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India 2026

A D&B Perspective

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Introduction

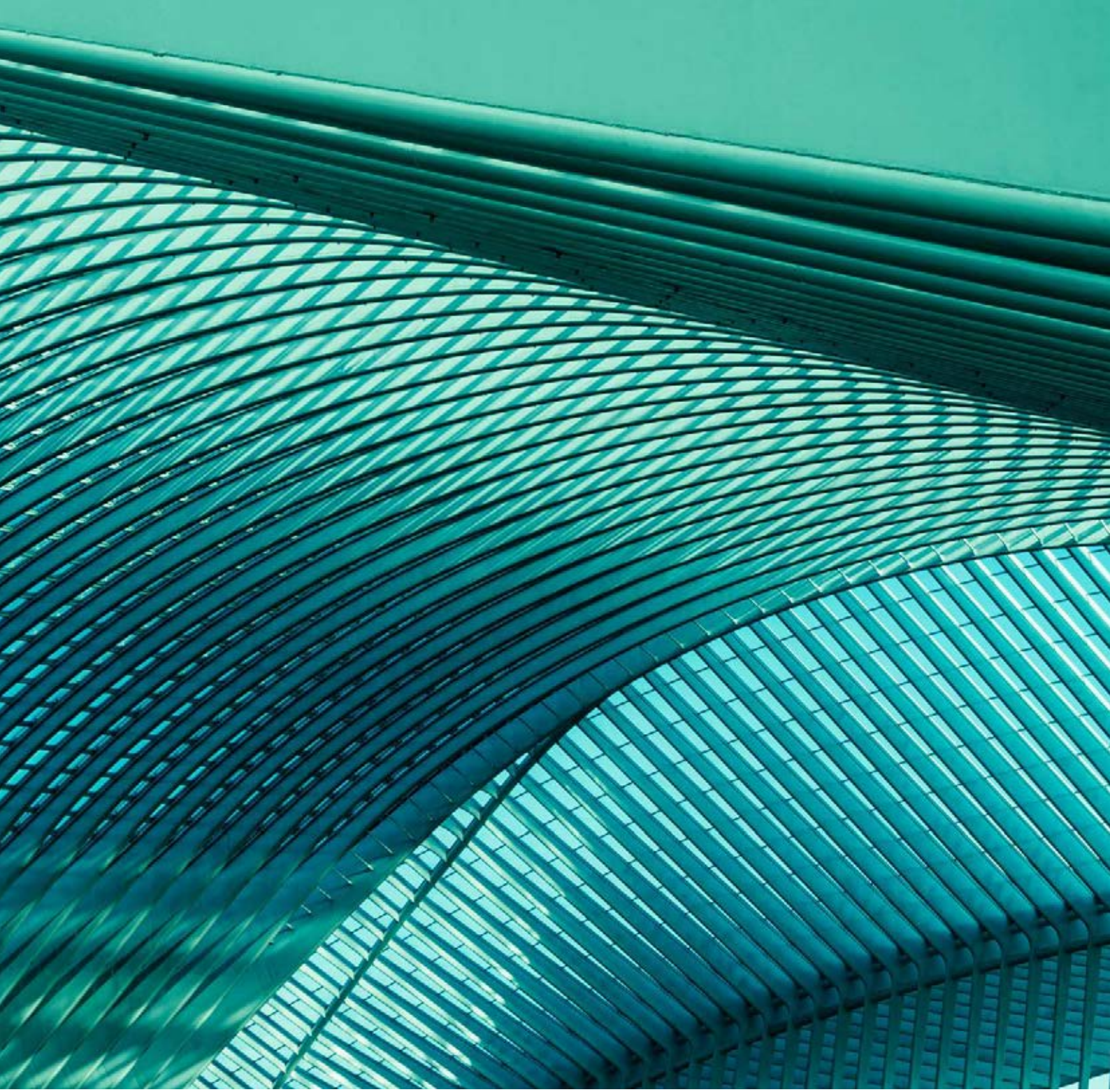
India enters 2026 with strong fundamentals: steady GDP growth, controlled inflation and a supportive policy environment. Public investment continues to drive infrastructure development, while private investment is gradually picking up. Consumption remains resilient, aided by tax reforms and income growth. Building on this backdrop, the India 2026: D&B's Perspective report provides an overview of how these trends will shape the year ahead – a period expected to consolidate recent gains and set the stage for long-term growth. The focus is on stability, sectoral opportunities and structural changes that will define India's economic trajectory.

Three key themes define India's outlook for 2026. First, macroeconomic stability: steady growth, low inflation and a balanced monetary stance create room for private investment to grow. Second, system-level modernisation: investments in logistics, digital infrastructure and public capital spending are reducing costs and improving connectivity, opening new opportunities beyond major cities. Third, frontier transitions: blue economy, green hydrogen and technologies such as AI, are moving from planning to execution, creating new export prospects.

This report is structured to reflect this shift from short-term momentum to long-term transformation. It begins with the macroeconomic view – growth, inflation, policy and external balances – and then examines India's emerging growth drivers: manufacturing, AI-led digital economy, tourism, maritime and blue economy, quick commerce, eldercare, green hydrogen and the role of states in powering regional growth.

The report also dives deep into what has already changed – policy reforms, infrastructure upgrades and technology adoption – and where the next wave of scale will come from: AI infrastructure, semiconductor supply chains, hydrogen hubs, green ports and new urban clusters. Risks remain – tariff pressures, trade uncertainty and execution gaps – but policy support and private innovation provide a strong foundation for progress.

Over the past decade, India has built a robust digital infrastructure, anchored by platforms like UPI and Aadhaar, while simultaneously achieving a high degree of macroeconomic stability. In 2026, the focus will shift to turning these gains into higher productivity and global competitiveness. This is the essence of the India 2026: D&B's Perspective report, moving from incremental growth to sustained transformation.



Executive Summary

India's economic outlook for 2026 reflects stability with opportunities for transformation. Growth is expected to remain strong, supported by consumption, public investment and emerging sectors such as AI, green hydrogen and advanced manufacturing. While risks such as tariffs and global geopolitical volatility persist, policy support and domestic demand provide resilience. The following sections outline the key themes that will shape India's economic trajectory in 2026 and beyond.

Macroeconomic Outlook: Stability with a Growth Bias

- **Big Bet**: Baseline growth momentum holds strong – H1 FY2026 remains robust, gliding toward 6.6% in FY2027. Consumption stays the first engine (policy tailwinds, festive demand, rural normalisation), with public capex anchoring investment and private capex as the swing factor.
- **Building Blocks**: Benign inflation (3.1% in 2026) supports shallow easing; real rates stay mildly positive for credibility and selective risk-taking. CAD near 1.0% of GDP remains manageable, buffered by services and remittances; FX reserves ample despite tariff headwinds.
- **The 2026 Pivot**: Macro stability becomes an enabler for productivity investments and risk-managed scale-up in nascent sectors.

Manufacturing Reimagined: From Volume to Value

- **Big Bet**: Lift manufacturing's share of GDP toward the mid-20s percent of GDP over the next decade, not by replicating past volume models, but by stacking technology, design, and supply-chain integration.
- **Building Blocks**: Defence (indigenisation, export momentum), semiconductors (design + packaging + ecosystem services), electronics (Production Linked Incentive (PLI)-driven clusters). MSMEs as multipliers via Goods and Services Tax (GST) simplification, credit guarantees, and Industry 4.0 tech upgrades.
- **The 2026 Pivot**: More factory digitalisation, deeper sectoral specialisation, and early signs of private capex re-entry where policy certainty and demand anchors exist.

Intelligent Economy: AI as an Economic Flywheel

- **Big Bet**: India's AI trajectory shifts from pilots to platform scale: GPU-rich infrastructure, trusted data governance, and sectoral standards powering adoption across manufacturing, fintech, healthcare, mobility, and public services.
- **Building Blocks**: Compute + Data + Skills as the triad; Global Capability Centers (GCCs) mature into innovation engines; sovereign

datasets and Digital Public Infrastructure (DPI) integration reduce friction; talent pipelines expand beyond metros.

- **The 2026 Pivot**: AI becomes the force multiplier for productivity, inclusion, and exportable services - not an add-on.

Tourism: Culture, Connectivity, and Smart Experiences

- **Big Bet**: Tourism's upgrade runs on three pillars: world-class destination development, seamless access (air, road, rail, waterways), and immersive digital experiences (AR/VR, multilingual AI).
- **Building Blocks**: Niche segments including spiritual/wellness, medical, eco-tourism & adventure, scale faster as states professionalise policies and destinations.
- **The 2026 Pivot**: Inbound normalisation, domestic diversification, and Meetings, Incentives, Conferences & Exhibitions (MICE)-led urban revival; tech-driven visitor management improves sustainability and spreads gains to new districts.

Blue Economy: Growth Beyond Shores

- **Big Bet**: Maritime trade, fisheries, coastal tourism, marine biotech, and offshore renewables form a multi-core growth stack. India's maritime trade volume likely to exceed 7,100 MMTPA by 2047, driven almost equally by container and non-container cargo.
- **Building Blocks**: Green-port retrofits and digital maritime logistics compress turnaround times and emissions; inland waterways and river-cruise infrastructure catalyse hinterland economies; offshore wind tenders and hydrogen-linked port hubs build energy and export optionality.
- **The 2026 Pivot**: De-risk external supply chains, green India's trade backbone, and unlock ocean-based livelihoods at scale.

Quick Commerce: Time as the New Unit of Retail Value

- **Big Bet**: Dark stores, micro-fulfilment, and interoperable digital rails [Unified Payments Interface - UPI, Open Network for Digital Commerce - ONDC] shift retail from scale economics to speed economics.
- **Building Blocks**: AI-driven routing and slotting, workforce formalisation under new labour codes, selective Tier-2 expansion, and EV last-mile pilots.
- **The 2026 Pivot**: Productivity gains in urban logistics, new MSME participation, and a clearer path to sustainable unit economics.

Care & Silver Economy: The Demographic Pivot

- **Big Bet**: India's ageing trajectory creates a new market frontier: senior living, assisted care, home-based health, and telemedicine – integrated via digital records and preventive models.
- **Building Blocks**: Policies (Atal Vayo Abhyuday Yojana - AVYAY, insurance reforms) and

private innovation (health-tech, remote monitoring, community ecosystems) build capacity.

- **The 2026 Pivot**: Transform eldercare from an informal burden into a formal growth sector blending housing, healthcare, wellness, and jobs.

Green Hydrogen: Platform for Industrial Decarbonisation

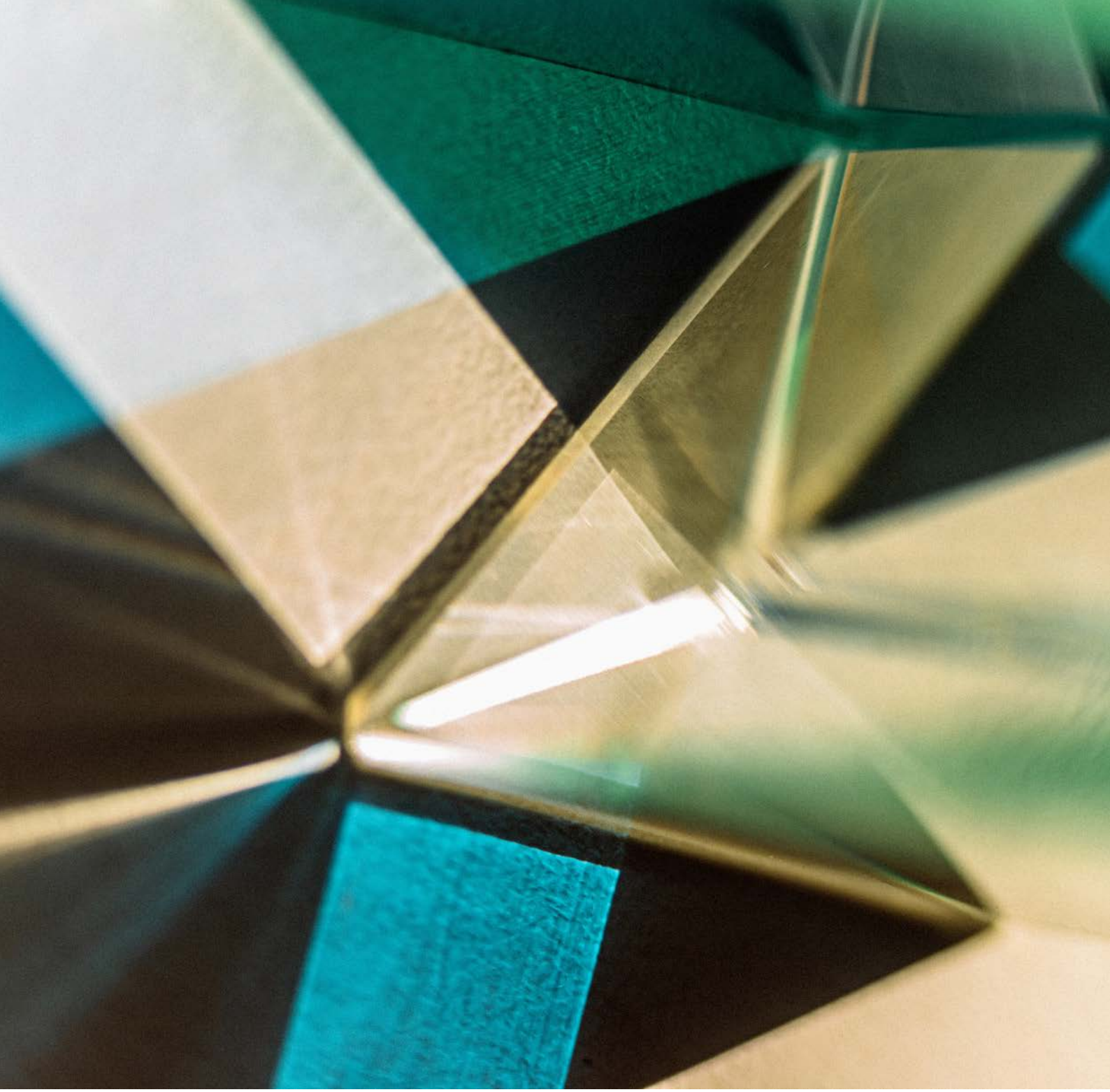
- **Big Bet**: Mission architecture (production incentives, hubs, standards) is in place; early allocations for electrolyser capacity and pilot plants signal bankable scale-ups.
- **Building Blocks**: 2026-2028 priorities: reduce levelised cost of hydrogen (LCOH) via localization and hybrid renewable energy integration; build port bunkering and ammonia/methanol terminals; create offtake pathways in refining, fertilizers, steel, and shipping.
- **The 2026 Pivot**: Green hydrogen becomes a macro lever to cut import intensity, improve external balances, and create clean-tech exports.

States as Growth Engines: Spatial Reallocation of Momentum

- **Big Bet**: Southern and western corridors deepen their lead, but Tier-2/3 city clusters rise – industrial nods, logistics parks, and digital hubs spreading activity across districts.
- **Building Blocks**: Single-window systems, sectoral policies, and corridor connectivity shift ease-of-doing-business from promise to practice.
- **The 2026 Pivot**: A broader, more resilient economic geography that compounds growth and reduces concentration risk.

The Big Picture for 2026

India's next wave will be driven by new avenues of growth - where digitised logistics, trusted data, clean energy, and city vitality rewire productivity. The India 2026: D&B's Perspective's central claim is that India can convert macro stability into sectoral scale, convert infrastructure into competitiveness, and convert technology into inclusive prosperity. The task ahead is disciplined: execute policy, crowd-in private capex, and build human capital. The prize is meaningful: a decade where India's growth is faster, cleaner, more distributed, and more resilient.



A Year in Review: 2025 Highlights

1. India's Economic Landscape in 2025

1.1 Reforms and Policy Measures

- Union Budget 2025-26 (1 February 2025): The budget introduced several significant policy changes:
  - **New Income Tax Regime**: A revised new income tax regime was introduced, featuring nil tax up to Rs.1.20-1.28m of income and a higher standard deduction of Rs.75,000.
  - **MSME Credit**: The credit guarantee cover for MSMEs was raised to Rs.100.0m (from Rs.500.0m).
- **GST Council Reform**: At a meeting on 3 September, a new two-rate GST structure (5.0% & 18.0%) and a 40.0% demerit rate for select goods, effective 22 September, was approved.
- **National Manufacturing Mission (NMM)**: A long-term roadmap was established to boost domestic manufacturing and incorporate sustainable practices aligned with India's net-zero 2070 goals.
- **R&D Allocation**: A sum of Rs.200.0bn was allocated for private-sector-driven R&D initiatives, including a focus on small modular reactors (SMRs) within the Nuclear Energy Mission.
- **Tax Exemptions**: Basic Customs Duty (BCD) exemptions were provided on 35 capital goods for EV battery manufacturing and on 28 for mobile phone batteries to support domestic electronics manufacturing.

Production Linked Incentive (PLI) Schemes

- **PLI Scheme Expansion**: The PLI scheme across 14 sectors yielded strong results, with smartphone exports exceeding Rs.1.0trn in the first five months of FY2026.

Sectoral Milestones:

- Solar photovoltaic (PV) modules awarded capacity reached 48.3GW by 5 November.
- Pharma and Active Pharmaceutical Ingredients (APIs) and Food Processing schemes had their tenures extended to support specific growth areas.
- **Automobile**: India has emerged as the world's third-largest vehicle manufacturer by volume. Total vehicle production in FY2025 was over 31.0m units, driven by a 14.6% growth in the manufacture of motor vehicles in September.
- **Construction**: Construction remained a key growth pillar in 2025, supported by a mix of public infrastructure, housing demand and private investment. Government capital expenditure boosted jobs and allied sectors such as cement and steel.
- **Manufacturing**: This sector is rebounding on better capacity utilisation, strong festive demand and consistent policy support under the PLI schemes.

1.2 Social & Labour Initiatives

- **Formalisation of Gig Economy**: For the first time, gig and platform workers were officially recognised, ensuring them identity cards, registration on the e-Shram portal and healthcare coverage under Pradhan Mantri Jan Arogya Yojana. This implementation was phased through November.

- **Skill Development**: The Skill India Programme was restructured to focus on training youth for emerging technologies such as AI.
- **Labour Code Progress**: Progress continued on the implementation of four new labour codes aimed at modernising labour regulations and enhancing social security.

1.3 Infrastructure & Energy

- Key sections of the Delhi-Mumbai Expressway became operational, and Navi Mumbai International Airport was inaugurated in October, with commercial flights commencing in December. For Vadhavan Deep-Water Port, readiness MoUs were signed on 22 July, with Phase 1 targeted for completion by 2029 and Phase 2 by 2037.
- **Clean Energy Transition**: India's installed power capacity surpassed 500GW in October – a key milestone - with non-fossil sources accounting for over 51.0% of total capacity.
- **National Geospatial Mission**: This mission was launched to develop foundational data infrastructure for urban planning and infrastructure development.

1.4 Financial Stability

- **Current Account Deficit (CAD)**: The CAD narrowed significantly to USD15.0bn (0.8% of GDP) in H1 FY2026, supported by strong remittances.
- **FDI Inflows**: Net FDI inflows more than doubled in H1 FY2026 to USD7.7bn.
- **Forex Reserves**: The Reserve Bank of India (RBI) maintained robust foreign exchange reserves near a record high of USD686.0bn, contributing to the Indian rupee being one of the least volatile emerging market currencies of the year (despite sustained depreciation against the US dollar over 2025).

1.5 Trade Relations and FTAs

- **US Tariffs on Indian Goods**: The US imposed tariffs on Indian goods throughout 2025, primarily due to trade imbalances and geopolitical tensions over India's continued import of Russian oil.
  - **1 August**: An initial 25.0% tariff became effective on a wide range of Indian imports.
  - **27 August**: An additional 25.0% ad valorem duty was implemented, bringing the total tariff on most Indian goods to 50.0%.
  - **Impacted sectors**: Textiles, gems and jewellery, leather, marine products, chemicals, autos and engineering goods we the most impacted sectors.
- **Trade Agreements (FTAs)**: India actively pursued other trade agreements during the year.
  - **UK Trade Deal (July 2025)**: India signed a historic agreement with the UK to boost bilateral trade and investment.
  - **European Free Trade Association Trade and Economic Partnership Agreement (EFTA TEPA) (October 2025)**: India's deal with Iceland, Liechtenstein, Norway and Switzerland became operational, with commitment of USD100 bn investment in India over 15 years in exchange for tariff cuts and improved services market access.

- **Russia Cooperation (December 2025)**: India and Russia have set a USD100.0bn trade target by 2030, advanced rupee-ruble settlements, fast-tracked FTA talks with the Eurasian Economic Union and signed the Reciprocal Exchange of Logistics Agreement (RELOS) agreement for military logistics and port/ airfield access.
- **Ongoing Negotiations**: India is making steady progress in talks with the EU, Canada and Israel, despite global volatility.

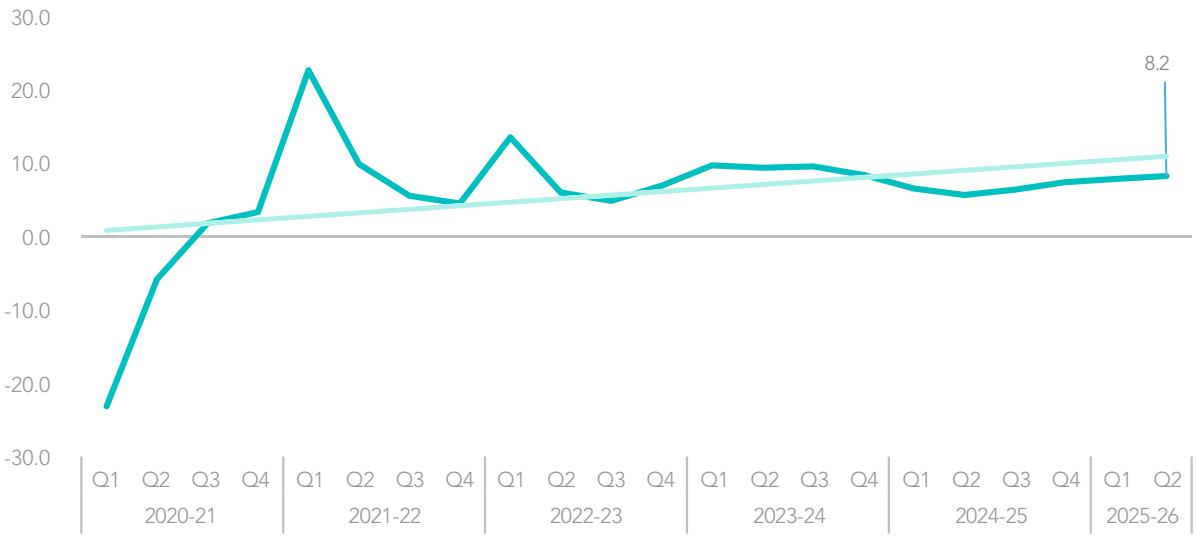
2. Real Economy

2.1 GDP and Gross Value Added (GVA)

India's real economy demonstrated exceptional resilience through 2025, with sequential strength in real GDP supported by robust consumption, infrastructure spending, higher indirect tax collections and stepped up public capex.

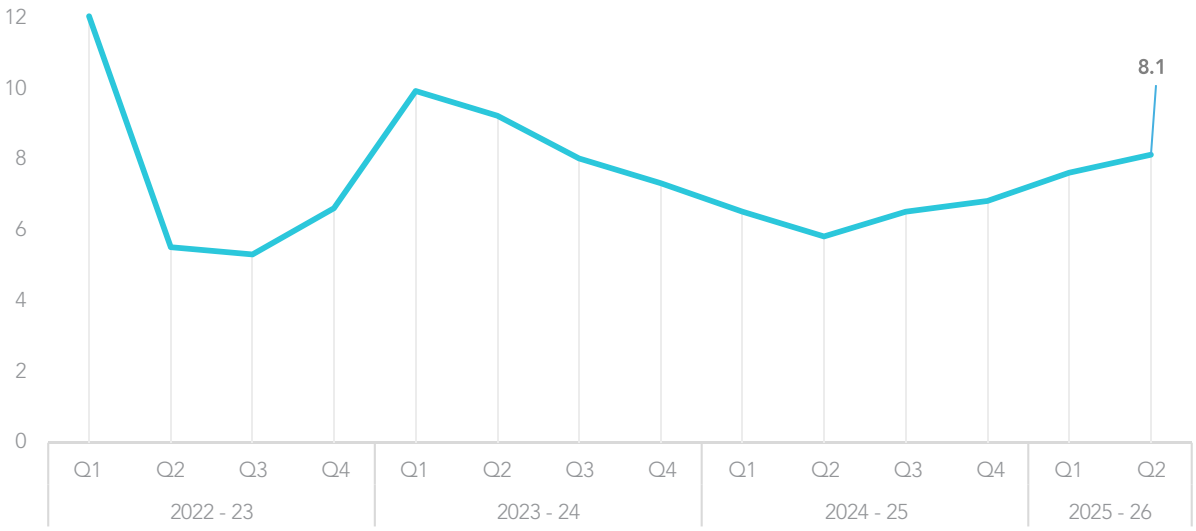
Quarter	Period (2025)	Real GVA (y/y)	Real GDP (y/y)
Q4 FY25	Jan–Mar	6.8%	7.4%
Q1 FY26	Apr–Jun	7.6%	7.8%
Q2 FY26	Jul–Sep	8.1%	8.2%

GDP (%)



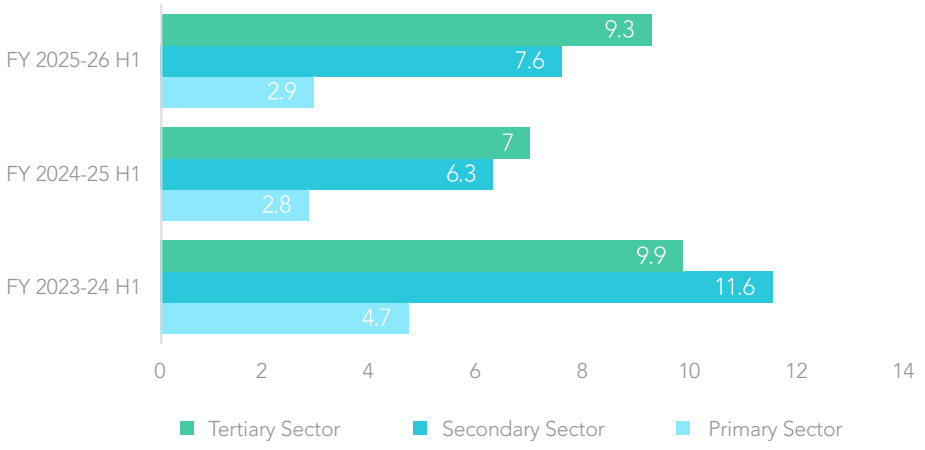
Source: Ministry of Statistics and Programme Implementation (MOSPI) Government of India

GVA (%)



Source: Ministry of Statistics and Programme Implementation (MOSPI), Government of India

Real GVA y/y Growth Rate by Broad Sector



Source: Ministry of Statistics and Programme Implementation (MOSPI), Government of India

GVA for Sector	FY 2023-24 H1	FY 2024-25 H1	FY 2025-26 H1
Primary Sector	4.7	2.8	2.9
Secondary Sector	11.6	6.3	7.6
Tertiary Sector	9.9	7.0	9.3

- **Primary Sector**: Agriculture, Livestock, Forestry & Fishing and Mining & Quarrying
- **Secondary Sector**: Manufacturing, Electricity, Gas, Water supply & Other Utility Services and Construction
- **Tertiary Sector**: Trade, Hotels, Transport, Communication and Services related to Broadcasting, Financial, Real Estate & Professional Services and Public Administration, Defence & Other Services)

GVA: Strengthened on momentum, H1 FY2026 sector-mix shows the tertiary sector leading at 9.3%, the secondary improving at 7.6% and the primary sector at a subdued 2.9%. Growth was driven by strong services demand (IT, finance and logistics) and a rebound in manufacturing supported by policy measures (PLI schemes and infrastructure push); however, agriculture remained constrained by uneven monsoons and structural challenges.

  - **Domestic Demand (PFCE)**: Household spending grew 7.6% in H1 FY2026, driven by strong urban consumption, recovering rural demand, lower inflation, stable food prices and welfare schemes.
  - **Services Sector**: The services sector contributed over 50.0% of GVA, with financial, real estate and professional services up 9.8% in H1, supported by credit expansion and IT demand.
  - **Net Exports**: Net exports remained a drag on GDP, as imports outpaced exports despite strong global demand for services, reflecting robust domestic goods demand and global trade headwinds.

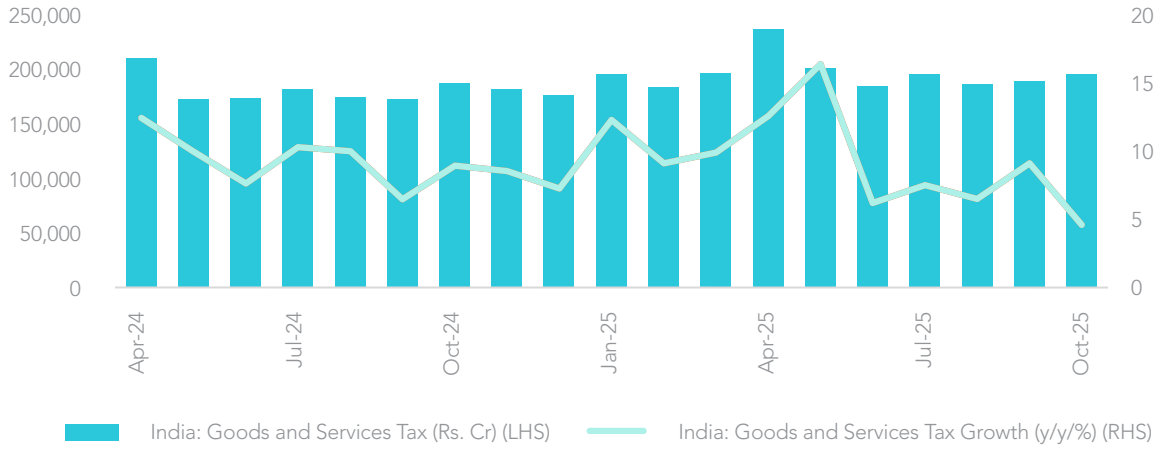
3. Fiscal Policy

3.1 Fiscal Prudence and Performance (FY 2025-26)

- **Fiscal Consolidation**: The Union Budget 2025-26 targeted a fiscal deficit of 4.4% of GDP (Rs.15.7trn), down from 4.8% in FY2024-25, signalling commitment to macroeconomic stability. At the end of October, the deficit stood at Rs.8.25trn (52.6% of target), supported by higher non-tax revenue, notably a large RBI dividend, which offsets potential tax shortfalls.
- **Capital Expenditure (Capex)**: Capex budgeted at Rs.11.2trn (3.1% of GDP), up 10.0% from last year, with infrastructure as the key growth driver. By end-October, Rs.6.2trn (55.1% of target) was spent, up from 42.0% a year earlier, reflecting strong momentum in roads and railways.
- **Revenue**: Total revenue receipts for April-October stood at Rs.17.6trn, or 51.6% of the annual estimate.
- **Tax Collections**: Net tax revenue was Rs.12.7trn (44.9% of target), pressured by income tax rebates and GST rate rationalisation, raising concerns about meeting the 14.4% growth goal.
- **GST Collections**: Monthly GST collection remained strong, with Rs.1.96trn in October.
- **Non-Tax Revenue**: Non-tax revenue achieved 83.9% of annual estimates by October, driven by a large RBI dividend that offsets potential tax shortfalls.

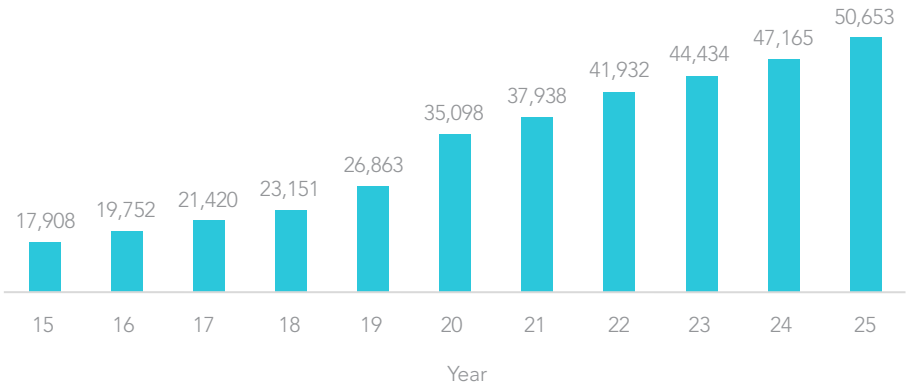
- **Centre Borrowing**: The gross market borrowings are estimated at Rs.14.8trn for the full fiscal year 2025-26. The government's borrowing programme is proceeding as planned, with confidence in adhering to the fiscal consolidation path.

Goods and Services Tax



Source: Ministry of Finance, Government of India

India: Central Government Expenditure (FY, Bn Rupees)

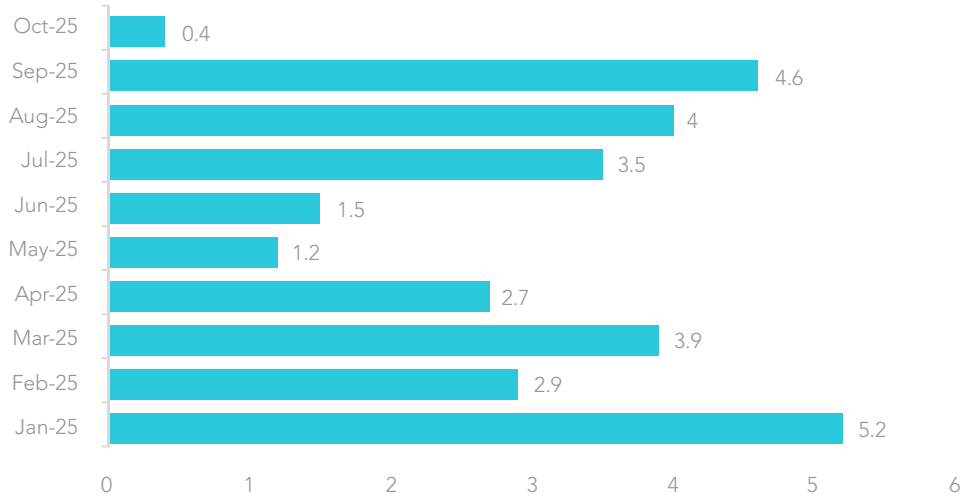


Source: Ministry of Finance, Government of India

4. Index of industrial production (IIP)

India's industrial activity in 2025 demonstrated varied momentum throughout the year. It began strongly, reaching a peak monthly growth of 5.2% in January, supported by robust demand. Momentum moderated sharply in mid-year, dipping to around 1.2% (May) and 1.5% (June), due to inventory adjustments and seasonal factors. The third quarter (July-September) marked a clear recovery, accelerating from 3.5% in July to 4.6% in September, reflecting improved supply chains and rising consumer demand ahead of the festive season. However, growth fell sharply to 0.4% in October, a temporary dip which primarily attributed to fewer working days during major festivals such as Dussehra and Diwali, with normalisation expected in subsequent months.

IIP Growth (y/y %)



Source: Ministry of Statistics and Programme Implementation (MOSPI), Government of India

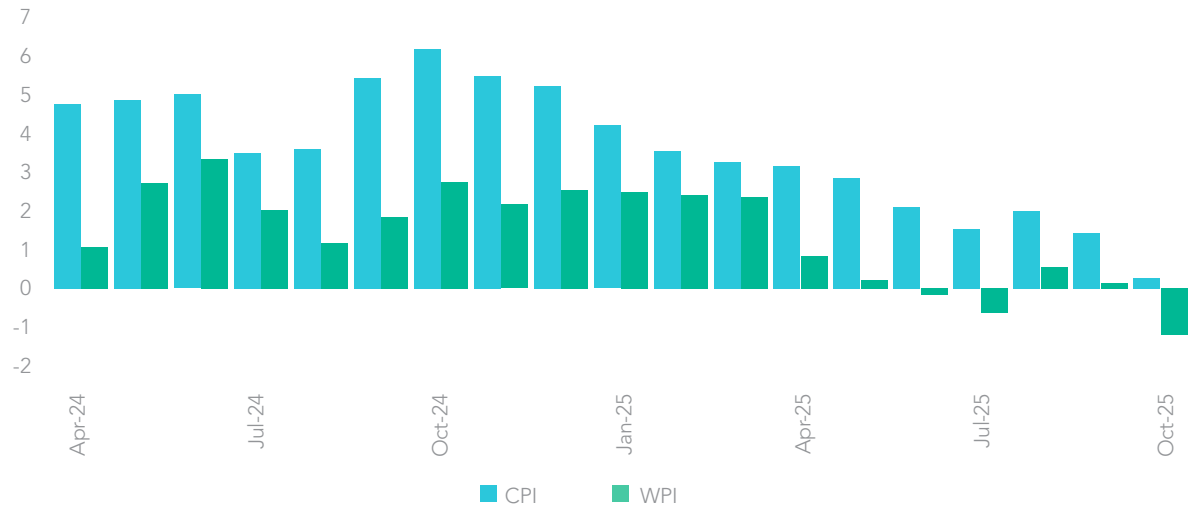
5. Inflation and Price Trends

In 2025, India experienced a significant and steady cooling of inflationary pressures, creating a favourable macroeconomic environment.

The year began with moderate levels of Consumer Price Index (CPI) inflation, which then entered a sharp disinflationary trend. This trajectory led to an unprecedented low of 0.25% y/y in October, falling comfortably below the RBI's medium-term target band of 2.0–6.0%. This scenario of low inflation combined with robust economic growth significantly improved real purchasing power across sectors. The Wholesale Price Index (WPI) mirrored this trend at the producer level, eventually slipping back into negative territory in October, reflecting the easing of global commodity prices and improved domestic supply chains.

Food inflation played a pivotal role in this moderation. After averaging around 5.00% in the first half of the year, it eased significantly in the latter months due to improved agricultural output and timely government interventions. This culminated in deep deflationary territory at -5.02% in October. Inflation for sensitive items such as pulses eased significantly towards the year-end, aided by buffer stock releases and import duties, which was crucial for stabilising prices and enhancing rural purchasing power.

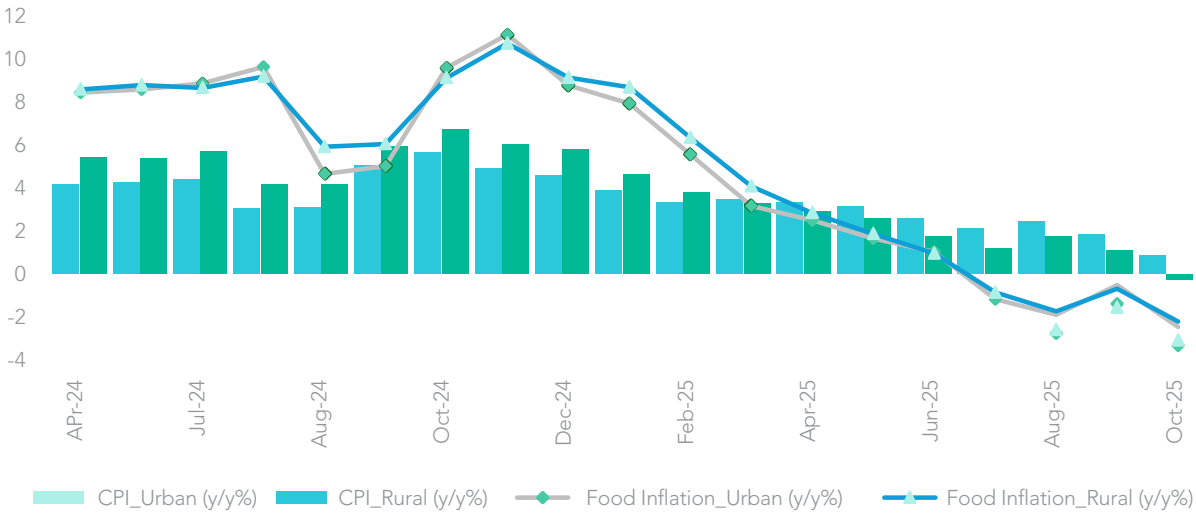
Inflation (%)



Source: Ministry of Statistics and Programme Implementation (MOSPI); Office of Economic adviser (OEA), Government of India

Date	Repo Rate	Official Policy Stance	Key Action & Rationale
Feb 2025	6.50%	Neutral	First rate cut of 25 bps, signalling a move from the previous tightening cycle.
Apr 2025	6.00%	Accommodative	Stance shifted to prioritise growth and support the economy amid falling inflation and global uncertainties.
Jun 2025	5.50%	Neutral	Stance changed back to neutral, aiming to balance growth support with flexibility to respond to future data.
Dec 2025	5.25%	Neutral	Fourth cut of 25 bps. A final calibrated move while keeping options open for 2026.

CPI and Food inflation



Source: Ministry of Statistics and Programme Implementation (MOSPI); Office of Economic adviser (OEA), Government of India

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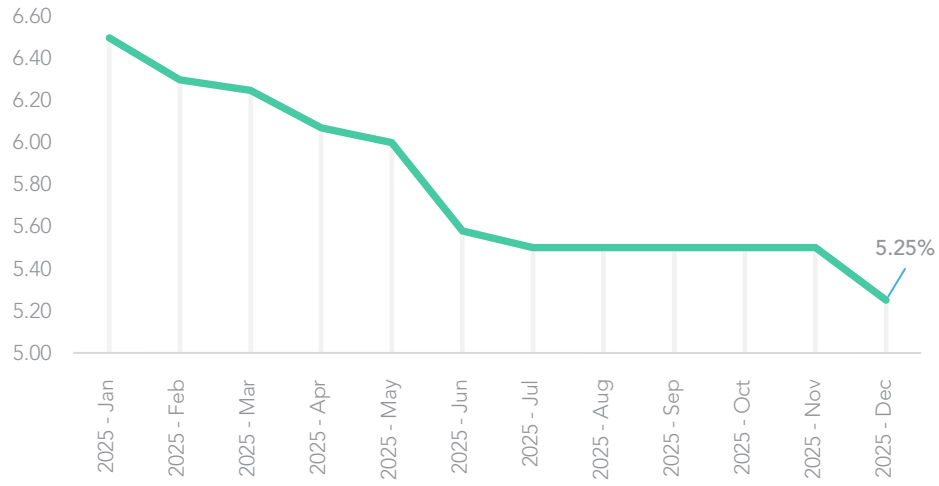
6. Money and Financial Market Trends

Policy Stance Evolution: The year 2025 saw significant shifts in India's monetary policy trajectory, driven by cooling inflation and the evolving need to support economic growth. The RBI implemented aggressive interest rate cuts, adapting its policy stance in response to macroeconomic conditions. The central bank delivered a cumulative easing of 125bps (1.25%) in the repo rate throughout the year, navigating different policy stances:

India: Repo Rate



Source: Reserve Bank of India (RBI)

In 2025, RBI deployed a mix of Open Market Operations (OMOs), USD/INR currency swaps and Variable Rate Reverse Repo (VRRR) auctions to manage liquidity and forex stability.

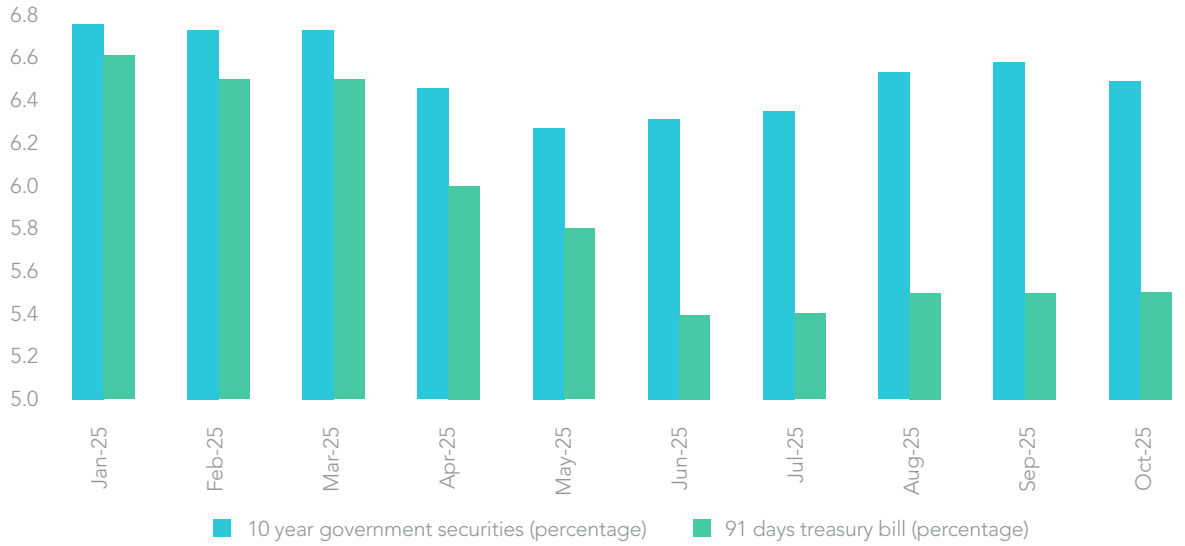
- **OMOs**: RRBI purchased government securities worth Rs.1.6trn (Rs.0.6trn in Jan-Feb and Rs.1.0trn in Dec) to infuse durable liquidity and stabilise bond yields.
- **Forex Swaps:** The central bank conducted USD/INR buy-sell swaps totalling USD10.0bn in January and December to curb rupee volatility and ensure long-term forex stability.
- **VRRR Auctions**: Absorbed around Rs.2.5trn in July during surplus liquidity phases to keep short-term rates aligned with the policy repo rate.

These measures shifted the banking system from a liquidity deficit to a comfortable surplus, improving monetary policy transmission and market stability.

Bond Market Impact:

The aggressive easing cycle and benign inflation outlook triggered a significant rally in the Indian bond market. Yields on short-term treasury bills (T-Bills) and the benchmark 10-year government security (G-Sec) softened considerably, reducing government borrowing costs and reflecting strong investor confidence in India's fiscal stability.

Yield on T.Bill and G-Sec

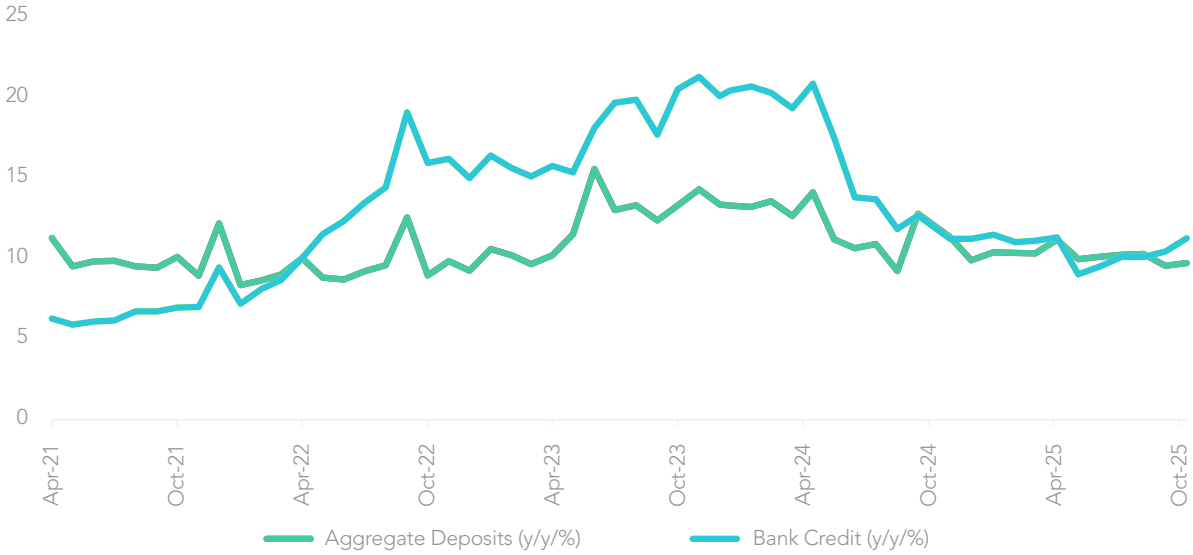


Source: Reserve Bank of India (RBI)

Bank credit:

Bank credit growth in 2025 softened to single digits (around 8.0-9.0% y/y), a moderation from high teens in 2024, primarily due to targeted regulatory tightening by the RBI on unsecured loans; however, robust financing avenues remained for MSMEs and formalised sectors, and corporate borrowing increasingly shifted towards deepening bond markets and private credit channels.

Bank Credit and Deposit Growth Rate



Source: Reserve Bank of India (RBI)

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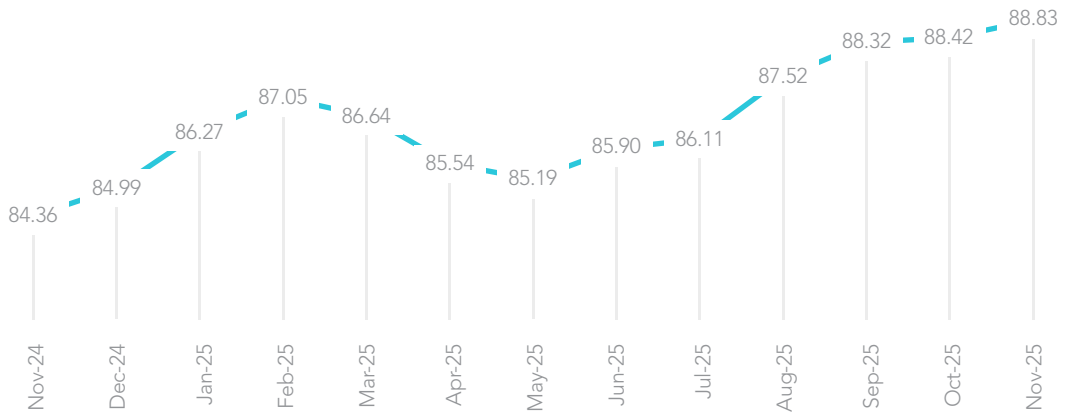
7. External Sector Overview

INR/USD Movements: In 2025, the Indian rupee (INR) experienced significant depreciation, making it one of the worst-performing Asian currencies of the year. The currency weakened from approximately INR83.0:USD in July to breach the INR90.0:USD mark in December for the first time in history.

India: Rupee/USD Exchange Rate (Avg)



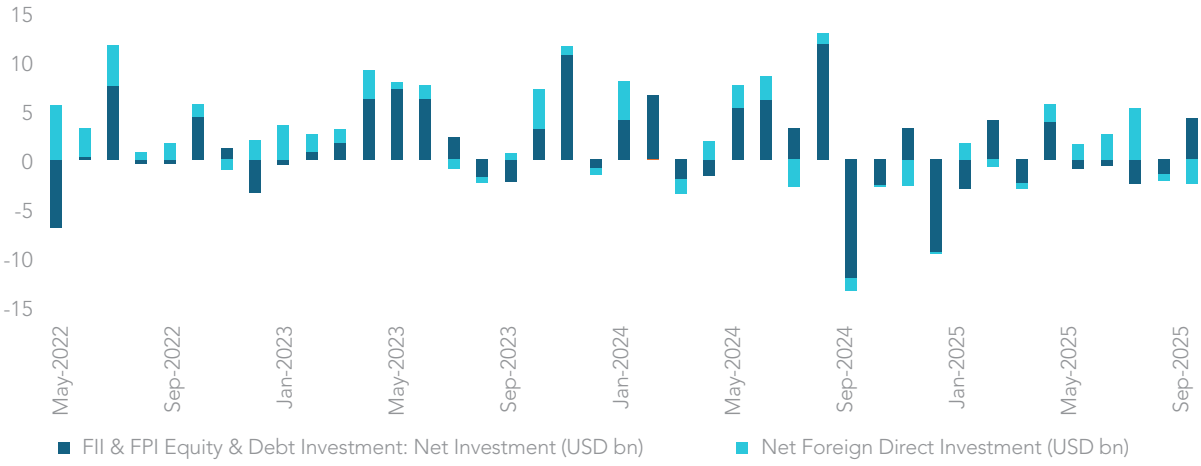
Source: Reserve Bank of India (RBI)

The rupee depreciated by approximately 4.8% YTD in 2025, a trend driven primarily by external factors and significant capital outflows. While domestic growth indicators were strong, global risk-off sentiment favouring the US dollar put immense pressure on the rupee. The RBI intervened in spot and forward markets to manage volatility, allowing for gradual depreciation rather than sharp falls, though these efforts were largely overshadowed by strong dollar demand from importers and persistent foreign capital exits.

Foreign Investment Flows (FDI, FII, and FPI)

In 2025, India's capital account emerged as a significant vulnerability, driven by heavy foreign capital outflows that put substantial pressure on the rupee.

FDI, FII & FPI



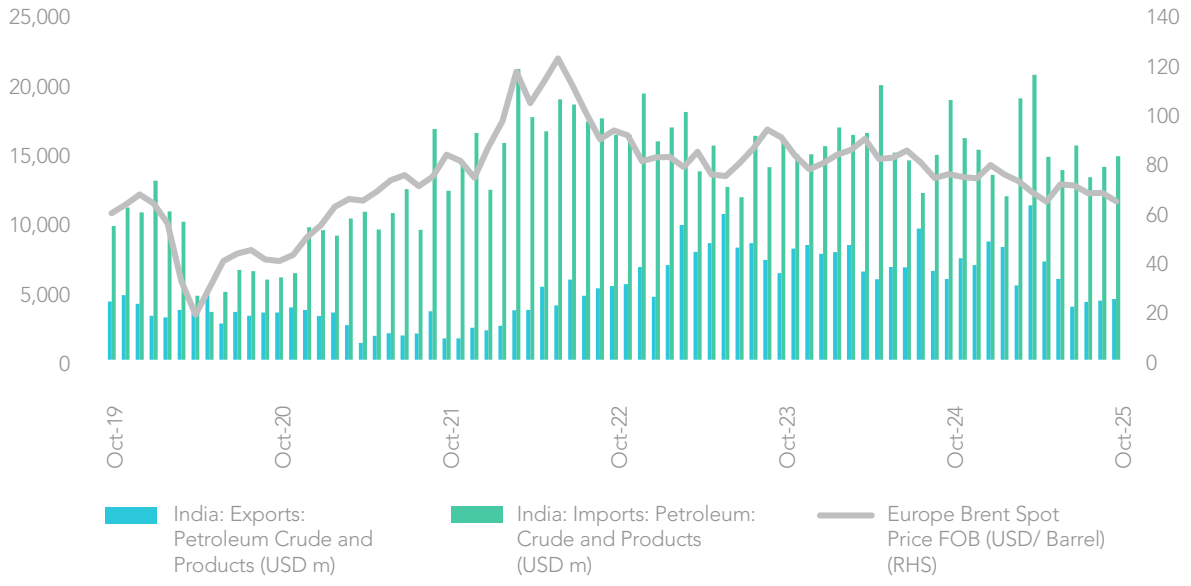
Source: Reserve Bank of India (RBI)

- **Foreign Portfolio Investment (FPI)**: FPI movement was the primary driver of the rupee's decline. Foreign investors have been net sellers for most of the year, with total calendar year outflows reaching Rs.1.55trn (over USD17.0bn) by the first week of December.
- **Foreign Direct Investment (FDI)**: The FDI scenario presented a mixed picture. While gross FDI inflows into India for FY2024–25 were strong at USD81.0bn, net FDI collapsed dramatically. For the first half of FY2025-26 (April-September), net FDI more than doubled y/y to USD7.6bn, but the trend was volatile, with net FDI turning negative in August and September due to high repatriation and outward investments by Indian firms.
- **Overall Impact**: The sheer volume of foreign capital existing the country proved too strong for the rupee to withstand external pressures, despite the cushioning effect of strong Domestic Institutional Investor inflows into equity markets.

Commodity Markets (Gold and Crude Oil): Global oil prices peaked early in the year (around USD79.0/bbl in January) and saw a general cooling trend in the second half, hovering in the USD60.0/bbl-USD70.0/bbl range towards the end of the year (around USD62.0/bbl in December). This decline was driven by stable global supply (including robust US output and increased OPEC+ production) and concerns over soft demand. This provided significant relief for India's import bill and helped contain WPI inflation.

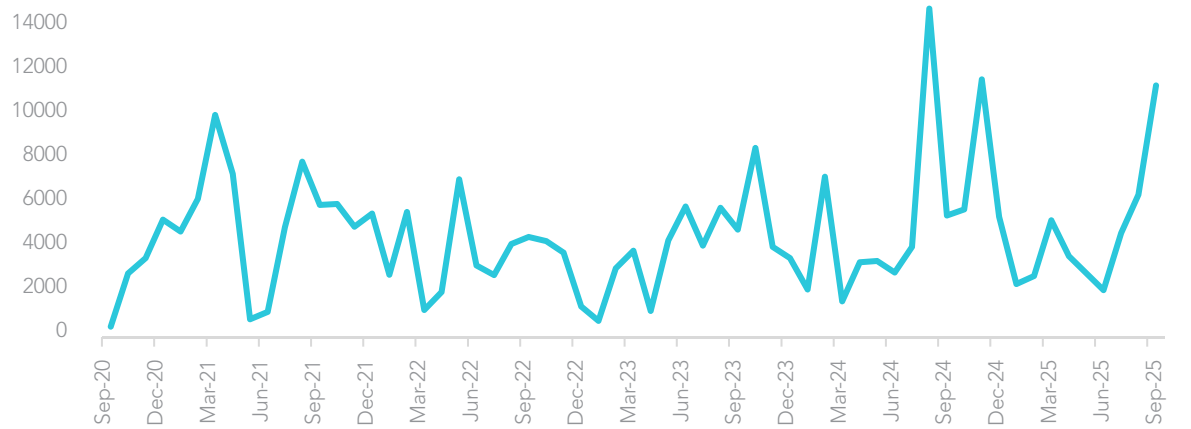
Conversely, gold prices remained buoyant for most of the year, driven by persistent geopolitical uncertainties and strong safe-haven demand from central banks, keeping the domestic yellow metal expensive for Indian consumers.

Brent Crude Oil



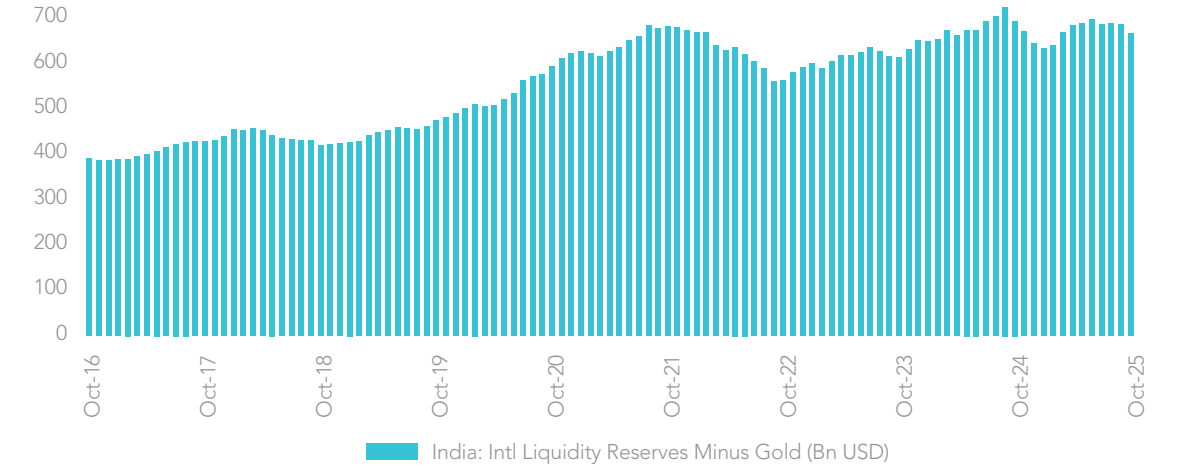
Source: Ministry of Commerce and Industry, Government of India; U.S. Energy Information Administration (EIA)

Net Gold Imports (USD m)



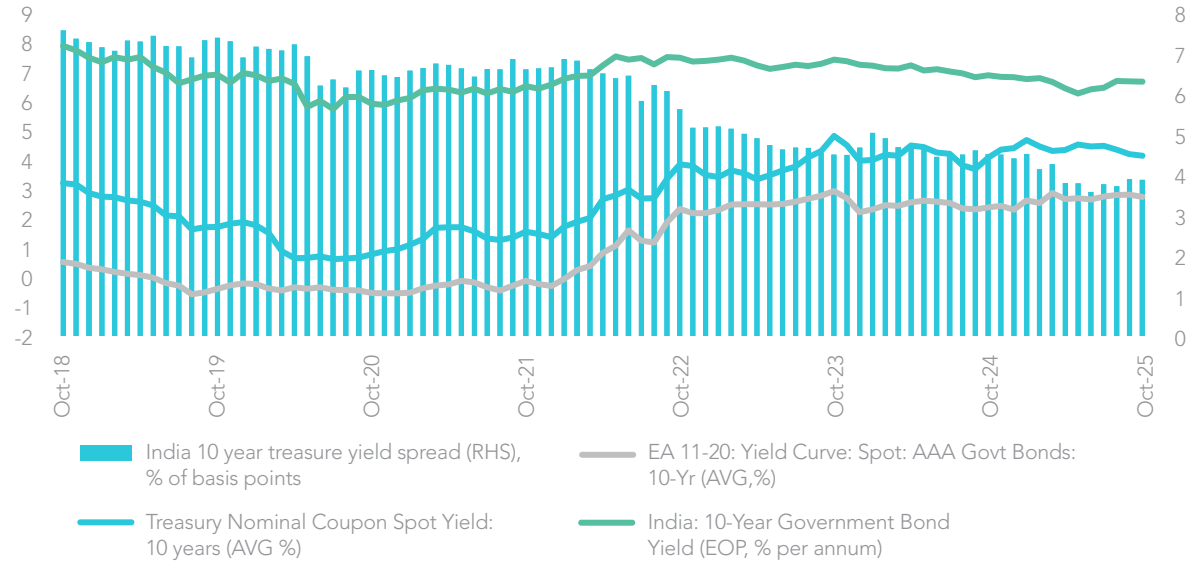
Source: Ministry of Commerce and Industry, Government of India; Reserve Bank of India

International Reserves Minus Gold (USD bn)



Source: Reserve Bank of India

Yield Curve



Source: US . Treasury; European Central Bank; Reserve Bank of India

The Road Ahead: India's FY2027 Macroeconomic Outlook

1. Forward View

1. **Growth Baseline**: FY2026 GDP tracking 7.5%, above earlier estimates and RBI baseline, driven by robust first-half momentum and resilient domestic demand. We anticipate this momentum to continue, resulting in FY2027 growth of 6.6%. Tailwinds include tariff drag and lagging private capex.
2. **Consumption Revival**: Private Final Consumption Expenditure (PFCE) to accelerate in H2 FY2026, supported by tax cuts, festive spending, rural income gains and Eighth Pay Commission rollout (January 2026).
3. **Investment Cycle**: Public capex remains the growth anchor; structural drivers (PLI and FDI in semiconductors/green hydrogen) intact. Private capex revival is the swing factor for sustaining >6.5% growth in FY2027.
4. **Sentiment Indicators**: Business sentiment is upbeat, according to **Dun & Bradstreet's Global Business Optimism Insights (GBOI) survey**, with Indian firms showing the highest share of optimism regarding domestic orders and domestic macroeconomic conditions globally for Q4 2025.
5. **Inflation Outlook**: CPI is forecasted to average around 3.1% y/y in CY2026, creating benign price environment and policy space.
6. **Monetary Policy Pivot**: The RBI delivered a 25bps cut in December 2025, taking the repo rate to 5.25%, and is expected to pause through 2026. Transmission remains gradual (a 60-80bps reduction in weighted-average lending rate for new and outstanding rupee loans by private banks over January-October).
7. **External Sector Risks**: US tariffs (effective ~50% as of 3 December) on USD48bn exports could shave 1-1.5pps off merchandise export growth if persist; Current account deficit (CAD) seen at 1.0% of GDP, cushioned by services and remittances.
8. **Capital Flows and INR**: Structural tailwind from estimated USD22-23bn passive debt inflows via JPMorgan Government Bond Index-Emerging Markets (JPM GBI EM) inclusion; INR under near-term pressure, but medium-term stability expected.
9. **Fiscal & Budget Path**: FY2026 deficit target 4.4-4.5% of GDP intact; glide path towards 4.2-4.3% by FY2027. Capex push continues; revenue risks from tax cuts offset by compliance gains.

Key Forecasts

	2024	2025e	2026e	2027e	2028e	2029e
Real GDP growth, %*	6.5	7.5	6.6	6.3	6.5	6.9
Exchange rate (year-average, INR:USD)	83.7	87.3	88.0	88.7	89.4	90.7
C/A balance, % GDP*	-0.6	-0.9	-1.0	-0.9	-0.8	-0.7
FX reserves (year-end, USDbn)	569.6	683.5	717.6	767.9	821.6	821.6
Inflation, annual ave, %	4.9	2.9	3.1	4.2	4.3	4.5
Govt balance, % GDP*	-4.8	-4.5	-4.2	-4.0	-4.1	-4.3
Debt service ratio, %	6.6	6.3	6.0	5.3	5.3	5.4

Source: Dun & Bradstreet

Note: * data for fiscal year

2. Growth Prospects and Drivers

India's growth momentum remains exceptional and underpins our base case of 7.5% GDP growth in FY2026, and leading momentum to about 6.6% in FY2027. The latest data reinforces this optimism: real GDP surged 8.2% y/y in Q2 FY2026, even before the impact of GST cuts has fully transmitted into economic activity. This follows 7.8% growth in Q1, taking H1 FY2026 growth to 8.0%, a six-quarter high and well above last year's 6.1% and consensus expectations. Manufacturing (+9.1%), construction (+7.2%) and services (+9.2%) led the upside in Q2, supported by benign inflation and resilient consumption.

2.1 Consumption – The First Engine

Momentum should persist in **H2 FY2026** and **H1 FY2027**, driven by three reinforcing factors:

- **Festive season tailwinds**: Auto and FMCG sales hit record highs during Diwali, signalling broad-based demand revival. Manufacturers report renewed traction in the entry-level car segment, pointing to a comeback among first-time buyers – a key gauge of consumer sentiment and willingness to commit to big-ticket purchases, reflecting improved household balance sheet health.
- **Policy-driven boost**: GST 2.0 rationalisation and income-tax relief (INR1trn) have expanded disposable incomes, while the Eighth Pay Commission rollout in January 2026 adds a second-round kicker.
- **Digital rails**: UPI transactions surged 16% in October, reflecting structural ease of payments and formalisation.

These drivers explain why PFCE growth accelerated to 7.9% in Q2 and is likely to remain the dominant contributor through FY2026 and FY2027.

2.2 Investment – The Second Engine

Public capex remains the anchor, up 40% y/y in H1, with allocations for transport and energy infrastructure. However, the real story lies in SME activation – GST reforms and compliance simplification are reducing friction for small businesses, freeing working capital and improving liquidity. This matters because SMEs account for about 45.0% of manufacturing output and are critical for sustaining the investment cycle beyond headline infrastructure projects. Early signs of private capex revival exist – the RBI projects a 21.5% rise in FY2026, but intentions remain uneven and execution will be key.

2.3 Strategic Insight

India's growth is consumption-led but SME-driven investment revival is critical to sustaining it. The interplay of tax rationalisation, digital adoption and infrastructure crowd-in effects could unlock a virtuous cycle of productivity gains. However, risks from tariff shocks and global volatility mean domestic levers, policy execution and private capex, must do the heavy lifting.

3. Inflation and Monetary Policy

India enters CY2026 with one of the most benign inflation backdrops in recent history, creating a significant policy space. Headline CPI averaged 1.5% over June-October 2025 and is projected at 3.1% for CY2026, before normalising towards 4.2% in 2027 as base effects fade and demand-side pressures emerge from tax cuts and the Eighth Pay Commission rollout. Core inflation remains sticky near 4%, driven by services and gold prices, but overall price dynamics are well within the RBI's 2-6% tolerance band.

3.1 Policy Pivot and Transmission

The RBI delivered a 25bps cut in December 2025, taking the repo rate to 5.25%, and is expected to pause through 2026. This aligns with our base case of a shallow easing cycle, supported by sustained disinflation and a neutral stance. Real policy rates will remain positive (about 1.0-1.5%), ensuring that monetary conditions stay mildly tight even after the cut. Transmission is improving under the external benchmark lending regime, but we estimate a full pass-through in 12-14 months, implying that the growth impact of recent cuts will materialise gradually through CY2026.

3.2 Drivers

Three factors justify our expectation of a cautious RBI:

- **Inflation review in March 2026**: The flexible inflation targeting framework (4% ±2%) is under review; any tightening of the band would constrain future easing.
- **Global volatility**: Oil price swings and tariff uncertainty could reintroduce imported inflation, limiting aggressive cuts.
- **Liquidity calibration**: The RBI aims to maintain surplus liquidity (about 1% of Net Demand and Time Liabilities) to reinforce transmission without fuelling asset bubbles. Monetary policy will remain data-dependent, balancing growth support with inflation anchoring.

3.3 Strategic Insight

India's benign inflation phase is a structural advantage: lower volatility, anchored expectations and positive real rates create a 'macro stability premium'. This underpins our view that the RBI will prioritise credibility over aggressive easing, reinforcing India's attractiveness to global investors.

4. External Sector

India's external position remains resilient despite trade headwinds. CAD is projected at about 1% of GDP in FY2026 and FY2027, cushioned by strong services exports and remittances. Tailwinds include a merchandise trade imbalance, driven by tariff-induced export compression and import spikes linked to domestic demand and investment. FX reserves are likely to exceed USD650-700bn, providing ample buffer against currency volatility.

4.1 Exports Under Pressure

Aggressive US tariffs – raised to 50% on Indian goods (as of 3 December) since August 2025 – have hit labour-intensive sectors the hardest. Over

May-October 2025, exports to the US fell 28.5%, erasing nearly USD2.5bn in shipments. Gems and jewellery, textiles, chemicals and seafood bore the brunt, while even tariff-exempt categories such as smartphones saw a 36.0% decline.

While recent bilateral agreements with the UK, Europe and the Export Promotion Mission may soften the blow, near-term recovery is unlikely. Structural tailwinds exist – India's smartphone exports surged 60.0% in H1 FY2026 to USD13.5bn, driven by Apple's PLI-led production – but these gains are unlikely to fully offset the broader merchandise drag.

4.2 Imports: Gold Spike and Capex Cycle

Imports surged to a record USD76.0bn in October 2025, widening the trade deficit to USD41.7bn – the highest on record. A 200.0% spike in gold imports (to USD14.7bn) during the festive season was the key driver, alongside silver and electronics. While gold demand is expected to normalise post-Diwali, structural import pressures persist: rising energy needs and capital goods demand as infrastructure and private capex accelerate. Oil imports remain sensitive to Brent's USD65-75/bbl trajectory, while machinery and electronics inflows will rise with manufacturing expansion.

Despite services exports and remittances (about USD38bn monthly run rate, the US remittance tax applicable from 1 January 2026 poses a threat) providing a cushion, the net external balance remains negative. Capital flows are expected to remain strong, aided by passive debt inflows due to JPM GBI-EM index inclusion and strong portfolio returns. Bilateral trade deals with Canada, ASEAN and the US could improve medium-term prospects, but FY2027 will see CAD anchored near 1%. We expect the rupee to remain under mild pressure, with FX reserves acting as the primary buffer.

4.3 Strategic Insight

External risks are structural – tariffs, commodity volatility and import intensity from capex. Policy must pivot towards export diversification (electronics and renewables) and hedging energy exposure to contain CAD within comfort zones.

5. Fiscal Policy and Public Finance

India remains committed to gradual fiscal consolidation even as recent tax reforms have trimmed revenues. The centre targeted a fiscal deficit of 4.4% of GDP in FY2026, aiming to bring it closer to 4.0% by FY2027, consistent with the medium-term glide path. Public debt stands near 90.0% of GDP (centre and states combined), but the trajectory is stable under nominal growth of 6.0-7.0%.

5.1 Revenue Dynamics

- **Tax buoyancy slows post reforms**: Income tax rebates and GST rate cuts have reduced collections, offset partly by compliance gains and disinvestment. Non-borrowed receipts grew about 11% in FY2026, but upside is limited.

- **Forward outlook:** Revenue growth will hinge on enforcement and digitisation rather than new rate hikes; environmental levies and 'sin' taxes could emerge as incremental sources.

5.2 Expenditure Priorities

- **Capex focus**: Central capital outlay remains a growth lever at about 4% of GDP, with allocations for infrastructure (transport, energy and digital) rising 8-10%.
- **Rationalisation**: Subsidies (fertiliser and food) and revenue spending growth are being contained to preserve the fiscal space. Interest costs (about 25% of expenditure) remain a structural constraint.

We expect the FY2027 deficit at 4.2-4.3% of GDP, consistent with the consolidation roadmap. Debt sustainability hinges on nominal growth being higher than 10% and disciplined capex execution. Risks include oil price spikes, slower GST collections or election-linked spending overshoots, while upsides such as stronger growth and disinvestment receipts could accelerate consolidation.

5.3 Strategic Insight

The fiscal narrative is shifting from incremental austerity to strategic investment – positioning India for growth without compromising debt sustainability.

6. Budget 2026 (FY2027) Preview

The Union Budget due in February 2026, will set the fiscal tone for FY2027. The government is expected to maintain its current policy mix – supporting growth while keeping deficits on a downward path.

6.1 Revenue Outlook

- **Tax buoyancy slows post reforms**: With income tax cuts and GST rationalisation fully in place, collections may soften.
- **Focus shifts to compliance and digitisation**: Enforcement and technology-driven tax administration will drive incremental gains.
- **New levies possible**: Environmental cesses and 'sin' taxes could emerge as global trends influence policy.

6.2 Expenditure Priorities

- **Capex push continues**: Infrastructure allocations (roads, railways, energy and digital) are likely to rise 8-10%, keeping capital outlay near 4% of GDP.
- **Social spending steady**: Schemes for rural employment, healthcare and education may see moderate increases (5-7%).
- **Subsidy rationalisation**: Fertiliser and food subsidies are expected to taper as market prices normalise.

6.3 Fiscal Target

- **Deficit glide path intact**: FY2027 deficit projected at 4.2-4.3% of GDP, consistent with medium-term consolidation.
- **Borrowing**: Combined central and state borrowing estimated at INR18-19trn.

6.4 Strategic Insight

Budget FY2027 will prioritise growth levers (infrastructure, MSME/export incentives and clean energy) while preserving fiscal discipline. Watch for green bonds, targeted subsidies and front-loaded capex as key tools.

- **Risks**: Oil price spikes, slower GST collections or election-linked spending could widen the gap; upside from stronger growth and disinvestment receipts.

7. Special Focus: Digital Payments and Central Bank Digital Currency (CBDC) – India's Financial Tech Revolution

India's digital finance ecosystem has transformed into a structural growth lever – deepening financial inclusion, boosting consumption and creating new channels for monetary policy transmission. The scale of adoption is unprecedented: by CY2024, India processed 208.5bn transactions digitally, up from 3.25bn in 2019 – a six times jump in five years. In H1 2025 alone, volumes hit 125.5bn, with almost 99.7% of all transactions now digital. This surge reflects the ubiquity of UPI, which accounts for 85% of transaction volume, though only about 9% by value (average ticket size about INR150), underscoring its role in micro-payments and financial inclusion. High-value systems such as RTGS still dominate by value (about 69%), but the democratisation of payments through UPI has formalised flows, strengthened tax compliance and improved MSME credit access via transaction data.

The next frontier is CBDC. The RBI's e-retail pilot now spans 13 banks and 26 cities, with over 7m users, and full interoperability with UPI ensures seamless adoption. Wholesale pilots are testing tokenised deposits and programmable CBDC for interbank and money-market transactions. The strategic potential is significant: instant settlement, programmable transfers (e.g., targeted subsidies) and cross-border efficiency, while reducing cash handling costs and leakage in fiscal transfers.

Looking ahead, UPI volumes are expected to grow 20-30% y/y through FY2027, driven by international linkages, Open Network for Digital Commerce integration and digital lending flows. CBDC remains in pilot phase, no near-term shock to currency demand, but its long-term implications for monetary transmission and fiscal operations are profound. Together, digital rails and CBDC create a future-ready architecture for real-time stimulus, compliance and financial deepening.

Manufacturing Reimagined: Navigating the New Era

1. Introduction

The manufacturing sector has long been a stronghold of the Indian economy, historically contributing 15.0-17.0% to GDP – a figure significantly lower than in other leading Asian economies, such as the Chinese Mainland and South Korea, where manufacturing accounted for 25.0-30.0% of GDP during their peak development phases. For India to realize the vision of Viksit Bharat by 2047, increasing manufacturing's share of GDP to 25.0% is essential. This is not only critical for sustaining high economic growth but also for generating quality employment at scale. At present, manufacturing accounts for only about 10.3% of India's total workforce (FY2023), highlighting the need for a significant expansion in the sector to meet future development goals. Despite government initiatives such as Make in India, Skill India and the Production Linked Incentive (PLI), the sector's contribution has hovered between 13.0% and 17.0%, underscoring the challenge of meeting this ambitious target.

Bridging this gap will require a multi-pronged approach: accelerating technology adoption; strengthening global value chain integration; and fostering innovation in strategic sectors such as defence, semiconductors and artificial intelligence (AI). Coupled with robust infrastructure development and skill enhancement, these measures could help position India as a globally competitive manufacturing hub and unlock its potential as a key driver of economic transformation.

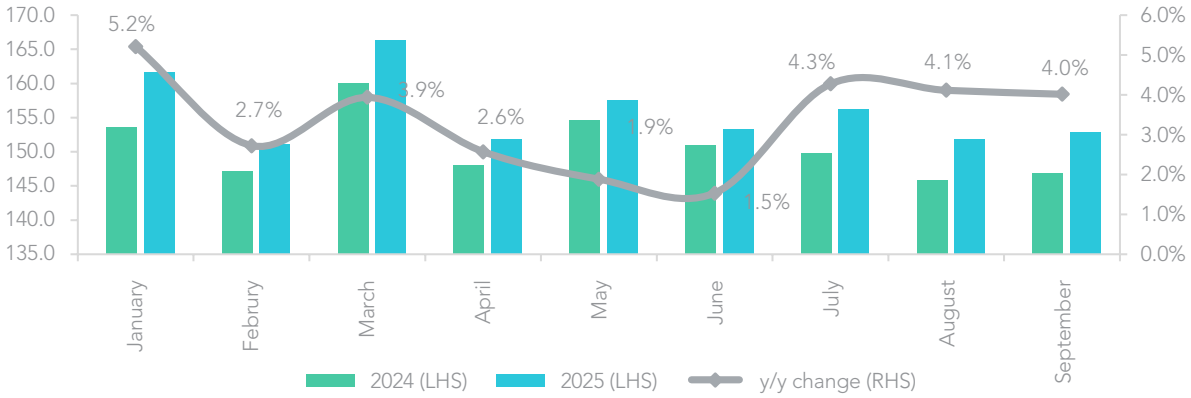
2. Market Landscape & Growth Drivers

Though there is a visible gap in achieving the targeted contribution of manufacturing to GDP, India's manufacturing sector has started evolving rapidly. Structural reforms, technology adoption and global supply chain realignments are reshaping the landscape, while emerging sectors such as electronics, semiconductors and defence are driving diversification and competitiveness. Supported by policy initiatives and rising domestic demand, this transformation is laying the foundation for sustained growth and innovation.

2.1 Industrial Output Trends

The Index of Industrial Production (IIP), a key indicator of manufacturing activity, has shown relative stability in H1 FY2026, reflecting consistent year-on-year growth of around 4.1%

IIP



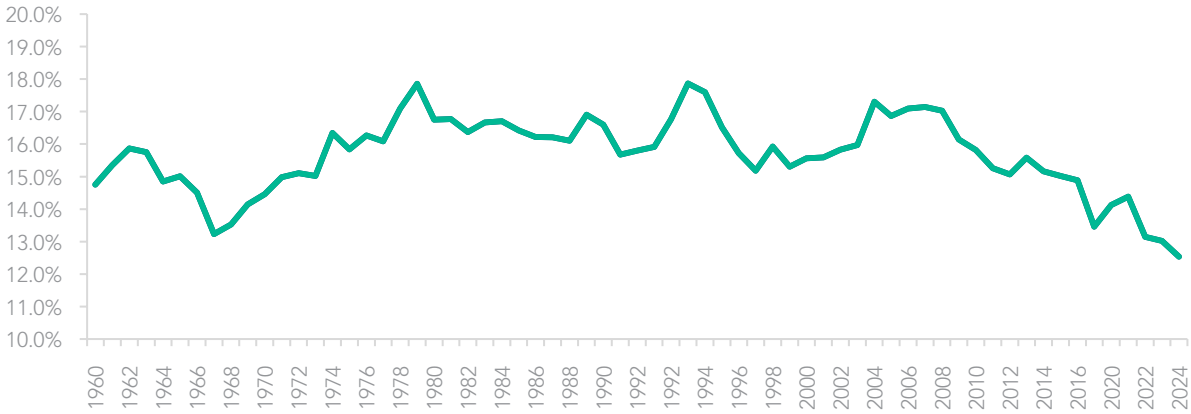
Source: MoSPI

This resilience underscores the sector's role in driving industrial output, with segments such as basic metals, electrical equipment and automobiles leading the momentum. However, September marked the slowest growth in the first half of the fiscal year, hinting at potential headwinds from global trade uncertainties. While the overall trend remains positive, sustaining this growth will require modernisation and deeper investments in strategic areas such as defence, semiconductors and AI-driven manufacturing.

2.2 Manufacturing's Share in GDP

Despite being a cornerstone of India's industrial base, manufacturing's contribution to GDP has remained largely stagnant for decades. From around 15.0–18.0% in the 1960s–80s, the share peaked briefly at 18.0% in the mid-1990s before slipping to 13.0–14.0% in recent years, even as services surged ahead.

Manufacturing as a % of GDP



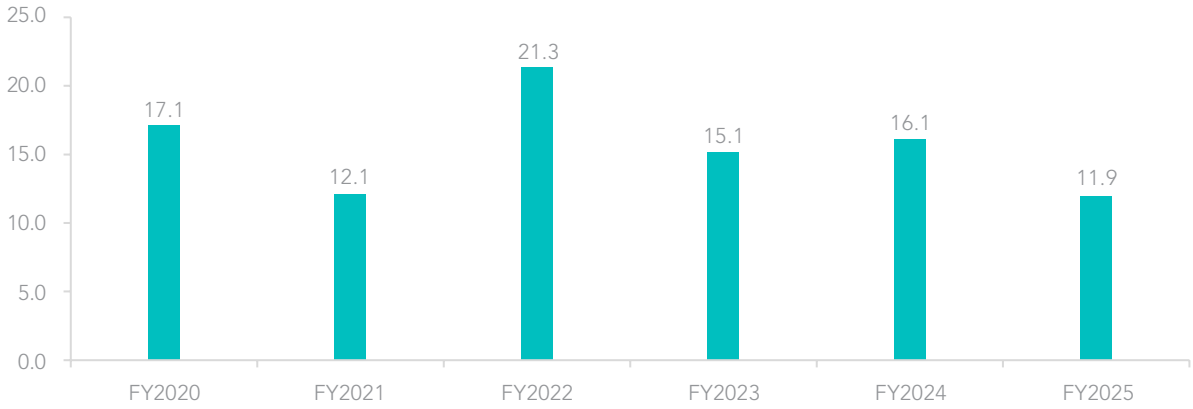
Source: MoSPI

This long-term trend underscores a structural challenge: the sector has not scaled up in proportion to India's growth potential or global benchmarks. While initiatives like Make in India, the PLI scheme and the Udyam portal have injected momentum, the real opportunity lies in leveraging India's demographic advantage, expanding domestic consumption and integrating into global supply chains. With projections of the sector reaching USD1.0trn by the end of FY2026 and potentially adding more than USD500.0bn annually to the global economy by 2030, the coming years will be defined by how effectively India transitions from incremental gains to pivotal growth – anchored in technology, sustainability and competitiveness.

2.3 FDI in Manufacturing

FDI has been a critical lever for India's manufacturing growth, yet trends reveal a mixed picture. While overall inflows have surged over the past decade, recent years show volatility: FDI equity inflow in manufacturing declined from USD17.1bn in FY2020 to USD12.1bn in FY2021, before rebounding sharply by 76.5% in FY2022 following the rollout of PLI schemes.

FDI in Manufacturing (in USD bn)



Source: Open Government Data (OGD) Platform India

This spike underscores the policy's partial success in attracting global capital to strategic sectors such as electronics, pharmaceuticals and automotives. However, the subsequent moderation in FY2023 and FY2024 signals the need for sustained investor confidence through deeper reforms, infrastructure readiness and technology integration.

Notably, since the launch of Make in India (2014) and the PLI scheme (2020), traditional sectors have shown steady progress, with textiles growing at a CAGR of 3.7%, readymade garments at 2.5%, engineering goods at 7.3% and pharmaceutical exports at 9.6% over FY2015-25. These gains have not only strengthened India's position in global trade but also generated nearly 80.0m jobs in the past decade. Looking ahead, channelling FDI into high-value clusters and frontier technologies will be critical to sustaining this momentum and positioning India as a globally competitive manufacturing hub.

2.4 Growth Drivers

While industrial output trends, manufacturing's share in GDP and FDI inflows present a mixed picture – with more positives than negatives – the sector's trajectory is clearly shifting toward higher-value segments. While the broader landscape spans diverse industries, two areas stand out for their strategic importance and potential to redefine India's global positioning: defence and semiconductors. These segments are gaining momentum due to factors such as national security imperatives, supply chain resilience and the push for technological self-reliance.

2.4.1 Defence Sector: Strategic Push for Indigenous Manufacturing

India's defence manufacturing sector is emerging as a cornerstone of strategic industrial growth, driven by the twin objectives of reducing import dependence and building indigenous capabilities. Recent policy measures, rising private participation and export momentum are reshaping the sector's outlook, making it a critical pillar of India's manufacturing ambitions.

Policy Framework

India's defence manufacturing strategy is anchored in a series of reforms aimed at reducing import dependence and fostering indigenous production. Flagship initiatives such as Make in India, the Udyam portal, and the PLI scheme have been instrumental in promoting domestic manufacturing and formalising supply chains. Complementing these are sector-specific measures such as the Defence Acquisition Procedure (DAP), the Defence Testing Infrastructure Scheme (DTIS) and the allowance of 74.0% automatic FDI, which have attracted global players and boosted private participation.

The government has also prioritised innovation through fiscal support. The Union Budget 2023–24 allocated 25.0% of the defence budget for R&D, encouraging collaboration between industry and academia. These policies collectively aim to build a robust ecosystem for defence manufacturing, strengthen supply chains and position India as a competitive player in global defence markets.

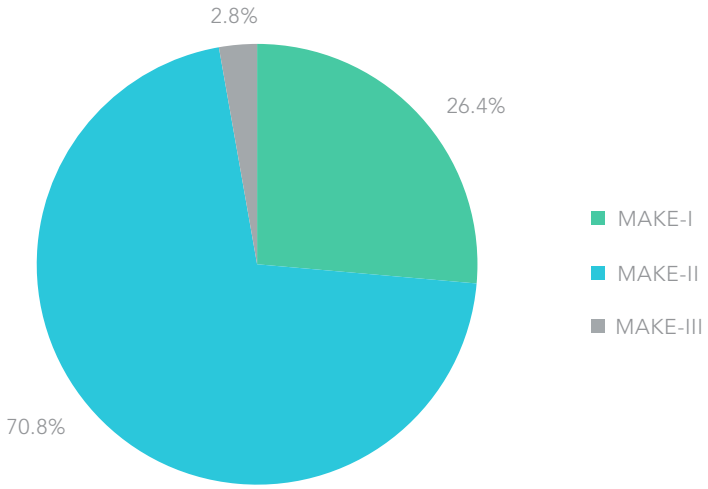
MAKE Policy

Among the key initiatives under India's defence manufacturing strategy, the MAKE policy stands out for its role in accelerating indigenous design and development. Introduced in 2006 and streamlined in 2016, this policy aims to foster domestic production of defence equipment, weapons and surveillance systems through public-private partnerships (PPP). A minimum of 50.0% indigenous content is mandated for projects under this framework. The policy is structured into three categories:

- **MAKE-I**: Government-funded projects for prototype development of complex systems.
- **MAKE-II**: Industry-funded projects, primarily focused on import substitution (accounts for 71.0% of projects).
- **MAKE-III**: Projects for simpler systems with shorter development cycles.

By encouraging collaboration between the public and private sectors, the MAKE policy has become a cornerstone for reducing import dependence and building a robust domestic defence ecosystem. The policy is delivering on its core objectives of import substitution and indigenous production. As of October 2025, 70.8% of projects under MAKE are industry-funded (MAKE-II), primarily aimed at replacing imports with locally manufactured systems.

Industry-Funded Share of MAKE Program Projects



Source: Make In India Defence

This strong focus on domestic capability is complemented by export-oriented initiatives as well. India has signed several MoUs to supply defence equipment to partner nations, reinforcing its position as an emerging exporter.

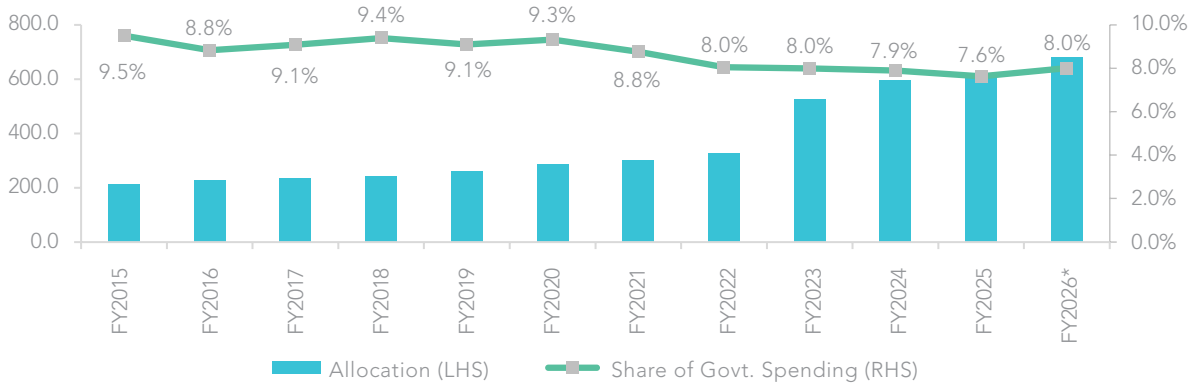
Country	Defence Equipment Export	MoU Signed (Month/Year)
Undisclosed (two countries)	BrahMos missile	October 2025
Egypt	Akash-1S	July 2023
Armenia	Akash-1S	September 2022
Philippines	BrahMos missile	January 2022

Source: Press Information Bureau of India

Government Spending and Export Trends

Government spending on defence has shown a steady upward trend in absolute terms, even as its share of total expenditure declined from 9.5% in FY2015 to 8.0% in FY2026. Budget allocation rose from Rs.210.4bn in FY2015 to Rs.681.2bn in FY2026, marking an overall increase of 223.8% over 11 years. This reflects a strategic shift towards targeted investments, particularly in R&D, which received 25.0% of the defence budget in FY2024.

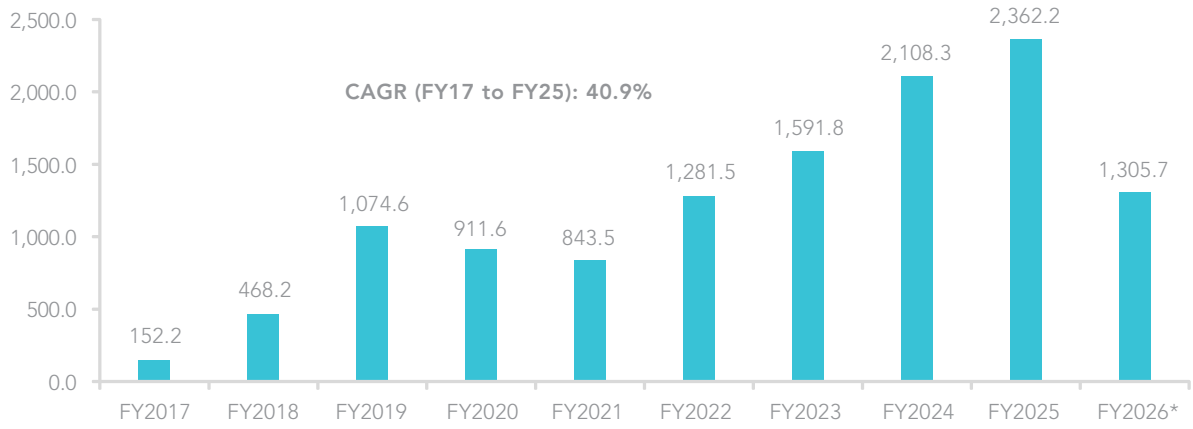
Defence Budget Allocation (in Rs bn) & Spending Share



Source: Press Information Bureau of India *Note: FY2026 data until June 2025*

On the export front, India's defence exports surged from Rs.152.2bn in FY2017 to Rs.2.4trn in FY2025, translating into a robust CAGR of 40.9% over eight years. This growth underscores the success of policies such as MAKE, DAP and DTIS, alongside FDI liberalisation and industry-academia collaboration. The upward trajectory of exports, supported by MoUs with Asian and African nations, signals India's emergence as a credible player in global defence markets.

India's Defence Exports (in Rs bn)



Source: Department of Defence Production *Note: FY2026 data until September 2026*

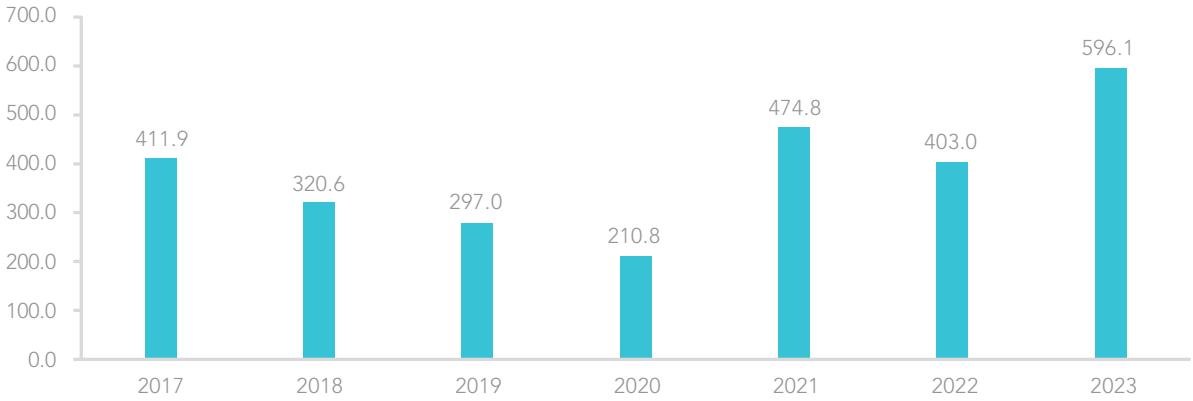
2.4.2 Semiconductor Sector: Building a Domestic Value Chain

Semiconductors are the backbone of modern electronics, powering everything from electric vehicles (EVs) and smartphones to AI systems. India currently imports about 95.0% of its semiconductor requirements, primarily from the Chinese Mainland, Taiwan Region and the US, making it the fifth-largest importer globally. The domestic semiconductor market, valued at around Rs.4.4trn, is projected to reach about Rs.9.7trn by 2030, driven by rising demand for electronics and digital infrastructure.

Trade Dynamics

India's semiconductor imports have shown a volatile yet upward trajectory, reflecting the country's growing dependence on foreign suppliers to meet surging domestic demand. Between 2017 and 2023, imports grew at an average of 16.4% annually, reaching Rs.596.1bn in 2023. While there were periods of contraction – such as in 2018 and 2020 – the rebound in 2021 and subsequent growth in 2023 underscore the structural demand driven by electronics, automotives and AI applications.

India's Semiconductor Imports (in Rs bn)



Source: Observatory of Economic Complexity

This strong import trend signals India's current position as a consumption-heavy market rather than a production hub. However, this scenario is expected to change. With the India Semiconductor Mission (ISM) and related schemes, the government is investing heavily to reverse the trade imbalance and create a robust manufacturing ecosystem that will enable India to transition from an importer to a competitive exporter in the long term.

Strategic Initiatives

To reduce import dependence and build a robust domestic ecosystem, the government launched the ISM under the Make in India initiative. Key policies include:

- Design Linked Incentive (DLI) Scheme: Encourages semiconductor design for integrated circuits, chipsets and IP cores.
- PLI Scheme: Supports manufacturing with financial incentives.
- FDI Liberalisation: 100% FDI allowed in the semiconductor sector.
- Infrastructure Development: Rs.760.0bn outlay for ISM to create fabrication units and design facilities.

Industry Developments

The sector is seeing rapid ecosystem development, driven by government incentives and private investments. Under the DLI scheme, 24 applicants have been approved out of 115, with an impressive 84.0% settlement rate, signalling strong interest in chip design and IP development. Similarly, the PLI scheme has seen an acceptance rate of 21.0%, which is expected to rise as global technology firms enter the Indian market, supported by 100.0% FDI allowance.

On the manufacturing front, 10 major projects have been sanctioned with a cumulative investment of Rs.1.6trn, marking a significant step towards creating domestic fabrication and assembly capacity. Complementing this infrastructure push is a strong focus on talent development – plans are underway to train 85,000 skilled professionals in semiconductor design and fabrication, ensuring India has the human capital to sustain long-term growth.

These developments underscore India's strategic intent to transition from a heavy importer to a competitive global player, leveraging policy support, investment momentum and a growing domestic market.

One Step Ahead in the Semiconductor Race: The Vikram Chip

In 2025, the Indian Space Research Organisation (ISRO), in collaboration with the Semiconductor Laboratory (SCL), developed the Vikram Chip – India's first fully indigenous 32-bit space-grade microprocessor. Designed to withstand harsh space conditions, it matches global standards while costing 50.0% less than US and EU counterparts. This breakthrough not only optimises costs for space missions but also opens doors for future exports. As semiconductors are classified as 'critical infrastructure' globally, the Vikram Chip marks India's first decisive step towards technological sovereignty in advanced chip manufacturing.

3. Policy & Regulatory Push

India's manufacturing sector has witnessed a transformative shift, driven by a series of policy and regulatory interventions aimed at boosting competitiveness, attracting investments and enabling scale. These initiatives have created a robust ecosystem for investment, innovation and scale – fuelling industrial vibrancy and job creation. Flagship programmes have laid the foundation, while recent reforms such as GST 2.0 are lowering compliance costs and boosting consumption. Together, these interventions are shaping the next phase of India's manufacturing surge, positioning the country as a global hub for competitive and sustainable production.

Policy / Initiative	Launch & Implementation	Key Features	Impact on Manufacturing
New Labour Codes (Unified Labour Law Reform)	November 2025	Consolidated 29 laws into 4 Codes: Wages; Industrial Relations; Social Security; Occupational Safety (OSHWC); flexible hiring; fixed-term employment; national floor wage; social security for gig workers.	Simplifies compliance, improves workforce flexibility, enhances job security and supports large-scale manufacturing operations.
GST 2.0 Reform	September 2025	Two-slab structure (5.0% and 18.0%); removal of inverted duty structures; digital-first compliance; faster refunds.	Cuts input costs, improves cash flow, boosts competitiveness and strengthens supply chains for manufacturers.
National Manufacturing Mission	February 2025	Focus on ease of doing business, MSME support, clean-tech manufacturing, skill development and technology access; credit guarantee for MSMEs raised to Rs.100.0m.	Creates a holistic ecosystem for manufacturing scale-up, promotes advanced sectors (EVs, clean tech) and supports MSMEs.
PLI Scheme	2020 onward (major scale-up in 2024-25)	Incentives linked to incremental production across 14 sectors (electronics, auto, pharma, renewables); approximately Rs.2.0trn outlay.	Drives large-scale investments, boosts domestic production and integrates India into global value chains.
Make in India 2.0	February 2021	Expanded to 27 sectors; emphasis on EVs, semiconductors, electronics, defence; integration with PLI and infrastructure push.	Positions India as a global manufacturing hub; accelerates sectoral investments and technology adoption.
PM MITRA Parks	2021 (finalised in August 2025)	Seven mega textile parks with integrated value chain; world-class infrastructure; Rs.44.bn outlay; 2.0m jobs target.	Builds scale and efficiency in textiles and apparel manufacturing; reduces logistics costs and boosts exports.
Business Reforms Action Plan (BRAP)	2014 (latest edition 2024)	Streamlined approvals, single-window clearance, compliance reduction, integration with PM GatiShakti.	Improves ease of doing business for manufacturers; accelerates factory setup and operational efficiency.
Startup India & MSME Support	2016 onwards	Fund of Funds, Credit Guarantee Scheme, Seed Fund; focus on product-based startups and MSME integration into supply chains.	Encourages innovation in manufacturing, strengthens MSME participation and fosters entrepreneurship.
Skill India & Future-Ready Workforce	2015 onward (revamped in 2024-25)	Vocational training, Skill India Digital Hub, industry-academia partnerships; focus on Industry 4.0 skills (AI, robotics, IoT).	Creates a skilled workforce for advanced manufacturing; addresses talent gaps in emerging technologies.

4. Technology and Innovation

Building on this robust policy and regulatory foundation, India's manufacturing sector is undergoing a paradigm shift, driven by Industry 4.0 adoption, AI integration and advanced manufacturing technologies. The focus is on technology-driven transformation, and this transformation is reshaping production processes, enhancing efficiency and positioning India as a global hub for high-tech manufacturing.

Initiatives such as the DLI Scheme, semiconductor fabrication projects and the modernisation of MSME tech centres into Industry 4.0 hubs are fostering innovation at scale. Complementing this, strategic allocations, such as25.0% of the defence R&D budget for emerging technologies, signal a strong commitment to indigenous innovation and future-ready capabilities.

4.1 Industry 4.0: Smart Factories and Digital Transformation

The emergence of Industry 4.0, characterised by the convergence of digital technologies such as AI, machine learning, robotics, additive manufacturing, Internet of Things (IoT) and data analytics, has redefined the paradigms of industrial productivity and competitiveness. These technologies are enabling smart factories that operate with real-time data and automation. According to a Confederation of Indian Industry (CII) report, digital technologies will account for 40.0% of total manufacturing expenditure by 2025, up from 20.0% in 2021. This shift is most visible in sectors such as automotives, electronics and pharmaceuticals, where precision and efficiency are critical.

4.2 AI Integration: From Automation to Intelligence

AI is moving beyond basic automation to become a core enabler of intelligent manufacturing systems. AI-driven solutions are now embedded across production lines, quality control and predictive maintenance, allowing manufacturers to optimise processes and reduce downtime. Government-led initiatives under the Digital India framework and the National AI Strategy have accelerated adoption, particularly in sectors such as automotives and electronics. These efforts are fostering a shift towards data-driven decision-making, where AI enhances precision, efficiency and scalability in manufacturing operations.

4.3 Semiconductor and Electronics Push

India's semiconductor and electronics ecosystem is gaining momentum through strategic initiatives like the ISM and the DLI Scheme. These programmes aim to strengthen domestic chip design and fabrication capabilities, reducing reliance on imports and supporting advanced manufacturing. In August 2025, the Union Cabinet approved four new large-scale semiconductor fabrication and packaging projects under the mission, signalling a strong commitment to building a resilient electronics supply chain ecosystem. This push is critical for sectors such as automotives, consumer electronics and renewable energy, where semiconductors form the backbone of next-generation technologies.

4.4 MSME Tech Centres: Industry 4.0 Hubs

MSMEs are being positioned at the forefront of technological transformation through the modernisation of MSME Technology

Centres. Under the Technology Centres Systems Programme, these hubs are being equipped with advanced tools for prototyping, design and testing, enabling MSMEs to integrate Industry 4.0 technologies into their operations. This initiative not only enhances productivity and competitiveness but also ensures that smaller enterprises can participate in high-value manufacturing segments, creating a more inclusive industrial ecosystem.

4.5 Defence R&D: Innovation at Scale

India's commitment to indigenous innovation is reflected in its defence R&D priorities. The government has earmarked a significant share of the defence capital outlay for R&D, with a focus on emerging technologies such as robotics, AI and advanced materials. This allocation supports collaboration between public and private players, fostering innovation that extends beyond defence into civilian manufacturing applications. By driving advances in high-tech domains, these investments are creating spillover benefits for sectors such as aerospace, electronics and precision engineering.

These technological interventions are not isolated – they form a synergistic ecosystem that enhances productivity, reduces costs and positions India as a global manufacturing hub. From smart factories to semiconductor fabs, the convergence of digital and physical systems is creating a future-ready industrial base.

5. Regional Dynamics

The country's manufacturing landscape is not confined to Tier-1 cities. A significant shift is underway toward Tier-2 and Tier-3 cities, which are emerging as critical hubs for manufacturing, innovation and entrepreneurship. This decentralisation is reshaping the country's economic geography, creating new growth corridors and reducing the infrastructural burden on metropolitan canters.

5.1 MSMEs and Emerging Industrial Clusters

Tier-2 and Tier-3 cities account for 51.0% of registered MSMEs on the Udyam Portal, representing approximately 19.6m enterprises. These cities are evolving into satellite hubs for Tier-1 metros, attracting manufacturing units and ancillary industries. The migration of industrial activity is supported by improved connectivity, cost advantages and government incentives, making these regions fertile ground for MSMEs.

5.2 Employment and Sectoral Shifts

According to Randstad reports and related industry insights for 2025 in India, sectors such as BFSI, automotives, manufacturing, FMCG, pharmaceuticals and IT are driving demand for skilled talent in these cities. Defence, semiconductors and AI-driven data centres are expected to anchor future growth. This trend will not only generate employment but also foster R&D ecosystems, creating opportunities for high-value innovation outside traditional urban centres.

5.3 Defence Procurement and Manufacturing

India's defence ecosystem is increasingly distributed across multiple tiers of cities, moving beyond traditional Tier-1 hubs. This decentralisation is evident in both manufacturing and operational deployment:

Procurement Category	Tier 1	Tier II	Tier III
Light Combat Helicopter (LCH) Prachand	Bengaluru (HAL manufacturing)	Nasik (IAF base for induction)	-
Wet Lease: KC-135 FRA (Metrea)	-	Agra (Air-to-air refuelling operations)	-
ATAGS (Advanced Towed Artillery Gun System)	Pune (Development & production)	-	Pokhran (Field trials & deployment)

Source: Press Information Bureau of India

This geographic spread is catalysing startup ecosystems, attracting investments and stimulating innovation in defence technologies. Policies such as the National Deep Tech Start-up Policy and initiatives such as the Anusandhan National Research Foundation further incentivise high-risk, high-reward innovation in these regions.

CVI Spotlight: Tier-2/3 Cities Driving Growth

Tier-2 and Tier-3 cities are emerging as investment magnets for technology firms and talent hubs, hosting a majority of India's startups and MSMEs. Recent semiconductor and advanced manufacturing projects in these regions are boosting local economies – a trend captured by Dun & Bradstreet's City Vitality Index (CVI).

For instance, Gautam Buddha Nagar, a district in Uttar Pradesh, saw its CVI rise steadily after the announcement of an OSAT semiconductor facility in Jewar (May 2025), signalling increased economic activity and stronger backward-forward linkages. Similar government-led projects in other emerging cities are expected to elevate CVI scores, reinforcing their role as future growth corridors.

Date	Partnership / Investor	Project	Investment	Location
October 2025	Tata Electronics & PSMC (Taiwan)	Semiconductor fabrication plant (50,000 wafers/ month)	Rs.910.0bn	Dholera, Gujarat
September 2025	Govt ECMS Scheme	17 electronics component projects	Rs.71.7bn	Across 9 states
August 2025	AEIM (India)	Semiconductor materials plant (sapphire wafers)	Rs.100.0bn	Nava Raipur, Chhattisgarh
July 2025	Micron Technology (US)	ATMP facility for memory chips	Rs.239.1bn	Sanand, Gujarat
June 2025	Dixon Technologies & Global OEMs	JV for electronics components under PLI	-	Uttar Pradesh & Tamil Nadu

Source: Press Articles

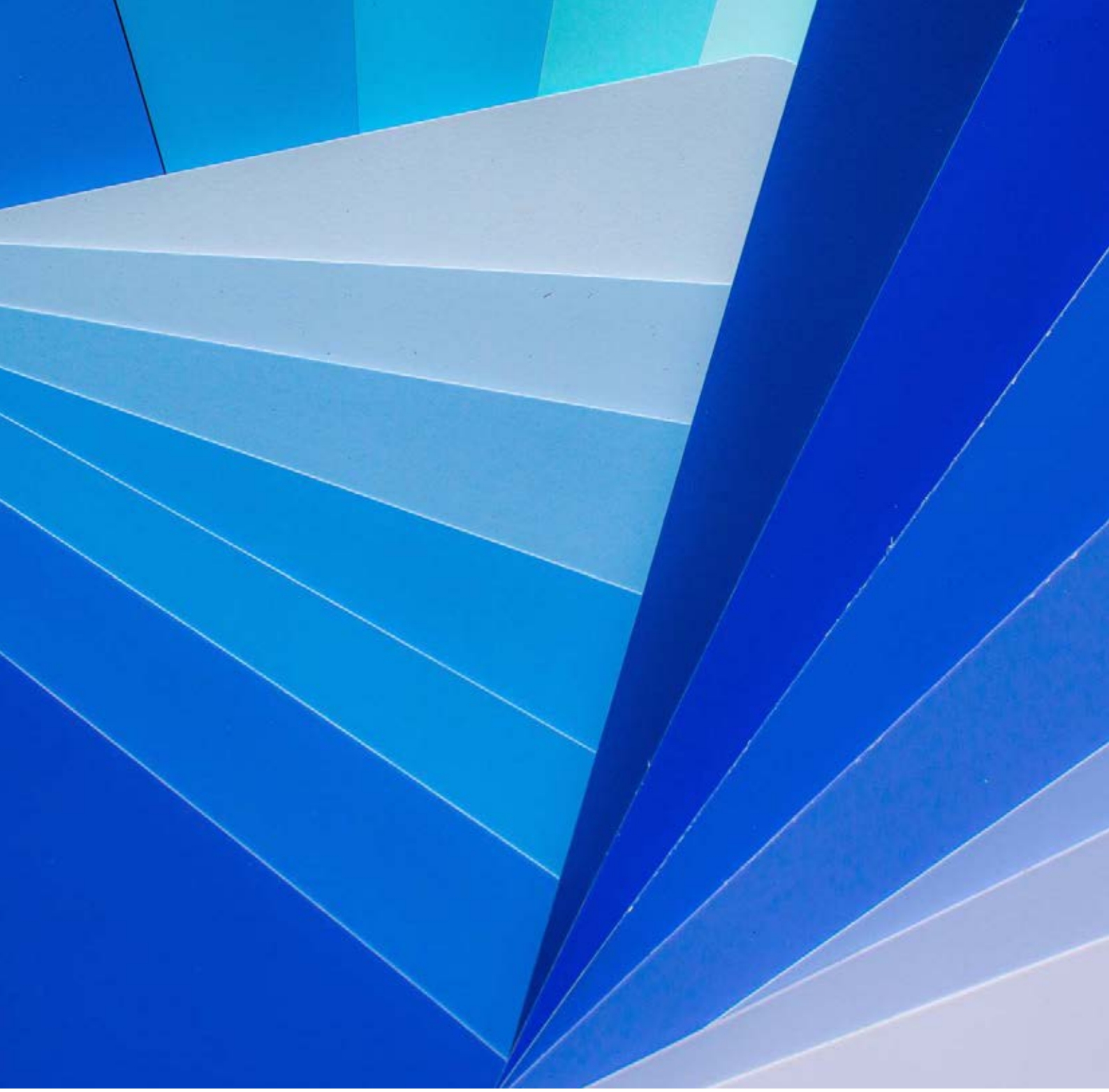
These partnerships underscore India's ambition to become a global manufacturing hub, leveraging technology transfer, domestic talent and policy support to attract greenfield FDI – averaging USD83.0bn annually since 2022, with around 78.0% flowing into future-shaping industries such as advanced manufacturing and semiconductors.

7. Key Risks and Way Forward

While the investment pipeline and new partnerships point to strong momentum in manufacturing, it's important to recognise that rapid sectoral shifts bring their own set of challenges. A sharper focus on defence and semiconductors, for instance, could unintentionally dilute attention from high-employment sectors such as agriculture and textiles, which remain largely informal. Infrastructure gaps – specialised machinery, cleanroom facilities and utilities – are another concern for semiconductor fabs, especially in smaller cities. Technology obsolescence is a persistent issue too; NITI Aayog estimates that over 80.0% of medium-sized businesses still operate with outdated systems. Add to this the rising demand for skilled labour and the risk of widening skill gaps, and the picture becomes clear: growth is promising, but uneven.

Addressing these risks calls for a balanced and practical approach. Expanding fiscal support for agriculture and textiles alongside high-tech sectors will help maintain employment stability. Infrastructure development through schemes such as the PLI for machinery and PM Gati Shakti needs to move faster to support advanced manufacturing. Policy impact should be tracked regularly – central KPI dashboards and third-party reviews every six months can make this easier. Defence exports should be linked to domestic capacity thresholds to avoid supply pressures, while semiconductor infrastructure must be accelerated through ISM and state-level Fab Support Cells. On the talent front, targeted apprenticeships and industry-led Centres of Excellence in Tier-2 and Tier-3 cities under Skill India can help close the skill gap. Finally, upgrading MSME tech centres into Industry 4.0 hubs and simplifying modernisation schemes via Udyam portals will be key to driving competitiveness.

The trajectory of India's manufacturing sector suggests a gradual shift toward high-tech and innovation-led growth. Policy momentum around defence and semiconductors is likely to create ripple effects across supply chains, encouraging modernisation and deeper integration of MSMEs. Emerging cities are expected to play a bigger role as infrastructure and skill development initiatives gain traction, opening new corridors for investment. While challenges around technology upgrades and talent readiness remain, sustained reforms and collaborative industry efforts could position India as a competitive player in global manufacturing over the next few years.



Intelligent Economy: Navigating India's AI-Led Transformation

1. Introduction

India is at a turning point in its economic journey. As one of the fastest-growing major economies, the country is not only competing on cost, but also on capability. The global race for digital transformation is happening now, and India is positioning itself as a leader. With a large, digitally connected population, a strong technology ecosystem and bold policy moves, India is building an economy where data, algorithms and intelligence create real value.

In the coming decade, competitiveness will hinge on how effectively nations harness artificial intelligence (AI), automation and digital platforms to unlock productivity, innovation and resilience. For India, this is not optional – it is existential. AI and digital transformation are not side stories; they are the central narrative that will shape India's economic future. The question is no longer if India will lead in this space, but how fast and how far it can scale its digital ambitions. The next few years will determine whether India becomes a global hub for AI-driven innovation or remains a follower in a rapidly evolving digital order.

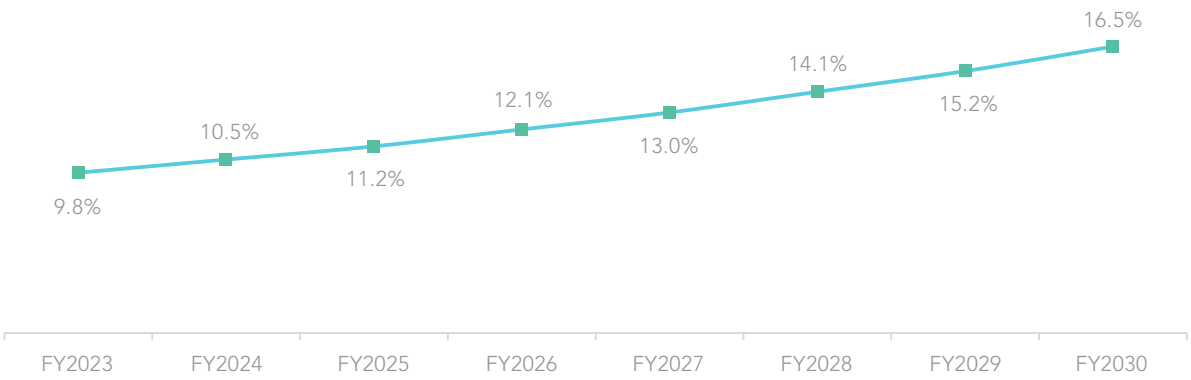
2. Market Landscape & Growth Drivers

Building on India's strategic positioning, the market landscape reveals a strong growth trajectory powered by AI and digital technologies. This momentum reflects a convergence of factors – rapid infrastructure expansion, a thriving startup ecosystem and strong policy support – that are accelerating digital adoption across sectors. AI has the potential to add USD600bn to India's GDP over the next decade. As enterprises integrate AI into core operations, India is moving from incremental digitalisation to a transformative phase where technology becomes a structural driver of economic growth.

2.1 Digital Economy Growth Outlook

The digital economy is projected to grow nearly twice as fast as the overall economy and contribute close to one-fifth of the national income by 2029–30 – a share that will surpass agriculture and manufacturing. In the short term (next 2–3 years), this surge will be driven by digital platforms and intermediaries, followed by deeper digital diffusion across sectors. Over time, as digitalisation becomes pervasive, the enabling Information and Communications Technology (ICT) segments – including core hardware, networking and basic IT services – will represent a smaller slice of a much larger digital pie. This does not imply stagnation; rather, it reflects the structural shift where digital capabilities become embedded across manufacturing, healthcare, finance and agriculture. ICT will evolve from being a standalone growth engine to a foundational layer powering sectoral innovation and AI-driven productivity gains.

Projections of the Share of India's Digital Economy in Total GVA



Source: National Institution for Transforming India (NITI Aayog)

2.2 AI Market Trajectory

India's AI growth story is fuelled by strong government initiatives, a thriving tech and startup ecosystem and a vast talent pool – positioning the country as a global AI hub. Standing at the cusp of a new AI era, the country is witnessing technology transform lives and reshape progress, as AI evolves from a digitisation layer into a structural engine of growth. Advances in computing capacity, institutional coordination and workforce transformation are accelerating this shift across the economic landscape. These efforts are not just about building capacity – they are expected to generate significant economic value. The following metrics illustrate the scale of impact AI could have on India's economy over the next decade.

Key Metric	Potential Impact
Generative AI Market Size CAGR (Products, Services, Platforms, etc.)	~28% (2023–2030)
GDP Contribution by 2035	Rs. 44,287.0bn - Rs. 53,144.4bn
Global AI Value Capture	10-15%

Source: NITI Aayog, IndiaAI–CBRE Insights

2.3 Infrastructure Expansion

Momentum is reinforced by rapid infrastructure growth – from traditional data centres to AI-optimised, high-density facilities in hubs such as Mumbai, Chennai and Hyderabad. Institutional frameworks such as the Model Context Protocol (MCP) enable secure, consent-based AI operations across India's Digital Public Infrastructure (DPI), while the IndiaAI Mission scales national compute resources, supports indigenous Graphics Processing Unit (GPU) development and funds foundational models. Parallel efforts under the semiconductor mission aim to build sovereign hardware capabilities, ensuring long-term competitiveness.

2.4 Talent & Workforce Transformation

Demand for AI skills is accelerating even as overall hiring slows.

According to NASSCOM, structured AI training programmes, corporate AI offices and updated curricula are creating one of the world's largest pools of AI-ready professionals, though challenges in outdated systems and self-funded learning persist. Meanwhile, sovereign data and model ecosystems are advancing, with regulatory-grade datasets and certification sandboxes unlocking innovation in sectors such as healthcare, mobility and governance.

2.5 Strategic Implications

GPU-rich infrastructure will attract global AI workloads, positioning India as a regional compute powerhouse. Enterprise-wide AI integration will drive productivity and resilience, while a rapidly upskilling workforce strengthens competitiveness. AI-infused Digital Public Infrastructure will deliver smarter services at population scale, and trusted regulatory frameworks will draw global investment. With expanding tech hubs and high-quality datasets, India is poised to lead sectoral AI innovation and emerge as a globally influential AI economy by 2026, powering digital trade and infrastructure-led growth.

India's digital economy is expected to grow almost twice as fast as the overall economy, accounting for nearly 20% of the GVA by 2030.

3. Policy & Regulatory Push

In the space of digital economy and AI, policy interventions are becoming a strategic enabler rather than just a compliance layer. Regulatory clarity and institutional capacity are emerging as critical drivers for scaling AI adoption, securing data flows and building trust in digital ecosystems.

3.1 Regulatory Foundations and Strategic Frameworks

India's policy environment is entering a decisive phase, with regulatory clarity and institutional capacity emerging as key drivers of AI and digital economy growth. Anchored in frameworks such as the IndiaAI Mission, AI Governance Guidelines, National Data Governance Framework Policy (NDGFP), Digital Personal Data Protection Act (DPDP Act) and National Digital Communications Policy (NDCP), these policies aim to ensure responsible AI development, strengthen data governance and build scalable digital infrastructure. According to policy guidance, the DPDP Act is pivotal in enforcing privacy-by-design norms and security safeguards, raising India's cybersecurity baseline for trustworthy AI and secure data flows.

Policy / Framework	Objective
IndiaAI Mission	Build a comprehensive AI ecosystem by scaling compute capacity, developing indigenous foundational models, enabling datasets access, and ensuring safe & trusted AI
AI Governance Guidelines	Ensure ethical and responsible AI development
NDGFP	Strengthen data governance and sharing
DPDP Act	Enforce privacy-by-design and security norms
NDCP	Build scalable digital infrastructure

Building on these foundations, India's policy momentum is shifting towards execution, with a clear roadmap for the next 18–24 months.

3.2 Execution Roadmap and Future Priorities

Over the next 18-24 months, policy momentum will shift from vision-setting to execution, focusing on large-scale data-sharing protocols, sector-specific AI standards, public–private R&D incentives and deeper AI integration within Digital Public Infrastructure. These measures will redefine competitiveness, influence investment decisions and accelerate enterprise AI adoption.

Hence, mature frameworks will create trusted AI environments, attract global investment and enable population-scale AI deployment. By positioning policy as a strategic lever, India is set to shape its digital economy through 2026 and lay the foundation for an innovation-driven decade ahead.

4. Technology & Innovation

India's digital economy is entering a phase where technology is not just an enabler but a catalyst for inclusive growth. Frontier technologies – AI, Internet of Things (IoT), blockchain and immersive learning – are redefining productivity, connectivity and innovation across sectors. The focus is shifting from incremental adoption to transformative integration, ensuring that technology amplifies human potential rather than replacing it. Correspondingly, innovation ecosystems and AI-driven solutions are reshaping India's economic core and societal fabric.

4.1 Key Dimensions of Technology-Led Transformation

The country is witnessing a wave of technology-led transformation across sectors. AI-driven sectoral innovation, frontier technologies for inclusion, indigenous AI development and digital public infrastructure are converging to create a resilient and globally competitive ecosystem. The following tables summarise these key dimensions.

AI-Driven Sectoral Transformation

Sector	Key Innovations	Impact
Agriculture	Precision advisory, predictive analytics	Reduced uncertainty, resource efficiency
Healthcare	AI diagnostics, telemedicine, shared compute infra	Accessible care, faster innovation
Education	Personalised learning, AI-centric skilling	Improved learning outcomes, future-ready workforce
Urban Systems	Intelligent utilities, optimised transport networks	Smarter cities, better service delivery

Frontier Technologies for Inclusion

Technology	Role in Inclusion
Voice-First Interfaces	Break language/literacy barriers
Blockchain & Smart Contracts	Transparent payments, trust in informal sectors
Immersive Learning	On-demand skilling, micro-credentials

Indigenous Innovation & Sovereign AI

Focus Area	Strategic Importance
India-Specific LLMs	Cultural and linguistic relevance
Sovereign Compute	Strategic autonomy, secure AI development
Ethical Governance	Align innovation with societal values

Digital Public Infrastructure as Launchpad

DPI	Role in AI Integration
Aadhaar	Identity backbone for AI-driven services
Unified Payment Interface (UPI)	Real-time payments enabling AI-powered commerce
Open Network for Digital Commerce (ONDC)	Democratising e-commerce through open protocols

Innovation Ecosystem and R&D Push

Initiative	Objective
Public–Private Partnerships	Accelerate AI research and commercialization
Digital ShramSetu	Empower informal workers through tech inclusion
Startup Incentives	Build globally competitive frontier tech solutions

4.2 Strategic Imperative

Technology and innovation are no longer optional – they are foundational to India's ambition of becoming a USD30.0trn economy by 2047. By embedding AI and frontier technologies into every layer of the economy, India can unlock productivity, create equitable opportunities and lead the world in inclusive digital transformation.

5. Regional Dynamics

India's AI trajectory is evolving from a single-centre model to a distributed network of innovation hubs. This shift reflects a deliberate strategy to democratise AI capabilities, foster regional specialisation and embed technology into diverse economic clusters. This transformation is driven by two forces: market-led cluster development and policy-driven regional inclusion. Together, they are creating a resilient, innovation-intensive digital economy that spans metros, Tier-2 cities and aspirational districts.

5.1 Multi-Hub Ecosystem & Regional Specialisation

Metro Hubs	
Bengaluru From frontier experimentation to enterprise-grade AI deployment	**Hyderabad & Mumbai** Hyderabad as an R&D GCC hub; Mumbai as a fintech and analytics cluster
Delhi-NCR Strong challenger with global investment and AI startup density	**Chennai & Pune** Deep-tech engines for automotive, robotics and cloud-native design
Coimbatore, Lucknow & Indore Emerging as AI adoption centres through IndiaAI Mission's FutureSkills pillar and distributed compute infrastructure	
Tier-2 Cities	
Coimbatore, Lucknow & Indore Emerging as AI adoption centres through IndiaAI Mission's FutureSkills pillar and distributed compute infrastructure	

5.2 Policy-Driven Regional Inclusion

To operationalise inclusive AI adoption, India's policy roadmap recommends targeted interventions across regions. These priorities aim to bridge digital divides by focusing on aspirational districts, strengthening state-level innovation hubs and enabling Tier-2 cities through distributed infrastructure. The table below summarises these regional priorities and their strategic importance.

Focus Area	States/Cities	Strategic Importance
Aspirational Districts & Localised AI Deployment	Jharkhand (Ranchi, Dumka), Chhattisgarh (Bastar, Dantewada), Odisha (Koraput, Kalahandi), Bihar (Gaya, Purnia), Uttar Pradesh (Chitrakoot, Bahraich)	AI for agriculture, healthcare and education in underserved regions
State-Level Innovation Hubs	Karnataka (Bengaluru), Telangana (Hyderabad), Tamil Nadu (Chennai), Maharashtra (Mumbai, Pune), Delhi-NCR	Decentralised R&D, sector-specific AI innovation
Digital ShramSetu for Informal Workforce	Uttar Pradesh, Rajasthan, Madhya Pradesh	Empower rural/semi-urban workers through AI and blockchain
Multilingual AI for Inclusion	Pan-India (Hindi, Tamil, Telugu, Bengali, Marathi)	Overcome linguistic barriers for digital services
Distributed Compute & Open Data Platforms	Tier-2 cities: Coimbatore (Tamil Nadu), Lucknow (Uttar Pradesh), Indore (Madhya Pradesh)	Enable AI adoption beyond metros through shared infrastructure

5.3 Future Outlook

Regional dynamics are redefining India's AI trajectory. By combining market-driven innovation hubs with policy-driven inclusion, India is building a distributed, resilient and globally competitive digital economy. This evolution is not static – it signals a deeper shift towards specialisation and collaboration across regions, where:

- Metro ecosystems will consolidate higher-value research functions.
- Regional clusters will move from capability-building to capability-deepening.
- Tier-2 hubs will advance into niche AI specialisations.
- Inter-city collaboration will expand through shared datasets, interoperable DPI layers and federated experimentation zones.

6. Investment & Partnership Opportunities

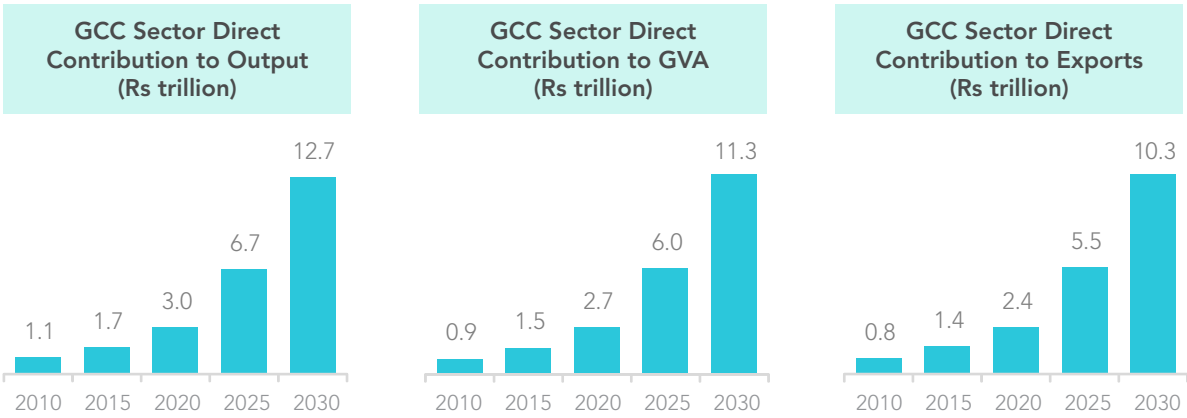
AI is emerging as a core driver of growth, with strong momentum supported by the government's flagship Rs.103.7bn IndiaAI Mission. The initiative aims to build national AI infrastructure through GPU clusters, a unified datasets platform and skilling programmes across Tier-2 and Tier-3 cities – creating the foundation for inclusive innovation.

Alongside this public investment, private capital is accelerating

India's deep-tech pivot. Venture capital flows and indigenous model builders such as Sarvam AI signal growing confidence in homegrown AI capabilities, even as challenges around compute adequacy and capital intensity persist. Landmark investments such as Google's Rs.1,327.6 bn AI Hub in Visakhapatnam – developed with Airtel and Adani ConneX – and the Google Safety Engineering Centre in Hyderabad position India as a global node for AI compute and connectivity.

6.1 Global Capability Centres (GCCs): Strategic Hubs for AI Innovation

India's GCC sector has transformed from cost-focused service hubs into strategic engines of innovation and enterprise value. From a single pioneering centre in 1985, the country now hosts over 1,800 GCCs in 2025, projected to exceed 2,400 by 2030, making India the world's preferred destination for high-value global services. These centres are no longer back offices – they are nerve centres for R&D, AI/ML engineering, advanced analytics, cybersecurity and global product ownership. According to the Dun & Bradstreet Economic Impact Model, the FY2025 economic contribution of GCCs in India is significant and multifaceted:



Source: Dun & Bradstreet Economic Impact Model

6.2 The Relevance of GCCs

- Innovation Powerhouse: GCCs are driving IP creation, patent filings and global product launches. Examples include AstraZeneca's VR-based pharma training, Lowe's proprietary checkout systems and GE's Bengaluru R&D hub contributing 3,500+ patents.
- High-Skill Mandates: Transition from transactional tasks to AI-driven engineering, cloud-native design and advanced analytics.
- Regional Inclusion: Over 200 GCCs have expanded into Tier-2 cities such as Coimbatore, Indore and Jaipur, fostering spatially balanced growth and tapping underutilised talent pools.

Looking ahead, India's AI ecosystem is set to evolve into a globally competitive and sovereign architecture, powered by renewable-aligned data centres, subsea connectivity and robust public–private partnerships unlocking productivity, digital trade and infrastructure-led growth over the next decade. Notable strategic investment and partnership opportunities lie in the following key areas:

Area	Key Opportunities
AI Infrastructure	Build AI data centres to meet growing compute demand; major investments by Microsoft and AWS
AI Models and Platforms	Partner to develop and scale in-country AI models (e.g., Bharat Gen); leverage enterprise AI solutions
AI Talent and Skills	Invest in upskilling/reskilling; partnerships for training programmes (e.g., Microsoft ADVANTA(I)GE India)
DPI	Integrate AI into platforms such as Aadhaar and UPI; examples include Kumbh Sah'AI'yak chatbot
Sector-Specific AI Solutions	Collaborate on AI for healthcare (diagnostics), agriculture, finance and retail
Startup Ecosystem	Partner with or invest in AI startups for innovative, real-world applications

By 2030, the number of GCCs is expected to exceed 2,400, underscoring India's emergence as the world's preferred destination for high-value global services.

7. Key Risks and Way Forward

AI is too important not to regulate – and too important not to regulate well. The challenge for policymakers globally, and in India, is to design governance frameworks that mitigate risks without stifling innovation. Poorly calibrated or fragmented regulations could block innovators and governments from harnessing trustworthy AI to achieve breakthroughs in healthcare, economic growth and societal well-being.

7.1 Key Risks

Risk	Description
Regulatory Fragmentation	Conflicting or overly prescriptive rules across jurisdictions can create compliance burdens, slowing innovation and limiting global interoperability.
Over-Regulation of Low-Risk Applications	Treating all AI use cases as high-risk could discourage adoption, especially among SMEs and traditional industries with limited resources.
Lack of Common Standards	Absence of harmonised technical and international standards may increase costs for compliance and reduce scalability for Indian enterprises.
Skills Gap and Unequal Access	Without targeted investment in AI talent and infrastructure, India risks widening the digital divide and missing out on inclusive growth.

7.2 Way Forward

To maximize India's AI opportunity,collaborative efforts across government, industry and civil society should prioritise three strategic pillars:

Strategic Priority	Description
Invest in Infrastructure and Innovation	Expand AI R&D, scale compute capacity and digital infrastructure, and maintain a balanced regulatory environment to convert ideas and data into new discoveries and services.
Build Human Capital and an AI-Ready Workforce	Invest in upskilling and reskilling programmes for students, workers and SMEs; foster partnerships for AI talent development and training initiatives.
Promote Widespread Adoption and Universal Accessibility	Integrate AI into Digital Public Infrastructure (Aadhaar, UPI) for population-scale impact; encourage sector-specific AI solutions in healthcare, agriculture, finance and education; ensure multilingual and inclusive AI systems to reach diverse communities.
Skills Gap and Unequal Access	Without targeted investment in AI talent and infrastructure, India risks widening the digital divide and missing out on inclusive growth.

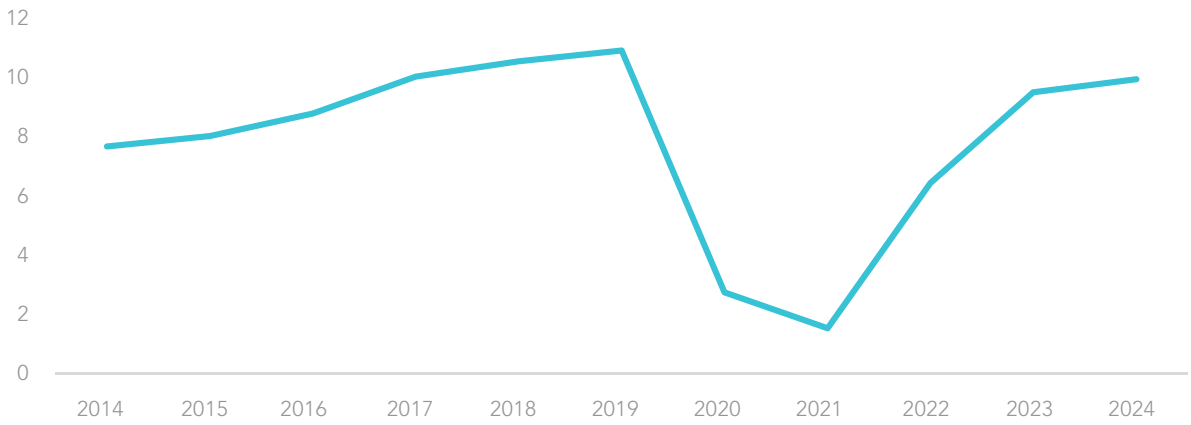
India's next digital leap will hinge on harmonising governance with innovation. As sovereign compute scales and AI adoption accelerates, regulatory clarity will be pivotal in reducing friction, attracting investment and enabling responsible, high-velocity growth. Organisations that embed ethical AI, trusted data practices, cyber resilience and climate-aligned strategies into their operating models will define leadership in the AI economy – transforming governance into a strategic foundation for trust, resilience and sustainable innovation.

Mapping the Future of Tourism: Culture, and Connectivity

1. Introduction

India's tourism sector is entering a phase of accelerated growth as the country approaches 2026, supported by robust policy reforms, infrastructure development, and digital transformation. With its diverse landscapes, rich cultural heritage, and vibrant traditions, India continues to attract millions of domestic and international travellers, making tourism a key driver of economic activity. The tourism sector currently contributes to around 5.2% of India's GDP, having generated over 84.6m jobs in FY 2023-24, with foreign exchange earnings of around Rs.2.9 trn. The sector is expected to experience significant expansion over 2026. The positive sectoral outlook is reaffirmed by rising disposable incomes, ongoing improvements to regional connectivity through initiatives such as UDAN (regional airport development programme), and sustained government focus on infrastructure development via schemes such as Swadesh Darshan (for sustainable tourism development) and Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD, for pilgrimage site rejuvenation). Foreign tourist arrivals are likely to approach pre-pandemic levels in by 2026, in part bolstered by efforts to simplify the e-visa process.

India: Foreign Tourist Arrivals (m)



Source: Ministry of Tourism, Government of India

Niche segments will play a pivotal role in shaping this trajectory. Medical tourism, supported by the Heal in India initiative and Ayush visa reforms, is likely to grow over the near term. Industry reports shows that spiritual tourism, which accounts for nearly 60.0% of domestic travel, is expected to maintain a strong CAGR, aided by schemes such as PRASHAD and Swadesh Darshan. Cultural tourism will remain a key inbound segment, likely to contribute around USD 22.0–23.0 bn by 2026, while agri-tourism is also increasingly emerging as a high-growth area, driven by government-led rural tourism policies and the rising demand for experiential travel. Collectively, these developments position India to redefine its tourism landscape, making the sector a central driver of growth and global outreach.

2. Market Landscape and Growth Drivers

By fostering jobs, boosting foreign exchange, and promoting cultural diplomacy, India is advancing toward its vision of increasing tourism's contribution to 10.0% of GDP by 2030.

2.1 Tourism's Economic Contribution: Gross Value Added (GVA) and Employment (2025)

Regions that contribute more to GVA through tourism tend to exhibit greater tourism-related employment, though the correlation between the two remains relatively weak.

Small Union Territories: High Employment Share and Low Tourism Direct GVA (TDGVA) Share

Tourism in small union territories such as Puducherry, Lakshadweep, and Daman and Diu is highly labour-intensive but not especially productive in terms of economic output. For instance, Puducherry has the highest tourism employment share at 56.2%, while its contribution to GVA is only 4.1%. Similarly, Lakshadweep records 49.7% employment share with 9.0% GVA, and Daman and Diu shows 29.4% employment share but just 1.4% GVA. These regions lack industrial diversification, making tourism the primary source of employment even though its contribution to GVA remains relatively small. This shows that while tourism sustains livelihoods in these regions, it does not necessarily drive overall economic growth.

The heavy reliance on tourism for jobs means that hospitality, transport, and local service businesses dominate these economies. However, this dependence creates vulnerability. Any disruption, such as seasonal fluctuations, global travel restrictions, or natural disasters, can severely impact livelihoods due to limited alternative sectors to absorb the workforce. Ongoing and future government initiatives—such as the development of eco-tourism resorts and India's first water villas in Lakshadweep, creation of tent cities and seafronts in Daman and Diu, and Meetings, Incentives, Conferences, Exhibitions (MICE) infrastructure in Puducherry under schemes such as Swadesh Darshan 2.0 and the National Strategy for Eco-Tourism — aim to promote sustainable and responsible tourism. These efforts will strengthen these regions, but their dependence on tourism for employment will remain high. Employment growth is expected, but GVA share may not rise proportionally due to limited industrial diversification.

Goa: High TDGVA and High Employment Share

Goa stands out as a state where tourism is a key driver, contributing significantly to both income and employment. The sector has a strong multiplier effect, as tourist spending stimulates related industries such as restaurants, retail and entertainment. Goa records the highest tourism contribution among major states, with 11.6% of TDGVA and indirect GVA in the state's total GVA and an impressive 40.9% of tourism-related employment in total state employment. This makes tourism central to Goa's economic structure and a major source of prosperity.

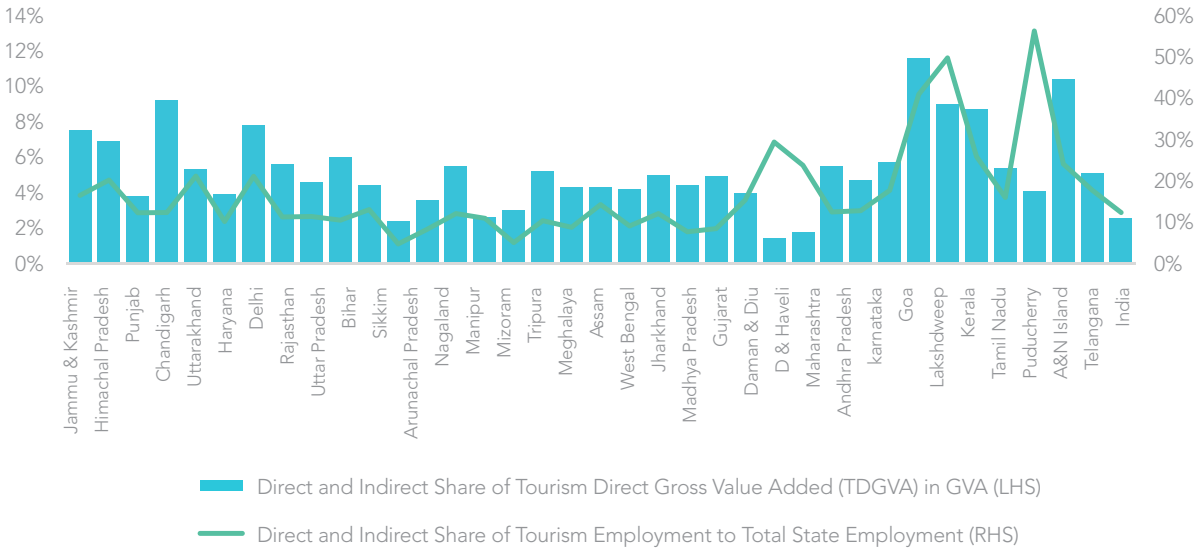
Goa offers a high-value tourism market with opportunities for premium services, luxury resorts and niche experiences such as wellness and adventure tourism. However, this heavy dependence on tourism also poses risks. Exposure to global travel trends, environmental sustainability issues and competition from other destinations weigh on Goan economy. Looking ahead, Goa is likely to benefit most from premium tourism investments and the government's push for MICE tourism. Its high TDGVA and employment share will continue, reinforcing its position as a strategic tourism hub.

Maharashtra and Gujarat: Moderate TDGVA and Employment Share

Tourism plays a supporting role in Maharashtra and Gujarat, which have diversified economies dominated by manufacturing, finance and trade. In Maharashtra, tourism contributes 5.5% to the state's GVA and accounts for 12.5% of total employment, and in Gujarat, the share is 4% of GVA and 15.4% of employment. The contribution of tourism to GVA and employment is modest, meaning that shocks in tourism have limited macroeconomic impact. These states are less vulnerable to tourism downturns than regions where tourism is the primary economic driver.

Tourism enterprises in these states compete with strong industrial and service sectors, with growth opportunities in urban tourism, cultural tourism and business travel. The government's focus on granting infrastructure status to hospitality projects and promoting MICE tourism creates significant potential for these states to leverage their urban centres for business tourism. Industry projections suggest a moderate rise in TDGVA share in the near-term, but employment share will remain relatively low than small union territories, as tourism will continue to be a complementary rather than dominant sector.

GVA and Employment by State (2025)



Source: Tourism Satellite Account for India

Note: Data is an estimate

2.2 Travel Behaviour and Destination Pattern

An analysis of travel purposes reveals striking contrasts across states, underscoring opportunities for targeted development and tailored experiences; India's tourism dynamics reveal a clear tilt toward local travel, with short-distance trips dominating.

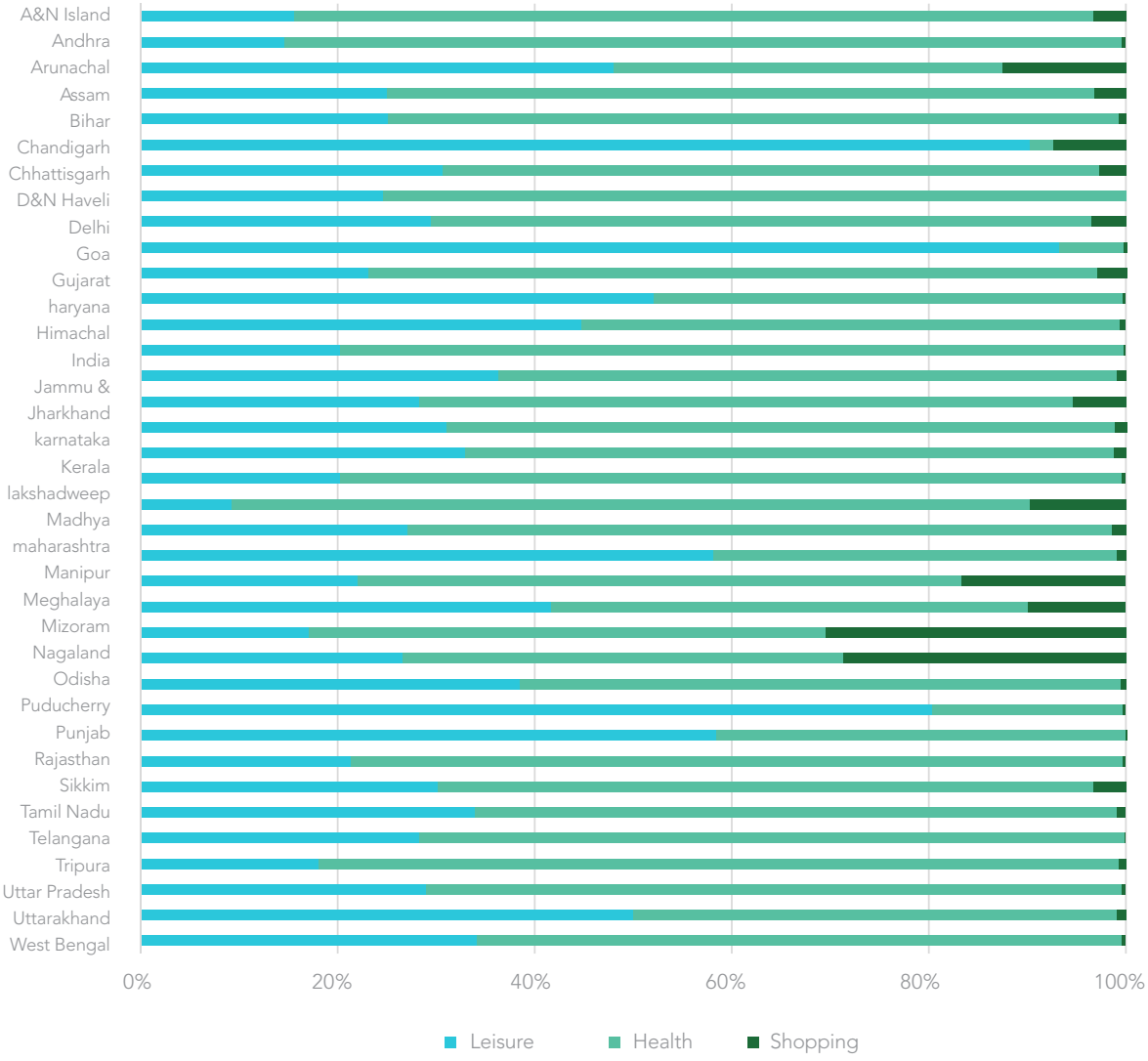
2.2.1 Region-Specific Tourism Pattern

Recent NCAER Tourist Satellite Account 2025 and International Passenger Survey data reveals distinct patterns shaping tourism demand. Leisure-driven travel accounts for a national average of 36.3%, with Delhi leading at an impressive 93.2%,

with Lakshadweep at only 9.2%. This underscores strong recreational demand in urban centres and highlights opportunities for low-share destinations to develop attractions and improve connectivity. Health-related travel dominates with 62.8% national average, positioning India as a major hub for medical and wellness tourism. Andhra Pradesh tops this category at 85.0%, whereas Chandigarh stands at just 2.4%, suggesting scope for diversification and partnerships in underrepresented regions.

Shopping tourism remains niche at 0.9% national average but shows striking regional variation; Mizoram leads with 30.5%, while Dadra and Nagar Haveli reports none. This indicates concentrated retail activity and the potential for urban hubs to attract visitors through curated shopping experiences and premium retail zones. In terms of travel type, non-package trips overwhelmingly dominate at 97.4%, while package tours account for only 2.6%, with West Bengal showing the highest package share at 10.7%.

Pupose Driven Travel, by State (2025)



Source: Tourism Satellite Account for India

Note: Data is an estimate

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Looking ahead, India's tourism outlook for 2026 is robust. Wellness and medical tourism will continue to expand, supported by specialised facilities and global marketing. Experiential travel, eco-tourism, and technology-driven personalisation are expected to shape future trends. While challenges such as infrastructure gaps and sustainability remain, policy continuity and private sector participation will be critical in positioning India as a globally competitive destination.

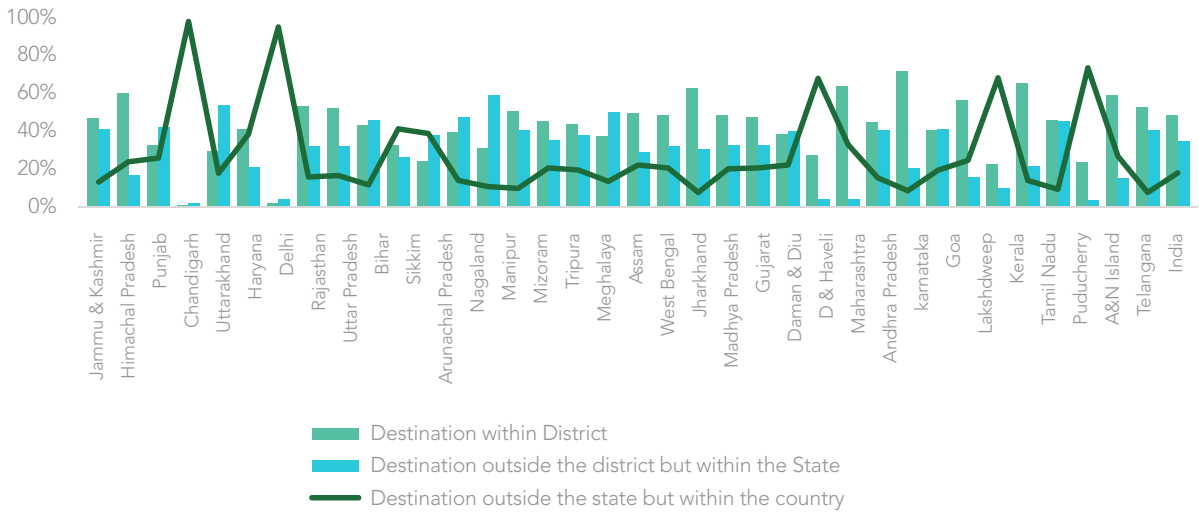
2.2.2 Destination Patterns

With strategic reforms and shifting consumer preferences, India is poised to unlock its tourism potential, fostering inclusive growth and reinforcing its cultural and economic prominence on the global stage. Current destination patterns indicate that 47.9% of trips occur within the same district, emphasising the strength of local tourism. States such as Andhra Pradesh (71.4%), Kerala (65.0%), and Odisha (62.4%) lead in district-level travel, showcasing the importance of short-distance mobility.

Intra-state travel accounts for 34.4% of trips, with Manipur (58.7%), Uttarakhand (53.5%) and Nagaland (47.1%) emerging as prominent hubs for regional tourism. Meanwhile, 17.7% of trips extend beyond state boundaries, with Chandigarh (97.3%), Delhi (94.4%) and Puducherry (72.9%) recording the highest inter-state travel, reflecting their strong connectivity and urban appeal. Coastal destinations such as Lakshadweep (67.8%) and Daman and Diu (67.5%) also exhibit significant inter-state travel, signalling their growing popularity for leisure tourism.

These trends highlight the need to strengthen district-level infrastructure, improve regional connectivity and develop facilities for longer domestic trips. While inter-state travel remains concentrated in select regions, states such as Goa (24.3%) and Kerala (13.8%) show potential for

Domestic Travel Preferences in India, by State (2025)



Source: Tourism Satellite Account

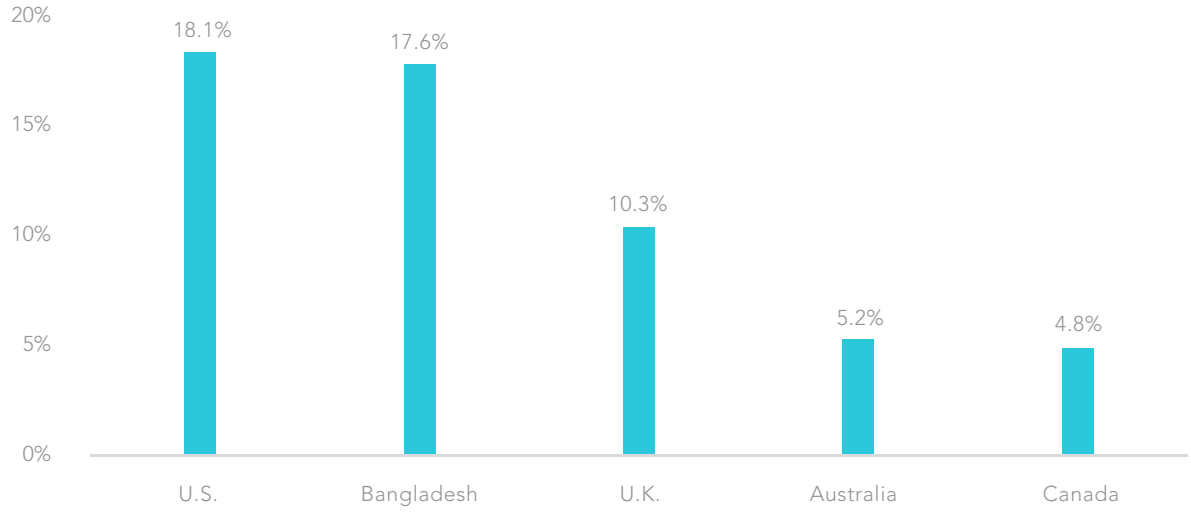
Note: Data is an estimate

attracting visitors from across the country, supported by their cultural richness and scenic landscapes. Looking ahead, rising incomes and better transport networks will drive steady growth in domestic tourism, with experiential and wellness travel gaining momentum. Inter-state travel patterns, particularly in coastal and heritage-rich states, present significant opportunities for expansion.

2.3 International Tourist Arrival Trends

India witnessed a strong rebound in inbound tourism in 2025, hosting over 20m foreign visitors, surpassing pre-pandemic levels. The top sources of tourist inflows include the US, Bangladesh, UK, Australia and Canada, collectively having contributed to nearly 56.0% of arrivals in 2024. Popular destinations attracting these tourists are Maharashtra, West Bengal, Gujarat, Uttar Pradesh and Rajasthan, driven by their cultural heritage and leisure appeal. However, the sector remains vulnerable to external shocks such as geopolitical instability, global economic downturns or public health emergencies in key source markets. Such disruptions can significantly impact travel demand and foreign exchange inflows. To safeguard growth, India must focus on market diversification, enhance digital connectivity and strengthen domestic tourism as a buffer against international volatility.

Tourist Arrivals From Country of Origin (2024)



Source: Bureau of Immigration, Government of India; Ministry of Tourism, Government of India

Why-Cation: Purpose-Driven Travel in India - In 2026, Indian travellers are likely to increasingly embrace the concept of Why-Cation, a travel trend where trips are taken for a specific emotional or personal purpose, rather than just for leisure or a destination, thereby shifting the focus from 'where to go to 'why travel'. This trend reflects a growing desire for meaningful experiences that align with personal goals such as mental wellness, cultural immersion, skill-building and family bonding. Popular Why-Cation themes include yoga and meditation retreats in Rishikesh, ayurvedic therapies in Kerala, pottery workshops in Jaipur and digital detox stays in Himachal Pradesh. Adventure trips combined with volunteering in Ladakh and multi-generational holidays in boutique resorts also exemplify this movement. For travel businesses, Why-Cation offers opportunities to design purpose-driven packages, partner with local artisans and wellness experts, and provide customisable itineraries that cater to travellers seeking depth and intention in their journeys.

3. Policy & Regulatory Push

India's tourism sector is set for a significant leap in 2026, driven by a series of strategic policy interventions announced in the Union Budget 2025-26. Among other measures, the government has committed to developing 50 world-class destinations through a challenge-based model, enhancing connectivity and streamlining infrastructure investments.

3.1 Key Central Government Initiatives

Policy Initiative	Description	Expected Impact	Key Focus Area(s)
Development of Top 50 Tourist Destinations	Upgrade 50 major tourist sites with world-class infrastructure, accommodation and connectivity under a challenge-based model with states.	Boost international and domestic tourism, create jobs attract private investment in hospitality sector.	Infrastructure and destination development
Streamlined e-Visa and Visa Fee Waivers	Simplify visa process and introduce fee waivers for select tourist groups to attract global travellers.	Increase foreign tourist arrivals, enhance ease of travel and promote medical and heritage tourism.	Travel Facilitation
Micro Units Development & Refinance Agency Ltd. (MUDRA) Loans for Homestays	Provide financial support to homestay operators to encourage local entrepreneurship and community tourism.	Promote rural tourism, empower local businesses and offer authentic travel experiences.	Rural and community tourism
Promotion of Spiritual and Heritage Tourism	Special focus on Buddhist circuits and heritage sites under 'Dekho Apna Desh' and PRASHAD schemes.	Attract cultural and spiritual tourists, and strengthen India's global heritage tourism appeal.	Cultural and religious tourism

Policy Initiative	Description	Expected Impact	Key Focus Area(s)
Medical Tourism Boost (Heal in India)	Special packages and streamlined visa for foreign patients seeking affordable, high-quality care.	Position India as a global medical tourism hub and increase foreign exchange earnings.	Health and wellness tourism
Swadesh Darshan 2.0	Revamped scheme for integrated development of theme-based tourist circuits.	Promote sustainable tourism and improve infrastructure in cultural and heritage circuits.	Heritage and cultural tourism
PRASHAD Scheme	Development of pilgrimage destinations.	Boost spiritual tourism and improve amenities at religious sites.	Spiritual Tourism
Dekho Apna Desh and Chalo India Campaigns	Domestic tourism promotion campaigns to encourage Indians to explore local destinations.	Increase domestic tourist footfall and support local economies.	Domestic tourism promotion
Meet in India Initiative	Promote India as a global destination for MICE.	Attract international business events and boost hospitality and convention sectors.	Business and event tourism
Interest-Free Loans for States: Special Assistance to States for Capital Investment (SASCI) scheme	Rs. 3,295.8cr interest-free loans for 50 years to states for tourism infrastructure projects.	Accelerate development of world-class destinations and attract private investment.	Infrastructure development

3.1 State-wise Tourism Policies

State / Policy	Description	Expected Impact	Key Focus Area(s)
Kerala – Vision 2025: Smart and Sustainable Tourism	Technology-led transformation with artificial intelligence (AI) and augmented reality/ virtual reality (AR/VR) experiences, integrated ticketing, strict green protocols and incentives for digital nomads/ workation and adventure travel.	High-value, long-stay tourism; improved sustainability compliance; and boost in tech-enabled experiences and adventure segments.	Smart tourism, sustainability, workation and adventure
Rajasthan – Rajasthan Tourism Policy 2025	Sustainable, diversified growth using eco-tourism; agri-tourism; wellness circuits; visitor caps and a Film Tourism Facilitation Cell to boost appeal. Backed by fiscal incentives, infrastructure funding and MoUs.	Balanced destination load, heritage conservation, new investment inflows and expanded wellness/film tourism markets.	Sustainability and heritage, wellness and film tourism

State / Policy	Description	Expected Impact	Key Focus Area(s)
Goa – Regenerative Tourism Vision 2025	Shift from 'sun, sand, sea' to sustainability, culture and conservation. Initiatives include drone tourism, aerosports policy and women-led homestay scheme offering Rs. 0.2m grants. Fiscal measures support eco-tourism and water sports, complemented by connectivity upgrades such as the Mumbai-Goa RoPAX ferry.	Boost high-value tourist footfall, increase GDP beyond current 40.0% tourism share, create inclusive employment and position Goa as a year-round destination for wellness, culture and adventure.	Goa – Regenerative Tourism Vision 2025
Maharashtra – Tourism Policy 2024	Targets Rs.1,000bn investment and 1.8m jobs over the next decade through Tourism Growth Zones under public-private partnerships (PPP). Incentives include state goods and services tax (SGST) reimbursements, stamp duty waivers and green benefits for eco-certified projects. Focus areas include caravan tourism, agro-tourism, wellness hubs and cultural events such as Mahabaleshwar Mahotsav.	Large-scale capital attraction, job creation, regional clusters and sustainable certification adoption.	Maharashtra – Tourism Policy 2024
Tamil Nadu – Tourism Promotion and Facilitation Act (2025)	Streamlines approvals and attracts private investment. Rs. 3.0bn allocated for upgrades at Mamallapuram, Rameswaram and Nilgiris, alongside Trek Tamil Nadu featuring 40 curated trails to promote adventure and wellness tourism. Fiscal incentives support homestays and green-certified hotels, while digital initiatives such as smart ticketing and AR/VR experiences enhance visitor engagement.	Faster project execution, stronger adventure/ wellness offerings, digital visitor journey and greener accommodation base.	Tamil Nadu – Tourism Promotion and Facilitation Act (2025)
Uttar Pradesh – Wellness Tourism Drive (AYUSH)	Establishes yoga and naturopathy centres under PPP. The Homestay and B&B Policy 2025 simplifies registration and incentivises rural participation. Fiscal incentives include stamp duty exemption, interest subsidies and capital support for wellness projects.	Growth in wellness/ spiritual segments, rural livelihoods via homestays and increased private participation.	Wellness tourism, rural homestays and incentives

State / Policy	Description	Expected Impact	Key Focus Area(s)
Northeast States – Integrated Eco and Connectivity Drive	Development of eco-friendly accommodations, community-driven tourism, enhanced regional connectivity (air/road) and nature/adventure circuits across northeast states.	Opens lesser-known destinations, supports local communities and increases domestic and inbound arrivals.	Eco-tourism, community tourism and Connectivity
Himachal Pradesh – Adventure and Access Programme	Development of trekking routes, aerosports, helipads/small airports and improved last-mile access, and emphasis on sustainable mountain tourism.	Safer, easier access to remote areas, growth in adventure tourism and local job creation while protecting fragile ecosystems.	Adventure, mountain sustainability and connectivity

India's tourism future is being shaped by bold, state-driven strategies that combine sustainability, technology and inclusivity. Kerala is redefining experiential travel by leveraging technology and community-led models, while Rajasthan is leveraging eco-tourism, wellness circuits and film tourism to diversify its appeal. Goa's regenerative approach signals a shift towards culture and conservation, supported by innovative policies such as drone tourism and women-led homestays. Maharashtra's ambitious investment targets and PPP-driven growth zones promise large-scale infrastructure and employment gains, complemented by Tamil Nadu's digital-first upgrades and curated adventure trails. Uttar Pradesh is positioning itself as a wellness and spiritual hub with significant fiscal support and PPP initiatives. Together, these forward-looking policies underscore a national pivot towards promoting smart, sustainable and high-value tourism.

4. Technology and Innovation: From a Tourism Lens

Emerging technologies are reshaping India's tourism sector, driving convenience, efficiency and new business opportunities while aligning with national development goals. AI is at the forefront, powering personalised travel planning through platforms such as the Incredible India Digital Platform. AI-driven chatbots, predictive analytics and multilingual support enable travellers to design itineraries, manage bookings and receive real-time updates, reducing reliance on traditional agencies and enhancing user autonomy. AI also supports dynamic pricing, sentiment analysis and demand forecasting, helping businesses optimise resources and improve customer engagement.

4.1 Tourism-specific Digital Systems Boom

Theme	Key Initiatives / Technologies	Description	Outlook
Immersive Experiences	AVGC-XR Policy Framework	AR/VR-enabled virtual tours of monuments (e.g., Red Fort, Amer Fort), on-site AR for interactive cultural interpretation and gamified experiences.	Expansion of AR/VR across 50 destinations under Digital Tourism Mission, AI-based visitor management systems.
Accessibility and Inclusivity	AR/VR for differently abled tourists	Remote exploration and interactive displays improve accessibility.	Inclusive growth through tech-driven heritage tourism, positioning India as a global leader in smart tourism.
Contactless and Smart Services	Biometric check-ins, IoT-enabled hotel rooms, digital payments	Post-pandemic hygiene and speed, seamless and secure travel experiences.	Wider adoption of IoT and biometric systems, integration with unified digital ticketing platforms.
Trust and Transparency	Blockchain under Digital India	Secure transactions, fraud prevention in bookings and loyalty programmes.	Blockchain-based smart contracts for tourism services, enhanced consumer confidence globally.
Data-Driven Insights	Big Data Analytics and IoT Sensors	Demand forecasting, resource optimisation and hyper-personalised marketing; monitoring tourist flows and environmental impact.	AI-powered predictive analytics for sustainability and smart destination management.
Sustainability	Travel for LiFE, Smart Waste Management, Energy-efficient systems	Eco-friendly practices, responsible tourist flow management, green infrastructure.	Integration of sustainability KPIs in Swadesh Darshan 2.0, smart grids and renewable energy adoption in hotels.
Market Disruption	Direct-to-consumer models, niche tourism segments	Tech-enabled wellness, adventure and cultural tourism; bypassing traditional intermediaries.	Growth of digital platforms for domestic tourism (1.2bn trips annually); personalised itineraries via AI.
Government Programmes	Swadesh Darshan 2.0, Digital Tourism Mission	Smart solutions across 50 destinations, AR/VR interpretation, unified ticketing systems.	India emerging as a global hub for smart and sustainable tourism, competitive advantage through tech integration.

5. Investment and Partnership Opportunities in Tourism

India's tourism and hospitality sector is one of the fastest-growing industries, playing a pivotal role in the country's economic development. The sector is projected to contribute significantly to GDP and employment in the coming decades, supported by strong government initiatives, robust infrastructure expansion and increasing private participation. India offers a highly conducive environment for investors as 100.0% FDI is permitted under the automatic route, alongside attractive tax incentives and simplified approval systems. Rapid improvements in connectivity, technology-driven travel solutions and sustainable tourism practices further enhance the sector's long-term growth potential, making it a key driver of inclusive development and global competitiveness.

Rural tourism in India offers travellers the chance to experience traditional lifestyles, stay in eco-friendly accommodations, and participate in farming and craft activities. These initiatives promote cultural immersion while directly benefiting local communities.

Investment Segment	Details
Sector Growth	GDP contribution projected at Rs. 22trn by 2025; expected to create 64.0m jobs by 2035, strong potential for long-term investment.
Hospitality Industry	Hotels in top destinations classified under Infrastructure Harmonised Master List (HML), enabling easier financing and tax benefits; 100% FDI permitted under automatic route.
Connectivity and Transport	Regional Connectivity Scheme (RCS-UDAN) has operationalised 53 routes; plans include 50 new airports, heliports and water aerodromes; improved rail and road connectivity.
Technology and Travel-Tech	Initiatives under Startup India and Department for Promotion of Industry and Internal Trade (DPIIT) promote AI-powered travel planning, digital booking platforms, and personalised itineraries; National Single Window System (NSWS) simplifies project approvals; Digital India accelerates adoption of smart solutions.
Public-Private Partnerships (PPP)	Approved projects for heritage restoration, ropeways and high-category hotels; Build-Operate-Transfer (BOT) and Hybrid Annuity Model (HAM) models supported by Viability Gap Funding and long-term interest-free loans under SASCI; successful implementations in states such as Uttar Pradesh and Assam.
Tax and Financial Incentives	GST on hotel tariffs up to Rs. 7,500 per night reduced to 5.0%; hotels and convention centres above Rs. 2.0bn receive infrastructure status for easier credit access; additional benefits include MUDRA loans for homestays, higher depreciation on hotel assets and single-window clearance systems.
Sustainability Focus	Nationl Strategy for Sustainable Tourism promotes eco-tourism, rural tourism, and carbon-neutral practices; initiatives such as Swadesh Darshan 2.0 and Travel for LiFE encourage responsible tourism; projects worth Rs. 33bn aim to develop lesser-known destinations across 23 states; sustainable tourism market projected to grow from Rs. 3.9bn in 2025 to Rs. 23.2bn by 2035.

With robust policy support, tax reforms, PPP frameworks, and sustainability initiatives, India's tourism sector offers high growth potential and attractive returns across hospitality, transport, technology, and eco-friendly projects.

6. Key Risks and the Way Forward

India's tourism sector is a vital contributor to economic growth and employment, but it faces systemic risks that can disrupt its trajectory. Climate change, geopolitical tensions, health crises, overcrowding, financial shocks, and environmental degradation pose significant challenges. Addressing these risks requires proactive strategies that combine resilience, sustainability, and innovation. The following sections outline the major risks and prescriptive actions to build a future-ready tourism ecosystem.

Key Risks	
Climate Resilience	Floods, cyclones and rising sea levels threaten coastal and hill destinations.
Geopolitical Stability	Regional conflicts and diplomatic strains disrupt international arrivals and connectivity.
Health and Pandemic Preparedness	Covid-19 exposed vulnerabilities in health safety and operational continuity.
Visitor Management and Overcrowding	Popular destinations face infrastructure strain and environmental degradation.
Financial Resilience	Revenue shocks during crises affect operators and local communities.
Infrastructure Modernisation	Outdated facilities compromise safety and sustainability.
Skill Development and Capacity Building	Limited expertise in crisis response and sustainable practices.
Environmental Sustainability	Waste generation, water stress and carbon emissions from tourism activities.

Way Forward	
Climate-Resilient Tourism	Future strategies can focus on developing flood-resistant infrastructure, implementing early warning systems and conducting vulnerability mapping to safeguard destinations against climate risks.
Diversification of Source Markets	Expanding outreach to multiple countries and positioning India as a safe and attractive destination through global campaigns can reduce dependency on a limited set of markets.
Strengthening Health Security	Building robust crisis management protocols, establishing emergency response teams and accelerating digital transformation with contactless services can enhance health resilience in tourism.

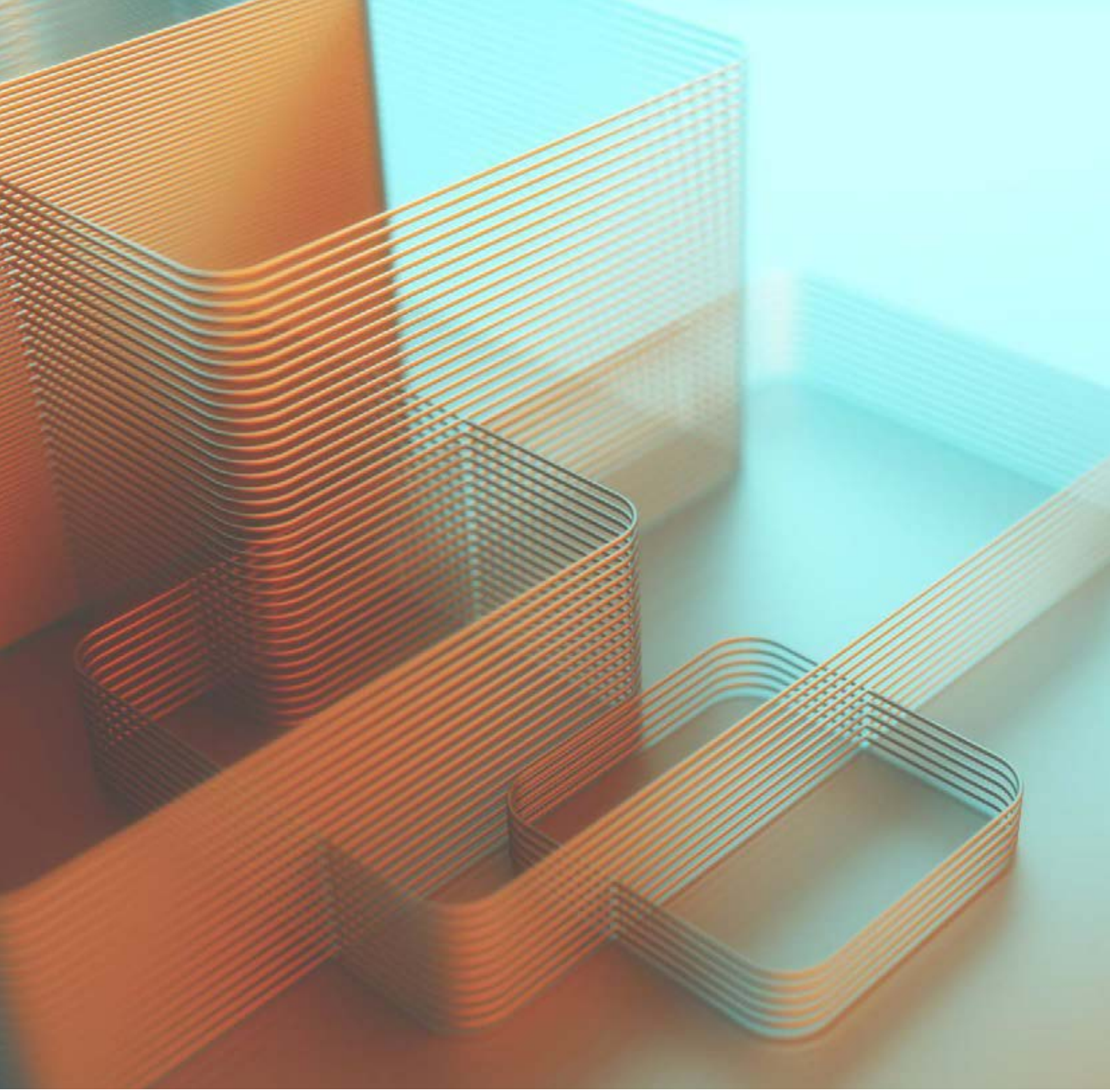
Way Forward	
Smart Visitor Management	The adoption of real-time monitoring tools, dynamic ticketing systems and promotion of lesser-known destinations through off-season incentives can help manage crowds and improve visitor experiences.
Financial Shock Absorption	Mechanisms such as microfinance expansion, risk-sharing partnerships and resilience funds can provide a financial safety net for tourism operators during disruptions.
Modernising Infrastructure	Upgrading facilities with smart technologies for crowd control and waste management, while also developing eco-friendly destinations can ensure sustainable growth.
Upskilling the Workforce	Destination-based training programmes and e-learning platforms focused on crisis response and sustainable practices can prepare the workforce for future challenges.
Green Tourism Transition	Encouraging eco-friendly travel habits and aligning tourism development with Net Zero 2070 goals through renewable energy adoption can drive a sustainable transition.

The outlook for 2026 remains positive, with domestic tourism leading recovery and international arrivals rebounding. High-value segments and sustainable destination development will drive growth, which will be supported by climate resilience, digital innovation and inclusive practices – such as community-based tourism, accessible infrastructure for differently-abled travellers, women-led enterprises and skill development for local youth – under flagship initiatives such as Travel for LiFE and Swadesh Darshan 2.0. These efforts, combined with eco-tourism promotion and certification schemes for responsible operators, position India as a global leader in sustainable tourism.

Digital platforms are now the biggest driver of tourism worldwide, and India is embracing this trend. Travelers increasingly rely on online content and peer reviews over traditional ads, while influencer storytelling is helping showcase hidden gems and cultural experiences, reshaping how destinations are discovered and explored.

Appendix

State	Direct and Indirect Share of TDGVA in GVA (%)	Direct and Indirect Share of Tourism Employment to Total State Employment (%)
Jammu and Kashmir	7.5	16.5
Himachal Pradesh	6.9	20.2
Punjab	3.8	12.3
Chandigarh	9.2	12.4
Uttarakhand	5.3	21.2
Haryana	3.9	10.2
Delhi	7.8	21.1
Rajasthan	5.6	11.3
Uttar Pradesh	4.6	11.4
Bihar	6	10.5
Sikkim	4.4	13.1
Arunachal Pradesh	2.4	4.8
Nagaland	3.6	8.3
Manipur	5.5	12.1
Mizoram	2.6	11
Tripura	3	5.1
Meghalaya	5.2	10.4
Assam	4.3	8.8
West Bengal	4.3	14.3
Jharkhand	4.2	9.1
Odisha	5	12.1
Chhattisgarh	4.4	7.7
Madhya Pradesh	4.9	8.5
Gujarat	4	15.4
Daman & Diu	1.4	29.4
Maharashtra	5.5	12.5
Andhra Pradesh	4.7	12.8
Karnataka	5.7	17.7
Goa	11.6	40.9
Lakshadweep	9	49.7
Kerala	8.7	25.9
Tamil Nadu	5.4	16
Puducherry	4.1	56.2
A and N Islands	10.4	24.1
Telangana	5.1	17.8
India	2.57	12.38



India's Blue Economy: Navigating Growth Beyond Shores

1. Introduction

India's blue economy is emerging as a cornerstone of sustainable growth, combining economic opportunity with environmental stewardship. Aligned with UN Sustainable Development Goal 14 (Life Below Water), the blue economy concept looks to promote the responsible use of ocean resources to drive economic development, enhance livelihoods and preserve marine ecosystems. For India, this concept holds immense strategic significance, given its 11,098km long coastline and a vast Exclusive Economic Zone (EEZ) of 2.4m sq km, positioning the country as a key player in global maritime trade and ocean governance.

In November 2025, India reinforced its commitment to sustainable ocean resource management by introducing the Sustainable Harnessing of Fisheries in the Exclusive Economic Zone (EEZ) Rules, 2025. These reforms aim to unlock the country's untapped marine potential, particularly high-value tuna, while banning foreign vessels, promoting technology adoption and driving value addition, laying groundwork for near-term growth. By empowering local fishers through cooperatives and prioritising regions such as the Andaman and Nicobar Islands and Lakshadweep, the initiative marks a significant step towards strengthening the blue economy and ensuring inclusive growth.

The government has identified the blue economy as one of its top 10 priorities under the New India 2030 vision. Strategic initiatives such as the Maritime Amrit Kaal Vision 2047 aim to embed climate-smart practices and global partnerships, reinforcing India's commitment to sustainable ocean-based growth. Although risks to the sector prevail, including the potential impact of tariffs imposed by the US on marine product exports, with strong policy support, technological innovation and rising awareness of ocean sustainability, India is well placed to lead in ocean-based industries. Ongoing breakthroughs in AI-powered marine planning, climate risk modelling and ocean data systems are transforming resource management, paving the way for a resilient and inclusive future.

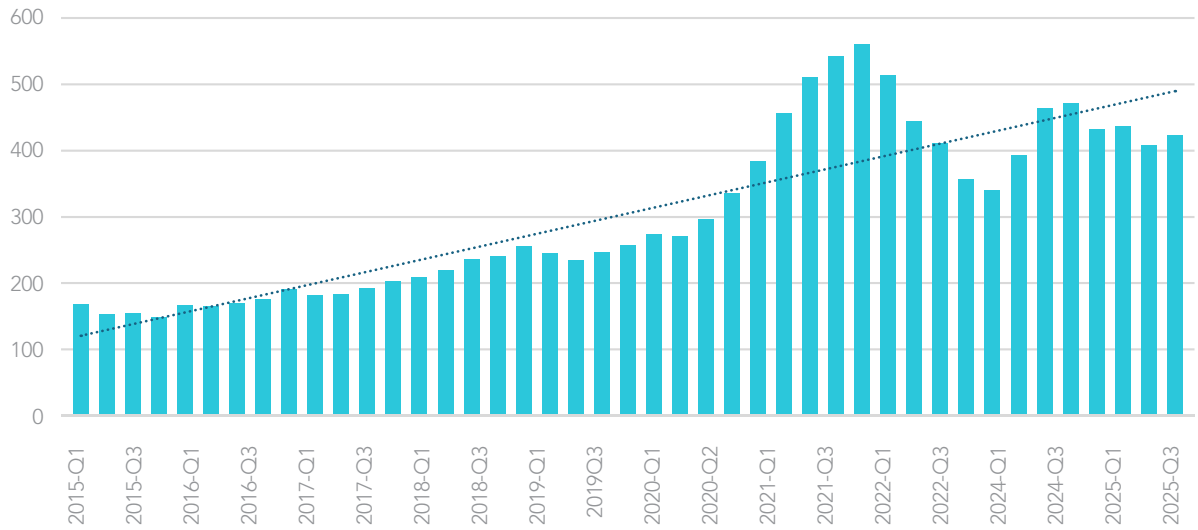
2. Market Landscape and Growth Drivers

India's blue economy is a critical pillar of national growth, contributing around 4% to GDP and enabling 95% of trade by volume through maritime routes. The sector continues to expand, with cargo handling at Indian ports rising to 1.6 bn metric tonnes in FY2025, up from 1.5 bn metric tonnes in FY2024; a trend we estimate to accelerate in FY2026 and beyond. Beyond trade, it is a major employment generator, primarily through fisheries, which sustain 28–30m livelihoods across coastal communities. With an ambitious target of building a USD100bn blue economy by 2030, India is positioning itself as a global leader in ocean-based industries.

2.1 Sub-sectoral Drivers of Growth: A Deep dive

The maritime sector handles about 70% of trade by value and 95% by volume, serving as the backbone of India's commerce. The key growth drivers of the country's blue economy can be broadly categorised into five core sectors, fisheries and aquaculture, ports and shipping, coastal and marine tourism, marine biotechnology, and renewable energy. Each of these segments has demonstrated sustained expansion in recent years and is poised to remain a critical catalyst for growth through 2026 and beyond.

India Sea Transport Services Credits (in Rs bn)



Source: Reserve Bank of India

Sub-sector	Growth Drivers (FY 25)	Horizons for expansion: 2026 and beyond
Fisheries & aquaculture	☑ India is the second largest fish producer globally, contributing to 8% of total global output. ☑ Total fish production: 19.5 million tonnes (up 104% since 2013-14). ☑ Inland fisheries grew 142% over a 10-year (FY2014 to FY2025) period to 14.7 million tonnes. ☑ Exports earnings from the sector: Rs.605.2bn in FY2025.	☑ India's blue economy strategy targets a valuation of USD100.0bn by 2030, with fisheries as a major driver. ☑ Potential to expand deep-sea fishing to about 7.16m tonnes within the EEZ (which remain mostly untapped), reducing inshore pressure. ☑ Ongoing modernisation of fleets can boost profits compared to traditional small boats. ☑ Sustained digital integration via National Fisheries Digital Platform (NFDP) will help formalise the sector, improving traceability.

Sub-sector	Growth Drivers (FY 25)	Horizons for expansion: 2026 and beyond
Ports and shipping	☑ Cargo handled at major ports rose to 855.0m tonnes in FY2025 (up 4.3% y/y). ☑ Container traffic rose to 7.3mTEUs for the Jawaharlal Nehru Port Authority alone (up 13.5% y/y). ☑ Investments in public-private partnership (PPP) projects at major ports increased threefold, from Rs 13.3bn in FY 2023 to Rs 39.86bn in FY 2025. ☑ 962 acres allocated for port-led industrialisation (Rs 687.8bn future investment expected over allocated land). ☑ The average turnaround time at major ports has been reduced to 49.5 hours.	☑ New megaprojects including Vadhavan Port (in Maharashtra) and Galathea Bay ICTP are underway and once completed will substantially boost India's cargo transhipment capacity. ☑ Overarching government policies such as Sagarmala 2.0 and Maritime Amrit kaal Vision 2047 aim to unlock substantial planned investments (more than Rs.12trn by 2035). ☑ There is an ongoing push for green ports under Harit Sagar Guidelines to further buoy growth and to complement operational efficiency gains, such as reduced turnaround times.
Coastal Tourism	☑ Coastal tourism is emerging as a niche segment, with 272 cruise calls and with 0.49m passengers reported by the Ministry of Ports, Shipping and Waterways for FY 2025.	☑ Coastal and marine tourism market projected to grow at about 8.0% to 10.0% CAGR until 2031, according to industry estimates. ☑ Ongoing government focus on cruise tourism, water sports, and eco-tourism under Dekho Apna Desh & Swadesh Darshan 2.0 will help further boost expansion.
Marine biotech	☑ India's bioeconomy reached USD165.7bn in 2024, contributing 4.2% of GDP. ☑ Marine biotech identified as a strategic sector under the Biotechnology for Economy, Environment, and Employment (BioE3) Policy. ☑ Number of biotech startups rose to 10,075 in 2024, with the government having helped operationalise more than 95 bio-incubators to support new start-ups.	☑ Bioeconomy projected to hit USD300 bn by 2030, USD1trn by 2047 according to government estimates. ☑ Marine biotech to drive innovations in biofuels, nutraceuticals, and climate-resilient aquaculture.
Renewable energy (offshore wind, tidal, wave)	☑ India's cumulative installed onshore wind capacity at 53.1 GW as of September 2025 ☑ India's non-fossil fuel capacity expanded to 235.0 GW (about 48.0% of total capacity).	☑ The government has a long-term target of reaching 30. GW by 2030 for offshore wind energy capacity development, tendering for which has already been initiated. Offshore wind is expected to scale rapidly post-2026 supported by the Viability Gap Funding (VGF) scheme.

India is accelerating maritime growth by permitting 100% FDI under the automatic route for port and harbour projects, which is among some of the key incentives driving port-led modernisation.

3. Policy and Regulatory Push

Ongoing developments underscore the sector's growing role in economic diversification, food security, and sustainable resource management.

3.1 Key Government Initiatives

Key Central Government Policies	Focus Area	Strategic Relevance
Maritime India Vision 2030 (MIV, 2030)	Ports, shipping, waterways	Blueprint with 150+ initiatives; targets Rs.3.0–3.5trn investment; aims to modernise ports, improve logistics efficiency, and develop transshipment hubs (such as the Vadhavan Port and Galathea Bay project).
Maritime Amrit Kaal Vision 2047	Long-term maritime growth	Builds on MIV 2030 and positions India as a global maritime leader by 2047; includes mega ports, green hydrogen hubs, cruise tourism expansion, and 10,000m tonnes per annum (MTPA) port capacity by 2047 (up from around 2,762 MTPA at end-2025).
Sagarmala Programme	Ports and Shipping	Flagship initiative for port-led development; 839 projects worth Rs 5.8trn identified for implementation of which 280 completed as of 2025, aims to reduce logistics costs and boost coastal economy.
Sagarmala 2.0	Ports and Shipping with special emphasis on shipbuilding, repair breaking, recycling and port modernisation	Launched in 2025 with Rs.400bn allocation, aims to mobilise Rs.12trn investments over the next decade; includes Sagarmala Startup Innovation Initiative (S2I2) to foster innovation and entrepreneurship in maritime sector.
Deep Ocean Mission (DOM)	Marine research and technology	Rs.40.8bn mission with a focus on indigenous deep ocean exploration for resources, especially deep-sea mining tech, biodiversity exploration, and ocean climate services; includes Samudrayaan project for development of manned submersible (MATSYA 6000).
BioE3 Policy	Marine biotechnology and bioeconomy	Promotes marine biomanufacturing, bio-foundries, and sustainable biotech innovation.
Pradhan Mantri Matsya Sampada Yojana (PMMSY) and sub-scheme: Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)	Fisheries and aquaculture	**PMMSY**: launched in 2020 with an outlay of Rs.200.5bn, has played a key role in boosting fish production, reducing post-harvest losses, and boosting fishers' income; has positioned India as world's second-largest fish producer, driving exports and rural employment. **PM-MKSSY**: sub-scheme under PMMSY with Rs.60bn outlay (2023–27), focused on formalising fisheries sector through digital IDs, credit access, and insurance; supports 6.4 lakh micro-enterprises and promotes traceability and value-chain efficiency.

Key Central Government Policies	Focus Area	Strategic Relevance
National Offshore Wind Energy Policy	Renewable energy	Targets 30.0GW of offshore wind energy generation by 2030; government has identified eight zones each off Gujarat and Tamil Nadu, with estimated potential of approximately 70.0GW combined; tender for first project off Tamil Nadu coast likely by early 2026, with offshore wind poised to scale rapidly post-2026.
Cruise Bharat Mission	Coastal & river cruise tourism	Launched in 2024 to boost cruise tourism sector; aims to double sea-cruise passengers to 1m and boost river cruise passengers by 2029; focuses on development of 10 sea cruise terminals, 100 river cruise terminals, and 5 marinas; aims to create more than 0.5 million jobs over the period.

3.2 State-level push towards supporting coasting economies

In addition to strong policy support at the central level, coastal state governments have proactively advanced blue economy subsectors to drive regional growth and attract investment. A few notable initiatives are highlighted below:

Key State-level Policies	Focus Area	Strategic Relevance
Gujarat Maritime Policy	Ports and offshore wind	Gujarat leads offshore wind pilots.
Tamil Nadu Offshore Wind and Coastal Tourism Policy	Renewable energy and tourism	Identified 4.0GW offshore wind zones; eco-tourism circuits under Swadesh Darshan; lighthouse tourism hubs.
Kerala Coastal Zone Management Plan	Fisheries and tourism	Promotes sustainable aquaculture, blue-flag beaches and cruise tourism expansion.
Andhra Pradesh Mariculture Policy	Fisheries	Scaling cage culture and deep-sea fishing; export-oriented aquaculture clusters.
Maharashtra Sagarmala-linked Port Policy	Ports and shipping	Enhancing Jawaharlal Nehru Port Authority (JNPA) container capacity (at 7.3m TEUs in FY2025); coastal industrial clusters planned.
Odisha Maritime Vision 2047	Ports and shipping	Comprehensive 25-year roadmap to achieve 500mMTPA port capacity by 2047, positioning itself as maritime hub of eastern India

In addition, Karnataka is advancing port-led growth through the Karnataka Ports (Amendment) Act, 2025, and promoting green shipping via the Harit Cargo Concession Policy, alongside coastal community development initiatives. West Bengal is leveraging its Inland Fisheries Policy 2023 to boost freshwater fish production and rural employment. Gujarat leads India's blue economy with a 1,600-km coastline, top fish output, and major infrastructure projects, including the Tuna Tekra deep-draft terminal, while driving seaweed farming, mariculture hubs, greenfield ports, compressed natural gas (CNG) terminals, and maritime heritage complexes.

4. Technology and Innovation

India's blue economy is entering a transformative phase, powered by strategic policy, sustainability, and technology alignment. Digital platforms for fisheries, smart port logistics, and marine spatial planning (MSP) are redefining operational efficiently, while climate resilience initiatives, such as mangrove restoration, blue carbon projects, and disaster risk reduction, anchor ecological security.

4.1 Ocean Data Systems, AI-powered Tools and Climate Modelling

- **Maritime Single Window (MSW) and Mercantile Maritime Department (MMD) Modules on Sagar Setu**: The Sagar Setu platform was introduced in June 2025 to digitise vessel documentation and clearance processes, reducing turnaround time by up to 40.0% and aligning with the International Maritime Organisation's standards for global compliance.

  Outlook: Essential for enhancing global trade competitiveness and the operational efficiency of Indian ports. Full operationalisation across all major and non-major ports and integration of all related government agencies is ongoing.

- **System of Advisories for Healthy Oceans and Valuing Ecosystem Services (SAHAV) Ocean Data Portal**: A Geographic Information System (GIS)-based platform that provides real-time spatial data for MSP, supporting climate-smart decision-making and sustainable resource use.

  Outlook: Scaling up MSP across the entire coastline and further data integration with international partners to continue in 2026 and beyond.

- **AI & IoT Integration**: Applied in climate prediction, fishing advisories and supply chain transparency under initiatives linked to PMMSY and ocean climate services.

  Outlook: Critical for improving prediction accuracy, maximising efficiency and managing climate risks. Plans for continued refinement of AI models for highly localised weather and fishing advisories over 2026-27.

- **Remote Sensing and Satellite Systems**: The Oceansat-3 and Radar Imaging Satellite (RISAT) missions of the Indian Space Organisation (ISRO) deliver critical data for monitoring ocean colour, wind fields and coastal ecosystems, aiding disaster risk reduction and sustainable fisheries.

  Outlook: Launch of the follow-up satellite Oceansat-3A (EOS-10) is planned by March 2026, which will work in tandem with Oceansat-3.

4.2 Advanced Marine Technologies

- **Matsya-6000 Deep-Ocean Submersible**: Developed under the DOM, designed for 6,000-metre depth exploration with indigenous navigation, life-support systems and oceanographic sensors.

  Outlook: Wet tests completed in 2025, manned dive targeted for 2027.

- **Autonomous Underwater Vehicles (AUVs)**: Deployed for seabed mapping and biodiversity studies, complementing manned missions under the Samudrayaan project.

  Outlook: Plans to expand the AUV fleet and integrate with the MATSYA mission for detailed site surveys.

4.3 Digital Platforms and Traceability

- **National Fisheries Digital Platform**: Operational since 2024 under PM-MKSSY; formalises fisheries sector with digital IDs, credit facilitation, insurance and e-auctioning, improving traceability and market access for over 2.0m stakeholders.

  Outlook: Plans for staggered scaling up of registration to cover all 30.0m stakeholders and enable full e-auctioning features.

- **Blockchain for Seafood Traceability**: The framework is presently being developed and its incorporation aims to meet stringent global certification standards to boost seafood exports to Rs.1trn by 2030.

  Outlook: Crucial for maintaining export compliance and enhancing brand value in international markets. Formal launch and mandatory adoption of the National Traceability Framework are likely by early-2027, at the latest.

4.4 Climate Resilience and Sustainability

- 937 reef units installed across 11 coastal states under PMMSY. The largest coral translocation project is underway in Gujarat, which will help to enhance biodiversity and climate resilience.

  Outlook: Contributes to enhancing marine biodiversity and bolstering coastal protection against climate impacts. There are plans for sustained deployment of additional reef units and to monitor the ecological impact of restored coral sites.

- **Blue Carbon and Ocean Climate Services**: The DOM includes modelling tools for carbon sequestration and ocean-climate forecasting to support disaster risk reduction.

  Outlook: The longer-term goal is to develop a comprehensive national account for blue carbon ecosystems and integrate findings into national policy frameworks.

5. Regional Dynamics

India's blue economy reflects diverse regional dynamics, with western coasts driving port-led growth and offshore wind, eastern states advancing inland waterways and fisheries, and island territories focusing on eco-tourism and strategic transshipment. This geographic spread underpins sustainable development, energy transition and maritime trade competitiveness as India targets near-term expansionary milestones.

5.1 Regionally divergent trends coastal states

West Coast (Gujarat–Maharashtra–Kerala): Port-led Growth
The region is driving port-led growth, with the Vadhavan deep-draft mega port (in Maharashtra) moving into early works and preparing to handle ultra large container vessels. With depths of 20 metres, the port, once operational, will allow ships over 20,000 TEUs to dock, reducing reliance on foreign transshipment ports and boosting India's long-term trade efficiency. The Vizhinjam transshipment hub in Kerala is ramping up container volumes, reducing reliance on foreign hubs. Offshore wind projects in Gujarat are advancing under VGF-backed tenders, while ports are evolving into green energy clusters.
East Coast (Tamil Nadu–Andhra Pradesh–Odisha–West Bengal): Energy and Beyond
States are focusing on offshore wind development in Tamil Nadu, with tenders progressing towards award and pre-construction. Paradip Port in Odisha is modernising and positioning itself as a green energy hub. Inland waterways on the Ganga–Brahmaputra corridors are expanding (including the Jal Marg Vikas Project), targeting 156 MTPA cargo by FY2026, and river cruise circuits are scaling up.

Islands (Andaman and Nicobar, Lakshadweep): Blue Tourism and Strategic Positioning
The islands are emerging as strategic nodes, with Galathea Bay transshipment port advancing through clearances and preparatory works. Lakshadweep is scaling ocean-tech services such as desalination to support sustainable tourism. Eco-friendly resorts and water villas are maturing as high-value tourism assets, with the opening of water villas by established hoteliers in Lakshadweep scheduled for 2026, reinforcing India's blue economy diversification.
Inland/River Systems (UP–Bihar–Assam–Kerala): Tourism-led Growth
National waterways are expanding rapidly, with cargo throughput approaching 156 MTPA by FY2026. Roll-on/roll-off passenger (RoPax) services and multimodal logistics parks are strengthening low-carbon freight corridors, while river cruise infrastructure is growing, unlocking tourism-led economic spillovers across hinterland states. Three world-class river cruise terminals are planned in Varanasi, Guwahati and Kolkata, with construction underway.

5.2 Emerging Maritime Hubs and Prospects for 2026

Theme	Lead States	Scaling States	2026 Outlook
Seaweed and Mariculture	Tamil Nadu – Gulf of Mannar seaweed clusters	Gujarat – Okha, Veraval mariculture hubs Kerala – Ornamental aquaculture in backwaters	Sustained export-grade marine bio-products scaling with credit, standards and cold-chain integration underway.
River Cruise Ecosystems	West Bengal,UP, – Ganga terminals (Kolkata, Varanasi); Kerala – West Coast Canal circuits (Kochi, Alappuzha)	Assam – Brahmaputra terminals (Pandu, Jogighopa)	Medium-term aim of expanding terminals from 15 at present to 185 under the River Cruise Roadmap 2047; improved last-mile connectivity and amenities driving tourism expected in near term.
East Coast Transshipment	Tamil Nadu – V.O. Chidambaranar Port connectivity upgrades; Odisha – Paradip feeder transshipment	Andaman and Nicobar Islands – Galathea Bay hub readiness	Strategic east-bound transshipment capacity advancing through phased logistics readiness.
Offshore Wind Supply Chain	Tamil Nadu – 4GW offshore wind blocks awarded	Gujarat – Port upgrades (Pipavav Port) for heavy lifting logistics and turbine assembly; Maharashtra – Vadhavan exploring offshore wind linkages	Original Equipment Manufacturer localisation near Chennai and Tuticorin; and port readiness compressing timelines; early projects moving toward construction.
Inland Waterways Cargo	West Bengal - the Ganges-Hooghly river system (NW-1); Assam – National Waterways-2 (NW-2) cargo densification, Jogighopa multi-modal logistics park	Bihar/UP – NW-1 terminals (Sahibganj, Varanasi) Manipur – NW-16 dredging and fairway works	Cargo throughput approaching 156 MTPA; expected RoPax expansion will help unlock low-carbon freight corridors.

India's largest cargo hub, Kandla (Deendayal Port Authority) handled 150.16 MMT in FY 2025 and became the fastest major port to cross 100 MMT in FY 2026. With Rs.570bn investments, it is adding a 135 MTPA terminal, a 2.19 million TEU Tuna Tekra container hub, and scaling green hydrogen capacity to 10 MW by 2026, alongside introducing India's first all-electric green tug under the Green Tug Transition Programme.

6. Investment and Partnership Opportunities

India's Blue Economy offers vast investment and partnership opportunities across renewable energy, green ports, marine biotech, and digital maritime solutions.

6.1 Investing in India's Blue Economy: Strategic Opportunities

Avenues for Investment and Partnerships	Significance
Offshore Wind and Renewables	India is scaling manufacturing hubs and operation and maintenance bases in Tamil Nadu and Gujarat. Floating wind pilots and undersea cabling systems are creating new technology markets.
Green Port Solutions	Major ports are integrating shore power, operational retrofits and hydrogen/ammonia bunkering under Harit Sagar Guidelines, alongside waste-to-value systems and energy-efficient cargo handling. These initiatives are driving decarbonisation and attracting global green shipping partnerships.
Shipbuilding Clusters	Eight mega-clusters in Gujarat, Tamil Nadu, Odisha, and Maharashtra are evolving into global-scale facilities, backed by a Rs.250bn Maritime Development Fund. India is targeting top-five global shipbuilding rank by 2047, creating opportunities for technology transfer and joint ventures. India's maritime trade volume likely to exceed 7,100 MMTPA by 2047, driven almost equally by container and non-container cargo.
Digital Maritime Logistics	Port Community System integration, blockchain documentation, IoT-enabled monitoring, and AI-driven analytics are reducing turnaround times and improving global supply chain efficiency. Investors can tap into digital platforms and maritime tech start-ups under PM Gati Shakti (a national plan to boost India's infrastructure landscape).
Community-Based Tourism	Eco-resorts with MSP zoning, Blue Flag beaches, and Augmented Reality and Virtual Reality heritage experiences are driving high-value coastal tourism and local employment. Partnerships in sustainable tourism infrastructure and digital heritage solutions are increasingly gaining traction.
Emerging Sectors: Marine biotech, Blue Carbon Markets and Deep-sea mining	Marine biotechnology for pharmaceuticals and bio-products, blue carbon markets via mangrove restoration, and deep-sea mining for strategic minerals under the Deep Ocean Mission (DOM) offer long-term growth potential.
Strategic Global Partnerships	Overseas port investments are enhancing access to key sea routes, while India leverages its top-three global seafarer supply and aims for top-five shipbuilding rank by 2047, creating scope for bilateral projects and global PPPs.

Vizhinjam International Seaport: India's First Container Transshipment Hub
Commissioned on 2 May 2025, Vizhinjam is India's first deep-water, all-weather, automated transshipment port with 20–24m natural depth, enabling ULCV berthing without dredging. Strategic benefits include reducing India's reliance on foreign ports for transshipment, and positioning Kerala as a global maritime hub. Phase 2 expansion targets capacity expansion to 4.5 million TEUs by 2028 plus break-bulk and bunkering facilities.

7. Key Risks and Way Forward

Despite presenting a myriad of pathways for driving sustained growth, India's blue economy faces critical challenges, from environmental degradation and climate risks to regulatory hurdles and systemic gaps. Moreover, the sector faces high exposure to the imposition of tariffs by the US, primarily regarding seafood exports, which form the backbone of coastal livelihoods and marine trade. The US accounts for nearly one-third of India's seafood exports, dominated by shrimp. Recent tariff hikes have pushed effective rates close to 60.0%. While exporters are pivoting to Asian markets (especially the Chinese Mainland), this diversification is still nascent. The tariff shock risks slowing progress on blue economy pillars such as fisheries modernisation, port greening and offshore renewable investments. Addressing these through resilient infrastructure, streamlined governance and sustainable practices is essential for long-term growth and investor confidence.

7.1 Key Risks and their Mitigation Prospects

Risk area	Business Cost	Mitigation (policy levers & actions)
Exposure to Disruptive Trade Tariffs	India's blue economy is exposed to tariffs imposed by the US, particularly via seafood (especially shrimp) exports.	While diversification to Asian markets offers some relief, the sector needs policy support for market access, value addition and risk-sharing mechanisms to maintain resilience. The acceleration of domestic processing, branding and traceability under PMMSY would reduce vulnerability to single-market shocks.
Environmental Degradation	Unsustainable fishing practices, marine litter and coastal habitat loss erode fish stocks and tourism value.	The expansion of cold chain and traceability; the adoption of Blue Flag beach standards; enforcing Harit Sagar waste rules; the restoration of mangroves and the introduction of tracking blue carbon.
Regulatory Hurdles: Fragmented Governance and Data Silos	Parallel approvals and siloed datasets slow projects, raise transaction costs and deter PPPs.	Use of PM Gati Shakti (a digital platform integrating 44 ministries and 1,600+ data layers) for integrated planning; unify offshore data and clearances via the Unified Logistics Interface Platform and the Port Community System 1x.
Climate Risks: Rising Sea Levels, Extreme Events, Acidification	Physical and ecological shocks threaten ports, fisheries and coastal livelihoods.	Building climate services; making ports greener (renewables, onshore power supply); protecting blue carbon sinks.
Fisheries System Constraints	Overfishing in select zones, weak cold chains/traceability, limited risk sharing, gender gaps in governance.	Upgrades to harbours, transport and markets; digitalisation of platforms; ensuring the provision of insurance, credit and cooperatives.
Ports/Shipping Hurdles: High Logistics Cost, Uneven Digitalisation; Slow Low carbon Adoption; Clearance Delays	Raises end to end supply chain costs and emissions; delays private capital.	The effective enforcement of Harit Sagar for green fuels and electrification; adoption of safety standards; cutting logistics costs via PM Gati Shakti and the National Logistics Policy.

Risk area	Business Cost	Mitigation (policy levers & actions)
Offshore Renewables: High Capex, Evacuation Readiness, Seabed Leasing/Multi agency Approvals	Capital intensity and regulatory complexity slow project bankability.	Application of the Offshore Wind Energy Lease Rules; planning power evacuation; alignment of marine spatial planning and clearances.
Coastal Tourism: Infra Gaps, Over Tourism & Erosion, Community Finance	Quality, environmental pressures and funding constraints limit destination value.	Scaling Blue Flag standards; improving last-mile connectivity; securing community financing through PPPs.
Marine Biotechnology: Commercialisation & IP Hurdles; Equipment Imports; Skills Gaps	Lab to market translation and domestic capability remain limited.	Supporting R&D and pilots under the DOM; accelerating IP and skill development.
Deep Sea Resources: Safeguards & Governance; High Capex Systems; Limited Domestic Manufacturing	Technology, ESG and regulatory clarity needed before scale.	Phase pilots under the DOM; adhere to International Seabed Authority codes; indigenise tech components via shipbuilding/tech clusters.
Human Capital and Safety at Sea	Safety incidents and skill gaps can disrupt fleets and raise insurance/ operational risk.	Expanding certified seafarer base and training (India is already in the top three of global suppliers) and strengthening of safety frameworks.
Finance: Funding Access for Green/Blue Projects	High upfront costs in shipbuilding, renewables and port greening require blended finance.	Using the Maritime Development Fund and shipbuilding assistance; attracting inbound PPP and blended finance.

7.2 Way Forward

India's Blue Economy stands at a pivotal juncture, offering a pathway to sustainable growth, climate resilience, and global competitiveness. The next decade must focus on integrated marine spatial planning, green port infrastructure, and low-carbon shipping, while accelerating investments in offshore renewables, marine biotechnology, and deep-sea exploration under the country's evolving institutional frameworks.

Leveraging platforms like PM Gati Shakti for seamless governance, scaling community-led coastal tourism, and expanding blue carbon ecosystems will be critical to balance economic gains with sustainability. With strategic financing, technology indigenisation, and skill development, India can position itself as a global leader in the Blue Economy, driving inclusive prosperity while safeguarding ocean health for future generations.

Quick Commerce and Beyond: Dark Stores, Bright Future

1. Introduction

Retail isn't just moving inventory; it's rewriting its production function. The game has shifted from chasing economies of scale to racing against time. What once thrived on sprawling ex-urban hubs and 72-hour delivery windows now survives by encasing minutes inside dense regional grids. It's quick commerce (Q-commerce): where speed wins.

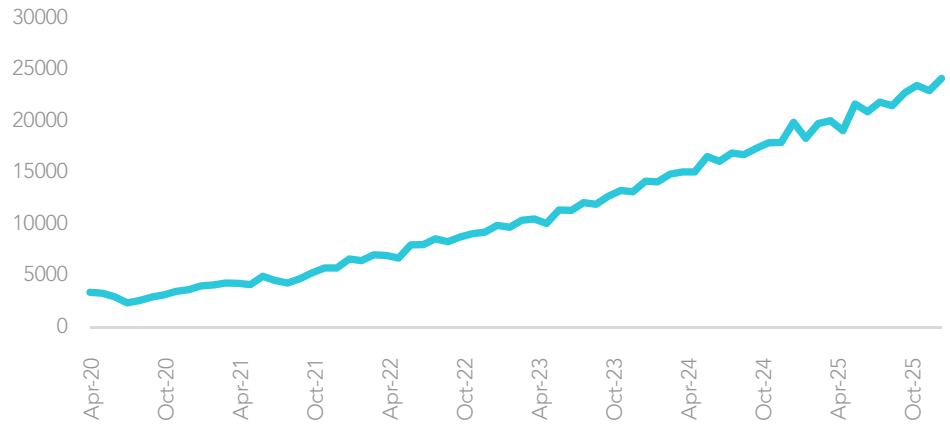
The strategic pivot from traditional e-commerce to Q-commerce represents a paradigm shift. While traditional e-commerce's value proposition was breadth and price, Q-commerce inverts this logic by distributing inventory into micro-fulfilment nodes ('dark stores') embedded within demand clusters, monetising minutes. In economic terms, Q-commerce replaces average cost minimisation with marginal time minimisation. Two structural enablers make this feasible in India through Digital Public Infrastructure (DPI) and urban density.

2. Market Landscape

This shift is having a substantial impact on the Indian economy, driving a new era of retail efficiency. The quick commerce sector is experiencing a significant growth trajectory, with Gross Order Value (GOV) estimated to reach around Rs.2.3trn by FY2028 according to recent market estimates. The quick commerce trend is not only reshaping consumer behaviour but also fuelling job creation within the gig economy and fostering technological innovation in logistics.

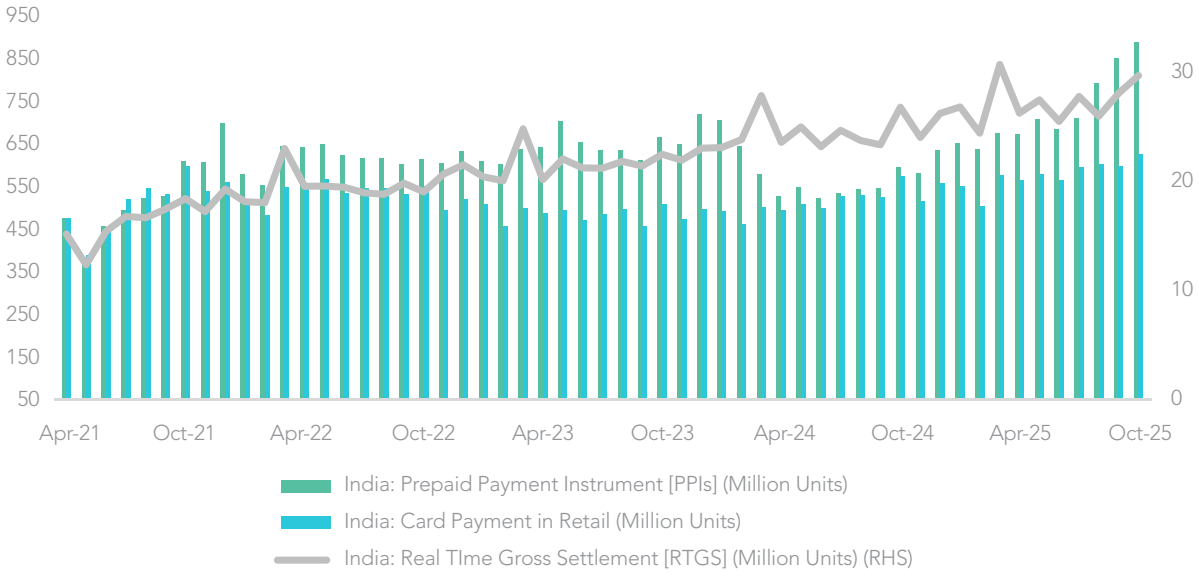
The proliferation of DPI Aadhaar for friction-light onboarding, UPI for instant settlement and interoperable commerce rails has suppressed search and payment frictions to near zero, lowering the minimum viable basket size. This infrastructure boom has propelled the formal digital economy, reflected starkly in government data; for instance, the Unified Payments Interface (UPI) is a cornerstone of this digital foundation, with transaction volume reaching 185.8 bn transactions in FY 2024-25, a 41.7% year-on-year (YoY) growth, as reported by the Reserve Bank of India's (RBI) annual report for FY2025.

India: Digital Payments (Million Units)



Source: RBI

Payment Instruments in India: PPIs, Cards, and RTGS



Source: RBI

2.1 Key Market Players and the Emergence of Dark Stores

The fundamental shift to time efficiency necessitates a bespoke physical infrastructure: the 'dark store'. Unlike traditional retail warehouses, these micro-fulfilment nodes are designed not for customer browsing but for rapid dispatch, embodying micro-fulfilment economics, focusing on minimising 'pick-to-pack' time, to achieve highly efficient, short-radius order fulfilment, typically within a 10–30-minute Service Level Agreement (SLA).

The aggressive expansion of these dark store networks is a core strategy for market dominance and efficiency gains. As of late 2025, major players are scaling rapidly:

- **Blinkit** leads the market and reportedly plans to significantly expand its dark store network, with a goal to have 3,000 stores by March 2027, an increase from its 1,816 stores in September 2025. The company also plans to introduce 'express dark stores' for 30-minute delivery of larger, higher-value items such as water heaters and air purifiers, which will be larger than its standard 10-minute delivery dark stores. This expansion aims to deepen its penetration in top urban markets and increase its average order value.
- **Swiggy Instamart** added more than 316 dark stores in January-March 2025, to reach 1,021 stores, with reported plans for sustained expansion over the near term confirmed by the company. However, after this aggressive phase, Swiggy announced a more selective, measured approach to future growth in August 2025, focusing on expanding where it has existing presence (i.e. the existing 127 cities) rather than a high-speed rollout of new stores.
- **Zepto** is reportedly targeting around 1,200 stores by the end of 2025 and is planning to open new dark stores through 2026 to expand into Tier-2 cities such as Nashik,

Kanpur and Vadodara, in addition to metros.

- **Flipkart Minutes** (the quick commerce arm of Flipkart) reportedly has plans to expand well beyond 800 dark stores through 2026, as part of an aggressive strategy to compete in the quick commerce market, with a focus on leveraging its existing logistics and technology base to serve a wider range of cities to include Tier-2 and Tier-3 cities, not just major metropolitan areas.

This infrastructure boom will continue to drive the Q-commerce business model, which relies heavily on a flexible workforce. India's gig workforce reached 12.0m in FY 2024-25 and is projected to surge to 23.5m by 2029-30. This workforce, comprising delivery partners and dark store workers, is essential for maintaining tight SLAs, highlighting the direct link between dark store expansion and gig employment growth as per market estimates.

Kirana to Dark Store Shift and ONDC Enablement

The emergence of dark stores is reshaping the traditional kirana store (a small, local, family-run retail shop in India and South Asia) ecosystem. To help small retailers stay competitive, the Open Network for Digital Commerce (ONDC) offers simple, no-code onboarding solutions. The ONDC reduces reliance on major e-commerce platforms and lowers entry barriers for MSMEs, enabling broader participation in digital commerce. It expands reach to smaller cities and cuts costs through standardised protocols, improving overall business viability. By integrating 0.5–0.6m merchants into its platform, the ONDC is expected to drive transaction growth and enable a 'phygital' (physical and digital) model.

3. Regional Dynamics: Urban Adoption, Tier-2 Expansion, and Catchment Design

A) Viability by Urban Tier and ONDC Impact

Tier	Key Dynamics	Operational Levers	Risks & Mitigations	ONDC Impact
Tier 1 (Metros)	High density supports tight SLAs (10–20 minutes); congestion risk.	Dense dark store grids; real time routing; inventory tuned to high velocity stock-keeping units (SKUs).	Traffic congestion mitigated via hyper local siting and dynamic routing.	**Low to Medium:** Helps niche category discovery and Customer Acquisition Cost (CAC) reduction for new entrants.
Tier 2 (Threshold markets)	Dark store viability hinges on clearing minimum order volume threshold; CAC harder.	Demand modelling; pooled discovery; local partnerships.	Operational constraints require tailored assortment and service windows.	**High:** The ONDC enables demand pooling, interoperable rails and CAC control.
Tier 3 & beyond	Sparse density; high SLA cost; viability depends on pooled demand and extended SLAs.	Regional partnerships; hybrid fulfilment (dark store and retail partner).	Low order frequency; infrastructure gaps.	**Critical:** The ONDC unlocks latent demand via pooling and shared logistics rails.

B) Top Performers

State	Key Cities	Drivers
Maharashtra	Mumbai, Pune, Thane	High UPI adoption, dense urban clusters, strong operator presence.
Karnataka	Bengaluru, Mysuru	Tech-savvy base, high UPI volumes, strong infrastructure.
Delhi NCT	New Delhi	Highest density, strong digital adoption.
Telangana	Hyderabad, Ranga Reddy	High UPI adoption, growing infrastructure.
Tamil Nadu	Chennai, Coimbatore	Dense metros, significant digital penetration.

C) Emerging Hotspots for quick commerce growth

City	State	Drivers of growth
Kerala	Kochi	Affluent micro-markets; port logistics.
Gujarat	Surat	Dense urban district; strong retail base.
Rajasthan	Jaipur	Large urban district; improving infrastructure and booming tourism demand.
Union Territory	Chandigarh	Compact geography; high per-capita UPI usage.
Uttar Pradesh (UP)	Lucknow	High UPI volumes; expanding retail infrastructure.

A case for the Digital Payments Infrastructure

Digital payments infrastructure and performance have surged nationwide, with the RBI's Digital Payments Index reaching 493.22 in March 2025 (the latest data available). This growth, driven by stronger supply-side infrastructure and improved payment performance, has significantly boosted proliferation of Q-commerce, even in Tier 2 and Tier 3 markets.

The RBI, the National Payments Corporation of India (NPCI), fintechs, banks, and state governments are actively driving adoption through initiatives such as the Payments Infrastructure Development Fund (PIDF), which since 2021 has deployed 54.5m digital touchpoints across the country, with a special focus on Tier-3 to Tier-6 cities, North-Eastern states, and Jammu and Kashmir. Combined with over 650bn transactions worth Rs.12,000trn over (FY 2019-20 to FY 2024-25) these efforts are reducing friction for merchant acceptance and accelerating digital readiness in emerging markets.

4. Policy & Regulatory Push

The following table summarises key central government policies and instruments that are directly relevant to quick commerce operations. These policies establish the legal, infrastructural and operational frameworks within which Q-commerce platforms can operate.

4.1 Central Government Policies

Policy	Strategic Significance
Digital Personal Data Protection Act (DPDP)	Governs how Q-commerce platforms handle customer data, ensuring consent, privacy, and secure data practices for millions of user transactions.
National Logistics Policy (NLP)	Supports urban logistics planning, which is critical for the efficient placement of dark-store networks, multimodal connectivity, and integration with the Unified Logistics Interface Platform (ULIP) to optimise delivery routes.
ONDC	A major government initiative to democratise digital commerce by enabling demand pooling and interoperability across platforms. This helps operators reach critical mass faster and lower CAC in Tier-2 and Tier-3 cities.
FSSAI E-commerce Guidelines	Mandates licensing (a central license is required regardless of turnover), hygiene compliance in dark stores, staff training and a minimum 30% shelf life remaining on delivery for food items.
RBI PIDF (Payments Infrastructure Development Fund) Scheme	Expands digital payment acceptance infrastructure (PoS, UPI), which is critical for facilitating the high volume of rapid, cashless transactions in Q-commerce.
Legal Metrology (Packaged Commodities) Rules – E-commerce Amendment	Mandates the clear online display of Maximum Retail Price (MRP), net quantity and other essential details, ensuring transparency for all packaged goods listed on Q-commerce apps.

4.2 State Government Policies

The following table summarises some of the key state-level government policies in India that directly influence the operations, logistics and compliance requirements of the Q-commerce sector.

State	Policy	Q-Commerce Impact & Relevance
Maharashtra	Logistics Policy (Updated)	This policy aims to strengthen warehousing clusters and multimodal connectivity, directly supporting Q-commerce operational efficiency in dense urban areas such as Mumbai, Navi Mumbai and Pune.
Delhi NCT	Motor Vehicle Aggregator and Delivery Service Provider Scheme	This is a landmark regulation that mandates fleet electrification targets for delivery partners and requires specific licensing, significantly affecting Q-commerce last-mile economics and sustainability goals in the NCT.
Tamil Nadu	Logistics Policy and Integrated Logistics Plan	The policy facilitates urban warehousing development and multimodal connectivity, enabling efficient dark-store placement and faster service delivery across cities such as Chennai and Coimbatore.
Kerala	Shops and Establishments Act Amendment	This amendment regulates operating hours (potentially allowing 24/7 operations in some cases) and labour compliance standards for employees at dark stores and delivery hubs, impacting workforce management.

State	Policy	Q-Commerce Impact & Relevance
Uttar Pradesh	Warehousing and Logistics Policy	This policy encourages the establishment of storage nodes and last-mile hubs in key areas such as the NCR and emerging Tier-2 cities (e.g., Lucknow, Kanpur), which is critical for achieving viable operations in less dense markets.
Telangana	State Logistics Guidelines	The guidelines offer incentives for logistics parks and city logistics hubs, supporting Q-commerce expansion and infrastructure development beyond the core Hyderabad market.
Maharashtra	Logistics Parks Policy	Builds on an earlier policy enabling clustered warehousing development, particularly in the critical Mumbai-Pune belt, to facilitate high SLA efficiency for rapid delivery services.

4.3 Navigating India's Urban Labour Market Transformation

The meteoric rise of Q-commerce platforms and their dark store ecosystems is acting as a catalyst for India's gig economy, redefining employment structures in urban centres. This model thrives on a flexible, on-demand workforce to meet stringent delivery SLAs, creating both opportunities and challenges for policymakers.

Operational Flexibility and Cost Optimisation: Q-commerce operators leverage gig-based models to maintain agility and manage variable costs. Unlike traditional employment structures with fixed labour overheads, platform-based systems allow real-time workforce scaling in response to demand surges, optimising profitability per operational hour.

Job Creation and Workforce Size: Quick commerce is emerging as a major blue-collar job generator. Market projections indicate a sharp increase in gig worker hiring through 2026. As of late 2025, the active gig workforce, comprising delivery partners and dark store staff, stood at 450,000–500,000 monthly active workers, marking a significant y/y jump.

Income Potential: Gig roles offer competitive earnings compared to other informal sectors. Delivery partners in metro cities typically earn Rs.18,000–Rs.23,000 per month, supplemented by performance and attendance bonuses.

Flexibility and Formalisation: The model's flexibility resonates strongly with younger demographics. Additionally, it contributes to formalising previously unorganised work, offering structured pay and integrating workers into a digital ecosystem.

4.4 Welfare boost: Government and Regulatory View

The trajectory of India's gig economy points toward sustained integration and rapid growth, accompanied by an increasing regulatory focus on ensuring sustainable employment practices. The government has taken a landmark step by implementing the four consolidated Labour Codes, effective 21 November 2025, formalising the legal framework for gig and platform workers for the first time.

Gig Workforce Growth: According to National Institute for Transforming India (NITI Aayog) estimates, India's gig workforce is expected to grow from 7.7m in 2020–21 to 23.5m by 2029–30, reflecting a compound annual growth rate of over 12.0%, driven largely by Q-commerce, e-commerce logistics and hyperlocal delivery models.

Key Provisions of the New Labour Codes (Effective November 2025)

The Code on Social Security, 2020 introduced mandatory provisions for aggregators, setting up effective checks and balances required for platform governance:

- Mandatory Contributions: Aggregators, including e-commerce and Q-commerce platforms, must contribute 1.0–2.0% of annual turnover to a central social security fund, capped at 5.0% of payouts to workers. This is the first statutory national contribution requirement for gig platforms.
- Formal Recognition: For the first time, 'gig worker' and 'platform worker' are legally defined, extending formal social security coverage to millions of workers who were previously outside the regulatory net.
- Benefit Portability: Social security benefits, including life insurance, disability cover, health benefits and old-age protection, will be linked to an Aadhaar-based Universal Account Number (UAN), ensuring portability across states and platforms.
- Compliance Cost Impact: From a business perspective, these provisions are expected to increase compliance costs, with an estimated 4.0–10.0% impact on EBITDA for platforms. Companies may offset this through operational efficiencies or partial cost pass-through to consumers.

While technology continues to drive efficiency, the human element remains central to Q-commerce success. The long-term sustainability of this ecosystem hinges on balancing speed and flexibility with worker security and welfare, as envisioned by the new regulatory framework.

5. Technology and Innovation

The quick commerce ecosystem, while expanding rapidly and driving economic shifts, operates within a dynamic environment shaped by technological advances, regulatory changes and evolving consumer preferences. Key areas of disruption and potential bubbles include the regulatory landscape for the gig economy, AI integration and the transition of traditional retail.

5.1 AI as a Force Multiplier Across the Q-Commerce Stack

AI is central to the operational efficiency that defines Q-commerce, from demand forecasting to last-mile delivery.

- **IndiaAI Mission**: The government's strong commitment is evident with a Rs.100bn allocation for FY 2025–26, a 1,056% increase from FY 2024-25 levels. This initiative focuses on building indigenous compute capacity (>10,000 GPUs), subsidising access for startups, and accelerating innovation in logistics AI.
- **Routing & Slotting ROI**: AI-powered algorithms optimise routing, dark store slotting and inventory management, reducing operational friction and maximising fulfilment speed – significantly improving ROI across the stack.

5.2 Integration of Robotics in Quick Commerce Operations

Robotics are increasingly being deployed within India's quick commerce sector to automate critical warehousing functions such as sorting, picking and packing, thereby accelerating order fulfilment processes. At present, these technologies are primarily concentrated within fulfilment centres to establish highly efficient delivery networks. Looking ahead, advances

in automation may extend to last-mile delivery, incorporating autonomous ground robots and aerial drones as part of the distribution ecosystem.

5.2.1 Opportunity outlook: Drone deliveries

- **DGCA BVLOS Pilots and Emerging Drone Delivery Framework**: The Directorate General of Civil Aviation (DGCA) is nearing completion of regulations governing Beyond Visual Line of Sight (BVLOS) operations, signalling the imminent rollout of a regulatory framework to support large-scale drone deliveries. The formalisation of the Draft Drone Bill 2025 is anticipated to be a pivotal catalyst for mass commercial adoption. Early pilot programmes have demonstrated that drones can deliver strong returns on investment in targeted, low-risk, rapid-delivery use cases, such as medical supplies and lightweight essential goods.
- However, full-scale operationalisation will depend on regulatory clarity and the ability to reduce dependence on gig workers for select order categories, potentially reshaping the cost structure and operational dynamics of last-mile logistics.

6.1 Risk and Opportunity Map

Q-commerce faces a dynamic landscape where rapid growth brings both promise and peril. While emerging technologies and policy support create significant opportunities, operational complexity and regulatory uncertainty pose material risks that businesses must navigate.

Category	Risks	Opportunities
Market	o Rural penetration limits due to low population density and underdeveloped logistics infrastructure. o Lower disposable income in Tier-3 cities limits uptake of frequent, small-ticket orders. o Risk of a market bubble if aggressive growth projections lead to unsustainable expansion and cash burn. o High CAC in new geographies without pooled demand. o Seasonal demand volatility in non-metro markets.	o High urban density in Tier-1 cities supports high-frequency, low-latency delivery. o DPI: Aadhaar, UPI and e-KYC reduce payment friction and enable micro-transactions. o Rising consumer preference for convenience and instant delivery in metros. o ONDC interoperability can integrate Kirana stores and expand merchant reach. o Growing middle-class consumption in Tier-2 cities.

Operational	o SLA variance: urban traffic congestion threatens 10–20-minute delivery SLAs. o Threshold problem: Tier-2 expansion requires accurate demand modelling to avoid unviable dark stores. o Regional traffic and cultural preferences complicate standardisation. o High last-mile cost in low-density areas. o Inventory complexity for perishable goods and hyper-local assortments.	o AI-driven cost compression: Optimises routing, inventory and slotting. o Gig economy backbone: large flexible workforce for surge capacity. o Tech innovation: route optimisation, predictive inventor, and real-time traffic algorithms. o Robotics and automation: potential for drones and autonomous delivery vehicles, creating new R&D and manufacturing opportunities. o Micro-fulfilment centres: enable faster SLAs and reduce stock-outs.
Regulatory & Economic	o New Labour Codes (November 2025): mandatory aggregator contributions (1.0–2.0% turnover, capped at 5.0% payouts) increase compliance costs. o Gig workforce vulnerability: social and reputational risks if welfare ignored. o Intense competition among Q-commerce players and ONDC participants leads to margin pressure. o Data privacy compliance under Digital Personal Data Protection (DPDP) Act adds operational overhead. o EV mandates in some states increase capex for fleet transition.	o Formalisation of gig economy under Labour Codes stabilises workforce and reduces legal uncertainty. o ONDC interoperability expands merchant base and reduces CAC. o Government push for EV adoption: incentives can lower long-term fleet costs. o National Logistics Policy: improves multimodal connectivity and warehousing standards. o Digital payments growth: UPI and Payments Infrastructure Development Fund (PIDF) expansion reduce cash friction and boost adoption.

6.2 The Way Forward

The future of Indian retail is increasingly defined by a race against time, where success depends not only on scale but on mastering the last urban mile. Quick commerce has turned the thesis that 'time is the new unit of retail value' into an operational imperative.

India stands at an inflection point, leveraging structural advantages few markets can match. UPI and Aadhaar-enabled digital rails have reduced payment friction, enabling high-frequency, low-ticket transactions that underpin this model. Combined with high urban density, these factors have driven the rapid growth of dark stores and micro-fulfilment centres, creating an ecosystem primed for speed and convenience.

Yet challenges persist. Operational risks include maintaining strict SLAs amid congestion, addressing threshold viability in Tier-2 markets and managing inventory complexity for perishables. Regulatory pressures, compliance with new Labour Codes, data protection obligations and EV transition mandates will weigh on margins. Intense competition, including ONDC-enabled networks, raises the risk of unsustainable cash burn and margin compression.

Opportunities, however, are transformative. AI-driven efficiency in routing, inventory optimisation and demand forecasting can cut costs and stabilise SLAs. Automation and robotics, including drones and autonomous vehicles, promise scalability and resilience while creating new avenues for innovation and skilled employment. Policy enablers such as the National Logistics Policy, EV incentives and ONDC interoperability offer inclusive growth, integrating kirana stores and expanding merchant reach.

The way forward lies in balancing rapid expansion with operational discipline, proactive compliance, strategic investment in technology and collaboration with policy initiatives to build a sustainable, trustworthy, time-based retail ecosystem. In this new era, speed is not merely an advantage – it defines the currency of retail value.

Age of Opportunity: Unlocking the Care and Silver Economy

1. Introduction

Over the past decade, elder care has emerged as one of the most pressing priorities in India's socio-economic landscape, driven by rapid demographic changes and evolving family structures. As life expectancy rises and traditional caregiving models shift, the need for comprehensive eldercare services – ranging from home-based support to specialised senior living facilities – has grown significantly. This expanding demand forms the foundation of what is now referred to as the Silver and Care Economy: a sector that encompasses not only healthcare and wellness solutions for older adults but also a wide array of products, services and innovations designed to enhance quality of life in later years. The term 'Silver Economy' reflects the economic potential of an ageing population, while 'Care Economy' underscores the critical role of caregiving and health infrastructure in sustaining this demographic transition. Together, they represent a dynamic ecosystem that is reshaping healthcare delivery, prompting policy innovation and driving technology adoption across India.

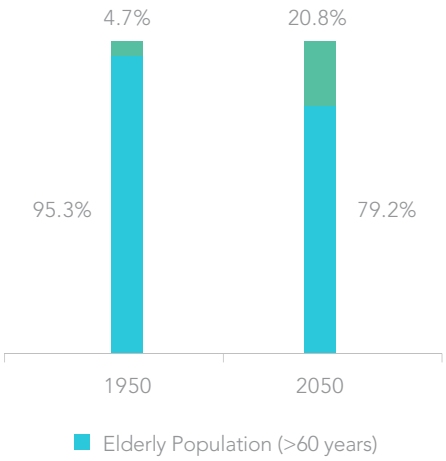
2. Market Landscape and Growth Drivers

India's silver and care economy is at an inflection point, presenting a dynamic market landscape shaped by demographic trends, rising longevity and evolving consumer preferences. With a rapidly expanding elderly population and increasing financial empowerment, the sector is witnessing strong momentum across healthcare, housing and lifestyle services.

2.1 Demographic Shifts

India is undergoing a transformative demographic shift, with nearly 19,500 individuals crossing the age of 60 every day. According to the India Ageing Report 2023 by the United Nations Population Fund (UNFPA), individuals aged 60 and above currently make up around 10.0% of India's population – approximately 104.0m people – already exceeding the total population of Japan, which has the world's highest proportion of senior citizens. By 2050, this is projected to rise to 347.2m, representing around 20.8% of India's population.

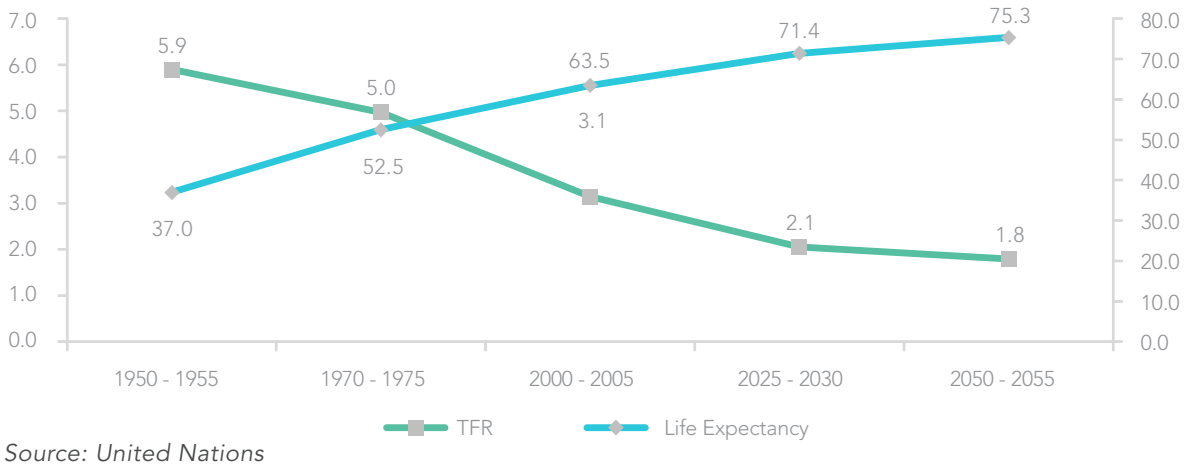
Share of Elderly Population



Source: United Nations

These demographic changes are primarily driven by a steady decline in fertility rates alongside improvements in life expectancy. The Total Fertility Rate (TFR), which was 5.9 children per woman in 1950, dropped to 3.4 in 2000 and now stands at 2.0, according to the latest Sample Registration System (SRS) data. At the same time, life expectancy at birth has risen significantly – from 35.8 years in 1950 to 62.5 years in 2000 – and is projected to reach 75.3 years by 2050.

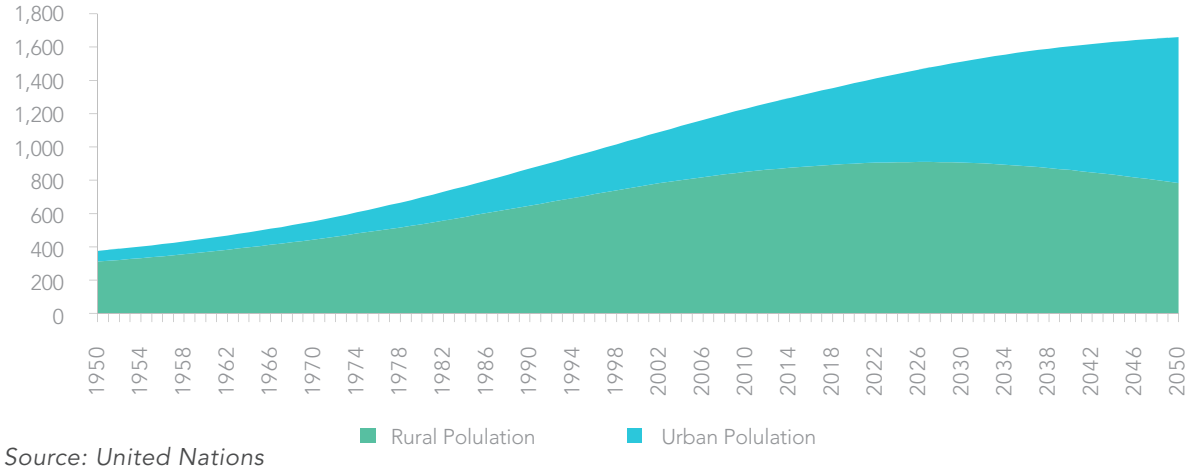
TFR & Life Expectancy



Source: United Nations

The parallel trend of urbanisation is reshaping elder care in India by eroding traditional family-based support systems and creating demand for formal, specialised care solutions. The shift from joint families to nuclear households, driven by rural-to-urban migration and changing social norms, means many older adults now live alone or only with a spouse. This isolation heightens risks of loneliness and mental health challenges such as depression and anxiety.

Urbanisation in India (in millions)



Source: United Nations

At the same time, the growing participation of women in the workforce – India's female labour force participation rate has surged from 23.3% in FY2018 to 41.7% in FY2024 – combined with the persistent gendered burden of caregiving (women still spend nearly twice as much time on care duties as men) is accelerating the need for professional

eldercare services. Traditionally, women have shouldered unpaid care work valued at 15.0–17.0% of India's GDP, but as they move into paid employment, the availability of family caregivers is shrinking. This structural shift, alongside urbanisation and nuclear family trends, is driving demand for organised solutions such as home-based care, assisted living and dedicated senior living communities.

2.2 Market Size and Forecast

According to estimates by the Association of Senior Living India (ASLI), the senior care sector – which includes residences for senior citizens, assisted living, transition care, curated products, mental wellness models and community engagement services – was valued at around Rs. 0.9trn- 1.3trn in 2024 and could potentially grow to Rs. 2.7trn-4.4trn over the next decade.

2.3 Key Demand Drivers

The ageing care and silver sector in India is emerging as a significant growth opportunity, driven by demographic shifts, rising urbanisation and changing lifestyles. Consumer expectations among the elderly are also evolving rapidly, with a growing emphasis on wellness, convenience and technology-enabled solutions. As a result, the market is witnessing strong demand for specialised products and services across healthcare, housing and leisure.

Category	Key Factor	Description
Socio-Economic Factors	Financial Empowerment	Senior citizens have greater financial security, which is reflected in the rise of retirement-focused investments that enable discretionary spending.
	Urbanisation and Family Structure Changes	The rise of nuclear families and elderly living alone drive demand for organised senior living and assisted care facilities.
Lifestyle and Health Trends	Lifestyle Aspirations	Elderly consumers seek wellness-oriented living, active engagement and curated experiences that extend beyond basic needs.
	Healthcare and Chronic Disease Management	The growing prevalence of chronic conditions boosts demand for specialised healthcare, rehabilitation and preventive care.
Technology and Market Dynamics	Technology Adoption	Senior citizens are becoming tech-savvy, creating opportunities for telemedicine, digital health platforms and online wellness services.
	Investor Interest and Market Innovation	Strong investment momentum, with large-ticket deals in senior care infrastructure, accelerates supply and innovation.

In India, elder care remains largely informal, rooted in multi-generational family support. Most elderly individuals live with family members who provide both caregiving and financial assistance. However, as urbanisation and economic pressures pull younger generations away from home, many older adults – especially women – are left without adequate support. This shift has created a vulnerable population that is exposed to neglect, isolation and insufficient care.

3. Policy and Regulatory Push

India's eldercare and longevity economy is gaining momentum on the back of demographic and lifestyle shifts, but its long-term success depends on a supportive policy and regulatory environment. Government interventions are not just welfare measures, they function as strategic levers to build infrastructure, ensure financial security and foster innovation in elder care. The government's response has been multi-pronged – spanning welfare schemes, insurance reforms and wellness initiatives – with the aim of fostering active ageing and a supporting the growth of silver economy.

3.1 Key Government Initiatives

The government has introduced a comprehensive set of programmes to improve senior citizens' quality of life and stimulate the senior care economy. These initiatives span social security, healthcare, digital integration and employment, creating a holistic ecosystem for elder care.

Social Security and Financial Support

Key Schemes / Initiatives	Strategic Importance
Pradhan Mantri Vaya Vandana Yojana (PMVVY)	Pension scheme that offers guaranteed returns for 10 years, ensuring financial stability.
Indira Gandhi National Old Age Pension Scheme (IGNOAPS)	Monthly pension for senior citizens below poverty line, providing basic social security.

Healthcare and Assistive Support

Key Schemes / Initiatives	Strategic Importance
Atal Vayo Abhyuday Yojana (AVYAY)	Umbrella scheme that integrates care, financial security and active ageing measures. It includes: • Integrated Programme for Senior Citizens (IPSrC): Grants for old-age homes and continuous care facilities. • State Action Plans for Senior Citizens (SAPSrC): State-level action plans for cataract surgeries and awareness drives. • Senior care Ageing Growth Engine (SAGE): Scheme for funding startups that are innovating elder care solutions. • National Helpline (Elderline - 14567): National helpline for grievance redressal. • Rashtriya Vayoshree Yojana (RVY): Scheme for providing assistive devices to low-income senior citizens. • Training of Geriatric Caregivers: Programme for building skilled workforce for senior care.
National Programme for Health Care of the Elderly (NPHCE)	Strengthens geriatric healthcare infrastructure at district hospitals and Primary Health Centres (PHCs).

Digital Health and Technology

Key Schemes / Initiatives	Strategic Importance
Ayushman Bharat Digital Mission (ABDM)	Creates digital health IDs and interoperable health records, enabling telemedicine and remote monitoring for senior citizens.

Employment and Active Ageing

Key Schemes / Initiatives	Strategic Importance
Senior Able Citizens for Re-Employment in Dignity (SACRED) Portal	Connects skilled senior citizens with job opportunities post-retirement, promoting active ageing and economic participation.

3.2 Insurance Reforms

Insurance is a critical enabler for financial security in old age. Insurance Regulatory and Development Authority of India (IRDAI) reforms in 2024 and 2025 make health coverage more inclusive and affordable for senior citizens, reducing risk and uncertainty.

Reform	Impact on Elder Care
Senior Able Citizens for Re-Employment in Dignity (SACRED) Portal	Prevents sudden cost spikes, making coverage sustainable.
No Upper Age Limit	Ensures lifelong insurability for senior citizens.
Reduced Waiting Period (36 months from 48 months)	Faster access to treatment for pre-existing conditions.
Moratorium Period (5 years)	Greater claim security in less duration.
Inclusive Underwriting	Coverage for severe conditions such as cancer and renal failure.

3.3 Wellness and Preventive Care

Preventive health and wellness programmes are central to active ageing. Government initiatives focus on telehealth, geriatric care and lifestyle interventions to keep senior citizens healthy and independent.

Programme / Initiative	Contribution to Active Ageing
National Programme for Health Care of the Elderly (NPHCE)	Provides preventive, curative and rehabilitative services at district hospitals.
Telehealth Incentives under ABDM	Expands access to remote consultations, especially in rural areas.
Yoga and Wellness Programmes	Promotes physical and mental well-being for senior citizens.
Nutrition and Screening Drives	Early detection and better nutrition for elderly health.

4. Technology and Innovation

The eldercare and silver market landscape is not just policy-driven, it is being reshaped by digital health platforms, geriatric-focused technologies and a surge of health-tech startups. These innovations are enabling senior citizens to access care remotely, live independently and benefit from predictive health solutions. Below are the key pillars:

4.1 Telemedicine and Digital Health

Telemedicine has emerged as a lifeline for senior citizens, bridging access gaps and reducing dependency on physical visits. Platforms such as e-Sanjeevani and private telehealth services are driving adoption at scale.

e-Sanjeevani	Private Telehealth Platforms	ABDM Integration
World's largest government-led cloud-based telemedicine platform, with over 431.5m consultations by October 2025; integrated with ABDM; its hub-and-spoke model connects rural Health and Wellness Centres (HWCs) with specialists.	Platforms such as Practo, Tata 1mg, MFine, Apollo TeleHealth offer video consults, e-prescriptions and chronic care management; senior citizens are increasingly opting them for convenience and continuity.	Digital health IDs enable secure record sharing and teleconsultation continuity across providers, reducing fragmentation in care.

4.2 Geriatric Tech

Technology is also redefining elder care through smart devices and AI-driven solutions that enhance safety, independence and proactive health management.

Wearables and Smartwatches	Fall Detection Systems	AI-Based Diagnostics
Continuous monitoring of vitals (ECG, SpO_2 and heart rate). fall detection sensors trigger emergency alerts; medication reminders improve adherence.	Internet of Things (IoT) + AI sensors predict and detect falls, and alert caregivers via SMS/app, reducing injury risk and response time.	Predictive analytics for chronic disease management; voice/image-based diagnostics for dementia, cardiovascular risk and diabetes.

4.3 Health-tech Startups

India's health-tech ecosystem is booming with technological developments, with startups innovating for elder care through teleconsultation, chronic care and wellness solutions. Funding momentum underscores investor confidence in this space.

Funding Surge	Key Startups	Emerging Solutions
Health-tech attracted Rs. 73.3bn (59.0% y/y growth) in H1 2025, second only to fintech; AI-driven diagnostics and telemedicine dominate investor interest.	Portea, KITES Senior Care, Samarth Life, Khyaal – offering home healthcare, assisted living and digital engagement platforms.	Partnerships for integrated care (Columbia Pacific + KITES Senior Care); tech-enabled ecosystems for monitoring and social engagement.

5. Regional Dynamics

Technology and innovation are reshaping elder care across India, but their impact is uneven. Regional variations in adoption, infrastructure and policy execution create distinct opportunities and challenges for the silver economy. For stakeholders, understanding these nuances is essential to design interventions that address local constraints effectively.

5.1 Urban vs Rural Healthcare Access

Healthcare access in India exhibits a significant disparity between urban and rural areas, and this gap becomes more pronounced when viewed through the lens of eldercare. Urban centres benefit from advanced medical infrastructure, specialised geriatric services and a growing ecosystem of home-care providers. In contrast, rural regions struggle with chronic shortages of qualified professionals, limited elder-specific facilities and logistical barriers that make routine care difficult for senior citizens. While government programmes and telemedicine initiatives are attempting to bridge this gap, progress remains uneven.

5.1.1 Key Differences in Healthcare Access

Feature	Urban Areas	Rural Areas
Infrastructure	Equipped with multi-specialty hospitals, geriatric wards, advanced diagnostics and elder-friendly amenities.	Depend on under-resourced Sub-Health Centres (SHCs), PHCs, and Community Health Centres (CHCs) with minimal elder-specific infrastructure.
Healthcare Workers	Higher concentration of geriatricians, nurses and trained caregivers due to better pay and facilities.	Severe shortage of specialists; elderly often rely on informal or untrained practitioners.
Accessibility	Senior citizens have proximity to hospitals, home-care services and faster emergency response systems.	Long travel distances (up to 100kms) on inadequate roads make emergency care as well as routine check-ups difficult.
Affordability	Private eldercare services dominate; costs for long-term care and assisted living are high.	Public facilities underfunded; out-of-pocket expenses for chronic conditions push families into debt.
Disease Burden	Higher prevalence of non-communicable diseases (NCDs) among senior citizens (obesity, hypertension and dementia), which are linked to lifestyle-related factors.	Dual burden on the elderly – age-related conditions compounded by communicable diseases and behavioural risks.

5.2 Emerging Eldercare Hubs – Segment Lens

India's senior care economy is evolving into a multi-segment ecosystem, with distinct regional hubs emerging for senior living, assisted care and home-based services. Factors such as healthcare infrastructure, affordability and socio-cultural preferences shape these hubs. Below is a segment-wise view:

Senior Living (Retirement Homes)	
Key Hubs	• South India leads with around 68.0% of projects: Chennai, Coimbatore, Bengaluru, Mysuru and Ooty. • Western and Northern hubs: Pune, Goa, Vadodara, Dehradun and Delhi-NCR.
Drivers	• Salubrious climate, affordability, strong healthcare accessand NRI demand.
Trends	• Chennai is emerging as a major hub, overtaking Pune and Coimbatore. • Tier-2 cities such as Kodaikanal, Trichy and Madurai are gaining traction for lifestyle retirement living.
Assisted Living and Senior Living Communities	
Key Hubs	• Delhi-NCR (Gurugram): Emerging as India's luxury assisted living hub with integrated healthcare and lifestyle amenities. • Southern metros: Bengaluru, Chennai and Hyderabad have strong healthcare ecosystems and tech adoption.
Drivers	• Urban migration, nuclear families and demand for structured care with independence.
Trends	• Operators such as Antara Senior Care (Max Group), Columbia Pacific Communities, Primus Senior Living and Ashiana Housing are expanding aggressively in metros and satellite towns. • Assisted living is often bundled with rehab and memory care services.
Home Care Services (Including Out-of-Hospital Care)	
Key Hubs	• Metro clusters: Delhi-NCR, Mumbai, Bengaluru and Hyderabad – high adoption of tech-enabled home care. • Tier-2 cities: Coimbatore, Navsari, Lansdowne, Jaipur and Kochi are emerging as hotspots for out-of-hospital services.
Drivers	• Rising chronic disease burden among senior citizens (75.0% of elderly have one or more chronic conditions). • Preference for ageing-in-place and cost-effective care models.
Trends	• Out-of-hospital services – post-hospitalisation care, palliative care, dementia care and bedside caregiving – are growing rapidly in Tier-2 cities. • These services reduce hospitalisations by 35.0% and emergency visits by 51.0% for consistent users.

Home-based Senior Care (Tech-enabled and Preventive Models)	
Key Hubs	• Urban tech corridors: Bengaluru, Hyderabad and Pune are leading in adoption of wearables, remote monitoring and AI-driven eldercare platforms
Drivers	• Digital health penetration, start-up ecosystem and demand for predictive care.
Trends	• Growth of platforms such as Anvayaa and Yodda, which offer 24/7 monitoring, emergency response and companionship services. • Dementia care is emerging as a critical need, with specialised home-based programmes.

Southern India continues to dominate organised eldercare, led by hubs such as Chennai, Coimbatore and Bengaluru. At the same time, premium assisted living and home-care markets are emerging in northern and western cities such as Delhi-NCR and Pune. Tier-2 locations – including Navsari, Lansdowne and Vadodara – are gaining traction for out-of-hospital and affordable eldercare models.

6. Investment and Partnership Opportunities

India's eldercare market is entering a high-growth phase, driven by demographic shifts and evolving consumer preferences. According to UNFPA, over 40.0% of elderly Indians fall in the poorest wealth quintile and nearly one-fifth lack personal income, making public investment critical to expand affordable care. State-level initiatives – such as Tamil Nadu's Senior Citizens Policy (2022) and similar programmes in Karnataka and Kerala (2024) – are creating frameworks that encourage private participation in senior housing, assisted living and home-care services.

Private sector opportunities are equally compelling. Senior living projects by companies such as Columbia Pacific and Max Group highlight the potential for integrated housing and healthcare models. In-home care providers such as Life Circle and Care24 are scaling services for post-hospitalisation, palliative and dementia care, and telemedicine platforms such as Apollo TeleHealth are expanding remote access. These trends open avenues for strategic partnerships between healthcare providers and technology firms to deliver AI-enabled monitoring, predictive care and telehealth solutions.

Potential investment models include:

- Equity participation in senior housing and assisted living projects.
- Franchise and managed service models for home-care networks in Tier-2 cities.
- Tech collaborations for digital health platforms and remote monitoring solutions.
- Insurance-linked partnerships to bundle eldercare services with health coverage.

As demand accelerates, regional hubs such as Chennai, Coimbatore, Delhi-NCR and Pune offer strong potential for scalable, integrated eldercare ecosystems – making this sector a strategic frontier for investors and collaborators.

7. Key Risks and Way Forward

India's silver and care economy is burgeoning due to rapid demographic shifts, specifically a doubling of the elderly population by 2050. While this presents significant opportunities for a new market valued potentially at Rs.4.4trn, it also entails key risks related to infrastructure, financial security and gender inequality, which must be addressed through targeted policy and investment.

7.1 Key Risks

- **Healthcare Gaps**: Some of the major gaps include a severe shortage of geriatric specialists (only around 300-350 in India), high out-of-pocket medical expenditure and limited insurance coverage. A large majority of senior citizens suffer from chronic diseases, putting immense pressure on an underfunded healthcare system.
- **Financial Insecurity**: A significant portion of the elderly population (nearly 70.0%) is dependent on family support or pensions for daily maintenance, with many lacking adequate savings or pension coverage, especially in the unorganised sector.
- **Social and Mental Health Challenges**: The breakdown of traditional joint family systems has led to rising social isolation among senior citizens, with nearly 10.0% of older adults now living alone and 20.0% experiencing depression or anxiety, according to the Longitudinal Ageing Study in India (LASI). Limited community engagement and shrinking informal support networks exacerbate these mental health concerns, making emotional well-being a critical component of eldercare policy.
- **Infrastructure Gaps**: Parallel to these social challenges, India faces significant infrastructure deficits in housing, transport and public spaces for senior citizens. Only 5.0% of public buildings are fully accessible for senior citizens, and less than 30.0% of urban housing projects incorporate age-friendly design features such as ramps and grab bars. These gaps restrict mobility and independence, further complicating efforts to ensure dignified ageing.
- **Digital Divide:** A majority of the elderly, especially in rural areas, lack digital literacy, which hinders their access to essential digital services such as telemedicine, e-commerce and online financial platforms.
- **Workforce Challenges**: The care economy is often characterised by low wages, a lack of labour rights for paid caregivers such as Accredited Social Health Activist (ASHA) workers and a disproportionate burden of unpaid work on women, which limits female labour force participation.

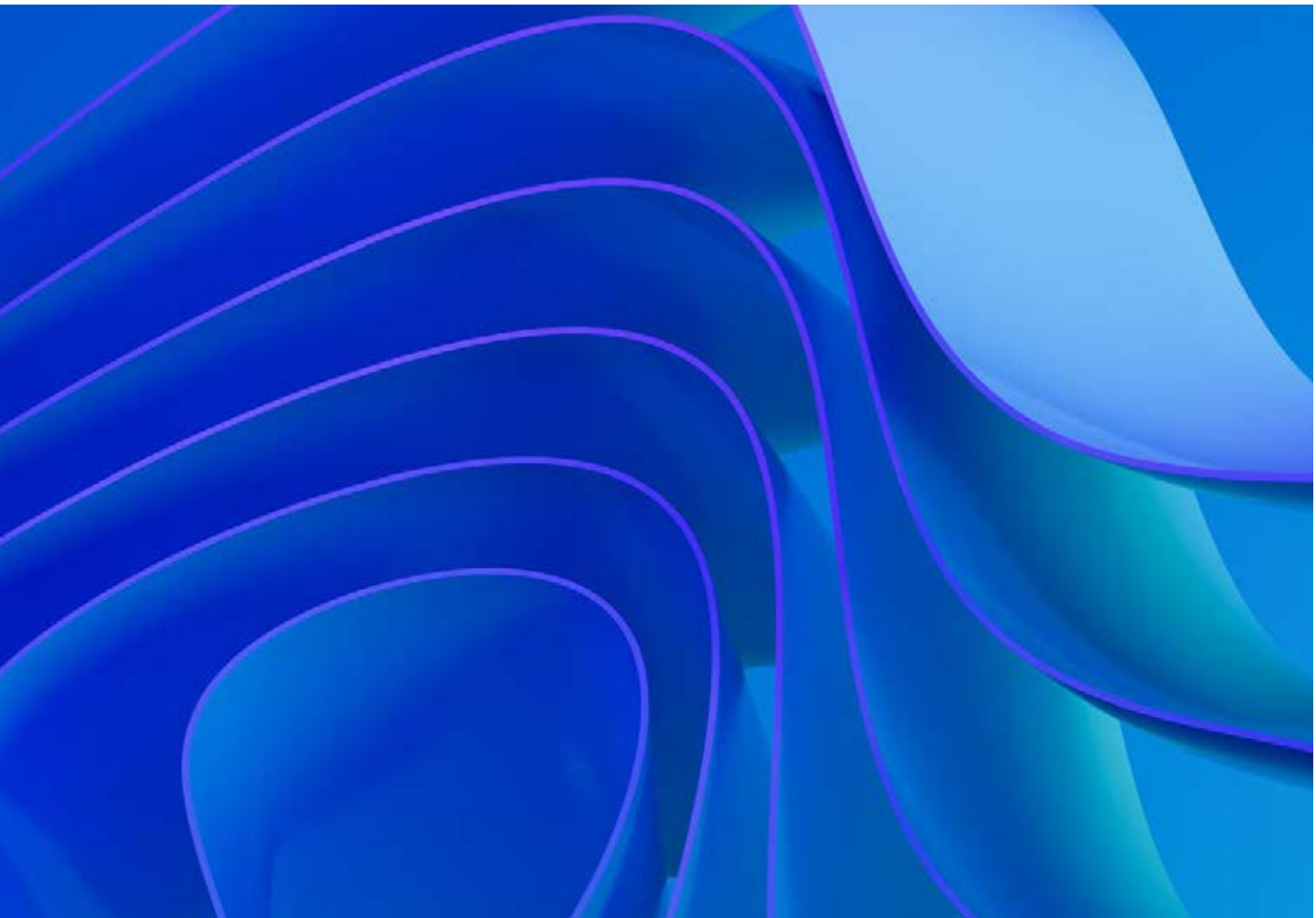
7.2 Way Forward

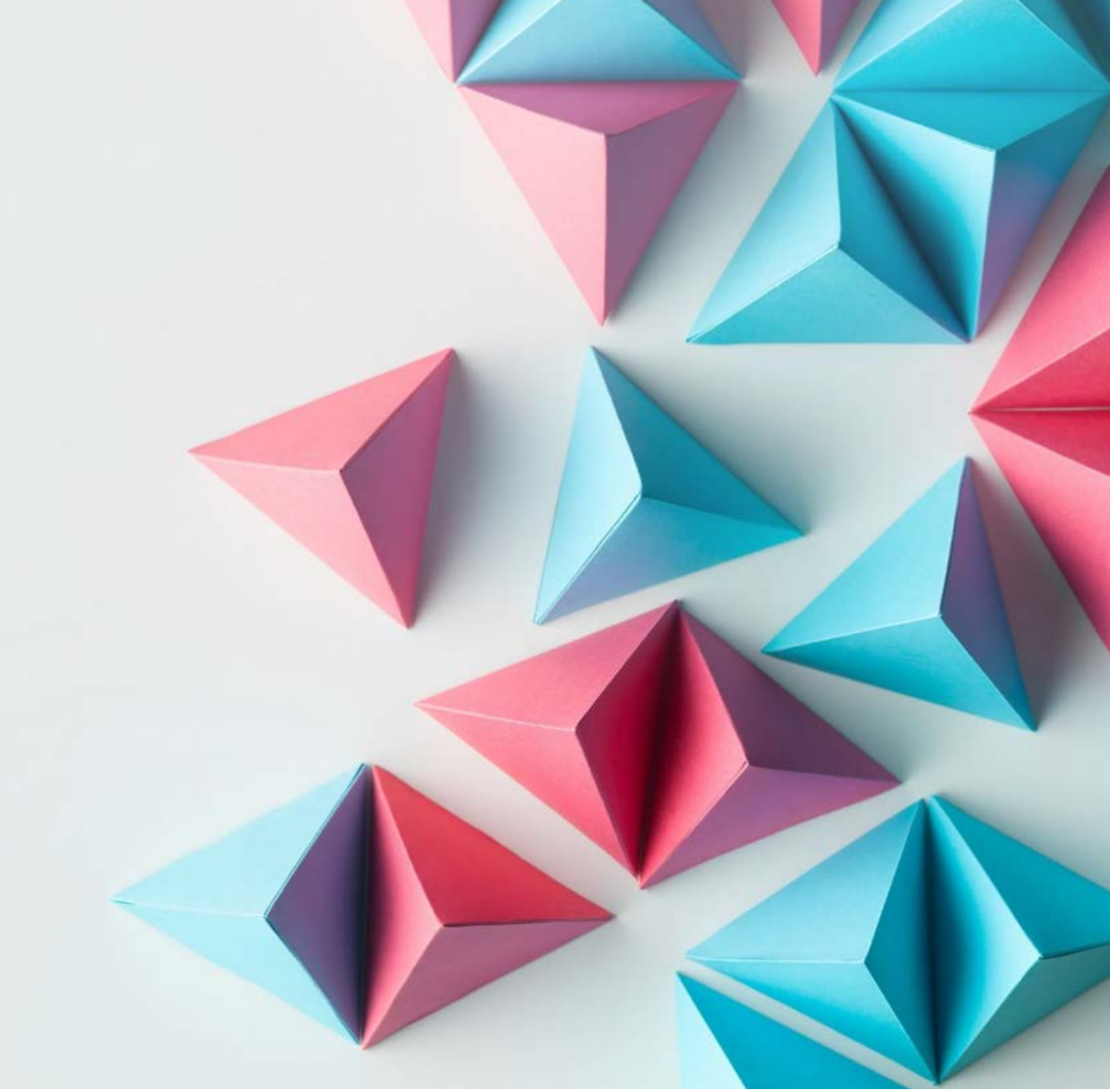
- **Policy and Investment:** There is scope to strengthen national frameworks on ageing and enhance public health expenditure. Public-private partnerships and innovation platforms such as SAGE could play a pivotal role in fostering eldercare solutions.
- **Healthcare Reforms**: Expanding geriatric services, with an emphasis

on preventive and rehabilitative care, might help integrate senior care into broader health programmes such as Ayushman Bharat. Developing a long-term care ecosystem, including home-based options, could address emerging needs.

- **Financial Security and Employment**: Introducing age-specific insurance and pension products could reduce financial vulnerability among senior citizens. Flexible work models and reskilling initiatives, supported by platforms such as SACRED, may enable dignified employment opportunities.
- **Social and Digital Inclusion**: Targeted digital literacy efforts and intuitive technology platforms could bridge the digital divide. Community-based networks and social engagement programmes might help combat isolation and foster inclusivity.
- **Formalising the Care Economy**: Recognising unpaid care work and establishing clear policies for paid caregivers could strengthen the care sector. Strategic investment might generate significant employment, particularly for women.

India's silver and care economy is poised to become a transformative growth frontier, driven by demographic momentum and evolving socio-economic trends. Unlocking its full potential will require coordinated action across policy, healthcare, finance and technology, ensuring inclusive, sustainable solutions for an ageing population. Strategic investments made today have the potential to create a resilient ecosystem that not only safeguards senior citizens' well-being but also catalyses new employment and innovation opportunities.





Fueling Tomorrow: Green Hydrogen's Role in India's Growth Story

1. Introduction

Being the third-largest emitter and one of the fastest-growing major economies, India's growth story in the coming years is greatly intertwined with its energy transition. In FY2024, India imported around 88.0% of its crude oil requirements, spending USD132.4bn. The initiation of the energy transition was implemented through wind and solar, which have decarbonised India's power sector to a certain extent. However, the industry and transport sectors, which account for nearly 40.0% of the economy, have seen little progress. As the country moves towards decarbonisation, green hydrogen is a key area in which it is growing.

2. Market Landscape and Growth Drivers

India stands at a critical juncture, with a commitment made at the COP26 in Glasgow in 2021 to become a net-zero emitter by 2070 while creating 500GW renewable capacity by 2030. Developments towards achieving these targets can greatly benefit heavy industries such as steel, cement, fertilisers and transportation, where electrification is impractical. These industries, whose energy needs are currently fulfilled by large fossil fuel imports, are pivotal for the growth trajectory of the Indian economy.

Green hydrogen, produced via electrolysis using renewable energy, offers a viable option to fill the energy gap. It provides a scalable, storable and transportable fuel that can act as a replacement to fossil fuel in addressing the energy needs of the country. Based on market estimates, the global hydrogen market is projected to reach USD320.0bn–USD430.0bn by 2030, growing at a 7.0–8.0% CAGR. The Indian hydrogen market – valued at around USD1.8bn in 2025, based on industry estimates –, is expanding rapidly, backed by renewable energy integration and industrial decarbonisation.

3. Policy Initiatives

To address this potential, the government launched the National Green Hydrogen Mission (NGHM) in 2023 focused on the production, usage and export of hydrocarbons and their derivates. The mission is driven by four main pillars: policy and regulatory framework; demand creation; R&D innovation; and enabling infrastructure. Within the green hydrogen mission, the government has introduced schemes such as the:

National Green Hydrogen Mission

Strategic Interventions for Green Hydrogen Transition (SIGHT) Scheme	Development of Green Hydrogen Hubs	Standards, Certification and Safety	Strategic Hydrogen Innovation Partnership (SHIP)
A financial incentive mechanism with an outlay of USD2.1bn up to 2029-30 provides incentives for the manufacturing of electrolysers that are used for production of green hydrogen	In October 2025, the Ministry of New and Renewable Energy (MNRE) announced the recognition of three major ports – Deendayal Port Authority (Gujarat), V.O. Chidambaranar Port Authority (Tamil Nadu) and Paradip Port Authority (Odisha) – as Green Hydrogen Hubs under the NGHM. These coastal gateways will serve as integrated centres for production, consumption and export.	Launched in April 2025, the Green Hydrogen Certification Scheme of India (GHCI) provides a national framework to certify hydrogen as 'green' by assessing its greenhouse gas emissions across the entire production cycle. The scheme ensures that only hydrogen produced using renewable energy, and within the prescribed emission limits, can be officially labeled as green . It provides transparency, traceability and credibility for producers, buyers and export markets.	The NGHM fosters public-private partnerships (PPP) for R&D through the SHIP. It is designed to support the development of advanced, globally competitive hydrogen technologies through collaborative research involving government institutions, industry and academic organisations. The programme includes the creation of a dedicated R&D fund with contributions from both the government and industry.



The NGHM aims to create 600,000 clean energy jobs and attract USD92.0bn in investments by 2030, creating viable opportunities in the market.

3.1 Progress So Far

Credible progress has been achieved under the NGHM, with the allocation of 862,000 tonnes per annum of green hydrogen production capacity to 19 companies and 3,000MW of electrolyser manufacturing capacity to 15 firms to date. Since the green hydrogen market is in its nascent stage, participation has mainly been from diversified conglomerates or energy majors that have green hydrogen as part of their broader sustainability strategy. Reliance Industries Ltd (a leading energy player), for instance, is investing USD10.0bn to build a Green Energy Giga Complex. Similarly, Larsen & Toubro (engaged in engineering, construction and technology services) is building electrolyser manufacturing facilities and partnering with ReNew Power for large-scale hydrogen projects. In other positive signs for the industry, Indian Oil Corporation Ltd (IOCL) is setting up the country's first green hydrogen plant at its Mathura refinery, and the National Thermal Power Corporation (NTPC) Limited is piloting hydrogen mobility projects and developing production facilities at Vindhyachal. The government also aims for the NGHM to tap the export potential of green hydrogenby creating export corridors supported by Guarantees of Origin and compliance with EU Renewable Fuels of Non-Biological Origin (RFNBO) standards.

4. Emerging Opportunities

Increasing demand and government support have created a favourable growth environment for green hydrogen. The way forward is to explore all possible growth options within the segment.

Green hydrogen derivates – ammonia, methanol and synthetic fuels – can create multi-billion-dollar opportunities in various segments. India is currently the second-largest producer of conventional ammonia for fertilisers. Transitioning to green ammonia allows it access to market demand of around 200m tonnes annually by 2050, an estimate given by the global shipping industry. Similarly, green ammonia could lead to a dual-purpose product that provides fuel for the shipping industry and cleaner feedstock for fertilisers, benefitting the already strained agriculture sector. The shipping industry is also looking into green methanol, with shipping giant Maersk ordering methanol-powered vessels. Traditional methanol is a key input for plastics, paints and pharmaceuticals – all part of India's USD220.0bn chemical industry. A shift to green methanol could position India as a leader in low-carbon chemicals, attracting ESG-focused capital and creating premium pricing opportunities in global markets.

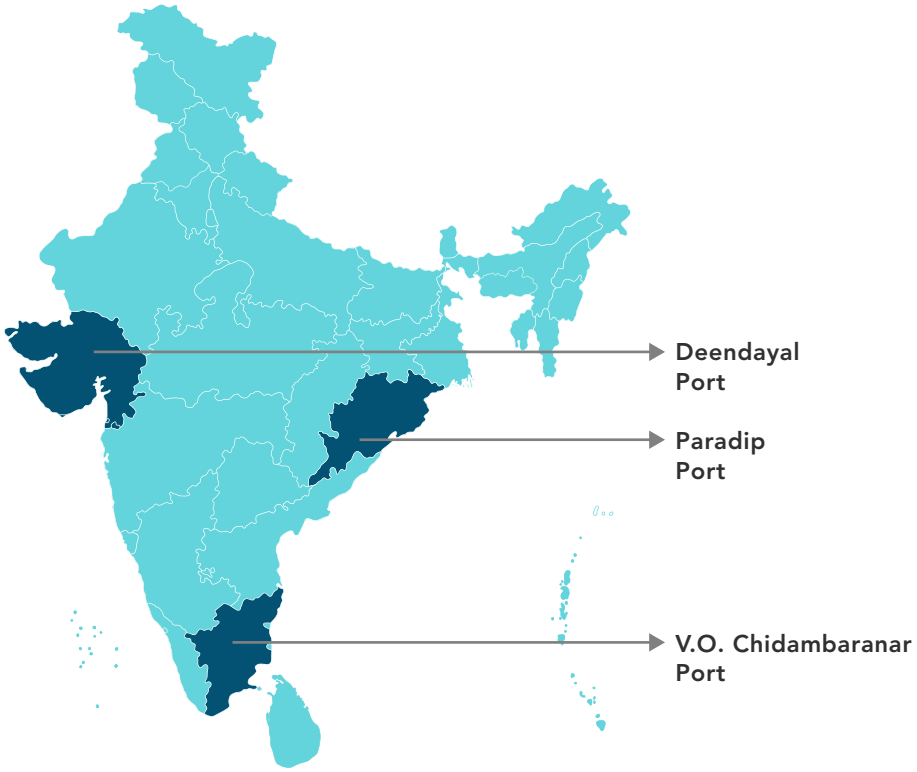
4.1 Creating an Ecosystem

Green hydrogen is produced by splitting water through electrolysis powered by renewable energy. For hydrogen to qualify as green, its carbon intensity must remain below strict thresholds – typically around 2kg CO2e per kg of H2 at the production site under global standards. This process is central to decarbonising hard-to-abate sectors such as steel, fertilisers and shipping, and aligns with India's net-zero ambitions for 2070.

Electrolysis is energy-intensive and the availability of low-cost renewable electricity, predominantly solar and wind, is essential for scaling up production. Electrolysis consumes roughly nine litres of water per kg of hydrogen, making availability of water a crucial aspect of the process. Once the green hydrogen is produced,

it requires specialised pipelines, compression systems, and storage facilities, as well as port facilities for exports, as it is quite volatile. Further, since green hydrogen is a at a fairly nascent stage both globally and in India, standardisation is of utmost importance to ensure emissions accounting and enable trade confidence.

India's First Green Hydrogen Hubs



Source: Ministry of New and Renewable Energy

Looking at these fundamental requirements for hydrogen production, there are various areas within India that could be viable for generation of green hydrogen.

- **Gujarat**: With the Deendayal Port in Kandla already recognised as a hydrogen hub, Gujarat is one of the leading states regarding green hydrogen generation. Apart from the port, cities such as Jamnagar, home to India's largest refinery complex, could anchor demand for green hydrogen in refining and petrochemicals. Vadodara and Bhavnagar are expected to benefit through component manufacturing and engineering services. The state can leverage its formidable expertise in petrochemicals to pioneer production in green methanol and synthetic fuels.
- **Odisha**: Odisha's green hydrogen strategy revolves around Paradip Port, which is emerging as a

coastal hub for production and export. The state has announced a USD4.8bn hydrogen hub and secured investments worth USD17.5bn for port-based projects. Paradip's industrial hinterland – steel and fertiliser plants – ensures strong domestic demand. Cities such as Paradip and Bhubaneswar could see growth in allied industries, while Angul and Jharsuguda will likely benefit from equipment manufacturing and skilled labour demand.

- **Tamil Nadu**: Tamil Nadu combines high wind potential with strategic port infrastructure. V.O. Chidambaranar Port is being developed as a maritime hydrogen hub, ideal for bunkering and shipping fuel applications. It will experience spillovers in electrolyser assembly and chemical processing, while Chennai can lead in financing and R&D. The state has attracted global investments worth USD 5.06bn for green hydrogen projects at VOC Port.
- **Andhra Pradesh**: The Pudimadaka cluster near Visakhapatnam is central to Andhra Pradesh's hydrogen ambitions. NTPC Green Energy is developing India's largest integrated hydrogen hub here, spanning 1,200 acres and targeting 1,200 tonnes per day of green hydrogen production. Visakhapatnam can benefit from port logistics and industrial integration, while Kakinada could see growth in fertiliser-linked hydrogen applications. Andhra Pradesh could leverage its long coastline for scalable desalination, making water availability a non-constraint for electrolysis. Additionally, Visakhapatnam's port logistics expertise can be extended to cryogenic hydrogen carriers and ammonia terminals, creating a dual-use infrastructure for domestic and export markets. The state could also become a testing ground for hydrogen-powered coastal shipping, reducing emissions in short-haul maritime trade.
- **Rajasthan**: Rajasthan's exceptional solar intensity makes it ideal for inland hydrogen production, primarily for domestic consumption in the steel and cement sectors. The state has announced a Green Hydrogen Policy (2023) and targets 2,000kilotonne per year production by 2030. Cities such as Jaisalmer and Barmer have potential to host large-scale solar farms and electrolyser parks, creating opportunities for engineering, procurement and construction contractors and ancillary manufacturing.
- **Maharashtra**: Maharashtra can build a green hydrogen ecosystem around Ratnagiri-Sindhudurg for coastal production and Nashik-Solapur for inland solar hubs. There is potential for demand from refining in Navi Mumbai, steel in Pune-Nagpur and mobility corridors such as Mumbai-Pune. The Jawaharlal Nehru Port (JNPT) and Mumbai Port can enable ammonia and e methanol exports and bunkering. Value addition can include electrolyser components and e fuel manufacturing in Aurangabad-Pune. Policy support should focus on RE wheeling waivers (which refers to the process of transmitting electricity generated at one location through the

state or national grid to another location for consumption), land aggregation and water reuse.

- **Karnataka**: Karnataka offers inland hydrogen clusters in Ballari-Koppal for steel and Chitradurga-Davangere for wind-solar hybrids. Demand anchors could include steel, cement and e methanol synthesis, with Bengaluru leading R&D and component manufacturing. Logistics will likely rely on ammonia rail corridors to Mangaluru Port. The state can specialise in Proton Exchange Membrane (PEM) components and advanced manufacturing. Policy priorities include green permitting, interest subvention and wastewater reuse.
- **Kerala**: Kerala's strategy can centre on maritime hydrogen applications via Cochin Port and Cochin Shipyard. Coastal hubs at Kochi and Kayamkulam can integrate RE and desalination for steady production. Initial demand can most likely be in shipping bunkering and hydrogen buses in Kochi-Thiruvananthapuram. Export logistics can focus on ammonia/e methanol terminals and cryogenic handling. Policy levers should include port fee rebates, green corridors and skill development for marine hydrogen safety.
- **Haryana**: Haryana's ecosystem can start with mobility-first hydrogen for trucking corridors and NCR industrial decarbonisation. Production hubs in Hisar-Sirsa and Gurugram-Manesar can serve auto clusters and refineries. Rail ammonia shipments and highway depots can support logistics. The state can focus on fuel cell assembly and testing labs. Policy measures can focus on fleet conversion mandates, green tariffs and land allocation for refuelling plazas.
- **Chhattisgarh**: Chhattisgarh offers heavy-industry decarbonisation through hydrogen substitution in steel, sponge iron and cement. Production hubs in Raipur-Bhilai and Korba can co-locate with DRI (Direct Reduced Iron) pilots and RE hybrids. Logistics will rely on ammonia rail movements and inland storage terminals. The state can build fabrication capacity for electrolyser frames and compressors. Policy enablers can include contracts for difference (CfDs) for DRI pilots and industrial water reuse mandates.

5. Technological and Financial Push

As the green hydrogen market is expanding, AI and green finance together can act as powerful enablers for India's green hydrogen transition. AI-driven insights and sustainable financing frameworks can accelerate project development, reduce risks and attract global capital. This synergy will help India scale green hydrogen adoption and strengthen its position in the clean energy economy.

5.1 Artificial Intelligence

Green hydrogen, by its nature, is technology driven and requires advanced infrastructural set-up for its successful and seamless implementation. The introduction of AI has created technological advances in business activity – and it could do the same for green hydrogen. AI is rapidly becoming a cornerstone of the green hydrogen ecosystem, driving efficiency and cost reductions.

Commercial viability for green hydrogen greatly depends on how efficiently a device converts electricity and water into hydrogen and oxygen. With the help of AI, this electrolyser process can be enhanced by dynamically adjusting variables such as electricity input, water quality and temperature, delivering efficiency gains. Predictive maintenance systems, leveraging machine learning, can reduce downtime and operational costs by nearly 25.0%, based on data shared by the International Energy Agency.

Beyond operational control, AI enhances renewable energy forecasting and grid scheduling, ensuring stable power supply for hydrogen production. For India, AI applications in green hydrogen present transformative opportunities aligned with the country's energy transition goals. According to data provided by the MNRE, India has a vast renewable base – over 180GW installed and some of the world's lowest solar tariffs – which creates an ideal environment for AI-driven optimisation of hybrid energy systems powering electrolysers.

Further, AI can help manage intermittency in states such as Gujarat and Rajasthan, where solar and wind resources dominate, ensuring continuous hydrogen production for industrial clusters. In trading and finance, AI combined with blockchain can enable transparent green hydrogen markets and certification systems, critical for India's export ambitions under the NGHM. Carbon arbitrage engins are another prospective market for green hydrogen-AI synergy. Carbon arbitrage engines represent a financial mechanism that exploits differences in carbon pricing across markets to make low-carbon hydrogen production economically attractive. According to the World Bank's State and Trends of Carbon Pricing 2025 report, carbon pricing now covers about 28.0% of global emissions and mobilised over USD100bn for public budgets in 2024, creating strong incentives for carbon credit-linked strategies.

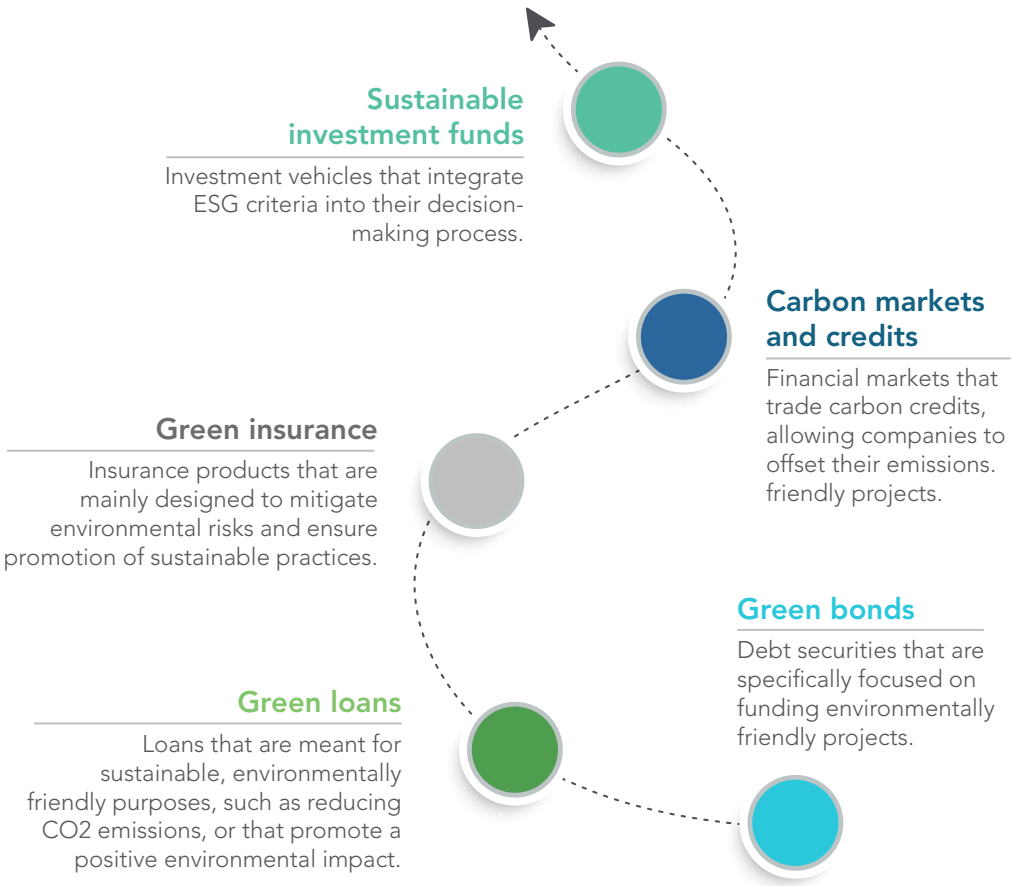
For India, the Carbon Credit Trading Scheme (CCTS) launched under the Energy Conservation Act provides a compliance and offset framework, with trading expected to begin in 2026, covering nine energy-intensive sectors including steel, cement and fertilisers – key consumers of hydrogen. This positions India to leverage carbon arbitrage engines for green hydrogen projects, aligning with its NGHM and export ambitions. Globally and in India, integrating AI and blockchain into these engines could unlock dynamic carbon pricing optimisation, enabling hydrogen producers to convert regulatory compliance into profitable decarbonisation pathways.

There is credible potential for green hydrogen generation in the country, along with great market potential and government policy support. The final cog in the machinery is the availability of finance to support production and implementation. The role of green finance becomes critical in this aspect for the seamless functioning of the sector.

5.2. Green Finance

Green finance pertains to financial investment that supports environmentally sustainable projects, products and policies and is in line with ESG principals. With climate risks escalating and ESG principles shaping global investment norms, green finance is fast becoming the backbone of industrial decarbonisation, clean energy transitions and resilient economic growth

Below are the central categories that green finance can be classified into:



Source: IBEF

Green finance has been gaining significant traction in recent years in India, with FDI in renewable energy staying above the USD2.0bn annual mark in FY2023 and FY2024. Sovereign green bonds, which were introduced in 2023, raised USD1.9bn in their first year and USD2.4bn in 2024. This signals both the government's commitment towards green energy and investor appetite towards environmentally friendly investment. India's regulatory landscape is embedding sustainability into the core of corporate governance, with the green bond norms of the Securities and Exchange Board of India (SEBI) and mandatory Business Responsibility and Sustainability Reporting (BRSR) for the top 1,000 listed firms driving ESG accountability.

The surge in ESG funds – up fourfold since 2020 – and the rapid adoption of sustainability-linked loans signal a structural shift towards green finance as a mainstream capital strategy. Based on market estimates, India's green finance market is projected to grow at 22.0–25,0% CAGR, creating a USD150.0bn-155.0bn opportunity by 2030.

The green finance market is also expected to evolve in the coming years, driven by financial innovation and technological integration. The next step is likely to be the rise of hydrogen-linked bonds and exchange-traded funds (ETFs), enabling investors to participate directly in India's green hydrogen ecosystem – a sector projected to attract USD92.0bn

in investments by 2030. The inclusion of blockchain-enabled platforms will facilitate real-time ESG verification and carbon credit trading, enhancing transparency and reducing transaction costs.

6. Key Challenges and The Way Forward

India's green hydrogen sector stands at a critical juncture, with ambitious targets under the NGHM and growing global interest. While the potential for industrial decarbonisation and export is immense, the market faces structural, technological and policy challenges that could slow adoption. Addressing these barriers is essential to achieve cost competitiveness and infrastructure readiness. The way forward lies in scaling domestic manufacturing, enabling supportive policies and fostering innovation for a sustainable hydrogen economy.

6.1 Challenges

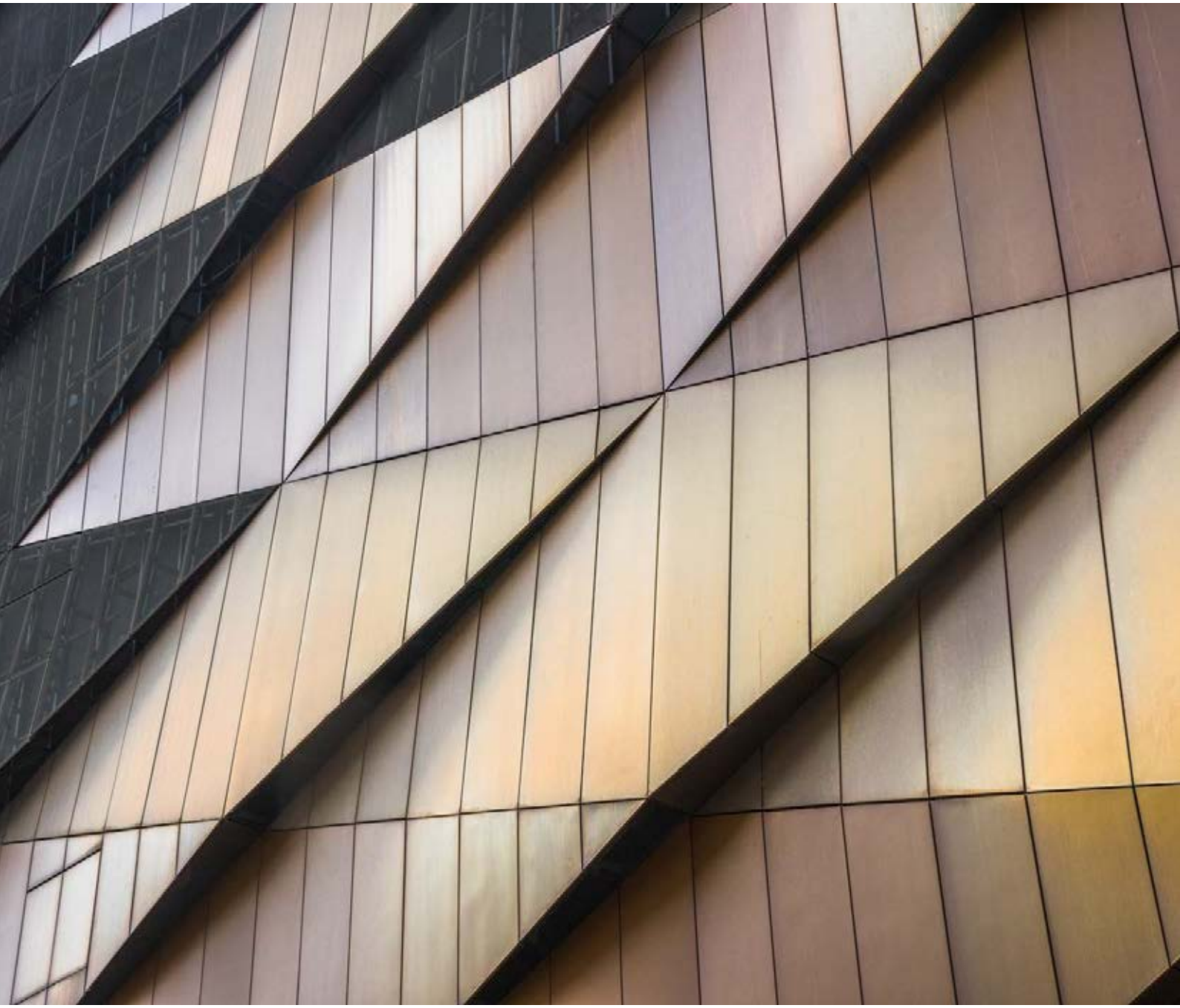
- High Production Costs: Current levelised cost of hydrogen (LCOH) for green hydrogen in India ranges between USD3.5–5.0/kg, significantly higher than grey hydrogen (USD1.5–2.0/kg). Electrolyser costs, renewable intermittency and storage infrastructure add to the expense.
- Infrastructure Gaps: India lacks dedicated hydrogen pipelines, cryogenic storage facilities and bunkering terminals. Transporting hydrogen or derivatives (ammonia, methanol) remains costly and logistically complex.
- Water and Renewable Integration: Electrolysis requires large volumes of purified water, posing challenges in inland regions. Renewable intermittency affects electrolyser utilisation, reducing economic viability.
- Technology and Supply Chain Constraints: Domestic electrolyser manufacturing is nascent, with dependence on imported PEM stacks and catalysts. Limited R&D and skilled workforce further slow adoption.
- Policy and Market Uncertainty: While the NGHM provides a roadmap, clarity on carbon pricing, offtake guarantees and long-term incentives are still evolving, creating investor hesitation.

6.2 Way Forward

- Cost Reduction through Scale and Localization: Accelerating domestic electrolyser manufacturing under the SIGHT programme, promoting indigenisation of critical components and leveraging economies of scale to bring the LCOH below USD2.0/kg by 2030.
- Infrastructure Development: Investing in hydrogen-ready pipelines, ammonia terminals and port bunkering facilities. Encouraging PPPs for storage and transport solutions.
- Renewable and Water Synergy: Deploying hybrid solar-wind projects with storage to ensure high electrolyser load factors. Promoting desalination on coasts and wastewater reused inland to address water constraints.
- Policy Certainty and Market Creation: Implementing CfDs, blending mandates in refining and fertilisers and green corridors for mobility. Introducing carbon pricing to incentivise industrial decarbonisation.
- Technology and Skills: Establishing hydrogen innovation hubs, funding R&D for advanced electrolysers and fuel cells, and launching skill

development programmes for safety and operations.

Green hydrogen is not just a technological innovation – it is a macroeconomic lever for India's sustainable growth. By reducing fossil fuel imports, which account for nearly 87.0% of crude oil demand, green hydrogen strengthens energy security and improves the current account balance. Green finance provides the capital backbone for scaling hydrogen infrastructure and industrial decarbonisation. Together, green hydrogen, green finance and AI position India to achieve its net-zero targets by 2070, create high-value jobs and emerge as a global hub for clean energy exports, embedding sustainability into the core of its economic strategy.



India's New Growth Frontiers: States Powering the Next Wave

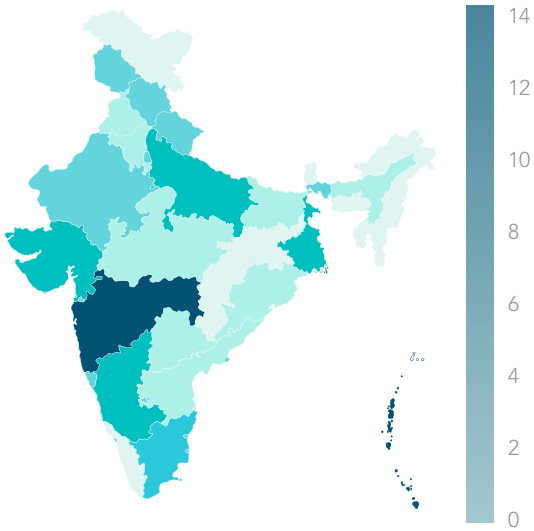
1. Introduction

According to the IMF World Economic Outlook for 2025, India has become the world's fourth-largest economy in nominal GDP, marginally overtaking Japan. This rise is powered by the performance and investment efforts of its states, with growth now spreading beyond traditional industrial clusters into tier-2 and tier-3 regions. Despite this diffusion, India's GDP remains anchored to a relatively small set of large states, though the composition within this group has shifted significantly over the past 12 years.

Maharashtra continues to be the single largest contributor to national output, though its share has eased from 14.8% to 13.3%. Tamil Nadu's and Uttar Pradesh's shares remain strong at 8.8% and 8.7%, respectively. However, the most notable gains come from Karnataka, which rose from 7.0% to 8.4%, and Gujarat, which climbed from 7.1% to 8.1%, driven by IT, services, manufacturing and energy. Telangana now contributes 4.8% following its separation from Andhra Pradesh, while Andhra Pradesh itself edges higher. Madhya Pradesh's share increased from 3.7% to 4.4%, entering the top ten and replacing Kerala. These movements underscore the strengthening of southern and western growth engines and the emergence of new corridors in central India. In contrast, Kerala, Punjab and Goa have seen their shares decline, signalling slower-than-average growth, while Bihar and Odisha have maintained their weight, suggesting growth close to the national average rather than a breakout.

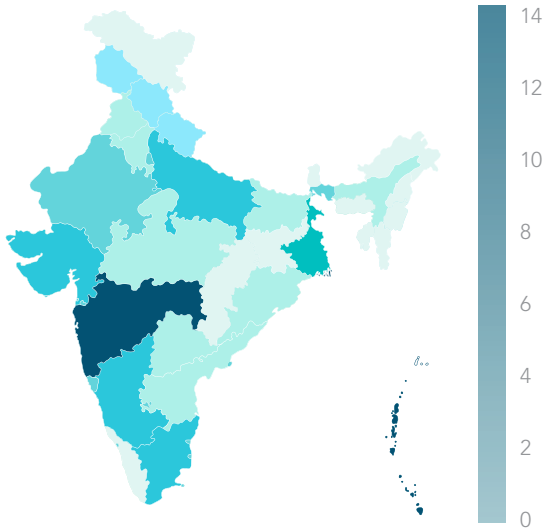
The GDP story
(A snapshot of the past)

Percentage Contribution to GDP by State and Union Terriotory in 2011-12



The GDP story
(A current look)

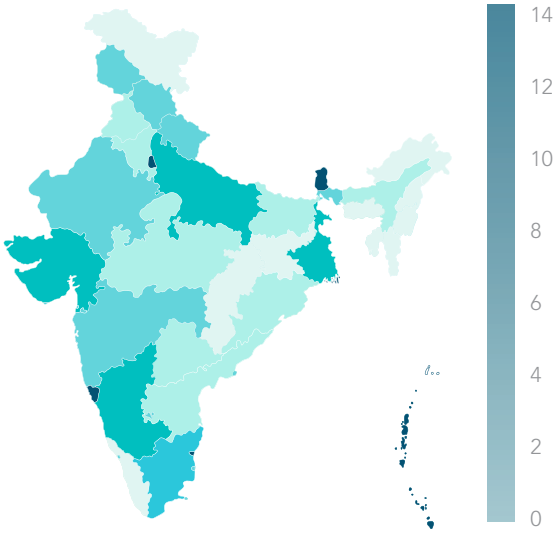
Percentage Contribution to GDP by State and Union Terriotory in 2023-24



Per capita income reveals even sharper contrasts. At the top are Sikkim, Goa, Delhi, Chandigarh and southern and western states such as Telangana, Karnataka, Tamil Nadu, Gujarat, Kerala and Maharashtra, with incomes ranging from INR0.28-0.35mn per person. The middle tier includes Andhra Pradesh, Himachal Pradesh, Punjab, Rajasthan, Odisha, West Bengal, Chhattisgarh, Assam and Madhya Pradesh, mostly between INR0.2-0.4mn. At the bottom are Jharkhand, Uttar Pradesh and especially Bihar, which have large populations but per capita incomes far below the leaders. This divergence explains why investment gravitates towards the south and west corridors, combining scale and income advantage, while policymakers face the challenge of accelerating income convergence in lagging heartland states for broad-based growth.

Per Capita Story

GDP per capita for the year 2023-24



Growth rates add another dimension to the story. While small northeastern states such as Mizoram, Sikkim and Tripura record the fastest growth — Mizoram at 10.01% and Tripura at 7.67% — their contribution to overall GDP remains limited due to their small size. The structural story lies with larger economies that combine size and speed. Gujarat (8.19%), Karnataka (7.83%), and Telangana (7.02%) stand out for strong growth, supported by industrial diversification, services expansion and infrastructure build-out. When covid years are excluded, Mizoram (11.79%), Gujarat (9.29%) and Karnataka (8.36%) remain at the top, confirming that their momentum is driven by deeper economic drivers rather than temporary rebounds. Assam and Haryana also feature prominently in sustained growth rankings. These states — already significant in GDP share and now demonstrating consistent growth — are shaping India's future economic map.

In summary, India's ascent to the fourth-largest global economy is underpinned by dynamic southern and western states and select central regions, which combine scale, income and sustained growth. Conversely, heartland states such as Uttar Pradesh and Bihar, despite their demographic weight, lag in per capita income and structural momentum, posing a critical policy challenge. The next phase of India's growth will depend on leveraging these high-performing corridors while ensuring inclusive development across lagging regions.

2. Policy measures

The government has implemented various initiatives and policies aimed at supporting growth and economic activity of various states. We look at these policies as a two-pronged approach by the government:

infrastructure and logistics, and business environment reforms and policy incentives.

2.1 Infrastructure Connectivity and Logistics Boost

One of the strongest catalysts for regional growth is India's aggressive push in infrastructure, especially in roads, railways and logistics. Better connectivity allows industries to expand into new locations while staying closely linked to major markets.

Delhi–Mumbai Industrial Corridor, and Amritsar–Kolkata, Chennai–Bengaluru and other planned industrial corridors are stitching together long manufacturing belts along India's busiest freight routes. Along the Delhi–Mumbai axis, states such as Uttar Pradesh, Haryana, Rajasthan, Madhya Pradesh, Gujarat and Maharashtra are seeing new industrial townships, smart cities, dedicated industrial parks and logistics hubs, dedicated freight corridors and major ports. Similar patterns are emerging on the Amritsar–Kolkata stretch through Punjab, Haryana, Uttar Pradesh, Bihar and West Bengal, and on the Chennai–Bengaluru and Bengaluru–Mumbai corridors across Tamil Nadu, Karnataka and Maharashtra, where industrial nodes are planned around automotive, electronics, textiles and engineering. Because land, utilities and logistics are planned together, these corridors are becoming anchor locations for the next generation of manufacturing and warehousing across multiple states.

Below is a brief overview of the initiatives that the government has undertaken in recent years

Highway Expansion	National and state-level expressway projects under Bharatmala are improving connectivity, reducing logistics costs and enabling manufacturing and tourism in remote areas. Madhya Pradesh, Rajasthan, Maharashtra, Gujarat and Karnataka lead these expansions, with NHAI monetising 1,470 km of highways and major upgrades in the Northeast.
Rail Freight Corridors	Western and Eastern Dedicated Freight Corridors spanning 2,800 km are transforming freight logistics with high-speed, electrified lines. These corridors are driving the development of logistics parks and export hubs in states such as Uttar Pradesh, Gujarat, Maharashtra and Haryana.
Port Development	Sagarmala is fostering port-led industrialisation by linking major ports with SEZs and industrial clusters. Coastal states such as Gujarat, Tamil Nadu, Andhra Pradesh and Odisha are building integrated port ecosystems, while inland waterways in the Northeast improve cargo movement.
Airport Development	UDAN has doubled India's operational airports to 159 and expanded regional connectivity through 625 routes. New airports such as Jewar (UP), MIHAN (Nagpur) and Dholera (Gujarat) are creating aviation hubs that support manufacturing and time-sensitive services.
Power and Green Energy Corridors	High-capacity transmission lines under Green Energy Corridor and the 500 GW plan are enabling large-scale renewable power evacuation. Hydro projects in the Northeast and solar-wind corridors in Rajasthan, Gujarat and Tamil Nadu strengthen India's clean energy infrastructure.
Urban Transit and City Logistics	Metro rail, bus systems and urban freight upgrades in metros and tier-2 cities are improving mobility and reducing congestion. States such as Delhi NCR, Karnataka, Maharashtra and Gujarat are building multimodal hubs that attract IT, services and manufacturing clusters.
Digital and Data Infrastructure	Fibre networks, 4G/5G rollout and data centre clusters in Mumbai, Chennai, Hyderabad, Bengaluru and Noida are powering digital ecosystems. BharatNet and rural connectivity initiatives extend high-speed internet to remote areas, enabling e-commerce, fintech and remote work.

2.2 Business Environment Reforms and Policy Incentives

Another critical driver is the marked improvement in ease of doing business and proactive state policies to attract investment:

Streamlined Approvals	States have adopted digital single-window clearance systems to simplify approvals, reduce delays and improve investment predictability. Platforms such as Nivesh Mitra (UP), Investor Facilitation Portal (Gujarat) and TS-iPASS (Telangana) exemplify this shift toward faster, transparent processes.
Investor Summits and Targets	Large investor summits and global roadshows are driving massive investment proposals across states. Events such as Uttar Pradesh's Global Investors Summit, Vibrant Gujarat, Magnetic Maharashtra and Advantage Assam have collectively attracted multi-trillion rupee commitments.
State Industrial Policies	Leading states have refreshed industrial policies offering flexible incentives such as capital subsidies, SGST reimbursements and sector-specific benefits. Policies in UP, Tamil Nadu, Gujarat, Odisha, Telangana and Karnataka target electronics, semiconductors, EVs and advanced manufacturing.
Production-Linked Incentives	The national PLI scheme incentivises incremental production across 14 sectors, boosting electronics, solar and automotive manufacturing. It has created hubs in Uttar Pradesh, Tamil Nadu, Karnataka and Maharashtra, while expanding industrial geography to emerging states like Assam.
Focus on Skill Development & Governance	States are prioritising human capital and law & order to attract long-term investments. Initiatives in Uttar Pradesh, Rajasthan and Madhya Pradesh focus on skilling and startup ecosystems, while Maharashtra, Karnataka and Tamil Nadu leverage strong education and urban infrastructure.

3. Rise of Tier-2 and Tier-3 Cities – Insights from the City Vitality Index

Perhaps the most defining trend in India's next wave of growth is the decentralisation of economic activity into smaller cities. As infrastructure and internet connectivity improve, many non-metro cities are developing into vibrant economic centres in their own right. Dun & Bradstreet's City Vitality Index (CVI), which uses high-resolution satellite data to track economic activity in over 700 districts, provides compelling evidence of this shift:

Rising non-metro cities

The latest rankings for emerging non-metro locations place Ahmednagar in Maharashtra at the top, followed by Prayagraj in Uttar Pradesh and North 24 Parganas in West Bengal, with Thane in Maharashtra and Kachchh in Gujarat completing the top five.

Across the top 25 emerging non-metro districts, Uttar Pradesh leads with six entries, followed by Maharashtra with five, Bihar with four, West Bengal and Gujarat with three each, Andhra Pradesh with two, and Rajasthan and Telangana with one each. This confirms the broader pattern in the Index, which highlights that growth is shifting beyond a narrow set of metros and that cities from Uttar Pradesh and Bihar are moving rapidly up the rankings.

- Uttar Pradesh

  Prayagraj and Gorakhpur anchor Uttar Pradesh's presence, supplemented by Deoria, Kushinagar, Barabanki and the state capital Lucknow. Prayagraj's rise to the top of the CVI in recent quarters is linked to event-led investments around the Kumbh Mela, which drove spending on urban infrastructure, services and tourism-related activity, with

spillovers into the surrounding districts. Deoria and Kushinagar are singled out in the latest release as large movers, with Deoria benefiting from expansion in agriculture and Kushinagar from tourism and connectivity improvements around the international airport and Buddhist circuit. Gorakhpur, backed by an expanding industrial base that includes fertiliser, chemicals and a growing industrial area under the Gorakhpur Industrial Development Authority, adds to this cluster of eastern Uttar Pradesh districts with rising industrial and services activity.

- Maharashtra

  Maharashtra's five entries show a mix of industrial, logistics and consumption-driven growth. Ahmednagar, which leads the emerging cities list, has developed into a major hub for auto and auto components, engineering, chemicals and agro & food processing within the state, supported by its location between Mumbai, Pune and Nashik and by a dense base of micro, small and medium enterprises. Thane benefits from strong integration with the Mumbai metropolitan region, including new mass transit and ring metro investments that link industrial areas with the main city, while Nashik and Nagpur combine manufacturing, services and logistics functions, with the MIHAN logistics and cargo hub in Nagpur positioned as a flagship project for multi-modal connectivity. Solapur rounds out Maharashtra's representation through a combination of textiles, agribusiness and renewable energy activity.

- Eastern corridor: West Bengal and Bihar gain ground

  Three districts from West Bengal feature in the top 25 list: North 24 Parganas, South 24 Parganas and Purba Medinipur. CVI and district profiles describe North 24 Parganas as a large industrial and agricultural district along the Hooghly River, with strengths in rice, jute and vegetables, as well as urban and peri urban manufacturing activity. South 24 Parganas and Purba Medinipur add coastal tourism, fisheries and port-linked services to this eastern growth corridor. Bihar's four districts Patna, Gaya, Muzaffarpur and Purbi Champaran underline how interior states are moving up the distribution.

- Gujarat and Andhra Pradesh

  Gujarat's entries Kachchh, Surat and Vadodara represent a combination of port-led growth, export manufacturing and diversified industries. The latest CVI release points to Kachchh's rise on the back of port-based logistics and mineral exports, while Surat remains a major centre for diamonds, textiles and petrochemicals, and Vadodara hosts engineering, chemicals and services.

  In Andhra Pradesh, Guntur and Chittoor bring strong agribusiness foundations into the list. Guntur is known as the chilli city of India, with extensive chilli cultivation and Asia's largest chilli market yard, and it also supports a wider base of mechanised agriculture and food processing. Chittoor has a dense network of food processing and dairy enterprises, with food industries accounting for a large share of units and employment in the district and dairy farming

recognised as a leading activity within the state.

- **Other emerging nodes: Jaipur and Ranga Reddy**

  Jaipur in Rajasthan and Ranga Reddy district in Telangana complete the top 25 set. Jaipur combines its role as the state capital and a tourism centre with a growing base in textiles, gems, jewellery, information technology and services, and is a key node in the Delhi-Mumbai Industrial Corridor.

  Ranga Reddy surrounds Hyderabad and hosts a significant share of the city's information technology parks, industrial estates and logistics infrastructure, reflecting how peri-urban districts around major metros are capturing new investment and jobs.

4. Conclusion

Although there is a long way to go with several issues and challenges that are highlighted in previous chapters, these are the states that are expected to play a pivotal role in India's GDP map because they have scale, speed and strong structural drivers.

1. Maharashtra

Maharashtra remains the largest state economy by GSDP and will almost certainly still hold that position in 2026, even though its national share has edged down slightly.

Its future outlook is anchored by:

1. A very deep base in finance (asset management, investment banks), business services (IT, Legal & BPO service) and creative industries (entertainment/film industry) in Mumbai and Pune.
2. Strong manufacturing in autos, engineering, chemicals and food processing.
3. Logistics assets such as JNPT, other ports and the Nagpur MIHAN cargo and special economic zone hub.
4. A rising group of tier-2 cities in the City Vitality Index such as Ahmednagar, Nashik, Nagpur and Thane that can absorb new investment.

Maharashtra will be a steady large contributor rather than the fastest grower, but its absolute increment in GSDP each year will remain the largest in the country.

2. Tamil Nadu

Tamil Nadu sits in the sweet spot as it is already among the top three in terms of GDP contribution, and it records strong GSDP growth and combines diversified manufacturing, a very strong information technology and services base, and proactive policymaking.

In the future, Tamil Nadu is likely to:

1. Consolidate its position as a leading electronics and mobile assembly hub through Sriperumbudur and adjoining corridors, under PLI and state incentives.
2. Strengthen its role as a clean energy manufacturing centre with facilities such as Tata Power TP Solar at Tirunelveli and large wind and solar capacity.
3. Leverage high human capital, strong social indicators and good urban infrastructure to keep attracting high-value services.

Tamil Nadu clearly belongs in the front rank of new growth corridors.

3. Gujarat

Gujarat has been one of the strongest performers on average growth in the last decade and is also a top five state by absolute GSDP.

Gujarat will likely in the future:

1. Remain a major industrial and export platform through its ports, special economic zones and industrial corridors under Delhi-Mumbai Industrial Corridor and Sagarmala.
2. Deepen new sectors such as semiconductors, chemicals, renewable energy and green hydrogen under state policies and PLI.
3. Benefit from Dholera, Kachchh and the Surat-Vadodara belt as logistics and manufacturing hot spots.

Gujarat is one of the clearest "banner" states in the western corridor story.

4. Karnataka

Karnataka combines a large share of information technology and business services with a strong record of GSDP growth over the past decade, averaging more than 7.0 %, and is building a rising electronics and advanced manufacturing base around Bengaluru, Mysuru and other emerging nodes.

The state in the future is likely to:

1. Remain one of the fastest growing large states even after adjusting for covid.
2. Benefit from the Bengaluru-Chennai and Bengaluru-Mumbai industrial corridors and from continued metro and city logistics upgrades.
3. Push into more electronics, aerospace and electric vehicles under its sector policies.

Karnataka will keep pulling high-value services, start-ups and advanced manufacturing into the southern arc.

5. Uttar Pradesh

Uttar Pradesh is the key transforming giant in our story, already one of the top two state economies by absolute GSDP, with a slightly rising national share and the highest revenue surplus among states, which together gives it meaningful fiscal space for capital spending.

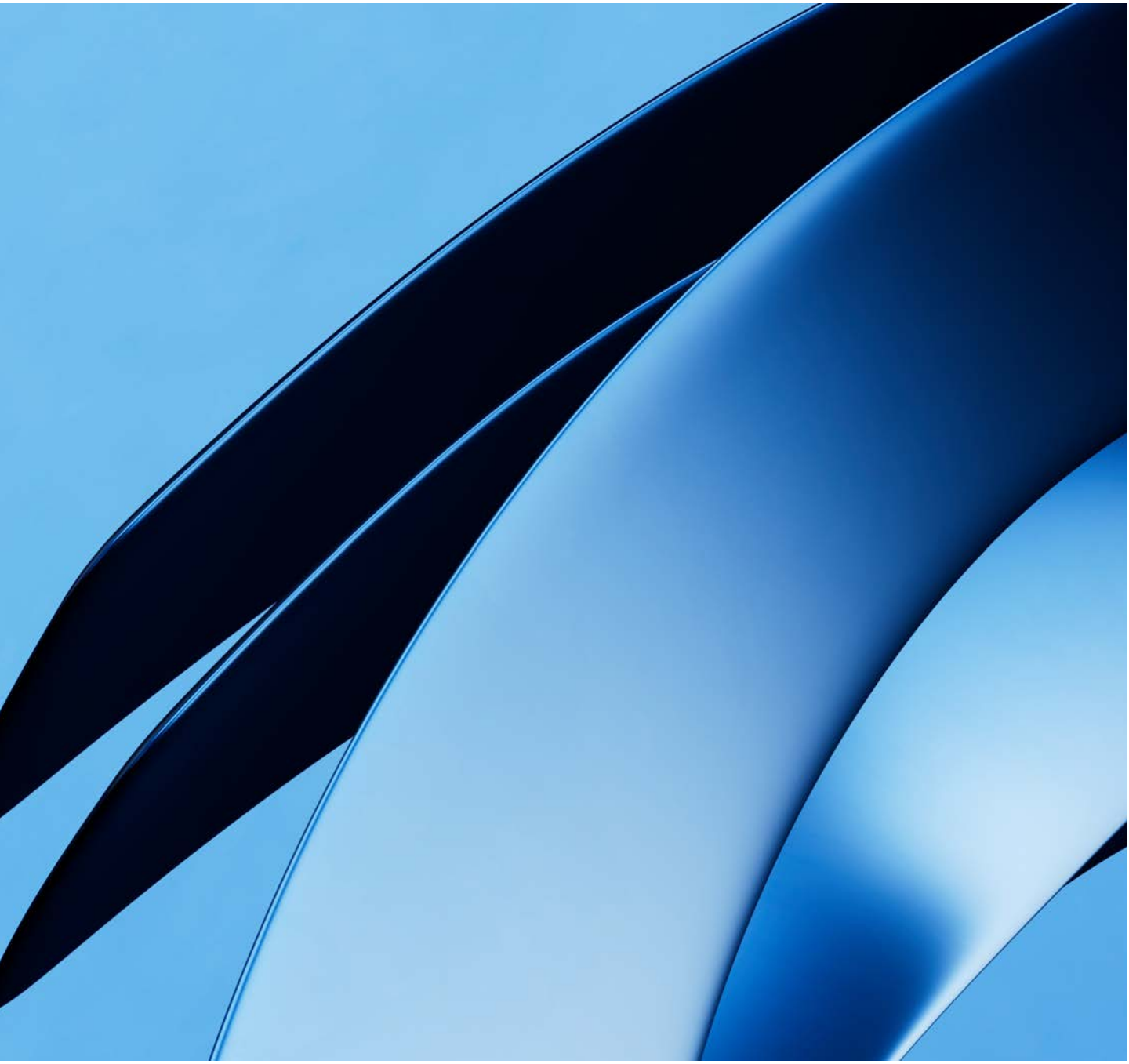
In the future, Uttar Pradesh is to:

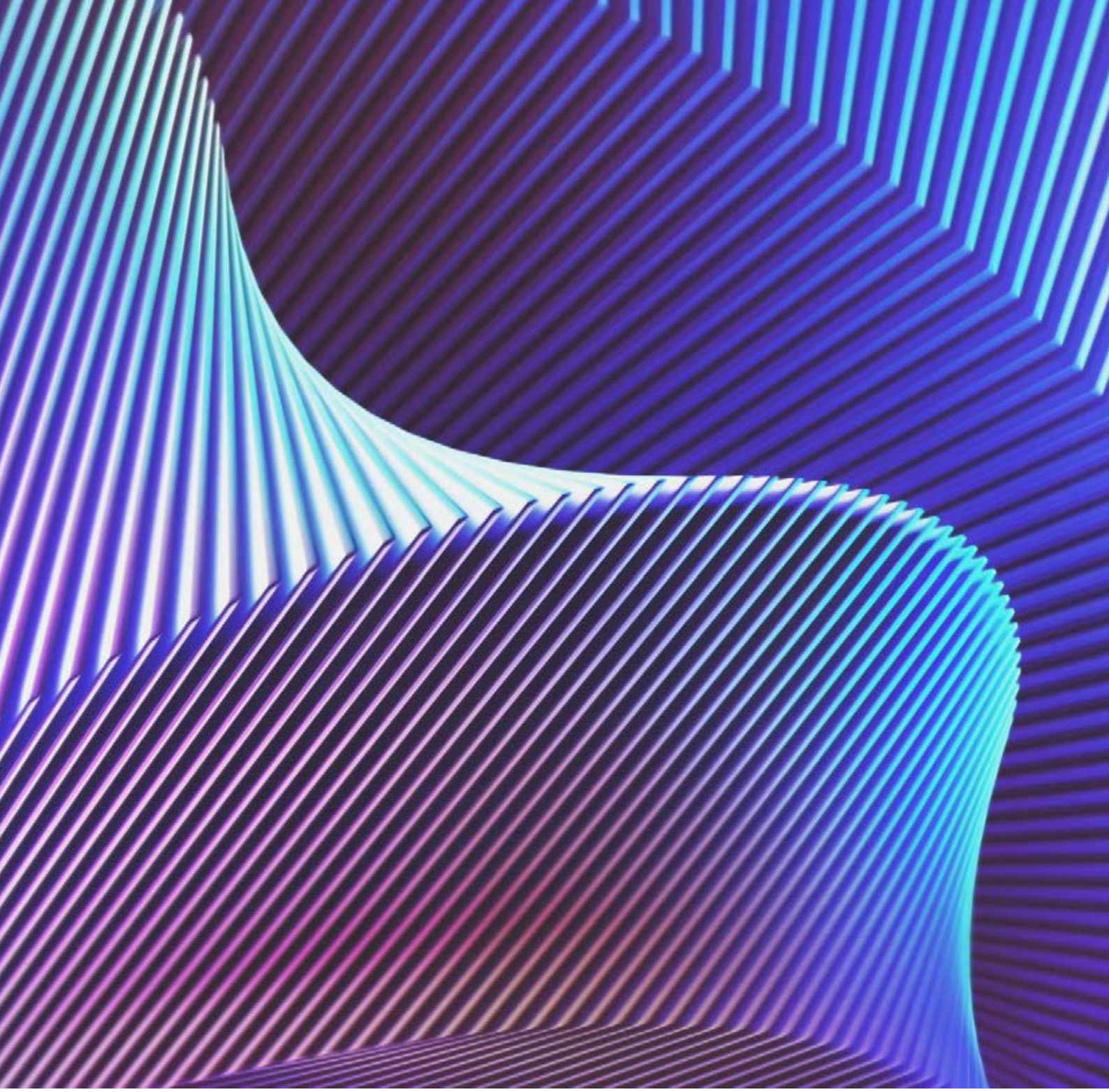
1. Gain from expressway networks, the eastern and western freight corridors, new industrial nodes and Jewar airport.
2. Convert a larger portion of its very large investment proposal pipeline from the Global Investors Summit into actual projects, especially in electronics, logistics, defence and green energy.
3. Benefit from improved law and order and stronger focus on skilling, education and social security, which are now central to its INR1 trillion economy narrative.

In absolute contribution to national GDP growth, Uttar Pradesh is likely to be one of the top two or three states through 2026.

India's rise as a global economic powerhouse is increasingly shaped by the dynamism of its states, which have become the primary engines of growth through scale, structural reforms and sectoral diversification. Southern and western states, along

with emerging corridors in the north, central and northeast, are driving this transformation by combining infrastructure upgrades, digital connectivity and proactive industrial policies with strong governance and human capital initiatives. These efforts not only attract investment and create new manufacturing and services hubs, but also broaden India's economic geography beyond traditional metros, fostering inclusive development. As states compete and collaborate to strengthen their economic ecosystems, their role in sustaining high growth and accelerating income convergence will remain central to India's long-term GDP trajectory.





Conclusion

India's economic outlook for 2026 and beyond reflects a dynamic and evolving landscape – marked by opportunities across multiple sectors and tempered by structural challenges that require careful navigation. The overall trajectory suggests steady progress, supported by domestic demand, infrastructure investment, and policy continuity. Yet, global uncertainties, trade disruptions, and execution risks remain important considerations, underscoring the need for resilience and adaptability.

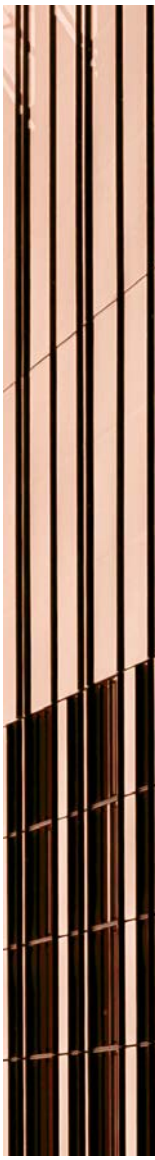
The growth narrative is increasingly shaped by diversification. Traditional engines such as manufacturing and services continue to play a central role, but manufacturing itself is evolving – moving from volume-driven models to value-driven strategies. Defence production, semiconductor ecosystems, and advanced electronics signal a new horizon for Manufacturing 2.0, powered by technology, design, and integrated supply chains. Alongside this renewed scope, emerging areas such as advanced technologies, sustainable energy, and digital platforms are becoming significant contributors. These shifts are not merely incremental; they represent a structural transformation in how value is created and distributed across the economy. Policy initiatives have laid the foundation for this transition, but their success will hinge on disciplined execution, robust infrastructure, and a workforce equipped with future-ready skills.

Technology stands out as a defining force in this transformation. Digitalisation, AI, and automation are no longer peripheral – they are becoming embedded in core economic processes. These advancements promise efficiency gains, improved service delivery, and new business models. At the same time, they introduce challenges related to governance, inclusivity, and cybersecurity. Ensuring that technology adoption benefits a broad spectrum of society will be critical to sustaining momentum and avoiding digital divides.

Sustainability is another theme that cuts across sectors. Climate resilience, resource efficiency, and low-carbon pathways are shaping investment decisions and operational strategies. Initiatives in renewable energy, green finance, and circular economy practices signal a shift toward environmentally responsible growth. However, these ambitions must be balanced with practical considerations such as cost competitiveness, infrastructure readiness, and regulatory clarity. The ability to integrate sustainability into mainstream economic planning will determine the credibility and durability of India's growth model.

Regional dynamics add further complexity. Economic activity is gradually decentralising, with tier-2 and tier-3 cities emerging as new growth nodes alongside established metropolitan hubs. This trend reflects improvements in connectivity, proactive state-level policies, and expanding digital infrastructure. While this decentralisation can broaden the growth base and reduce concentration risks, disparities in income, institutional capacity, and social indicators persist. Addressing these gaps through targeted interventions will be essential for inclusive development.

Across these dimensions, certain priorities stand out. Strengthening execution frameworks is critical to translating policy intent into measurable outcomes. Investment in human capital – through education, skilling, and health – will underpin productivity and innovation. Risk management, whether related to climate, technology, or global trade,



must become an integral part of planning. Equally important is fostering collaboration among government, industry, and civil society to ensure that growth strategies are both pragmatic and forward-looking.

In summary, India's growth story is entering a phase of transition. Structural drivers such as demographic advantage, digital adoption, and infrastructure expansion provide a strong foundation. Yet, the path ahead will test resilience amid global volatility and uneven regional progress. The coming years will require a balanced approach – leveraging opportunities in emerging sectors while reinforcing traditional strengths, embedding sustainability into economic planning, and ensuring that progress remains inclusive. With steady reforms, adaptive strategies, and a commitment to systems-led modernisation, India can convert stability into scale, technology into inclusive prosperity, and ambition into outcomes – positioning itself as a faster, cleaner, and more resilient economy in the global landscape.