaches. It continues to expand its global footprint while addressing evolving industrial and infrastructure requirements through innovative and efficient engineering solutions, supported by a highly skilled workforce. The company is certified with ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 standards, reflecting its commitment to quality, environmental management, and occupational health & safety. Offerings: • Engineering Design & Consultancy Services • Project Management Consultancy (PMC) • Infrastructure & Urban Development Solutions • Power & Energy (Thermal, Renewable, Nuclear) • Oil & Gas Engineering Services • Water & Wastewater Management Solutions • Industrial & Manufacturing Engineering Solutions • Digital Engineering & Asset Management Services
TQ Cert Services Limited	TQ Cert Services Limited, established in 2003 and is headquartered in Hyderabad. It is a wholly owned subsidiary of Tata Projects Limited and operates in the third-party testing, inspection, and certification (TIC) services industry.



	The company has served more than 1,000 clients across 40+ countries, delivering services such as inspection, expediting, vendor assessments, audits, safety services, asset integrity management, and technical manpower support. It is also involved in project-related activities including planning, feasibility studies, design reviews, procurement support, and project management. TQ Cert provides certification and auditing services aligned with national and international standards, covering products, systems, and personnel across multiple industries. Backed by the Tata Group, which operates in over 100 countries, the company focuses on delivering reliable and high-quality services while expanding its global presence. Offerings: • Inspection & Expediting Services • Vendor Assessment & Supplier Audits • Quality & Safety Audits • Asset Integrity Management • Technical Manpower & Engineering Support • Feasibility Studies & Project Planning • Design Engineering Reviews • Integrated Project Management & PMO Services • BIM & VDC Services • Procurement & Cost Management Services • Certification & Compliance Services (ISO, product, system & personnel certification)
TUV India Ltd.	TUV India Ltd. was established in 1989 and is headquartered in Mumbai with major operations in Pune. as part of the German RWTÜV group's Indian operations. As a subsidiary of the TUV NORD GROUP, it was one of the first certification bodies to begin operations in India. The company has a strong presence across India with over 40 locations, along with international connectivity through the TUV NORD network spanning more than 100 countries. It serves a wide range of industries including oil & gas, infrastructure, power, manufacturing, automotive, chemicals, food, and healthcare. With a large pool of technical experts and engineers, TUV India focuses on ensuring that products, systems, and processes meet applicable national and international standards. The company emphasizes independence, technical



	competence, and adherence to global best practices while supporting clients in improving safety, reliability, and operational efficiency across their operations. Offerings: • Third-Party Inspection & Industrial Inspection Services • Testing Services (Electrical, Electronics, Chemical & Material Testing) • Management System Certification (ISO standards) • Product Certification Services • Auditing & Compliance Services • Technical Advisory & Safety Studies • Project Management & Engineering Support • Training & Personnel Certification
Intertek India Ltd.	Intertek India, established in 1993 and headquartered in New Delhi, operates in the third-party testing, inspection, and certification (TIC) services industry as part of the global Intertek Group plc. The company provides Total Quality Assurance solutions across the entire value chain, supporting organizations in ensuring product quality, safety, compliance, and sustainability. Its operations span assurance, testing, inspection, and certification services, helping clients mitigate risks across their operations and supply chains. Intertek India has a strong nationwide presence with over 2,800 employees, operating through 26+ laboratories and 30+ offices across the country. It serves a wide range of industries including chemicals, construction, energy, food & healthcare, government & trade, and consumer products. With a global network of laboratories and offices across more than 100 countries, Intertek continues to support clients in improving operational efficiency, ensuring regulatory compliance, and maintaining quality standards across global markets. Offerings: • Product Testing & Quality Evaluation • Industrial Inspection Services • Supply Chain Audits & Vendor Assessment • Certification & Compliance Services • Assurance & Risk Management Services • Sustainability & Environmental Services • Laboratory Testing Services • Training & Advisory Services



Vimta Labs Limited	Vimta Labs Limited was established in 1990 and is headquartered in Hyderabad, Telangana. The company operates as a Contract Research and Testing Organization (CRTO), providing contract research, analytical testing, inspection, certification, and regulatory compliance services across the pharmaceutical, food, agriculture, environmental, healthcare, medical devices, electronics, and industrial sectors. With over 40 years of experience, the company operates more than 600,000 sq. ft. of laboratory infrastructure supported by 10 regional and satellite laboratories across India. Products & Services: • Drug discovery and preclinical research • Clinical research and bioanalytical services • Analytical and cGMP laboratory testing • Food, agriculture and nutraceutical testing • Environmental testing and environmental impact assessment (EIA) • Medical device testing • Electrical, electronics and EMI/EMC testing • Water, beverages and packaging testing • Specialty chemicals and crop protection testing • Clinical diagnostics, inspection, certification and regulatory consultancy
Qualitek Labs Limited	Qualitek Labs Limited was established in 2018 and is headquartered in New Delhi, with its corporate office in Noida, Uttar Pradesh. The company operates as a testing, inspection, certification and contract research organization, providing end-to-end testing, homologation, certification, audit and consultancy services across automotive, electrical & electronics, food, pharmaceuticals, medical devices, environment, energy and industrial sectors. It operates a network of laboratories across Pune, Noida, Bhubaneswar, Mumbai, Hyderabad, Gandhidham and Nellore, Products & Services: • Automotive testing and homologation • Electrical & electronics testing • Electric vehicle (EV) battery testing • Food, water and pharmaceutical testing • Medical device testing • Environmental monitoring and energy testing • Packaging, chemical, cosmetics, textile, leather, minerals and infrastructure material testing



	• Inspection, certification, audit, research & development, training and regulatory consultancy services
Marc Technocrats Limited	Marc Technocrats Limited was established in 2007 and is headquartered in Bahadurgarh, Haryana. The company operates as an infrastructure consultancy and engineering services provider, offering project management, engineering consultancy and technical advisory services for infrastructure projects across roads & highways, railways, buildings and water resources. The company primarily operates on a Business-to-Government (B2G) model, serving Central and State Government departments, ministries and infrastructure agencies. Products & Services: • Supervision and Quality Control (SQC) • Detailed Project Reports (DPRs) and detailed engineering design • Third-Party Techno-Financial Audit (TPTFA) • Pre-bid advisory and bid management services • Project management and construction supervision • Engineering consultancy for roads & highways, railways, buildings and water resources infrastructure projects
Engineers India Limited	Engineers India Limited (EIL) was established in 1965 and is headquartered in New Delhi. A Navratna Public Sector Enterprise under the Ministry of Petroleum & Natural Gas, the company operates as a global engineering consultancy and EPC organization, providing end-to-end engineering, procurement, construction and project management services across the oil & gas, petrochemicals, refineries, pipelines, fertilizers, infrastructure, water & waste management, power and energy transition sectors. EIL has executed over 8,000 assignments, including more than 700 major projects, supported by over 2,600 professionals across India and overseas. Products & Services: • Engineering consultancy and feasibility studies (Pre-FEED & FEED) • Engineering, Procurement and Construction (EPC) • Engineering, Procurement and Construction Management (EPCM) • Project Management Consultancy (PMC) • Construction management and supply chain management • Heat & mass transfer technology • Plant operation, safety and maintenance services • Environmental engineering and sustainability solutions



	• Research & development and process technology licensing
Rites Limited	rites Limited was established in 1974 and is headquartered in Gurugram, Haryana. A Navratna Central Public Sector Enterprise under the Ministry of Railways, the company operates as a multidisciplinary engineering consultancy and EPC organization, providing concept-to-commissioning solutions across transport infrastructure and related sectors. With over 50 years of experience, RITES has executed 5,000+ assignments in 55+ countries, serving the railways, highways, metros, airports, ports, ropeways, inland waterways, urban infrastructure and renewable energy sectors. Products & Services: • Engineering consultancy and feasibility studies • Detailed engineering and design services • Engineering, Procurement and Construction (EPC) • Project Management Consultancy (PMC) • Construction supervision and quality assurance • Procurement, logistics and supply chain management • Rolling stock design, export and inspection • Transaction advisory and commissioning support • Sustainability, green mobility and urban infrastructure consultancy • Operation & maintenance and asset management services

Company Profiling: ISSPL Limited

Company Overview:

ISSPL Limited, formed in 2014, is engaged in providing testing, inspection, certification, assurance, and advisory solutions across multiple industries. The Company operates across service areas including testing, inspection, certification, sustainability services, cybersecurity services, Project Management Consultancy (PMC) and Engineering, Procurement and Construction (EPC) services, with a focus on quality certification, sustainability, and cybersecurity services. The company intends to expand its service portfolio into high-growth and specialised segments such as advanced material testing, environmental testing, digital assurance, and sector-specific services, including coal, oil and energy testing, as well as regulatory-driven testing for per- and polyfluoroalkyl substances (PFAS), medical devices, and nutraceuticals. Further, the Company proposes to expand its testing capabilities through the establishment of dedicated Solar PV Module Testing and Electrical Home Appliance Testing laboratories, enabling it to provide accredited testing, performance evaluation, reliability assessment, safety, and compliance testing services in accordance with applicable Indian and international standards.

The Company provides services across multiple stages of the project and asset lifecycle, including project planning, feasibility studies, design review, third-party inspection, asset integrity services, statutory inspections, certification, operational monitoring and related engineering support services. Its service portfolio includes material and environmental testing, advanced and civil non-destructive testing (NDT), management system certification, sustainability-related services, cybersecurity services and technical training services.

The Company operates through offices in India, along with overseas branch offices in Abu Dhabi and Doha. Its operations include laboratory facilities, including a testing laboratory in Jaipur and a coal testing facility in Odisha, supporting testing and related service activities. The Company has obtained accreditations and recognitions from various national and international bodies in relation to its service offerings.

Services Offered:

Segments	Subsegments
Testing Services	• Mechanical, Chemical & Metallurgical Testing • Construction Material Testing (Cement, Steel, Aggregates) • Food, Pharma & Environmental Testing • Coal Sampling & Analysis • Calibration & Failure Analysis
Inspection Services	• Third-Party Inspection • Non-Destructive Testing (NDT) • Vendor Assessment & Expediting • Statutory & Periodic Inspections



	- Asset Integrity & Risk Assessment - HSE / Safety Audits
Certification Services	- ISO Management System Certifications - Food Safety & Compliance Audits - Product & Industry Certifications - Supply Chain & Security Certifications - Training Certification
Engineering & Project Services	- Design Review & Engineering Support - Techno-Economic Viability (TEV) - Project Planning & Feasibility Study - Construction Supervision & Quality Assurance - Lender's / Owner's Engineering Services
Sustainability Services	- ESG & BRSR Reporting - Carbon Footprint & GHG Verification - Life Cycle Assessment (LCA) - Waste & Resource Management - Carbon Border Adjustment Mechanism (CBAM)
Cybersecurity Services	- Information Security Assessment - Penetration Testing & Vulnerability Assessment - API & Web Application Security Assessment - Risk Assessment & Compliance
Specialized Capabilities	- End-to-End Testing, Inspection & Certification (TIC) Solutions - Asset Lifecycle Management (Design to Decommissioning) - Advanced NDT & Asset Integrity Services - Integrated EPC & PMC Project Execution

Key Customer Segments:

- Infrastructure & Construction Companies:** These clients include builders, contractors, and developers working on roads, bridges, and buildings. They require testing, inspection, and certification services to ensure safety, quality, and regulatory compliance.
- Energy & Utilities Sector:** Includes oil & gas, power plants, and renewable energy companies. They need inspection, asset integrity, and risk assessment services to maintain operational efficiency and safety.
- Manufacturing & Process Industries:** Covers industries like steel, cement, chemicals, and petrochemicals. These customers rely on testing, certification, and quality assurance to meet production standards and global regulations.



- **Food, Pharma & Agriculture Sector:** Includes food processors, pharmaceutical companies, and agricultural exporters. They require lab testing, certification, and compliance services for safety, quality, and export standards.
- **Government & Regulatory Bodies:** Public sector units and authorities needing compliance audits, inspections, and certifications. They ensure adherence to national and international standards.
- **Corporate & Enterprise Clients (IT, Services, etc.):** Businesses seeking ISO certifications, cybersecurity, and sustainability services. They aim to improve operational standards, data security, and ESG compliance.
- **Financial Institutions & Investors:** Banks and lenders involved in project financing. They use services like techno-economic viability studies, due diligence, and independent engineering assessments before funding projects.

Key Strengths:

- **Comprehensive End-to-End Service Portfolio:** Provides integrated Testing, Inspection, Certification (TIC), assurance, advisory, project management consultancy (PMC), sustainability, cybersecurity, and training services, enabling comprehensive support across the project and asset lifecycle.
- **Strong Legacy and Industry Expertise:** Formerly a division of the Indian Register of Shipping (IRS), leveraging over four decades of experience in inspection, certification, and assurance services, with ISSPL established as an independent entity in 2014.
- **Diversified Sector Presence:** Serves a broad range of industries including buildings & infrastructure, transportation, process industries, pharmaceuticals, food, capital goods, and renewable energy, providing diversified domain expertise.
- **Accredited Laboratories and International Recognitions:** Operates NABL-accredited testing laboratories and holds approvals and accreditations from leading national and international bodies, including FSSAI, EIC, APEDA, CPCB, NABCB, and ANAB supporting the delivery of quality-assured services.
- **Extensive Service Network:** Operates through a network of offices across India, supported by specialised testing facilities, including a testing laboratory in Jaipur and a coal testing facility in Odisha, enabling comprehensive testing and service coverage.
- **Expanding Portfolio in Emerging Services:** Continues to strengthen its capabilities in sustainability, cybersecurity, digital solutions, and project management services to address evolving industry and regulatory requirements.



Positioning Statement:

Capability	ISSPL Limited	Vimta Labs Limited	Qualitek Labs Limited	Marc Technocrats Limited
Testing Services	Available	Available	Available	Not Available
Inspection Services	Available	Limited	Available	Available (Construction Supervision & Quality Control)
Certification Services	Available	Available	Available	Not Available
Laboratory Testing	Available	Available	Available	Not Available
Advanced NDT	Available	Not Available	Limited	Not Available
Design Review	Available	Not Available	Available (Design & Development Support)	Available (DPR & Engineering Design)
Project Management Assistance	Available	Not Available	Limited	Available
Field Quality Assurance	Available	Limited	Partial	Available
Sustainability / ESG	Available	Available (Environment, Health & Safety & Environmental Consultancy)	Limited (Environment Monitoring)	Limited (Environmental & Social Impact Assessment in infrastructure projects)
Renewable Energy / Solar Testing	Proposed	Limited (Electrical & Electronics Testing)	Limited (Energy & Electrical Testing)	Not Available
Training / Academy	Available	Not Available	Available	Not Available
Multi-sector Coverage	Marine, Infrastructure, Energy, Manufacturing, Oil & Gas, Railways, Power, Process Industries	Pharmaceuticals, Food, Environment, Agriculture, Medical Devices, Electronics, Chemicals, Packaging, Water & Beverages	Automotive, Electrical & Electronics, Aerospace, Defence, Medical Equipment, Food, Environment, Packaging, Energy, Minerals	Roads & Highways, Railways, Buildings, Water Infrastructure, Government Infrastructure Projects

Source: Respective Company's Websites

ISSPL Limited is positioned as the most comprehensive and diversified player among the peer group, offering an integrated portfolio of **testing, inspection, certification (TIC), laboratory testing, advanced non-destructive testing (NDT), design review, project management support, field quality assurance, sustainability/ESG services, renewable energy inspection, and training** across industries such as marine, infrastructure, energy, manufacturing, oil & gas, railways, and power. In comparison, **Vimta Labs Limited** has a strong presence in laboratory testing, analytical services, environmental monitoring, certification, and life sciences, with comparatively limited inspection and engineering-focused services. **Qualitek Labs Limited** primarily focuses on testing, inspection, certification, product validation, and engineering support for sectors such as automotive, aerospace, electrical, defence, medical devices, and food, with a more limited project management and sustainability offering than ISSPL. **Marc Technocrats Limited** is positioned as an infrastructure engineering and consultancy firm, specializing in engineering design, project



management, construction supervision, and quality control for infrastructure projects, rather than as a full-service TIC provider. Overall, ISSPL differentiates itself through its broad end-to-end service portfolio and unique capabilities in ESG, and integrated engineering assurance, making it the most diversified provider among the selected companies.

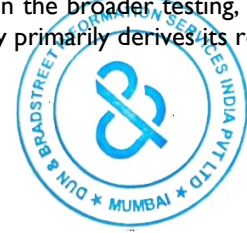


Financial KPIs²¹

Particular	Unit	ISSPL Limited			Tata Consulting Engineers Limited		Tq Cert Services Private Limited		TUV India Pvt. Ltd.		Intertek India Pvt. Ltd.	
		As at end for Fiscal			As at end for Fiscal		As at end for Fiscal		As at end for Fiscal		As at end for Fiscal	
		Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2025	Fiscal 2024	Fiscal 2025	Fiscal 2024	Fiscal 2025	Fiscal 2024	Fiscal 2025	Fiscal 2024
Total Income	₹ in Crores	256.93	209.19	168.52	1,785.95	1,386.51	288.59	248.44	419.53	371.82	881.16	724.68
Revenue from Operations	₹ in Crores	255.20	208.19	167.86	1,722.69	1,335.59	287.37	247.31	412.17	365.35	871.06	718.65
EBITDA	₹ in Crores	29.29	29.13	18.21	371.31	276.36	26.10	-1.15	72.48	54.37	240.18	184.28
EBITDA Margin	in %	11.48%	13.99%	10.85%	21.55%	20.69%	9.08%	-0.47%	17.58%	14.88%	27.57%	25.64%
PAT	₹ in Crores	19.46	18.54	10.48	288.60	216.79	18.97	-1.72	51.30	37.04	171.34	124.87
PAT Margin	in %	7.62%	8.91%	6.25%	16.75%	16.23%	6.60%	-0.70%	12.45%	10.14%	19.67%	17.38%
Debt Equity Ratio	in times	0.20	0.18	0.24	0.01	0.00	0.04	0.03	0.01	0.01	0.00	0.00
Return on Capital Employed	in %	18.70%	21.83%	14.58%	39.65%	36.95%	16.71%	-0.66%	33.44%	27.99%	139.26%	75.31%
Return On Asset	in %	10.73%	13.02%	8.31%	19.33%	18.48%	8.50%	-0.82%	17.97%	14.93%	35.83%	34.55%
Interest Coverage Ratio	in times	14.72	16.82	9.98	72.46	55.06	37.71	-4.47	278.12	137.46	389.14	577.20
Key Operating Cost	₹ in Crores	226.66	182.30	152.78	1388.16	1091.38	262.52	249.45	350.10	321.30	650.94	553.89
Return On Net Worth	in %	15.68%	17.77%	12.03%	29.39%	27.14%	12.61%	-1.17%	24.89%	20.79%	103.64%	55.06%

Note: We have considered consolidated financial statements

²¹ **Rationale for Exclusion of Companies from Financial Benchmarking:** Marc Technocrats Limited, Qualitek Labs Limited, Engineers India Limited, RITES Limited and Vimta Labs Limited have not been considered for financial benchmarking. While these companies operate within the broader testing, inspection and engineering services industry, their principal revenue is derived from testing, consultancy and related service segments, whereas the Company primarily derives its revenue from inspection services. Accordingly, they have not been considered comparable for financial benchmarking purposes.



Formula

Parameter	Formula
Total Revenue	Total Income includes Revenue from Operations and Other income.
Revenue From Operations	Revenue from operations means the revenue from operations as appearing in the restated statement of profit & loss for the relevant year/period.
EBITDA	EBITDA is calculated as Profit before tax for the year, plus finance costs, depreciation, and amortisation expenses, less other income
EBITDA Margin (%)	EBITDA Margin (%) is calculated as EBITDA divided by Revenue from Operations
Profit after tax (PAT)	Profit after tax (PAT) refers to Restated Profit/(Loss) for the year from Continuing Operations as appearing in the Restated Financial Information
PAT Margin (%)	PAT Margin (%) is calculated as Profit for the year as a percentage of Revenue From Operations
Return on Equity (ROE)	ROE is calculated as Restated Profit attributable to owners of the Company divided by Average Equity for the year.
Return on Asset (ROA)	Return on Assets (ROA) is calculated as Restated Profit attributable to owners of the Company divided by the Total Assets for the year.
Return on Capital Employed (ROCE)	RoCE is calculated as Earnings before interest and taxes (EBIT) divided by Capital Employed. EBIT is calculated as Profit before tax plus finance costs.
Capital Employed	Capital Employed is the total of Total Net Worth and Total Debt.
Debt to Equity Ratio	Debt to Equity Ratio is calculated as Total Borrowings divided by Shareholders' Equity as at the end of the year.
Operating Cash Flow	Operating Cash Flow refers to the net cash generated from/(used in) operating activities, as reported in the Cash Flow Statement.
Net Worth	Net Worth is calculated as Total Assets minus Total Liabilities.
Key Operating Cost	Key Operating Cost is calculated as total expenses less finance costs for the relevant Fiscal.
Interest Coverage Ratio	Interest Coverage Ratio is calculated as EBIT divided by finance costs for the relevant fiscal year, where EBIT is calculated as EBITDA less amortization.
Return on Net worth	Return on Net Worth is calculated as Profit After Tax divided by Net Worth for the relevant fiscal year.

Abbreviation Table:

Abbreviation	Full Form
GDP	Gross Domestic Product
GVA	Gross Value Added
GFCF	Gross Fixed Capital Formation
PFCE	Private Final Consumption Expenditure
CPI	Consumer Price Index
WPI	Wholesale Price Index
RBI	Reserve Bank of India
MPC	Monetary Policy Committee
FDI	Foreign Direct Investment
PLI	Production Linked Incentive
IMF	International Monetary Fund
IEA	International Energy Agency
WTO	World Trade Organization
DGFT	Directorate General of Foreign Trade
CEPA	Comprehensive Economic Partnership Agreement
FTA	Free Trade Agreement
REIT	Real Estate Investment Trust
PLFS	Periodic Labour Force Survey
CMIE	Centre for Monitoring Indian Economy
MoSPI	Ministry of Statistics and Programme Implementation
FY	Financial Year
CY	Calendar Year
CAGR	Compound Annual Growth Rate
INR	Indian Rupee
USD	United States Dollar
TIC	Testing, Inspection and Certification
TPI	Third-Party Inspection
NDT	Non-Destructive Testing
PMC	Project Management Consultancy
EPC	Engineering, Procurement and Construction
DPR	Detailed Project Report
TEV	Techno-Economic Viability
HSE	Health, Safety and Environment



ESG	Environmental, Social and Governance
SOC	Security Operations Center
AI	Artificial Intelligence
IoT	Internet of Things
QI	Quality Infrastructure
FAT	Factory Acceptance Test
ISO	International Organization for Standardization
IEC	International Electrotechnical Commission
ASTM	ASTM International (formerly American Society for Testing and Materials)
IAF	International Accreditation Forum
ILAC	International Laboratory Accreditation Cooperation
MRA	Mutual Recognition Arrangement
BIS	Bureau of Indian Standards
ISI	Indian Standards Institution Mark
FSSAI	Food Safety and Standards Authority of India
CDSCO	Central Drugs Standard Control Organisation
APEDA	Agricultural and Processed Food Products Export Development Authority
PESO	Petroleum and Explosives Safety Organization
NABL	National Accreditation Board for Testing and Calibration Laboratories
NABCB	National Accreditation Board for Certification Bodies
CPRI	Central Power Research Institute
CPWD	Central Public Works Department
CEA	Central Electricity Authority
MNRE	Ministry of New and Renewable Energy
PSU	Public Sector Undertaking
QCO	Quality Control Order
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis and Critical Control Points
GRI	Global Reporting Initiative
BRSR	Business Responsibility and Sustainability Reporting
IATF	International Automotive Task Force
PNGRB	Petroleum and Natural Gas Regulatory Board
IBR	Indian Boiler Regulations