HOW 'MAKE IN INDIA' IS STRENGTHENING MANUFACTURING INDUSTRIES IN INDIA

The 'Make in India' campaign was launched by Prime Minister Mr. Narendra Modi on September 25, 2014, as part of a wider set of nation-building initiatives. It aims to enhance India's position as a manufacturing hub for the world. The push came when the economy was slowing and the country needed fresh engines of growth. The campaign's main goals are to support investment, enhance innovation and build top-of-the-line infrastructure. Bold reforms and the 'Make in India' initiative over the past decade have started to make India an industrial powerhouse. The nation is now the world's second-largest mobile phone maker and its local electronics' production has boomed.

'Make in India' is built on four pillars aimed at improving competitiveness. These are:

- **New processes**: Streamlining regulations and enhancing the ease of doing business. This involves digitising approvals, reducing compliance burdens and simplifying procedures for enterprises.

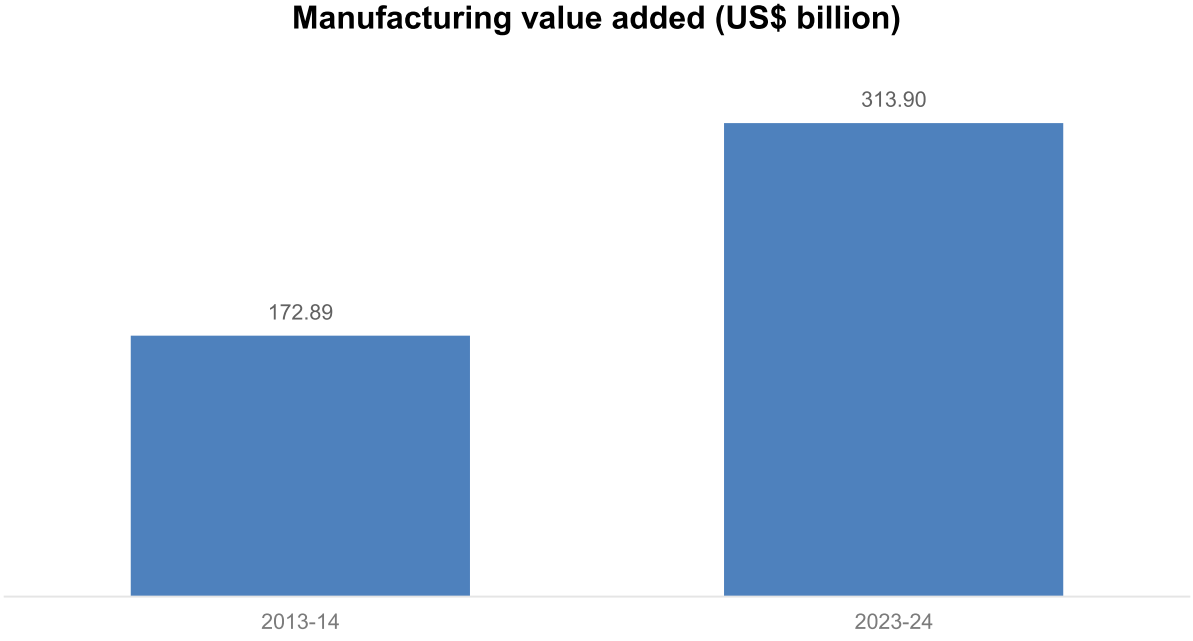
- **New infrastructure**: Building industrial corridors, smart cities and modern transport networks to provide factories with state-of-the-art facilities. Upgrading rail, road, ports, airports and communication networks under programmes such as PM GatiShakti to plug logistical gaps.

- **New sectors**: Opening previously restricted areas to foreign investment. Liberalising foreign direct investment (FDI) rules in sectors such as defence, insurance, railways and medical devices, and inviting global companies to set up factories. Introducing special incentives (such as Production-Linked Incentives [PLI]) in 14 key sectors, from electronics to pharmaceuticals to telecom to textiles, to spur large-scale investment.

- **New mindset**: Positioning the Indian government as a partner rather than a regulator. Enabling public agencies to work more closely with industry and embracing "Vocal for Local". Also, pursuing zero tolerance for corruption, to build investor confidence. Cutting bureaucratic red tape, and enabling policymakers to actively woo investors through roadshows and single-window clearance systems.

These reforms have yielded early wins. FDI inflow into manufacturing increased: during FY14-FY25, India received Rs. 16,62,036 crore (US$ 184.2 billion) of manufacturing FDI. Electronic hubs in Pune (Maharashtra) and Bengaluru (Karnataka) and smartphone factories in Chennai (Tamil Nadu) and Noida (Uttar Pradesh) were among the new factories that sprung up across states. Complementary policies have also been introduced by the government: the National Logistics Policy (2022) to reduce the cost of logistics and improve global rankings and Startup India (2016) to establish the third-largest startup ecosystem in the world, which has generated more than 17.69 lakh jobs by January 2025. By the 10th anniversary, the Make in India campaign had established

the manufacturing potential of India in the world map. In 2021, the programme was expanded into Make in India 2.0, which includes 27 sectors and introduces a new focus on advanced technologies, further developing the initial agenda and becoming a new impulse towards self-reliance.



Source: Press Information Bureau

Manufacturing is a critical pillar of India's economy and development. It creates high-value jobs, boosts exports and supports innovation and skill-building. As NITI Aayog notes, the strength of India's growth story is "inextricably linked" to the sophistication of its factory sector. Globally, economies that expanded manufacturing enjoyed faster GDP growth: for example, many East Asian countries reached manufacturing shares of GDP above 25-30% during their growth phases. By contrast, manufacturing in India today accounts for about 15-17% of GDP. This share is roughly comparable to recent levels (about 17.5% of gross value added (GVA) in 2023-24) but still below national targets (25% of GDP by 2025).

Yet while this gap has widened, the footprint of manufacturing has been growing. Production has roughly doubled in both output and value over the past decade. In constant prices, manufacturing value added increased from nearly Rs. 15.6 lakh crore (US$ 172.89 billion) in 2013-14 to about Rs. 28.25 lakh crore (US$ 313.90 billion) in 2023-24. Merchandise exports have also accelerated: in April-August 2025, merchandise exports totalled Rs. 16,61,404 crore (US$ 184.13 billion), with manufacturing (in electronics, auto components and textiles in particular) leading the way. The "manufacturing engine" of India is gradually getting back: estimates show that the sector may achieve an annual output of ~Rs. 87.6 lakh crore (~US$ 1 trillion) by FY26. If true, it could add approximately Rs. 45,11,500 crore (US$ 500 billion) per annum to the world economy by 2030, emphasising India's prospects as a leading world producer.

Manufacturing's evolution also brings broader benefits. It provides formal-

sector employment for millions: for example, the textiles and apparel industry directly employs over 45 million people (second only to agriculture). Expanding manufacturing thus means more higher-skilled jobs than agriculture or services alone can generate. The sector also acts as an innovation spur. Factory firms invest in research and development (R&D) and training. They also link farmers (as input suppliers) to markets and they build supply chains that benefit small businesses and regions. Furthermore, a strong manufacturing base improves India's global trade balance by reducing import dependence. Over the past decade, import content in many goods has fallen sharply. For instance, mobile phone imports covered 75% of demand in 2014-15, but only 0.02% by 2024-25. Thus, even as manufacturing's GDP share is climbing slowly, its absolute growth and multiplier effects are significant for India's economy and for moving toward the country's Vision of Viksit Bharat 2047.

KEY STATISTICS HIGHLIGHT THIS TRANSFORMATION

- **Production growth:** Electronics manufacturing (including mobiles) has seen ~6× growth in output since 2014, largely due to new factories and PLI schemes. Auto and auto-component production accounted for over 3.10 crore vehicles in FY25, making India the fourth-largest auto producer globally.

- **Exports:** Indian manufacturing exports are rising. In April-Aug 2025, merchandise exports reached Rs. 16,61,134 crore (US$ 184.1 billion) (up 2.5% YoY). Basic metals (steel, aluminium) and electrical equipment were among the fastest-growing categories. Turnkey areas such as smartphones have seen record exports: for example, in 2025-26 the first five months saw smartphone exports cross Rs.1 lakh crore (up 55% from a year ago).

- **Investment:** The sector has attracted large capital flows. Over 2014-25, India received Rs. 65,36,275 crore (US$ 748.8 billion) in FDI (all sectors), with manufacturing alone getting about Rs. 16,61,134 crore (US$ 184.2 billion) in equity inflows. PLI schemes alone have pledged Rs. 1.97 lakh crore (US$ 22.57 billion) and induced Rs. 1.76 lakh crore (US$ 19.51 billion) of investments across 14 strategic sectors. By March 2025, PLI projects had generated an estimated Rs. 16.5 lakh crore (US$ 182.87 billion) in production and created over 12 lakh jobs.

However, challenges remain. The manufacturing sector's share of GDP has

hovered around the mid rather than rising as fast as planned. For instance, the PLI programme originally aimed to push manufacturing to 25% of GDP by 2025, but by 2024-25 that share was only about 14%. Analysts note that slower startup of some PLI projects and bottlenecks (such as slow subsidy payments) have constrained growth. Continuing to reform labour laws, improve infrastructure and accelerate technology adoption will be crucial for sustaining the momentum in the years ahead.

SECTORAL IMPACT

The 'Make in India' campaign has targeted specific industries to spur rapid development. Across key sectors – electronics, pharmaceuticals, automobiles, textiles, defence, and others – we see concrete successes and ongoing initiatives:

- **Electronics and mobile manufacturing**

India's electronics industry has thrived as part of the 'Make in India' campaign. Since 2014, electronics manufacturing surged to Rs. 11.3 lakh crore (US$ 125.24 billion) from Rs. 1.9 lakh crore (US$ 21.06 billion) (~6× increase). Exports of electronics goods increased from Rs. 38,000 crore (US$ 4.21 billion) to Rs. 3.27 lakh crore (US$ 36.24 billion) (~8x increase). The mobile phone units manufacturing increased from only two in 2014 to around 300 by 2024, a jump of over 150 times. The value of mobile phone production doubled, from Rs. 18,000 crore (US$ 1.99 billion) to Rs. 5.45 lakh crore (US$ 60.40 billion). India is now the world's second-largest mobile manufacturer. Its dependence on imports significantly decreased from 75% in 2014-15 to almost zero by 2025.

The major forces are the PLI schemes: special incentives on mobile manufacturing and electronic components have attracted several large players (including Foxconn, Dixon and Lava), and brought over Rs. 34,916 crore (US$ 4 billion) of FDI in electronics since 2020. Electronics manufacturing clusters (EMCs) were also established by the government and the custom duties on components were reduced. This has seen nations increasing the amount of

electronics being obtained in India. The factories of laptops and smartphones have been located in Tamil Nadu, Karnataka and Andhra Pradesh as an example. The clusters have an advantage of local supply chains (circuit boards, plastic casings) and skilled labour.

Key facts: Production of electronics goods grew roughly by 6× (2014-25), mobile manufacturing units by 150× and mobile exports by 127×. India now ranks among the world's largest makers of tablets, laptops, TVs and home appliances as well. Future initiatives (part of Make in India 2.0) include a National Programme on Advanced Chemistry Cells (for electric vehicle [EV] batteries) and support for domestic semiconductor fabs, aiming to make India self-sufficient in chips and electronics materials.

- **Pharmaceuticals and Medical Devices**

India's pharmaceutical industry is often called the "Pharmacy of the World". It is the world's third largest in volume (producing generic drugs) and 14th in value. India supplies over 50% of global demand for vaccines and about 20% of global generics. The sector's turnover reached roughly Rs. 4.17 lakh crore (US$ 46.22 billion) in 2023-24, with annual growth over 10% in recent years. India moved from being a net importer of key bulk drugs to a net exporter (surplus of Rs. 2,280 crore [US$ 252.7 billion] in FY23).

Policy support has played a major role. The government has liberalised drug approvals, strengthened regulatory infrastructure and launched major incentive schemes. The PLI scheme for Pharmaceuticals (Rs. 15,000 crore [US$ 1.66 billion]) and the smaller Scheme for Strengthening of Pharmaceuticals Industry (SPI) scheme (Rs. 500 crore [US$ 55.4 million]) are funding expansion of active pharmaceutical ingredient (API) plants and advanced drug manufacturing. In medical devices, a dedicated PLI (Rs. 3,000 crore [US$ 332.5 million]) is boosting local production: as of 2025, 21 new projects are manufacturing sophisticated devices such as MRI machines, CT scanners, heart valves, stents and dialysis machines.

The industry is globally competitive given high quality and low cost. Indian firms such as Sun Pharma, Dr. Reddy's and Cipla have grown outside of their home country. On the output side, there are big greenfield and brownfield investments underway (e.g., new bulk drug parks in Gujarat and Andhra Pradesh). The COVID-19 pandemic reinforced this strength: Indian companies filled large segments of global vaccine demand and increased production of oxygen concentrators, helped by PLI and logistics reforms.

Key facts: The turnover was Rs. 4.17 lakh crore (US$ 46.22 billion) for pharma sector in 2023-24. In three years, cumulative PLI-led pharma sales have been Rs. 2.66 lakh crore (US$ 29.48 billion) of which Rs. 1.70 lakh crore (US$ 18.84 billion) were exports. India's vaccine manufacturing clout through companies such as Serum Institute and Bharat Biotech now outweighs that of most developing countries from which

supplies are demanded.

- **Automobiles and electric vehicles (Evs)**

Automotive manufacturing is a cornerstone of Indian industry. It contributes about 7.1% to GDP and roughly 49% of manufacturing GDP. In FY25, total vehicle production (including passenger vehicles, commercial vehicles, two- and three-wheelers) was over 3.10 crore units. India is the fourth-largest auto producer in the world, with major companies such as Maruti Suzuki, Tata Motors, Mahindra & Mahindra, and foreign automakers (Hyundai, Toyota, Ford) operating large plants.

Under the 'Make in India' initiative, policies have pushed for greater localisation and new segments. Import duties on auto components were raised while PLI schemes for auto parts and advanced batteries were introduced. The government's push for EVs (through FAME II incentive scheme and PLI for Advanced Chemistry Cell batteries) has encouraged investments from players such as Tata, LG Chem and Amara Raja in battery giga factories. India plans to increase electric vehicle manufacturing (production of electric two- and three-wheelers has surged) by 2030 to curb oil imports and pollution.

Regional clusters illustrate this growth. Tamil Nadu's automotive hub around Chennai and Hosur (sometimes called the "Detroit of India") houses factories for Hyundai, Ford, Renault-Nissan and Ashok Leyland, along with many auto parts suppliers. The state government has developed integrated auto parks and testing facilities to attract investment. In Maharashtra, Pune hosts assembly lines for Mercedes-Benz, Volkswagen and Bharat Forge's component units. This network of factories also serves exports: India exports cars and motorcycles to Europe, Africa and Southeast Asia.

Key facts: The auto sector generates millions of jobs (directly and in ancillary industries). In FY25, it produced over 3.1 crore vehicles. EV sales are rapidly growing YoY (though starting from a smaller base). By improving road and charging infrastructure (e.g. over 500 new charging stations added), the government is working to sustain this momentum.

- **Textiles and apparel**

Textiles and apparel are one of India's largest and most traditional industries. It accounts for about 2.3% of GDP, 13% of industrial production and 12% of exports. The sector provides livelihoods to over 45 million people (after agriculture, the biggest employer), notably in rural and small-town areas. It also has a strong presence of women workers. About 80% of textile manufacturing is done by micro, small and medium enterprises (MSMEs) organised into clusters.

'Make in India' has supported textiles through schemes and modernisation. Seven PM-MITRA (Mega Integrated Textile Region and Apparel) parks have been approved, with Rs. 4,445 crore (US$ 492.6 million) budgeted through 2027-28. These mega parks (located in Madhya Pradesh, Tamil Nadu, Gujarat, Andhra

Pradesh, Karnataka, Uttar Pradesh, Telangana) will offer plug-and-play facilities for yarn, garment and technical textiles production, attracting around Rs. 70,000 crore (US$ 7.76 billion) of investment and creating ~20 lakh jobs. For example, the first PM-MITRA park at Dhar, Madhya Pradesh (inaugurated September 2025) spans 1,300 acres with 80+ units already allocated. It is expected to generate about 3,00,000 jobs, turning Dhar into a modern textile export hub.

On the demand side, export promotion measures such as special export zones for instance and 'Make in India' branding (for cotton, silk, handicrafts) have found favour and helped raise global sales. Indian handloom brands, as well as bridal wear and sportswear labels are influencing foreign markets. The momentum on skills upgradation via National Handloom Development Programme (NHDP) and skill centres is also modernising the workforce.

Key facts: The textiles sector is projected to grow to about Rs. 31,58,050 crore (US$ 350 billion) by 2030, driven by rising domestic consumption and exports. It directly employs over 45 million people. The spread-out MSME clusters mean that policy support (such as easy credit and infrastructure) has a strong multiplier: a modern spinning mill or garment factory in a cluster often uplifts dozens of small suppliers (weavers, dyers, print workshops) in the surrounding area.

- **Defence and Aerospace**

One of the most striking successes of the 'Make in India' campaign is in defence manufacturing. India was historically a major importer of military equipment; today it is rapidly shifting to exporter status. Indigenous defence production hit a record Rs. 1,50,590 crore (US$ 16.69 billion) in FY25, up 18% from the previous year and a 224% increase over 2014-15. Defence exports have surged as well: from just Rs. 686 crore (US$ 76 million) in 2013-14 to Rs. 23,622 crore (US$ 2.62 billion) in 2024-25 (a 34-fold rise). These exports now reach over 100 countries (including the US, France and Armenia in 2023-24), and include products such as bulletproof jackets, radars, Chetak helicopters, Dornier aircraft and interceptor boats.

These advances come from concerted efforts: removal of 100% FDI restriction in the defence sector, establishment of defence industrial corridors (Tamil Nadu and Odisha are such examples) and wider private sector engagement. The use of public sector companies such as Hindustan Aeronautics (HAL) and Bharat Electronics (BEL) to manufacture fighter aircraft (LCA Tejas), tanks (Arjun), helicopters (Dhruv, Cheetah), artillery pieces and ships has brought in private

sector companies, such as Tata, L&T and Mahindra, as partners. The government also announced five items of 'Positive Indigenization Lists' that have to be produced domestically, totalling more than 5,500 components; by the end of February 2025, over 3,000 of these had been localised.

The space and civil aviation sector are a beneficiary of this ecosystem. Aircraft maintenance and manufacturing facilities are growing. Startup India has a National Aerospace & Defence Industrial Corridor joining Karnataka and Tamil Nadu to promote drones, satellites and UAVs startups. While commercial aerospace data is less available, the trajectory is evident: Indian-engineered aircraft components and systems are getting made at home.

Key facts: Production of indigenous defence has increased three-fold since 2014. India is now producing more than 1,500 items in defence. There is also the export of high-tech goods (light torpedoes, sonar systems, etc.) and the Indian defence products are developing in the world market. Some of these efforts, such as the Defence Acquisition Policy (requiring transfer of technology) and specific investment (e.g. Rs. 8,000 crore (US$ 916.5 million) in R&D in defence will define the future development.

- **MSMEs and cluster development**

MSMEs are the backbone of Indian manufacturing. They account for more than 80% of all factories (by number) and produce many subcomponents and inputs for large industries. Under the 'Make in India' initiative, there has been emphasis on strengthening MSMEs and industrial clusters. For example, textile and leather clusters have received financial assistance for machinery modernisation. Tax and compliance reforms have reduced burdens on small firms. A recent report notes that MSMEs and export sectors have been empowered with rationalised GST rates and faster refunds in industries such as textiles, handicrafts, toys and leather. Lower GST on logistic equipment (trucks, vans) also cuts costs for these businesses.

Several industrial clusters and parks have been developed to concentrate resources and supply chains. Besides PM-MITRA textile parks, India now has multiple electronics clusters (Noida's EMC, Gujarat's GIDC zones), automobile hubs and special economic zones for pharma. Technology adoption is being encouraged: programmes such as Digital MSME and Technology Centres create shared R&D and testing facilities for small firms. Credit schemes (such as the 59-minute loan portal) ensure faster financing.

Through these measures, many previously informal SMEs have become more competitive. For instance, thousands of small auto-parts vendors in Pune and Bengaluru have upgraded tooling to supply international carmakers, thanks partly to vendor development programmes. Similarly, dozens of tiny toy and handicraft units

have tapped export orders via dedicated assistance. In sum, the 'Make in India' initiative is helping clusters move up the value chain rather than remain mere assemblers of cheap labour.

State and regional successes: Real-world examples underscore the grassroots impact. For example, the Dhar Textile Park in Madhya Pradesh (mentioned above) has attracted garment exporters to an inland location. In Tamil Nadu, the automotive corridor around Chennai-Hosur employs millions in vehicle production and component suppliers. Telangana has established a Defence Corridor (centred on Hyderabad and Warangal) to host production by Public Sector Undertakings (PSUs) and private firms. These state-level hubs complement the national push by tailoring local strengths (raw materials, skills) to sectoral growth, illustrating the distributed nature of Make in India's impact.

MAKE IN INDIA 2.0 AND FRONTIER TECHNOLOGIES

Building on the first phase, 'Make in India 2.0' emphasises advanced, high-tech manufacturing and integration of frontier technologies. The government has explicitly linked this to the Viksit Bharat 2047 vision of a developed India, aiming to raise manufacturing's GDP share to ~25% by 2035 and to become a global innovation hub by 2047. A new policy framework, the National Manufacturing Mission (NMM) (announced in Budget 2025-26), provides the strategic backbone. The NMM is a mission-mode programme across ministries and states, designed as a "single, unified vision" to boost innovation, competitiveness and capacity in key sectors. It explicitly focuses on emerging areas such as electric vehicle batteries, green hydrogen, solar photovoltaics and advanced materials, aligning industrial growth with sustainability goals. The NMM also targets skill development and cleaner manufacturing, making India's industrialisation compatible with its net-zero commitment by 2070.

A centrepiece of 'Make in India 2.0' is the adoption of frontier technologies in manufacturing. NITI Aayog's roadmap identifies key "4.0" technologies including artificial Intelligence (AI), digital twins, robotics and advanced materials as enablers of a factory transformation. The goal is to embed these digital and smart solutions deeply into Indian factories to boost efficiency, flexibility and quality. For example, AI-powered predictive maintenance and robotics are being piloted in automotive

plants; digital twin simulations help design production lines for complex products such as aircraft; and new materials (such as composites) are used in aerospace and defence manufacturing. By 2035, accelerated technology adoption could raise manufacturing's share of GDP to ~25% and create over 100 million high-quality jobs. NITI's analysis suggests that failing to adopt these technologies could leave India's manufacturing share around 9-10% by 2035, whereas full adoption adds US$ 1 trillion to manufacturing GDP by 2047 and yields 100+ million skilled jobs.

To realise this vision, Make in India 2.0 leverages new policy tools. The PLI programmes themselves now include cutting-edge segments: for instance, the PLI for Drones and Aerospace Components encourages local development of autopilot systems and avionics. The government is also encouraging "Industry 4.0" investments through tax breaks for automation (under the Income Tax Act) and funding for tech upskilling. State governments have launched innovation missions (e.g. the Tamil Nadu Precision Engineering Mission, Maharashtra EV Mission) to promote sectoral R&D and startup incubation. Public–private partnerships and research consortia are being set up in institutions such as IITs and IISc to develop manufacturing-grade AI and 3D printing capabilities.

The frontier tech push is tied to the National Manufacturing Mission's broader agenda. The NMM envisages modern clusters and digital infrastructure. For example, the government plans special "Manufacturing Innovation Centers" which will house testbeds for Industry 4.0, accessible to large firms and MSMEs alike. New Public Procurement policies may require government projects to use domestic smart products (AI-enabled robotic machinery, drones for survey etc.). The idea is not just incremental factory upgrades, but re-engineering the entire ecosystem. If implemented effectively, India could leapfrog older manufacturing models and emerge as a global leader in advanced production by mid-century.

FUTURE OUTLOOK

Looking ahead to 2047, Make in India aims to make manufacturing a prime engine of a $35 trillion economy. By then, the goal is for manufacturing to contribute roughly one-quarter of GDP, as part of the broader Viksit Bharat 2047 vision. The policy roadmap includes scaling up infrastructure (industrial corridors, ports, power grids); promoting deep technology adoption (5G/6G networks, IoT for factories); and

intensifying skill programmes (vocational training tied to cluster needs). The National Logistics Policy and Industrial Corridors initiative will continue improving connectivity and reducing costs. The government has set targets (e.g. raising annual FDI to Rs. 8,72,900 crore (US$ 100 billion), getting logistics costs down to 8% of GDP) to measure progress.

The next decade is framed as India's "Manufacturing Decade," capitalising on shifting global supply chains. By offering reliability, scale and a large domestic market, India hopes to attract companies looking to diversify from China or Association of Southeast Asian Nations (ASEAN). Bilateral and multilateral trade agreements (with Australia, EU, UK, etc.) are being negotiated to provide market access for Indian goods. In parallel, policies such as PLI may be extended or refreshed to maintain investment momentum. There is also talk of a new "Defence Industrial Export Policy" to further boost arms exports.

However, sustaining progress will face challenges. India must continuously improve its competitive advantages. Land acquisition and financing hurdles often slow factory projects and will need further streamlining. Export competitiveness depends on productivity – closing the gap with global leaders requires both technological upgrades and workforce skilling. Environmental compliance and the shift to clean manufacturing also pose short-term cost challenges (e.g. higher input costs under carbon taxes). Geopolitical risks and trade tensions mean that India will have to diversify its export destinations and raw material sources. Moreover, unless frontier technologies are widely adopted, India may miss out on a significant share of global manufacturing value – as one analysis warns, failing to scale up tech use could reduce manufacturing's GDP contribution to under 10% by 2035.

Maintaining momentum will thus demand continued policy focus. The government is likely to persist with reforms (e.g. further labour law simplification, power sector improvements) to ease doing business. Ensuring that PLI and other incentive schemes deliver as intended will be crucial (addressing any bottlenecks in implementation and subsidy disbursement). Strengthening vocational education and apprenticeships will help meet the need for millions of skilled technicians and engineers in new factories. Efforts to improve supply chain integration, such as developing domestic sources for critical inputs such as semiconductors and specialty chemicals, will reduce vulnerability.

In summary, the 'Make in India' campaign has set the foundation for a manufacturing-led future, but realising that future fully will require perseverance. The Viksit Bharat 2047 targets are ambitious: they assume a transformation of India's industrial landscape. With coordinated policy measures such as the National Manufacturing Mission and active promotion of cutting-edge manufacturing, India has a clear roadmap for this transformation. The coming years will test the ability of policymakers and industry to build on this platform. If successful, India could shift from being a regional producer to a manufacturing and innovation powerhouse, with millions of new jobs and a stronger economy to match its ambitions.