



Flanders
State of the Art

LIFE SCIENCES INDUSTRY

IN INDIA

FLANDERS INVESTMENT & TRADE MARKET SURVEY

////////////////////////////////////
LIFE SCIENCES INDUSTRY IN INDIA

Publication date / December 2022

////////////////////////////////////

Flanders Investment & Trade - Bangalore
T +91 80 4333 3902 / 4333 3903
bangalore@fitagency.com

CONTENT

- 1. SYNOPSIS 4
- 2. OVERVIEW OF INDIAN LIFE SCIENCES INDUSTRY 5
- 3. BIOTECHNOLOGY SECTOR IN INDIA 6
 - 3.1 Market Size 7
 - 3.2 Future of the Sector 8
 - 3.3 Sector Related Organizations 9
- 4. PHARMACEUTICAL SECTOR IN INDIA..... 10
 - 4.1 Market Size 12
 - 4.1.1 Export Trends 13
 - 4.2 Future of the Sector 15
 - 4.3 Sector-Related Organizations 16
- 5. MEDICAL DEVICES SECTOR IN INDIA 17
 - 5.1 Market Size 18
 - 5.1.1 Export and Import Trends 21
 - 5.2 Future of the Sector 22
- 6. MEDTECH SECTOR IN INDIA 23
 - 6.1 Market Size 23
 - 6.2 Future of the Sector 25
 - 6.3 Sector-Related Organizations 26
- 7. HEALTHCARE SECTOR IN INDIA 27
 - 7.1 Market Size 27
 - 7.2 Major Segments in the Indian Healthcare Sector 28
 - 7.2.1 Hospitals and Infrastructure 28
 - 7.2.2 Health Insurance 29
 - 7.2.3 Medical Tourism 30
 - 7.2.4 Home Healthcare 31
 - 7.3 Future of the Sector 32
 - 7.4 Sector-Relates Organizations 32
 - 7.4.1 Network / Group Chain of Hospitals in India 32
- 8. HYDERABAD – THE MAJOR LIFE SCIENCES HUB IN INDIA..... 34
 - 8.1 Hyderabad, Telangana – Life Sciences HUB as an Opportunity 34
 - 8.1.1 Immunotherapy 34
 - 8.1.2 Vaccines and MRNA Technological Platform 35
 - 8.1.3 Cluster-to-Cluster Cooperation 35
 - 8.1.4 HPC and Life Sciences University 35
- 9. HYDERABAD: A LIFE SCIENCES HUB 36
 - 9.1 Genome Valley 37



| | | |
|------|--|----|
| 9.2 | Hyderabad Pharma City | 38 |
| 9.3 | Medical Device Park | 39 |
| 10. | OPPORTUNITIES FOR FLANDERS ECOSYSTEM | 40 |
| 10.1 | Biotechnology Sector | 41 |
| 10.2 | Pharmaceutical Sector | 41 |
| 10.3 | Medical Devices Sector | 41 |
| 10.4 | Medtech Sector | 42 |
| 10.5 | Healthcare Sector | 42 |
| 11. | REFERENCES | 43 |



2. OVERVIEW OF INDIAN LIFE SCIENCES INDUSTRY

India's Life Sciences industry has traversed a successful journey in the past 50 years. From an era of import dependency in the pre-1970s, high-quality local players moved the country toward self-sufficiency in Life Sciences by the 1990s. Since then, world-class capabilities have helped the Indian industry build a strong global presence. Over the past decades, the sector has witnessed exponential growth both in terms of broadening of scope and deepening of capabilities across the industry value chain.

India's Life Sciences industry has been one of the fundamental drivers in achieving better health outcomes, domestically and globally. This is thanks to the country's inherent strengths in vaccine production, generic drugs, and more recently, its move toward biopharma.

Research and development is pivotal to the Life Sciences sector. The unprecedented situation of COVID-19 has highlighted the need for further investments in R&D and innovation in medicines, which continue to account for two-thirds of the global pharmaceutical opportunity. India's basic advantages include a strong local industry, deep technical capabilities and rich scientific acumen which have helped it to emerge as a successful hub for innovation.

Today, India is ranked a joint second for "overall competitiveness" for the sector. With India as a low-cost manufacturing destination and continued high demand for affordable drugs across the world, the domestic market remains vibrant.

The Indian Life Sciences industry has found a global standing in the pharmaceutical industry. The country's key strengths – manufacturing prowess, low costs, a skilled workforce, and global market knowledge – have enabled India to become the world's third-largest manufacturer of pharmaceutical products.

A sector report on each of the branches of the Life Sciences industry in India – Healthcare, Biotechnology, Pharmaceuticals, Medical Devices and MedTech – has been detailed in the following chapters of this report.

A special section at the end of the report on the city of Hyderabad which is a Major Life Sciences hub in India and the Life Sciences capital of Asia provides a brief summary on the efforts and initiatives by the Government of Telangana to boost the industry in Hyderabad.

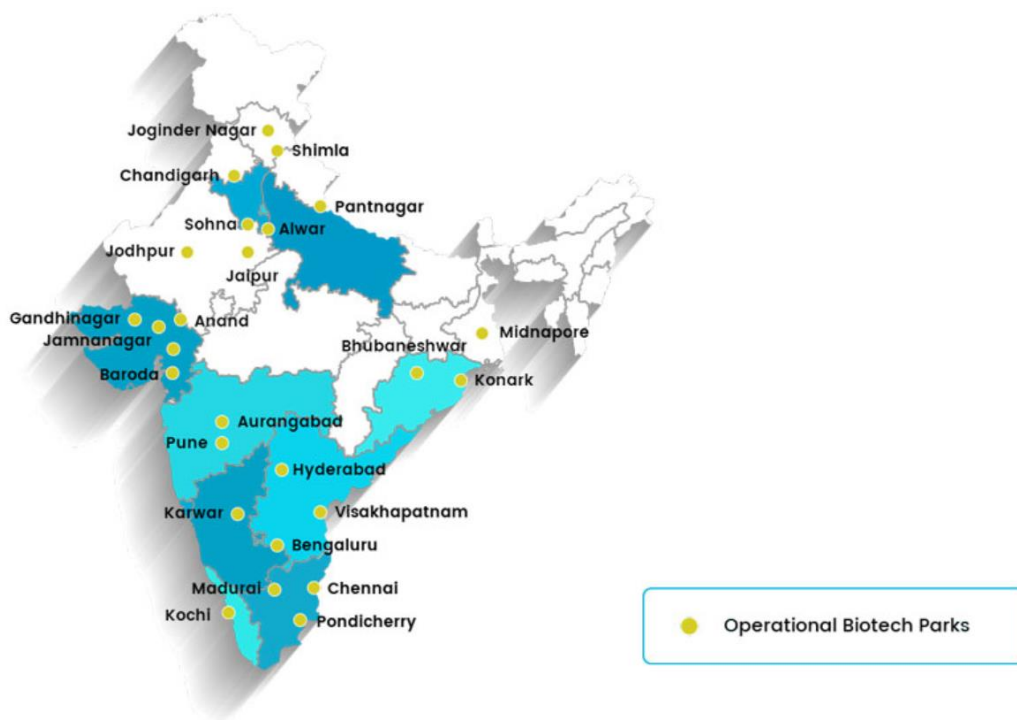


3. BIOTECHNOLOGY SECTOR IN INDIA

India is among the top 12 for Biotechnology worldwide. The industry comprises around 5,000 biotech companies, with 4,240 being start-ups and 760 being core biotech companies, with the number of start-ups expected to touch 10,000 by 2024.

India's Biotech sector is categorised into Bio-Pharmaceuticals, Bio-Industrial, Bio-Agriculture, Bio-IT & Bio-Services. Within the Bio-Pharmaceuticals segment, India has developed into a prominent vaccine manufacturer globally, occupying a leading position in the supply DPT, BCG and measles vaccines among others. India also leads in Biosimilars, with one of the most Biosimilars approved in the domestic market. It is estimated that the Biosimilars industry in India will grow at CAGR of 22% to become US\$ 12 billion by 2025. Within Bio-Services, India offers a strong capability in contract manufacturing, research and clinical trials, and is home to the most US FDA approved plants globally outside of the US.

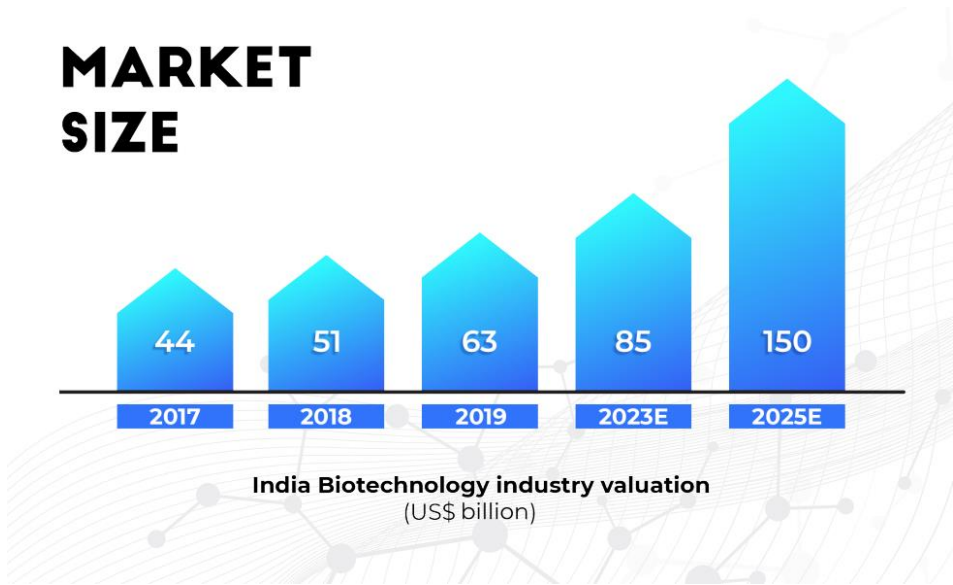
India has 665 FDA-approved plants in the US; 44% of the global abbreviated new drug applications (ANDA) and more than 1,400 manufacturing plants, which are compliant with WHO's requirements. The country is also the world's third-largest producer of recombinant Hepatitis B vaccine, and second-largest producer of BT cotton (genetically modified pest resistant plant cotton).



Biotechnology Clusters in India



3.1 MARKET SIZE



From 2015-2020, India’s biotechnology industry grew rapidly, doubling from US\$ 30.2 billion to US\$ 70.2 billion in five years. As of 2021, India’s Biotech industry clocks about US\$ 12 billion in annual revenue. The Indian biotechnology industry, which stood at US\$ 63 billion in 2019, is expected to reach US\$ 150 billion by 2025. By 2025, the contribution of the Indian biotechnology industry to the global biotechnology market is expected to grow to 19%. In the Indian biotechnology market, biopharmaceuticals is the largest segment, accounting for a 62% share in 2020. The Indian biologics market is forecasted to reach US\$ 12 billion by 2025, at a CAGR of 22%.

The sector is poised for growth, fuelled by rising demand at both domestic and global levels. Domestic demand increases are fuelled by programmes such as Ayushman Bharat, which is a government-sponsored healthcare insurance scheme, while the overseas demand for Indian vaccines and biopharmaceuticals grows remains strong. India exports vaccines to over 150 countries and is a leading destination for contract manufacturing and clinical trials.

India is also one of the first countries to have a department dedicated to the Biotechnology industry. Moreover, the Department has also set up BIRAC (Biotechnology Industry Research Assistance Council) which is a not-for-profit agency to strengthen and empower emerging Biotechnology enterprises to undertake strategic research and innovation, by handholding them from ideation to the commercialization of their products / technologies.



3.2 FUTURE OF THE SECTOR

The Indian Biotechnology industry is built on entrepreneurship, innovation, developing domestic talent and demonstrating value-based care.

Given the long history of diseases in India, the country has accumulated years of experience and scientific knowledge to prevent and treat them. India is working to boost the biotechnology sector under various flagship programmes such as 'Make in India' and 'Start-up India'.

Increase in the number of biotech incubators will boost research and promote growth of start-ups, which is critical for the success of the Indian Biotech industry. The Biotechnology sector, mainly due to its multidisciplinary approach, holds the potential to provide an array of solutions for challenges in various sectors such as health, agriculture, environment, energy and industrial processes.

Special Atal Jai Anusandhan Biotech (UNaTI) Missions have been launched on significant national and global challenges of Maternal and Child Health, AMR, Vaccines for infectious disease, Food and Nutrition, Clean Technologies.

Undertaking Nationally Relevant Technology Innovation

GARBH-INI:

A Mission to promote Maternal and Child Health, and develop prediction tools for pre-term berth



IndCEPI:

A Mission to develop affordable vaccines for endemic diseases



Development of Biofortified and Protein Rich wheat - contributing to

POSHAN Abhiyan



Mission on Anti Microbial Resistance

for Affordable Diagnostics and Therapeutics



Clean Energy Mission:

Innovative Technology interventions for Swachh Bharat



3.3 SECTOR RELATED ORGANIZATIONS

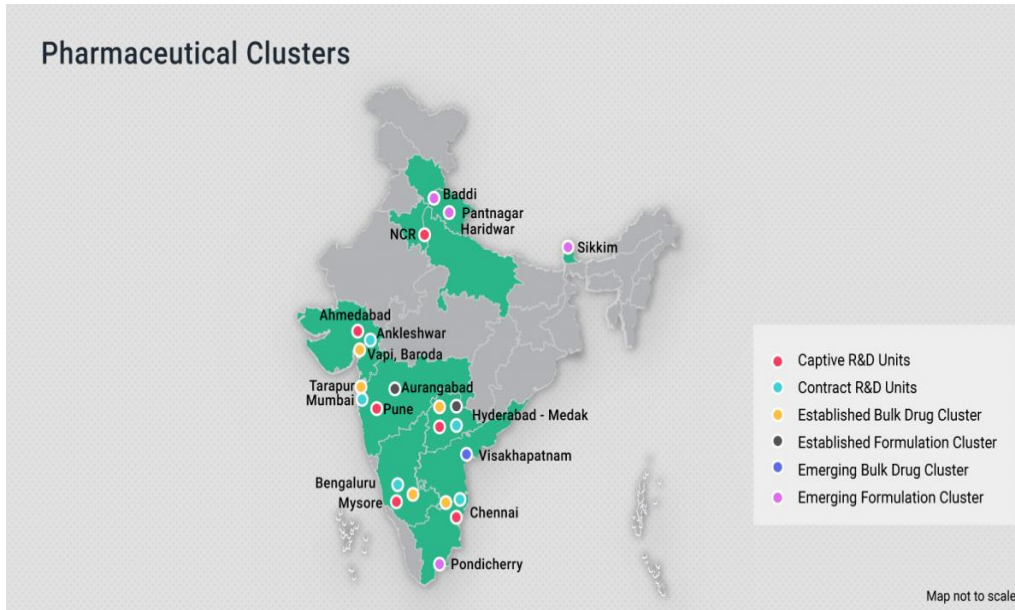
- **Department of Biotechnology – Government of India**
Website: <https://dbtindia.gov.in/>
- **Biotechnology Industry Research Assistance Council (BIRAC)**
Website: <https://birac.nic.in/>
- **Association of Biotechnology Led Enterprises**
Website: <http://www.ableindia.in/>
- **The Biotech Research Society of India**
Website: <https://brsi.in/>
- **Central Drugs Standard Control Organization (Regulatory Authority)**
Website: <https://cdsco.gov.in/>

Major Biotech Companies in India:

- **Serum Institute of India**
Website: <https://www.seruminstitute.com/>
- **Biocon Limited**
Website: <https://www.biocon.com/>
- **Bharat Biotech International Limited**
Website: <https://www.bharatbiotech.com/>
- **Panacea Biotech Limited**
Website: <https://www.panaceabiotec.com/en>
- **Syngene International Limited**
Website: <https://www.syngeneintl.com/>
- **SIRO Clinpharm Private Limited**
Website: <https://www.siroclinpharm.com/>
- **Indian Immunologicals Limited**
Website: <https://www.indimmune.com/>
- **Wockhardt Limited**
Website: <http://www.wockhardt.com/>
- **Shantha Biotechnics**
Website: <http://shanthabiotech.com/>
- **Novozymes South Asia Private Limited**
Website: <https://www.novozymes.com/>



Pharmaceutical Clusters



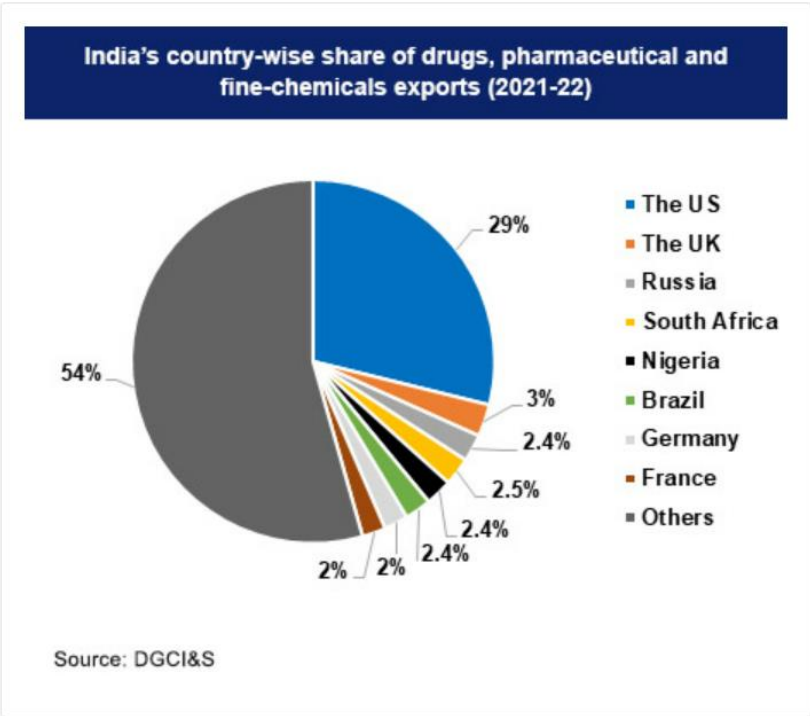
India's pharmaceutical sector forms a major component of the country's foreign trade, with attractive avenues and opportunities for investors.

100% Foreign Direct Investment (FDI) in the Pharmaceutical sector is allowed under the automatic route for greenfield pharmaceuticals. 100% FDI in the pharmaceutical sector is allowed in brownfield pharmaceuticals; wherein 74% is allowed under the automatic route and thereafter through the government approval route.



During 2021-2022, the country exported pharma products worth US\$ 24.62 billion. In 2020-21, the exports grew at 18% YoY to US\$ 24.4 billion. This robust performance was achieved despite the global supply chain disruptions, lockdowns, and subdued manufacturing. In March 2022, India exported US\$ 2.4 billion worth of drugs and pharmaceuticals, a 23% increase from US\$ 1.97 billion in February 2022.

India exports pharmaceutical products to North America, Africa, EU, ASEAN, Latin America & Caribbean (LAC), Middle East, Asia, CIS and other European regions. Nearly two-thirds of India’s exports goes to NAFTA, Europe, and Africa. The top five export destinations for Indian Pharma Industry in 2021-22 were USA, UK, South Africa, Russia, and Nigeria. USA, UK and Russia are among the largest importers from India at a share of 29%, 3% and 2.4%, respectively during 2021-2022.



4.2 FUTURE OF THE SECTOR

- The Indian pharmaceutical sector witnessed a 200% increase in foreign direct investments (FDI) in 2020-2021, noted the Economic Survey 2021-22.
- The market size is expected to reach US\$ 65 billion by 2024, and around US\$ 130 billion by 2030.
- The Serum Institute of India will invest in the UK to expand its vaccine business and set up a new sales office creating a large number of jobs as part of plans for a GBP 1 billion India-UK Enhanced Trade Partnership creating around 6,500 jobs in Britain.
- US drug maker AbbVie, which markets the world's top selling drug, Humira, said it is planning to launch products in India from its global portfolio by the end of 2023 or early 2024, to meet unmet medical needs against diseases such as leukaemia, psoriasis, eczema and Alzheimer's.
- Venky's (India) is setting up a new project for the manufacture of veterinary medicinal products under its animal health product segment.
- Sun Pharmaceutical Industries is planning to set up a new manufacturing facility in Andhra Pradesh. Supported by more than 40 manufacturing facilities, the company provides medicines to more than 100 countries across the globe.
- Low cost of production and R&D boosts efficiency of Indian pharma companies, leading to competitive exports.

Medicine spending in India is projected to grow 9% to 12% over the next five years, leading India to become one of the top 10 countries in terms of medicine spending. Going forward, better growth in domestic sales would also depend on the ability of companies to align their product portfolio towards chronic therapies for diseases such as cardiovascular, anti-diabetes, anti-depressants and anti-cancers, which are on the rise. The Indian Government has taken many steps to reduce costs and bring down healthcare expenses. Speedy introduction of generic drugs into the market has remained in focus and is expected to benefit the Indian pharmaceutical companies. In addition, the thrust on rural health programmes, lifesaving drugs and preventive vaccines also augurs well for the pharmaceutical companies.



4.3 SECTOR-RELATED ORGANIZATIONS

- Central Drugs Standard Control Organization (Regulatory Authority)
Website: <https://cdsco.gov.in/>
- Pharmaceuticals Export Promotion Council (Pharmexcil)
Website: <https://pharmexcil.com/>
- National Pharmaceutical Pricing Authority – Department of Pharmaceuticals, Government of India
Website: <https://www.nppaindia.nic.in/en/>
- Bulk Drug Manufacturers Association of India
Website: <https://bdmai.org/>
- Federation of Pharma Entrepreneurs India
Website: <https://fopeindia.in/>
- Indian Drug Manufacturers’ Association
Website: <https://fopeindia.in/>
- Indian Pharmaceutical Alliance
Website: <https://www.ipa-india.org/>
- Organization of Pharmaceutical Producers of India
Website: <https://www.ipa-india.org/>

LARGE PHARMACEUTICAL COMPANIES IN INDIA:

- Sun Pharmaceutical Industries Limited
Website: <https://sunpharma.com/>
- Divi’s Laboratories Limited
Website: <https://www.divislabs.com/>
- Cipla Limited
Website: <https://www.cipla.com/>
- Dr. Reddy’s Laboratories Limited
Website: <https://www.drreddys.com/>
- Glenmark Pharmaceuticals Limited
Website: <https://www.glenmarkpharma.com/>
- Torrent Pharmaceuticals Limited
Website: <https://www.torrentpharma.com/>
- Lupin Limited
Website: <https://www.lupin.com/>



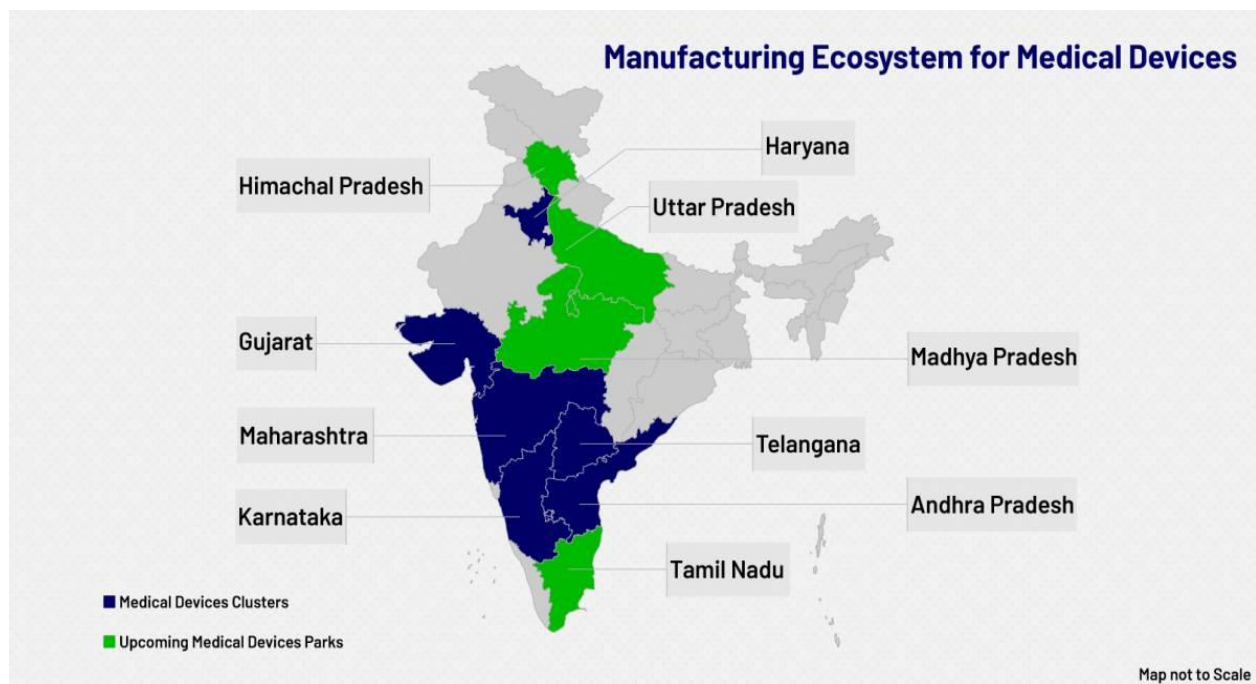
- **Alkem Laboratories Limited**
Website: <http://www.alkemlabs.com/>
- **Zydus Life Sciences Limited**
Website: <https://www.zyduslife.com/>
- **Aurobindo Pharma Limited**
Website: <https://www.aurobindo.com/>

5. MEDICAL DEVICES SECTOR IN INDIA

The medical device sector in India has grown significantly in the last decade. There is a huge gap in the current demand and supply of medical devices in India and this provides a significant opportunity for manufacturing devices in India. At present, many medical device manufacturers (domestic and international) are chasing this massive under penetration of medical devices in India as a significant growth opportunity.

The current market size of the medical devices industry in India is estimated at US\$ 11 billion, represents a sunrise sector of the Indian economy. The medical devices industry in India consists of large multinationals as well as small and medium enterprises (SMEs) growing at an unprecedented scale. The medical device sector has been growing steadily at a CAGR of 15% over the last 3 years.

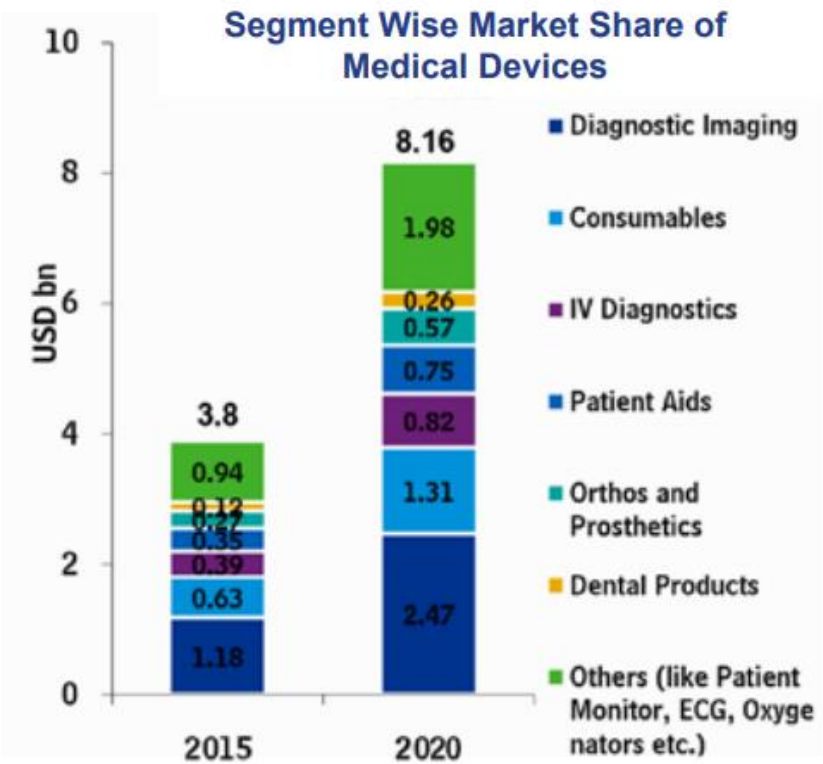
The medical devices industry in India is poised for significant growth with the market size expected to reach US\$ 50 billion by 2025. 100% FDI is allowed under the automatic route for both brownfield and greenfield setups. Strong FDI inflows reflect the confidence of global players in the Indian market.



5.1 MARKET SIZE

Medical Devices are segregated into five major segments:

- Consumables & Disposables include needles and syringes, etc.
- Diagnostic Imaging includes MRI, X-Ray, Ultrasounds, etc.
- Dental Products includes dentures, braces, etc.
- Orthopaedics & Prosthetics include knee implants, artificial joints, etc.
- Patient Aids include hearing aids and pacemakers, etc.



Segment-Wise Market Share of Medical Devices in India

(Source: Report by Department of Pharmaceuticals – Government of India)

Around 65% of the manufacturers in India are mostly domestic players operating in the consumables segment and catering to local consumption with limited exports. Large Multinational Corporations lead the high-technology end of the Medical Devices market in India with extensive service networks.

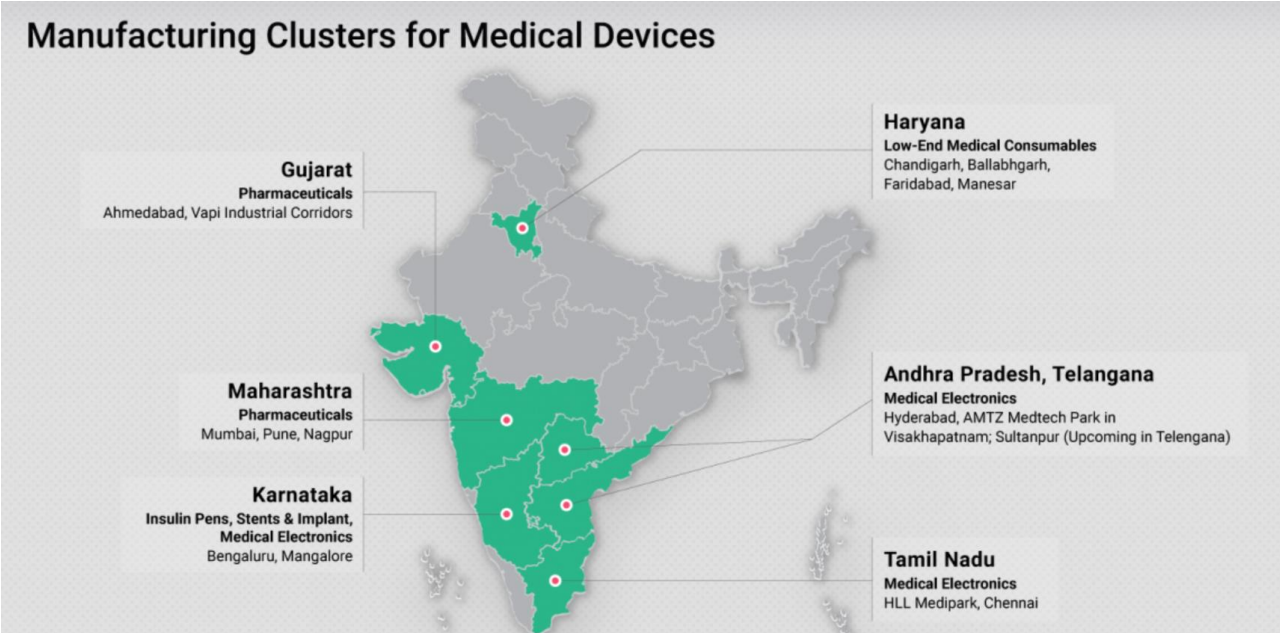
There are 750 to 800 domestic Medical Devices manufacturers in India, with an average investment of US\$ 2.3 to US\$ 2.7 million and an average turnover of US\$ 6.2 to US\$ 6.9 million.



As of May 2021, the medical devices market is estimated to be at US\$ 12 billion. India is the 4th largest Asian medical devices market after Japan, China and South Korea, and among the top 20 medical devices markets globally.

India’s wearable market grew 93.8% YoY in the July–September 2021 quarter, shipping 23.8 million units. Noise maintained its lead for the sixth straight quarter with a 26% market share in the third quarter, followed by Boat (23.1%), Fire-Boltt (15.3%), Realme (7.3%) and Amazfit (4.8%).

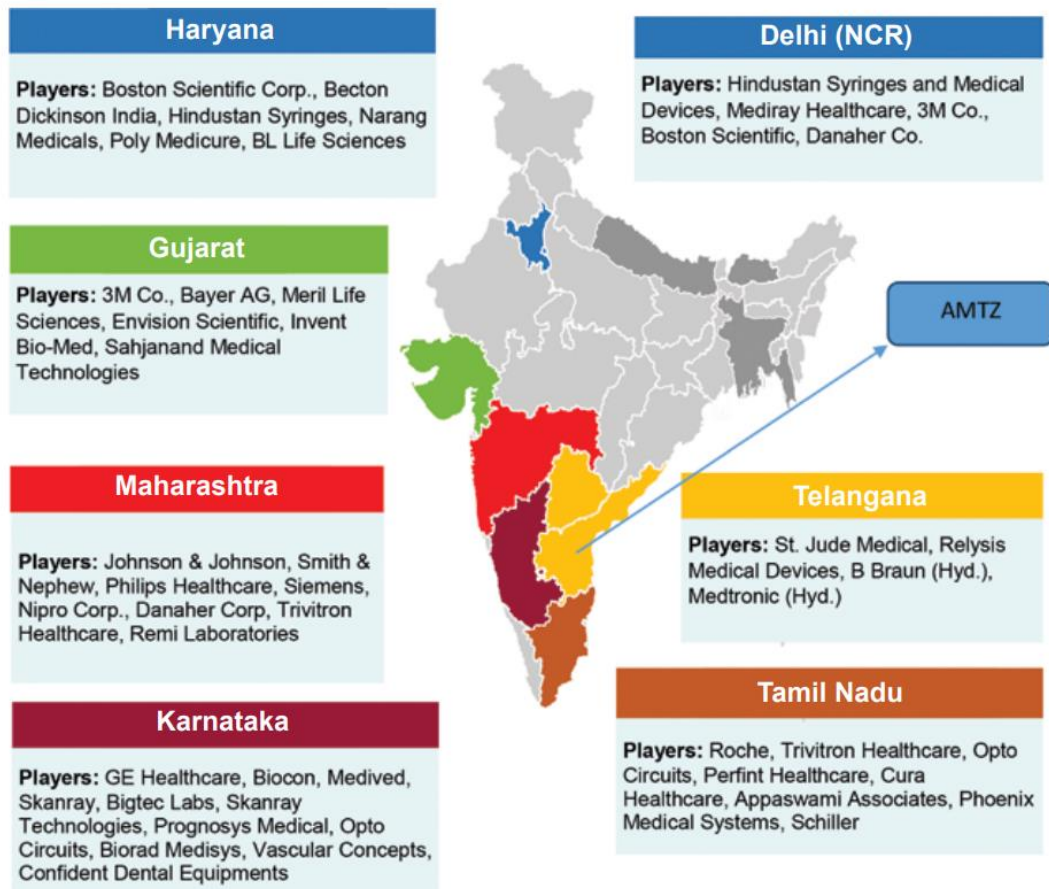
The manufacturing is developing in its scale and geography. There are six Medical Devices Manufacturing “Clusters” in the country:



Clusters have “Medical Device Parks” developing around them. States have committed to set-up dedicated industrial parks for efficient domestic manufacturing at lower costs. The State Government of Himachal Pradesh, Tamil Nadu, Madhya Pradesh and Uttar Pradesh have been given “in-principle” approval to develop Medical Devices Parks & create a robust ecosystem for medical device manufacturing in the country.



Over the years, key states in India have been housing Indian and Multinational medical device players as illustrated below.

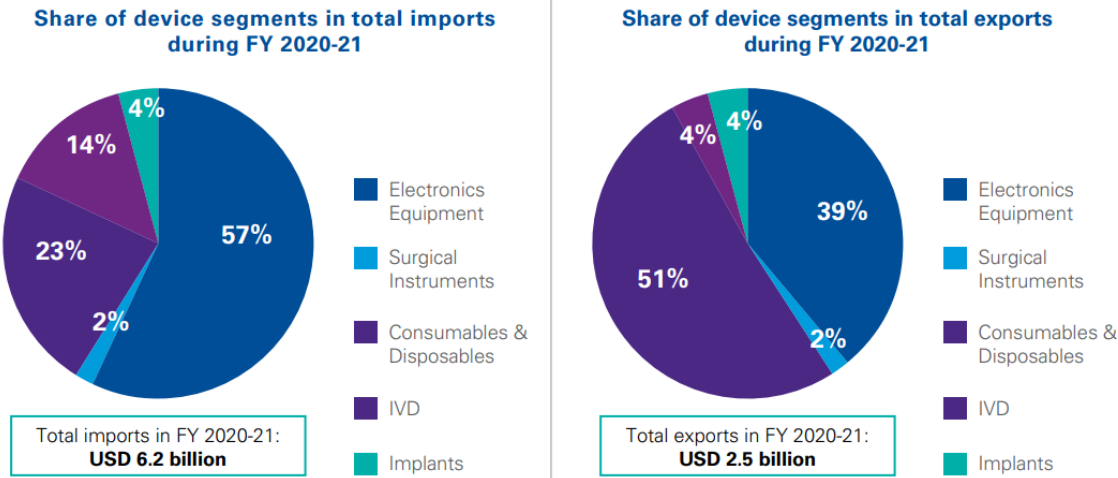


Existing Players in the Medical Device State Clusters in India

(Source: Report by Department of Pharmaceuticals – Government of India)



5.1.1 Export and Import Trends

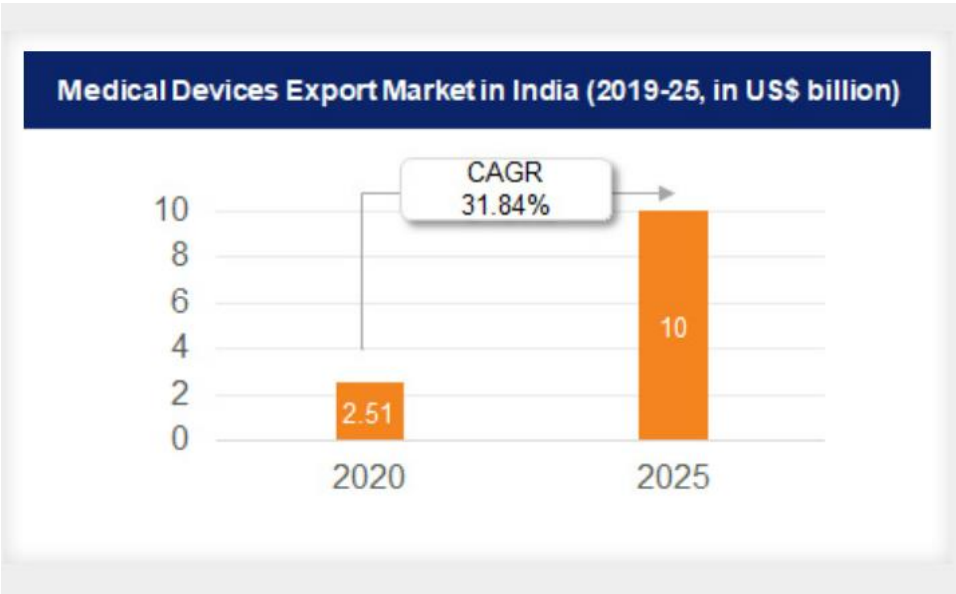


Share of Device Segments in total Imports & Exports in the Indian Medical Devices Sector

(Source: Invest in India Statistics – KPMG Report)

India has a 75% to 80% import dependency on medical devices. Export of medical devices from India stood at US\$ 2.53 billion in FY21, and are expected to rise to US\$ 10 billion by 2025.

The Medical Devices Virtual Expo 2021 showcased Indian products and enabled direct interaction between Indian suppliers and buyers/importers from participating countries; 300 foreign buyers from the healthcare sector participated in this event.



To increase export of medical devices in the country, the Ministry of Health and Family Welfare (MOHFW) and Central Drugs Standard Control Organisation (CDSCO) implemented the following initiatives:

- Re-examination and implementation of Schedule MIII (a draft guidance on good manufacturing practices and facility requirements).
- System for export labelling.
- Clinical evaluation and adverse reporting clarification.
- State licencing authority to extend free sales certificate validity from 2 years to 5 years to allow exports.
- Create a list of manufacturers with export licencing for easy access to regulatory authorities worldwide.

5.2 FUTURE OF THE SECTOR

| India is the fastest growing medical devices market amongst the emerging markets | | |
|---|--|----------------|
| Country | Est. medical device market (USD billion) | Estimated CAGR |
| India | 12.0 | 15.0% |
| Singapore | 1.8 | 11.1% |
| Philippines | 0.2 | 10.7% |
| China | 32.0 | 9.3% |
| Brazil | 10.3 | 8.8% |
| Thailand | 1.2 | 8.5% |
| Vietnam | 0.8 | 8.0% |

Market Growth Potential in Medical Devices Sector – India vs. Other Emerging Markets

(Source: Invest in India Statistics – KPMG Report)

Policy makers in India will need to set out an action plan to reduce the country’s dependency on medical devices / technology imports. At present, NITI Aayog is reportedly drawing up a strategic road map for medical devices similar to the incentive package that gives sizable capital subsidies for the electronics business, which helps boost local production of cell phones in the country.

Medical device companies should develop India as a manufacturing hub for domestic and international markets, undertake India-based innovation in combination with indigenous manufacturing, collaborate across the Make in India and Innovate in India schemes, and produce low to medium technology products to cater to the underpenetrated domestic markets.



The Indian Government has identified medical devices as a priority sector for the flagship 'Make in India' program and is committed to strengthening the manufacturing ecosystem. The Production Linked Incentive Scheme (PLI) Promoting Domestic Manufacturing of Medical Devices and Production Linked Incentive Scheme for Pharmaceuticals (PLI 2.0) have been introduced to provide an impetus to India's vision of becoming a global manufacturing hub for medical devices.

6. MEDTECH SECTOR IN INDIA

MedTech (Medical Technology which is Medical Devices + Technology) is a segment under the larger umbrella of healthcare systems. The segment focuses on designing and manufacturing a wide range of medical products / devices for diagnosis, prevention, monitoring, treatment and patient care. It encompasses a broader scope as opposed to medical devices and includes medical devices with IT connectivity. It also includes devices such as smart inhalers, robotic surgery, wireless brain sensors, 3D printing, artificial organs, and health wearables.

Over the decades, India has achieved significant progress in the healthcare industry and positioned itself as a leading market worldwide. The healthcare industry has witnessed revolutionary changes in terms of technology and with the advent of MedTech, the industry has been able to extend better and faster access to affordable and good-quality care.

Indian MedTech was worth US\$ 10.36 billion in 2020 and is expected to increase at a CAGR of 37% in 2020–2025 to reach US\$ 50 billion. The Indian government's support in terms of outlining favourable regulations & schemes and allowing 100% FDI are driving the MedTech sector. The ongoing pandemic has also increased the demand for technologically advanced, high-quality, low-cost medical devices that are accessible to the Indian population. These factors are also attracting international companies to set up production facilities in India.

6.1 MARKET SIZE

The Indian MedTech market is at a nascent stage; however, it is expected to grow exponentially in the country owing to the rising ageing population, favourable government policies & regulations, increasing health insurance penetration, and growing medical tourism.

The Indian MedTech market is dominated by imported products, both as finished goods and raw materials, and dependence on foreign countries for MedTech is pegged at 80%. However, there is a huge scope for Indian companies to fill this gap.





6.2 FUTURE OF THE SECTOR

The Indian MedTech sector comprises large, midsized and small companies, which have multiple opportunities to meet the demand from domestic as well as global markets.

Key enabler for the MedTech sector is secured data that can be stored and analysed easily. Under the National Digital Health Mission, the government is planning to introduce a unique digital health-card for all citizens. This will have an individual’s entire medical record and can be used by doctors to understand the individual’s medical history. This initiative will be supported by MedTech solutions.

Several states such as Andhra Pradesh, Maharashtra and Gujarat are planning to set up medical technology parks in their respective states to enable manufacturing of cost-effective, high-end MedTech devices and provide job opportunities.

Though the current Indian MedTech market is small (in terms of value), government support, innovative & customised solutions, growing population, increase in public & private spending, and growth in medical tourism will help the market reach US\$ 50 billion by 2025.

Presently, a high level committee under the chairmanship of the Drug Controller General of India is mulling over a new drugs, cosmetics and medical devices bill. The Ministry of Chemicals and Fertilizers has also issued a draft policy with the objective of simplifying regulatory processes to boost innovation and incentivising private investment in research. This is particularly key as the prevalent MedTech themes (that are likely to attract investments this year) include AI and machine learning, diagnostic tools for home use, remote patient monitoring systems and digital health tools and wearables. The industry will therefore have to wait and see what shape the forthcoming policies on medical devices take and whether they manage to foster an environment conducive to growth and innovation.



7. HEALTHCARE SECTOR IN INDIA

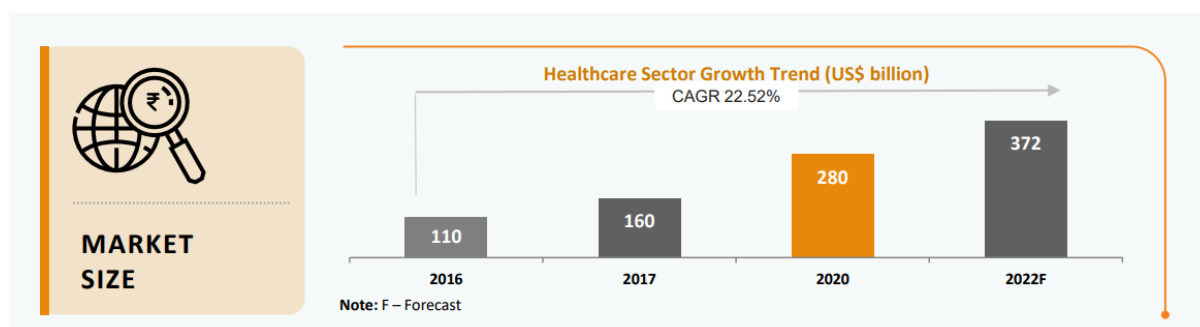
Healthcare has become one of India's largest sectors, both in terms of revenue and employment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players.

India's healthcare delivery system is categorised into two major components public and private. The Government, i.e. Public Healthcare System, comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of Primary Healthcare Centres (PHCs) in rural areas. The private sector provides majority of secondary, tertiary, and quaternary care institutions with major concentration in metros and tier-I and tier-II cities.

India's competitive advantage lies in its large pool of well-trained medical professionals. India is also cost competitive compared to its peers in Asia and Western countries. The cost of surgery in India is about one-tenth of that in the USA or Western Europe.

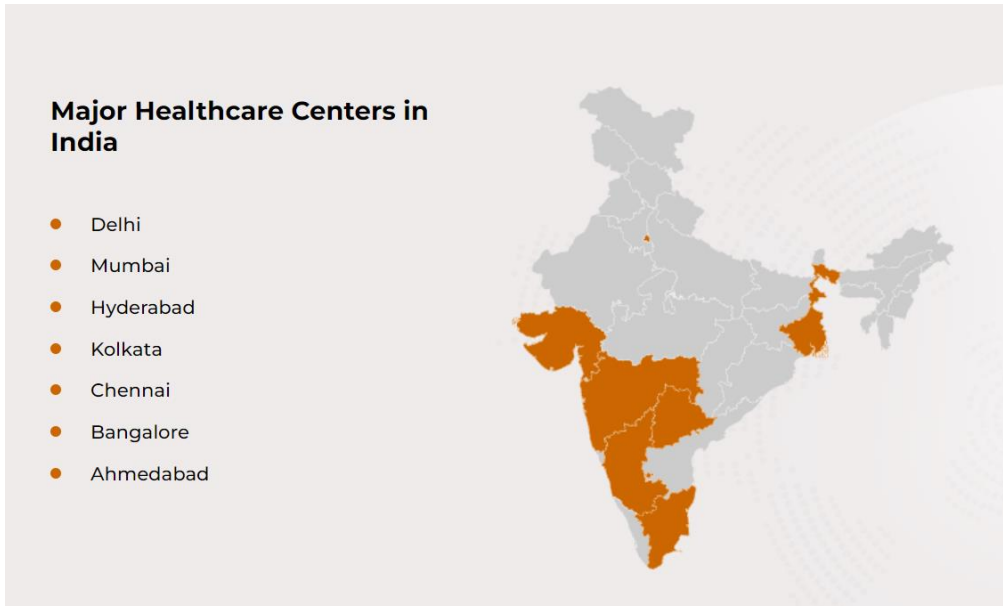
As of March 21, 2022, more than 1.82 billion COVID-19 vaccine doses have been administered across the country.

7.1 MARKET SIZE



The Indian healthcare sector is expected to record a three-fold rise, growing at a CAGR of 22% between 2016–2022 to reach US\$ 372 billion in 2022 from US\$ 110 billion in 2016.

As of 2021, the Indian healthcare sector is one of India's largest employers as it employs a total of 4.7 million people. The sector has generated 2.7 million additional jobs in India between 2017–2022, which is over 500,000 new jobs per year. In the Economic Survey of 2022, India's public expenditure on healthcare stood at 2.1% of GDP in 2021–2022 against 1.8% in 2020–2021 and 1.3% in 2019–2020.



The Indian medical tourism market was valued at US\$ 2.89 billion in 2020 and is expected to reach US\$ 13.42 billion by 2026. According to India Tourism Statistics at a Glance 2020 report, close to 697,300 foreign tourists came for medical treatment in India in FY19. India has been ranked 10th in the Medical Tourism Index (MTI) for 2020-2021 out of 46 destinations by the Medical Tourism Association.

The e-Health market size is estimated to reach US\$ 10.6 billion by 2025. As of January 2022, the number of medical colleges in India stood at 595.

7.2 MAJOR SEGMENTS IN THE INDIAN HEALTHCARE SECTOR

India's healthcare industry comprises Hospitals, medical devices and equipment, health insurance, clinical trials, telemedicine and medical tourism. A detailed sector report on Biotechnology, Pharmaceuticals, Medical Devices and MedTech is enclosed in this report.

7.2.1 Hospitals and Infrastructure

The hospital industry in India accounts for 80% of the total healthcare market. The long-term outlook for the hospital sector is stable, with annual revenues likely to grow robustly over the next few years on account of rising domestic demand for healthcare as well as medical tourism. It was valued at USD 61.79 Billion in FY17 and is expected to reach USD 132 Billion by 2023 growing at a CAGR of 16%-17%.

7.2.1.1 Opportunities in Hospitals and Infrastructure

The hospital industry in India is witnessing huge demand from both global and domestic investors. The Government's plan to increase budgetary allocation for public health spending to 2.5% of the country's GDP by 2025 will benefit the hospital sector as well. India's hospital bed density is less than half the global average of 3 hospital beds per 1,000 population, implying that an estimated 2.2 Million beds will be required over the next 15 years.



| Sector | Investment Opportunities (IIG) |
|--------------------------------|---|
| Medical Infrastructure | 582 Opportunities worth USD 32.16 Billion |
| Pharma, Biotech & Lifesciences | 81 Opportunities worth USD 364.37 Million |

Investment Opportunities in Hospital / Medical Infrastructure in India

(Source: NITI Aayog – Healthcare Sector Investment Opportunities)

There are nearly 600 investment opportunities worth USD 32 Billion in the hospital / medical infrastructure sub-sector on Indian Investment Grid (IIG), a platform maintained by Invest India for showcasing investment opportunities by sector.

7.2.2 Health Insurance

Health insurance contributes 20% to the non-life insurance business, making it the 2nd largest portfolio. According to the India Brand Equity Foundation (IBEF), the gross direct premium income underwritten by health insurance grew 17.16% year-on-year to reach INR. 516.37 billion (approx. USD 6.87 Billion) in FY20.

Multiple stakeholders constitute India’s health insurance ecosystem including insurance companies, beneficiaries, provider hospitals, third-party administrators, intermediaries, reinsurers, start-ups, diagnostics, pharmacies, value-added service providers, Government regulators and Government-funded social insurance schemes.

7.2.2.1 Opportunities in Health Insurance

The percentage of the Indian population covered under health insurance has hitherto been relatively insignificant. However, there has been an increase in the number of people opting for health insurance over time. New products that cover certain ailments that were previously not covered are also seeing a heightened demand among buyers of insurance policies. A growing middle class, coupled with a rising burden of new diseases, is raising the demand for health insurance coverage. Many companies offer health insurance coverage to employees, driving the market penetration of insurance players. With increasing demand for affordable and quality healthcare, penetration of health insurance is poised to grow exponentially in the coming years.



7.2.3 Medical Tourism

Medical Tourism or Medical Value Travel is a growing sector in India. In mid-2020, India's Medical Tourism sector was estimated to be worth USD 5–6 Billion. The valuation was expected to be in the range of USD 9 Billion by 2020, prior to the COVID-19 outbreak. The segment is expected to grow to USD 13 Billion by 2022. In 2017, India ranked 7th in the top 20 Wellness Tourism markets globally and 3rd in the top 10 wellness tourism markets in Asia-Pacific.

| Medical Procedure | India | Thailand | Malaysia | Singapore | Turkey | South Korea |
|-------------------------|--------|----------|----------|-----------|--------|-------------|
| Heart Bypass | 7,900 | 15,000 | 12,100 | 17,200 | 13,900 | 26,000 |
| Angioplasty | 5,700 | 4,200 | 8,000 | 13,400 | 4,800 | 17,700 |
| Heart Valve Replacement | 9,500 | 17,200 | 13,500 | 16,900 | 17,200 | 39,990 |
| Hip Replacement | 7,200 | 17,000 | 8,000 | 13,900 | 13,900 | 21,000 |
| Hip Resurfacing | 9,700 | 13,500 | 12,500 | 16,350 | 10,100 | 19,500 |
| Knee Replacement | 6,600 | 14,000 | 7,700 | 16,000 | 10,400 | 17,500 |
| Spinal Fusion | 10,300 | 9,500 | 6,000 | 12,800 | 16,800 | 16,900 |
| Dental Implant | 900 | 1,720 | 1,500 | 2,700 | 1,100 | 1,350 |
| Lap Band | 7,300 | 11,500 | 8,150 | 9,200 | 8,600 | 10,200 |
| Gastric Sleeve | 6,000 | 9,900 | 8,400 | 11,500 | 12,900 | 9,950 |
| Gastric Bypass | 7,000 | 16,800 | 9,900 | 13,700 | 13,800 | 10,900 |
| Hysterectomy | 3,200 | 3,650 | 4,200 | 10,400 | 7,000 | 10,400 |
| Breast Implant | 3,000 | 3,500 | 3,800 | 8,400 | 4,500 | 3,800 |
| Rhinoplasty | 2,400 | 3,300 | 2,200 | 2,200 | 3,100 | 3,980 |
| Rhytidectomy | 3,500 | 3,950 | 3,550 | 440 | 6,700 | 6,000 |
| Liposuction | 2,800 | 2,500 | 2,500 | 2,900 | 3,000 | 2,900 |
| Abdominoplasty | 3,500 | 5,300 | 3,900 | 4,650 | 4,000 | 5,000 |
| Lasik (Both Eyes) | 1,000 | 2,310 | 3,450 | 3,800 | 1,700 | 1,700 |
| IVF Treatment | 2,500 | 4,100 | 6,900 | 14,900 | 5,200 | 7,900 |



Prices of Common Medical Procedures Across Major Medical Tourism Destinations (in USD)

(Source: NITI Aayog – Healthcare Sector Investment Opportunities)

Several factors make India a popular medical tourism destination. These include presence of world-class hospitals and skilled medical professionals; superior quality healthcare; low treatment costs in comparison with other countries; credibility in alternative systems of medicine as well as increased global demand for wellness services like Yoga and meditation.

The number of Foreign Tourist Arrivals (FTAs) in India on medical visa grew to an estimated 697,000 in 2019 from 495,056 in 2017. India's medical visitors have historically come primarily from Afghanistan, Pakistan, Oman, Bangladesh, Maldives, Nigeria, Kenya and Iraq. Popular specialities for Medical Tourism in India include cardiac care, orthopaedics, organ transplantation, neurosciences, oncology and bariatrics.



Wellness tourism that builds on India’s strengths in Ayurveda and Yoga, in particular, is a fast-emerging and growing segment within India’s Medical Tourism sector. Several major players like Apollo and the Manipal Group are setting up wellness centres, with traditional healthcare remedies as a key focus of their offerings. Many hotels/resorts in the country, especially in the southern States, are establishing Ayurveda Centres. Leading tour operators have also included Ayurveda in their brochures.

7.2.3.1 Opportunities in Medical Tourism

While Medical Tourism has been adversely affected by COVID-19, it is expected to recover over the next few months and continue to grow rapidly thereafter. Growth of the medical tourism segment is additionally creating investment opportunities in advanced diagnostic equipment as well as institutions for training professionals, both nursing and paramedical.

Wellness Tourism is an especially high-potential area of growth for India in the post-COVID era given its strengths in alternative systems of medicine. India offers a unique value proposition to the world in this regard.

7.2.4 Home Healthcare

Home Healthcare is unique not only because care is provided at home, but is also usually less expensive, more convenient, and can be just as effective as the care given in a hospital or skilled nursing facility. Home Healthcare saves on real estate and infrastructure as the model effectively operates at 15%-30% reduced costs in comparison to hospital expenses for similar treatment. In 2020, the Indian home healthcare market was valued at approximately USD 6.2 Billion. It is expected to grow at a CAGR of 19.2% and reach USD 21.3 Billion by 2027.

The home healthcare market can be categorised broadly into 3 segments:

- Home Healthcare Services: at-home nursing services, medical consultations
- Home Healthcare Devices: health screening, monitoring and self-diagnostic devices like pulse oximeters
- Home Healthcare Solutions: telehealth and telemedicine

Many large hospitals are now offering postoperative care as it is an important part of the home healthcare segment. Technology-enabled healthcare companies offer sophisticated critical care at home, including advanced facilities like respiratory services (home ventilation), sleep apnoea care, palliative care, cancer support services, post trauma / accident care and specialised rehabilitation services (such as pulmonary, neuro, and cardiac rehabilitation; speech therapy).

Adoption of home healthcare solutions in India is currently at a relatively nascent stage. However, it is a sunrise sector with tremendous potential for growth in the years to come on account of a rising elderly population, increase in the incidence of chronic diseases necessitating long-term care, enhanced demand for constant personalised care, which is typically unavailable in formal hospital settings, as well as increasingly nuclear family structures in urban areas.



- **Manipal Hospitals**
Website: <https://www.manipalhospitals.com/>
- **Metro Group of Hospitals**
Website: <https://www.metrohospitals.com/>
- **Narayana Health**
Website: <https://www.narayanahealth.org/>
- **Vasan Healthcare**
Website: <https://www.vasanhealthcare.lk/>
- **Wockhardt Hospitals**
Website: <https://www.wockhardthospitals.com/>



8. HYDERABAD – THE MAJOR LIFE SCIENCES HUB IN INDIA

8.1 HYDERABAD, TELANGANA – LIFE SCIENCES HUB AS AN OPPORTUNITY

FIT Bangalore has been positioning Flanders’ Life Sciences for several years, and a wide range of synergy between the province of Telangana and Flanders is noted and linkages have been built in pockets. It is important to note the evolution of history of engagement with Flanders and Telangana already, including several renowned personalities in Life Sciences segment from Flanders being keynote speakers and recognized for their remarkable contributions including Prof. Marc Van Montagu, Dr. Ajit Shetty (who also chairs the International Advisory Board of BioAsia flagship annual Life Sciences event of Telangana Region), Dr. Paul Stoffels, Dr. Peter Piot, among others.

Further, FIT Bangalore has initiated with the Telangana Government and the ecosystem players on Strengthening Cooperation between Telangana and Flanders. The discussion has been around the long-term cooperation on innovation in Life Sciences with the Flanders ecosystem. Both the regions have complementary strengths, and it fits in well in our plan to build further with integrated efforts and actions. A broad and focused initiative is being built to explore a long-term partnership between Flanders and Telangana focused on promoting bilateral business and scientific cooperation.

The engagement between the ecosystems is envisaged to have regular interaction, attend and engage in events organized by both the ecosystems. It is proposed to steer and monitor the cooperation between Flanders and Telangana over the next 3 to 4 years period to ensure tangible outputs and ecosystem gains on both sides.

Several cooperation streams and potential projects under discussion to propose potential areas of cooperation between Flanders and Telangana regions in Life Sciences:

8.1.1 Immunotherapy

Government of Telangana is desirous of establishing an Institute of Curative Medicine in Hyderabad with an endeavor to provide affordable development and commercialization of the new age curative therapies (particularly cell and gene therapy) for diseases pertinent to India and also other developing countries. Some of the global industries like Novartis, Johnson & Johnson, among others have expressed preliminary interest to partner with the Government for this initiative with social interest.

COOPERATION: To explore how Flanders ecosystem and industries based in the region be part of this initiative.



8.1.2 Vaccines and MRNA Technological Platform

Hyderabad is known as the “Vaccine Capital of the World” producing about 9 billion doses of vaccines each year. Another 5 billion doses capacity is currently being added. It is important to note that WHO’s mRNA vaccine hub will be housed in Hyderabad, Telangana – South India.

COOPERATION: Telangana ecosystem wishes to build capabilities in mRNA and accordingly to explore how Flanders institution be part of this initiative.

8.1.3 Cluster-to-Cluster Cooperation

Genome Valley (one of Asia’s largest Life Sciences R&D Cluster with more than 200 companies including namely Novartis, GSK, Lonza, Ferring, Chemo, Jamp, etc.), including MedTech Park with more than 50 companies (including Asia’s largest stent manufacturing facility).

COOPERATION: Clusters in Flanders, like Flanders BIO and VIB, could engage with the identified clusters in Hyderabad to help companies explore market access, technology partnerships, joint venture opportunities, testing / CRO engagement, knowledge exchange, etc., into Flanders and vice-versa.

8.1.4 HPC and Life Sciences University

Hyderabad Pharma City (HPC) will be the world’s largest pharmaceutical cluster being developed as a new global benchmark for sustainable industrial clusters with its extraordinary and efficient infrastructure networks. HPC will also house a global university embedded in the industrial ecosystem with focus on driving innovation – have recently partnered with Kings College London and are also in discussions with Broad, Scripps, etc.

COOPERATION: To explore joint research programs with appropriate universities / institution in Flanders and explore joint postgraduate / program with some reputed institutions.

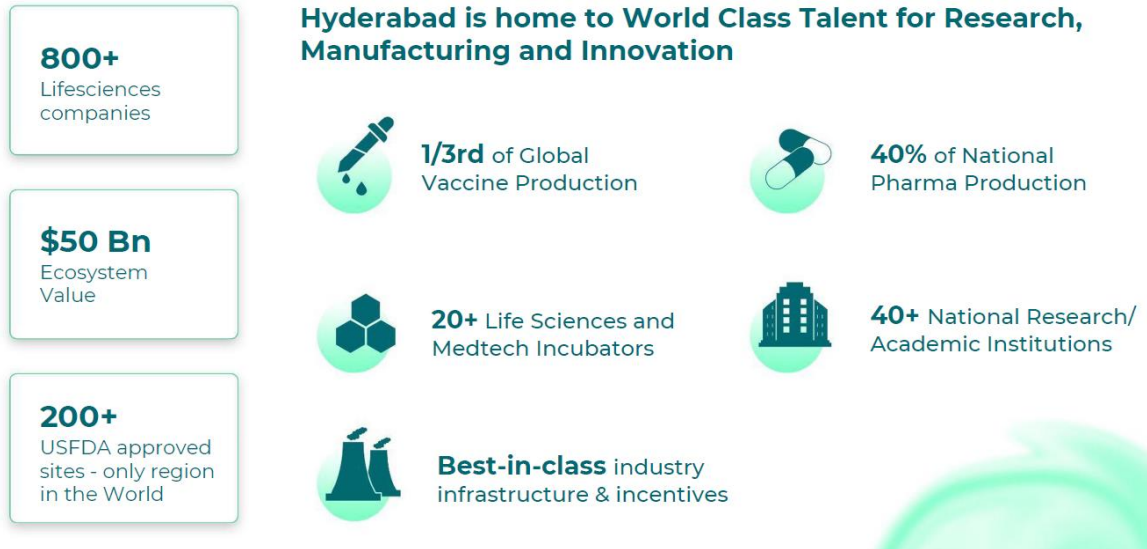
As part of the ecosystem-to-ecosystem cooperation, **PHARMA LOGISTICS INCLUDING VACCINE LOGISTICS** – focused interest to be engaged with both the ecosystems to jointly explore to build the Pharma Air Logistics together.

Further in order to build a larger ecosystem cooperation, two industry associations in Life Sciences, one each in Flanders and Telangana, may engage and Flanders Investment & Trade could facilitate a long-term cooperation and mutual delegation visits.



9. HYDERABAD: A LIFE SCIENCES HUB

Hyderabad is a Major Life Sciences hub in India and is the Life Sciences Capital of Asia.



(Source: Life Sciences Department – Government of Telangana)

The South Indian state of Telangana is a Partner of Choice for multi-disciplinary industries.



The Government of Telangana has number of new initiatives rolled out including establishment of the world’s largest pharma cluster – Hyderabad Pharma City, strengthening and expansion of the most successful Genome Valley cluster, launch of Country’s largest Medical Devices Park, biological scale-up manufacturing facility – B Hub, Life Sciences Infrastructure Fund, Digital Medicines Hub, Industry led Skill Development Programmes, among others.

9.1 GENOME VALLEY



The Genome Valley is ranked No. 1 among Life Sciences Hotspots in India by the Cerestra & KPMG report. It is India’s first structured hub for Life Sciences innovation, R&D and clean manufacturing operations, with world-class infrastructure including Industrial / Knowledge Parks, Special Economic Zones (SEZs), multi-tenanted dry and wet laboratories and incubation facilities. The Genome Valley is home to India’s three largest vaccine manufacturers – Bharat Biotech, Biological E, and Indian Immunologicals.

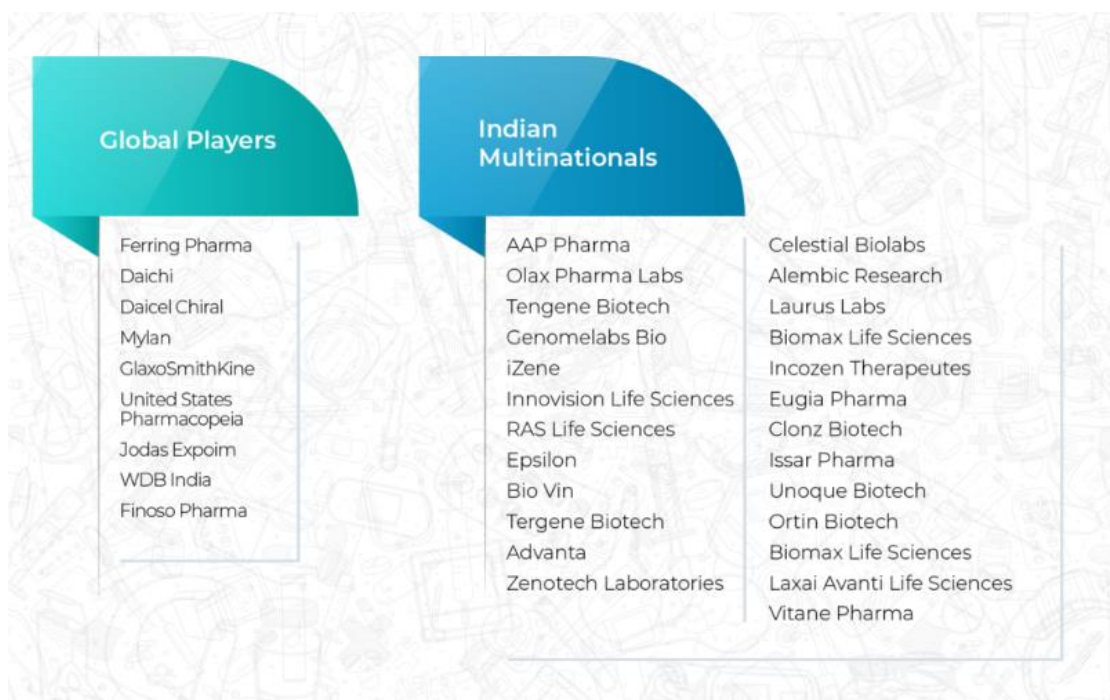
Located in Hyderabad, it is home to more than 200 enterprises, including well-known global brands such as Novartis, GlaxoSmithKline, Ferring Pharma, Chemo, DuPont, Ashland, United States Pharmacopeia, AMRI, Mylan, Lonza, etc., and is considered the European hub of India. The R&D hub, spanning an area of 25 square kilometres, provides synergistic potential for a diverse range of firms focusing on agri-biotech, clinical research management (CRM), biopharma, vaccine manufacturing, regulatory and testing and other areas in the Life Sciences industry.

To drive the comprehensive development for Genome Valley and to put forth Hyderabad’s aspiration to be the global R&D hub, the Expansion and Regional Master Plan for Genome Valley 2.0 has been conceptualised.

Numerous investments were announced during the World Economic Forum 2022 and some companies have announced plans to make investments in the Genome Valley.

- Ferring Pharma plans to invest US\$ 64.4 million over the next 2 to 3 years to set up a facility to manufacture its product Pentasa.
- Bharat Serums and Vaccine Limited announced an investment of US\$ 25.7 million for manufacturing state-of-the-art injectables and vaccines, including women’s health products, rabies vaccines, immunoglobulins and hormones.
- Chemo Pharma announced a corpus of US\$ 12.9 million to set up a second line in their Hyderabad facility for the production of pharmaceutical finished dosage forms. Further, the company is planning to open a new active pharmaceutical component, and an R&D centre in Hyderabad, as well as continue new product development activities in solids and injectables in the Genome Valley.
- Switzerland-based EMPE Diagnostics plans to open a global production facility with an investment of US\$ 3.2 million. The facility will focus on the production of tuberculosis diagnostic kits with a monthly target of two million kits.





Companies present at the Genome Valley

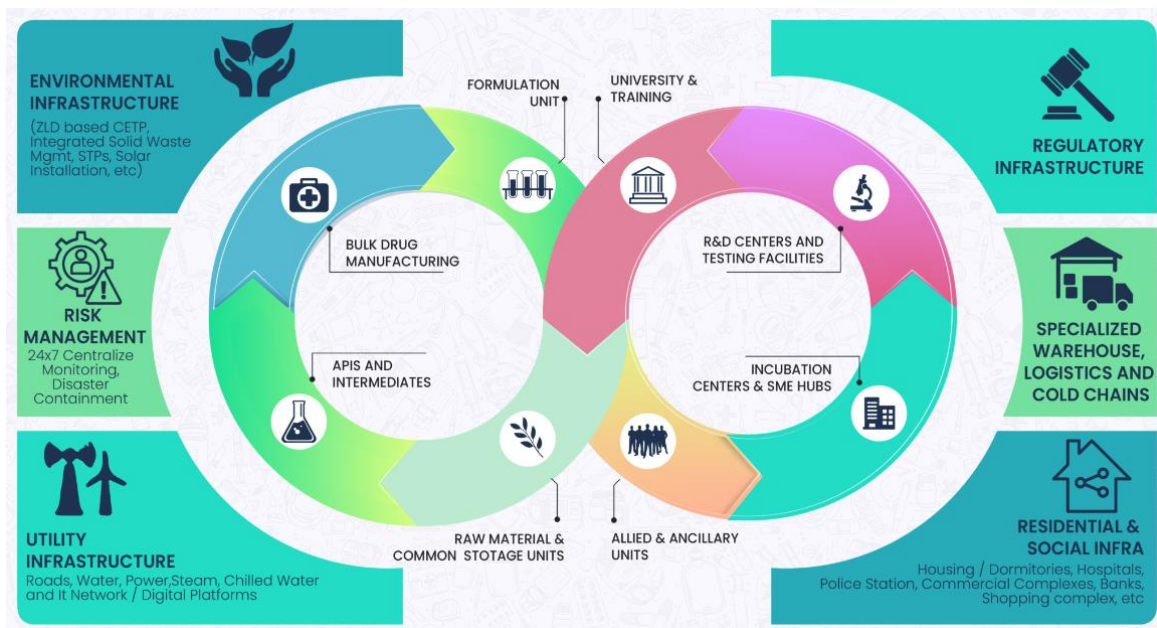
(Source: Life Sciences Department – Government of Telangana)

9.2 HYDERABAD PHARMA CITY



Hyderabad Pharma City (HPC) is the world’s largest integrated cluster in Hyderabad for pharmaceutical industries with thrust on R&D and manufacturing. The cluster has been recognized as National Investment and Manufacturing Zone (NIMZ) by Government of India, given its national and international importance. Developed at international standards, Hyderabad Pharma City will harness the true value of symbiotic co-existence across pharmaceutical value chain.





Built on the concept of Work, Live, Learn and Play, Hyderabad Pharma City offers Integrated Cluster benefits through economy of scale and helps cost optimization for tenant industries. HPC offers centralised infrastructure with first of its kind attempts to eliminate environmental risks and ensuring a minimal carbon footprint development.

9.3 MEDICAL DEVICE PARK



India's largest Medical Device Park spread over 302 acres was established in Hyderabad in 2017. The Medical Device Park houses 20+ Life Sciences and MedTech Incubators in Hyderabad. The dedicated park's ecosystem supports medical technology innovation and manufacturing.

Since its launch, the park has received an overwhelming response with around 50 companies lining up to set up their manufacturing / R&D units. It is an ecosystem of suppliers with the presence of over 1000+ SMEs in precision engineering & 6000+ plastics manufacturers – capable of handling multiple types of materials. The Medical Device Park provides a linkage to common testing services like EMI / EMC testing, biocompatibility testing, gamma irradiation facility, etc. The product range includes Insulin Pen, Orthopaedic implants, Wound Care Products, Surgical,



Ophthalmic, Cosmetic Medical Devices and Medical Dressings, Pulse Monitoring Stations, Diagnostic Kits, among many others.

While the 20+ innovation centers in Hyderabad support the Innovation focus, the Government of Telangana has also established the country's largest prototyping center called T-Works to support the development activities and the Medical Devices Park supports the manufacturing activity.

10. OPPORTUNITIES FOR FLANDERS ECOSYSTEM

The Indian ecosystem offers potential areas of cooperation to the Flanders ecosystem through envisaged regular interaction and to attend events organized by both the ecosystems. Several cooperation streams and potential joint projects are possible in several areas of cooperation for Flanders:

The potential areas of opportunities across several fields can be envisaged in:

Joint Research and Development – R&D Cooperation, Bio Informatics – highlighting the computational area of cooperation in collaborative programs, Clinical trial areas, Immunotherapy, Vaccines and mRNA technologies, Therapeutics, Diagnostics and related fields.

There are also opportunities in the Life Sciences academic cooperation, Life Sciences infrastructure and in Cluster-to-Cluster cooperation.

Another area of opportunity is in the area of Pharma Logistics including Vaccine Logistics – including engaging with ecosystem for African connections for pharma logistics including Pharma Air Logistics. The opportunities are in infrastructure and services offering and in management and certification services.

Within the larger cooperation possibility, two industry associations in Life Sciences, one each in each ecosystem, may engage and Flanders Investment & Trade (FIT) could facilitate a long-term cooperation and mutual delegation visits.

In order to engage for opportunities, Flanders Investment & Trade – Bangalore can be contacted with a detailed note on areas of interest.

FIT Bangalore - Email: jayant.nadiger@fitagency.com



10.1 BIOTECHNOLOGY SECTOR

India allows 100% FDI under the automatic route (a non-resident or Indian company will not require any approval from the government) for greenfield pharmaceuticals and manufacturing medical devices.

The Department of Biotechnology has established Biotechnology Parks / Incubators across the country to offer facilities to Small and Medium Sized Enterprises (SMEs) for technology incubation, technology demonstration and pilot plant studies for quicker commercial development of Biotechnology. The department has set up nine parks in various states:

- Biotechnology Incubation Centre, Hyderabad (Telangana)
- Biotechnology Park, Bangalore (Karnataka)
- TIDCO Centre for Life Sciences Biotech Park, Chennai (Tamil Nadu)
- The Golden Jubilee Biotech Park for Women, Chennai (Tamil Nadu)
- Biotech Incubation Centre, Cochin (Kerala)
- And in other states like Uttar Pradesh, Chhattisgarh, Assam and Jammu & Kashmir

10.2 PHARMACEUTICAL SECTOR

As per the Union Budget 2022-2023 – Government of India, US\$ 419.2 million has been set aside for research and US\$ 10.86 billion has been allocated for the Ministry of Health and Family Welfare. Through the Production Linked Incentive scheme, the Government of India hopes to increase investment and production in the Indian pharmaceutical sector. The scheme is expected to generate an incremental sale of US\$ 37.09 billion in six years, starting from 2022-2023 to 2027-2028.

To achieve self-reliance and minimise import dependency in the country’s essential bulk drugs, the Department of Pharmaceuticals initiated a PLI scheme to promote domestic manufacturing by setting up greenfield plants with minimum domestic value addition in four separate ‘Target Segments’ with a cumulative outlay of US\$ 951.27 million from FY21 to FY30. India’s first indigenously developed vaccine, “CERVAVAC” for the prevention of cervical cancer has been announced.

The above policy initiatives open up opportunities in manufacturing APIs, Drug Development, Research-backed Contract Manufacturing, and others.

10.3 MEDICAL DEVICES SECTOR

The Government of India has commenced various initiatives to strengthen the medical devices sector, with emphasis on research and development (R&D) and 100% FDI for medical devices to boost the market.

- To boost domestic manufacturing of medical devices and attract huge investments in India, the Department of Pharmaceuticals launched a PLI scheme for domestic manufacturing of medical devices, with a total outlay of funds worth US\$ 468.78 million for the period FY21-28.



- On March 25, 2021, the Department of Pharmaceuticals released a revised notice on the Public Procurement Order (PPO), incorporating 19 medical devices in the revised guidelines of the PPO, which is expected to improve domestic medical devices manufacturing (and strengthen 'Make in India') and reduce import bills by about US\$ 538.62 million.
- The Government of Andhra Pradesh is establishing the Andhra Pradesh MedTech Zone (APMTZ), which will house all capital-intensive scientific facilities, laboratories, etc., and be leased to manufacturers in Vishakhapatnam. This initiative will help decrease the cost of good-quality products.

The above policy measures have ensured the Medical Devices sector to see a surge in FDI. These policy measures offer opportunities for Manufacturing, Contract Manufacturing, Joint Ventures, to be part of the global supply chain.

10.4 MEDTECH SECTOR

In September 2021, the Department of Pharmaceuticals notified the scheme for 'Promotion of Medical Device Parks' with the objective of helping medical devices & MedTech companies with easy access to standard testing and world-class common infrastructure facilities. This initiative will help increase the inflow of FDI, promote research & development and production advances, boosting the efficiency and effectiveness of medical electronic devices. In order to encourage the domestic MedTech sector, the government has offered a 15-year income tax exemption for locally created medical technology products. To boost the market and increase investment inflow, the government has allowed 100% FDI.

Last year, the Indian MedTech sector witnessed a high inflow of capital from private equity and venture capital funds in start-ups employing disruptive technologies.

The above policy measures have ensured the MedTech sector to see a surge in FDI. These policy measures offer opportunities for Manufacturing, Contract Manufacturing, Joint Ventures, to be part of the global supply chain.

10.5 HEALTHCARE SECTOR

In health, FDI has been concentrated in pharmaceuticals, constituting approximately two-thirds of the total health-sector-related FDI over the last two decades. Currently, FDI is permitted up to 100% under the automatic route (i.e., the non-resident investor or Indian company does not require approval from the Government of India for the investment) in the hospital sector and in the manufacture of medical devices. In the pharmaceutical sector, FDI is permitted up to 100% in greenfield projects and 74% in brownfield projects under the automatic route. FDI beyond 74% in brownfield projects requires approval from the Foreign Investment Promotion Board.



| Sector | Automatic | Government |
|------------------------------|-----------|------------|
| Construction of Hospitals | 100% | |
| Healthcare (Greenfield) | 100% | |
| Healthcare (Brownfield) | Up to 74% | Above 74% |
| Medical Devices | 100% | |
| Biotechnology (Brownfield) | Up to 74% | Above 74% |
| Biotechnology (Greenfield) | 100% | |
| Pharmaceuticals (Brownfield) | Up to 74% | Above 74% |
| Pharmaceuticals (Greenfield) | 100% | |
| Insurance (Intermediaries) | 100% | |

FDI Permitted in Various Healthcare-Related in India

(Source: NITI Aayog – Healthcare Sector Investment Opportunities)

One of the opportunity evolving is of the geriatric care setups.

11. REFERENCES

- India Brand Equity Foundation (IBEF) <https://www.ibef.org/>
- Invest India – National Investment Promotion & Facilitation Agency <https://www.investindia.gov.in/>
- Department of Biotechnology – Government of India <https://dbtindia.gov.in/>
- Department of Pharmaceuticals – Government of India <https://pharmaceuticals.gov.in/>
- NITI Aayog – Government of India <https://niti.gov.in/>
- Telangana Life Sciences <https://life.sciences.telangana.gov.in/>
- KPMG Report – 2021 Healthcare CEO Future Pulse
- Deloitte-CII Report on Medical Technology Industry in India



