BCG

Confederation of Indian Industry

Unlocking ‘India for the World’ in MedTech

AUGUST 2025

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Confederation of Indian Industry

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Confederation of Indian Industry

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Foreword

The Indian medical devices industry is a sunrise sector poised for a massive transformation and manufacturing unlock. Historically, India has enjoyed a limited share in Global MedTech manufacturing and exports, at less than 2% of the global output. The Indian market has predominantly relied on imports of medical devices for servicing the domestic needs.

There is massive recognition of the opportunity that this sector presents, and hence steps have been taken to unlock the opportunity. Supportive government policies, financial incentives and streamlined regulations coupled with frugal innovations and inherent cost advantage in India have enabled a recent uptick in manufacturing of medical devices in India. Overall production volumes have gone up and share of import has gone down to ~60% (from 80%).

The opportunity, however, is much larger than that realized thus far. Thus far, India has predominantly focused on low-tech medical devices for manufacturing. Global market is growing at a brisk pace, and need for lower cost, high performance products is at a high, with demand growing in India, and in Global South. Frugal innovation and low-cost manufacturing from India can be a massive unlock to fulfil this demand. Even established large organizations are looking at the India Manufacturing opportunity with interest.

Additional efforts will be needed towards realizing this potential, to expand our manufacturing prowess to high-tech medical devices. India will need to take efforts to build a robust supply ecosystem for requisite raw materials for medical grade requirements. Steps will need to be taken to promote technology transfer for global players to set up shop in India. Local innovation would need to be fostered by promoting innovation capabilities, industry-academia collaboration and building infrastructure for low cost prototyping and trials. The solutions would also need to be curated for broader access to MSMEs, and promote at scale, utilization of existing MedTech parks and PLI schemes.

If done right, MedTech manufacturing can take the leap towards being a ~$30 Bn sector by FY2030, reduce import dependency to less than 50% and increase India's share to 10–12% in the global market. In this report, we highlight 9 potential themes of solutions that can be considered by the regulators and the industry to navigate this journey.

This report can serve as a strategic roadmap to progress towards the vision of 'Viksit Bharat 2047' in MedTech.

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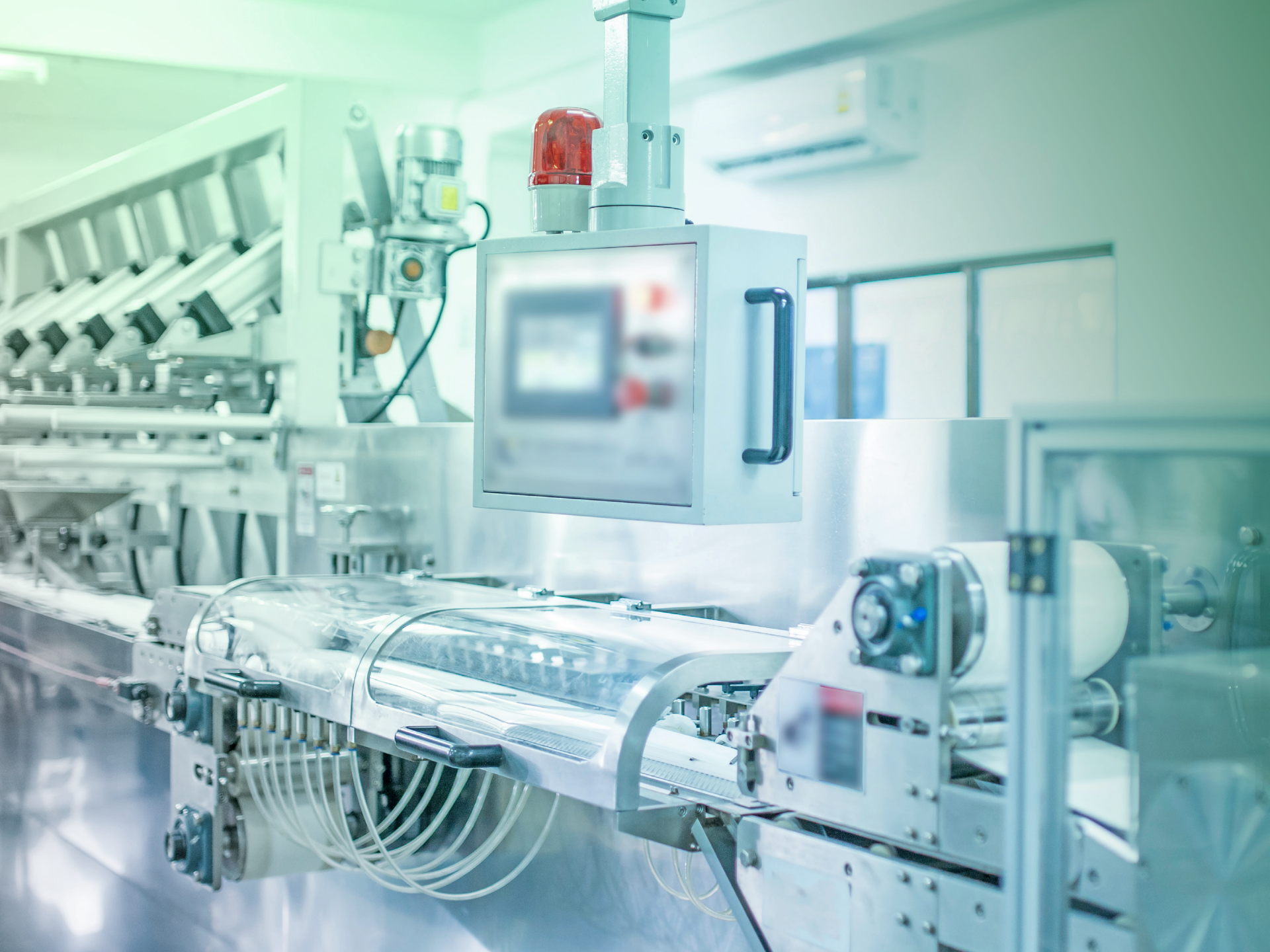

Executive Summary – I/III

The Indian MedTech industry today is ~$16 Bn, accounting for only ~2% of the global market valued at ~$680 Bn

Opportunity in Indian MedTech sector to serve growing domestic and international demand, leverage inherent cost advantages and emerging manufacturing ecosystem is large. With Viksit Bharat 2047, the government has high aspiration for the sector to be one of the pillars in 'Make in India' thrust

- Aspiration to reduce import dependency to <50%
- Increase India's share to 10–12% of the global market

With that ambition, significant progress has been made over last few years to expand local manufacturing

- Infrastructure for MedTech manufacturing has been strengthened with 4 MedTech parks being created, AMTZ being most mature
- Government has launched many financial incentives such as PLI scheme, and state level tax benefits for local manufacturing
- Initiatives to enhance R&D infrastructure and capacity through government grants and 100% automatic route FDI since 2015 ($3.9 Bn FDI as of December 2024)
- Up-skilling for MedTech disciplines (skill enhancement programs for technicians and researchers by NIPER)

India has inherent cost competitiveness advantage, and entrepreneurial eco-system boosted by incoming PE/VC investments which have further boosted local manufacturing footprint

- Last few years have seen uptick in domestic manufacturing – with investments from both domestic and MNC players
- Simultaneously, import reliance has reduced from ~80% in FY2022 to ~60% in FY2024

Executive Summary – II/III

While there is good momentum on local manufacturing, some challenges remain on the path to manufacturing excellence and becoming a global hub for MedTech

- Lack of comprehensive ecosystem for high-end devices – limited foundries for medical grade (cobalt/chromium/steel)
- Regulatory complexity – classification categories and approval formats are inconsistent with global markets, additional approvals required for exports
- Lack of skilled manpower availability – college/technical curriculum not suited to industry needs of biomedical engineering, device design, regulatory, QA/QC
- Mixed success for MedTech parks and clusters – under utilization due to limited high-end infrastructure and persistent implementation delays
- Low PLI scheme value realization – skewed towards large players, limited MSME benefits/ participation owing to high incremental revenue threshold

We believe the following 9 initiatives across government schemes, partnerships/ collaborations, product R&D and innovation will fuel next phase of manufacturing excellence

- Fine-tune PLI to promote MSME participation – stepped-down PLI thresholds to make participation viable for MSMEs
- Streamline imports aimed at promoting local manufacturing and exports – promote SEZ/EPZ with import duty rationalization and consider duty exemption for critical raw material
- Support creation of raw material ecosystem in India – extend incentives for manufacturing of medical grade critical raw material and enable co-location in a MedTech park
- Attract MNC manufacturing and R&D to India – structured engagement with global MNCs to establish manufacturing hubs and local design and R&D centers in India and actively engage with global and Indian manufacturers to promote JV/CMO engagements for large global players to make in India for the world

Executive Summary – III/III

- Unlock the power of MedTech parks fully – promote integration between MedTech parks and research institutes, establish cross-collaboration forums, facilitate global companies to set-up ‘Co-innovation labs’, establish shared and commercial scale ‘Foundries’
- Align regulatory requirements to support quick global approvals – streamline regulatory approvals with a single-window approval system and build bridge pathways to support Indian enterprise achieve global regulatory approvals aimed at exports
- Promote public-private collaboration in innovation and manufacturing – to accelerate indigenous design, rapid prototyping and commercialization of critical devices
- Promote global awareness and acceptance of Indian innovation – build an accessible innovation ecosystem through partnerships with global hospitals helping accelerate clinical validation
- Enable training and upskilling at-scale – establish training hubs and hands-on workshop centers, integrate advanced skills and clinical knowledge with academia

These steps will drive manufacturing, innovation, strengthen user-centric design, and build capacity for India to compete globally in high-end MedTech solutions, beyond the inherent competitive position

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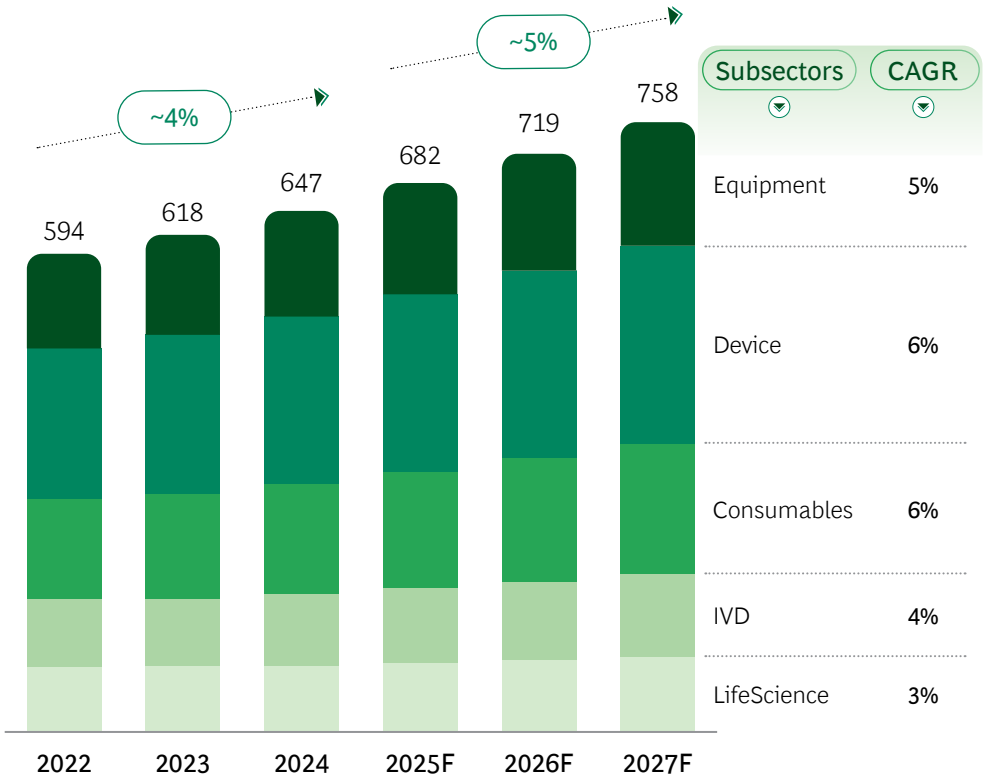
Industry at a **transformation** stage

MedTech market globally is large, currently ~$680 Bn and growing at ~5%

~5% growth across key market segments expected until 2027

Global MedTech Sales ($ Bn)



Future growth driven by 4 key trends

Ageing population, i.e., higher prevalence of chronic diseases increase overall demand on health care solutions

Higher lifestyle diseases, e.g., increased obesity/CVD/diabetes, driving new patient volumes

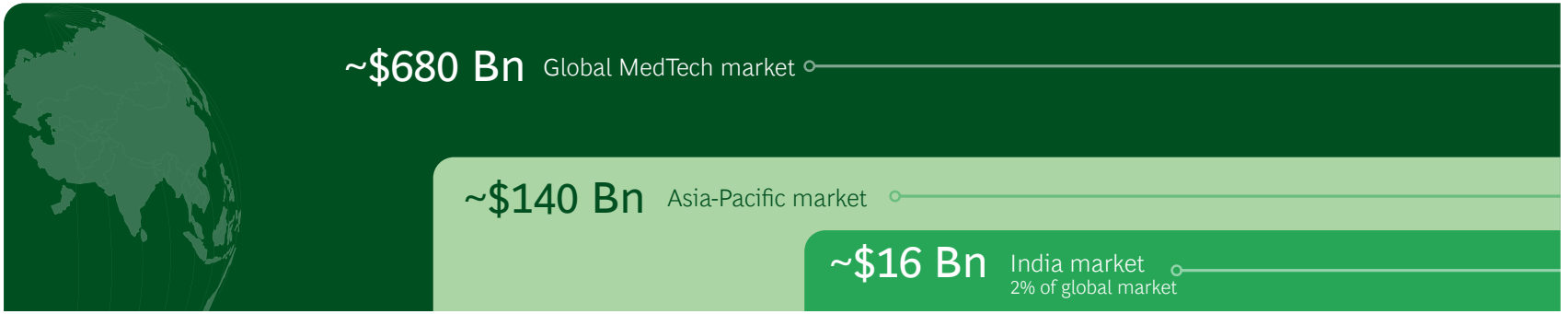
Decentralization of care, i.e., treatment moving out of hospitals, fueling use of technology in alternative settings and new locations

Growing focus and penetration of HC in Emerging markets – increasing use of both basic and advanced health care solutions in recent years post Covid-19

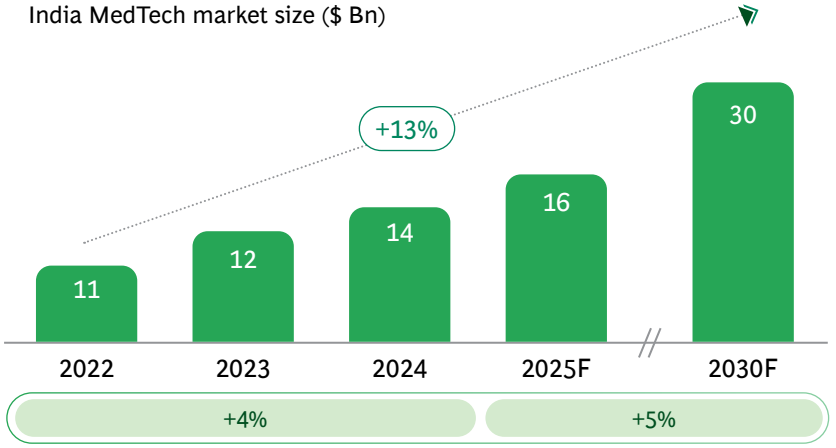
Note: Market segmentation and size according to BCG market definition. Company or report market sizes may differ depending on applied market definition
Source: Grand View Research; BCG analysis

India is currently the 4th largest MedTech market in Asia, growing faster than industry

India's share in global MedTech market — FY'25



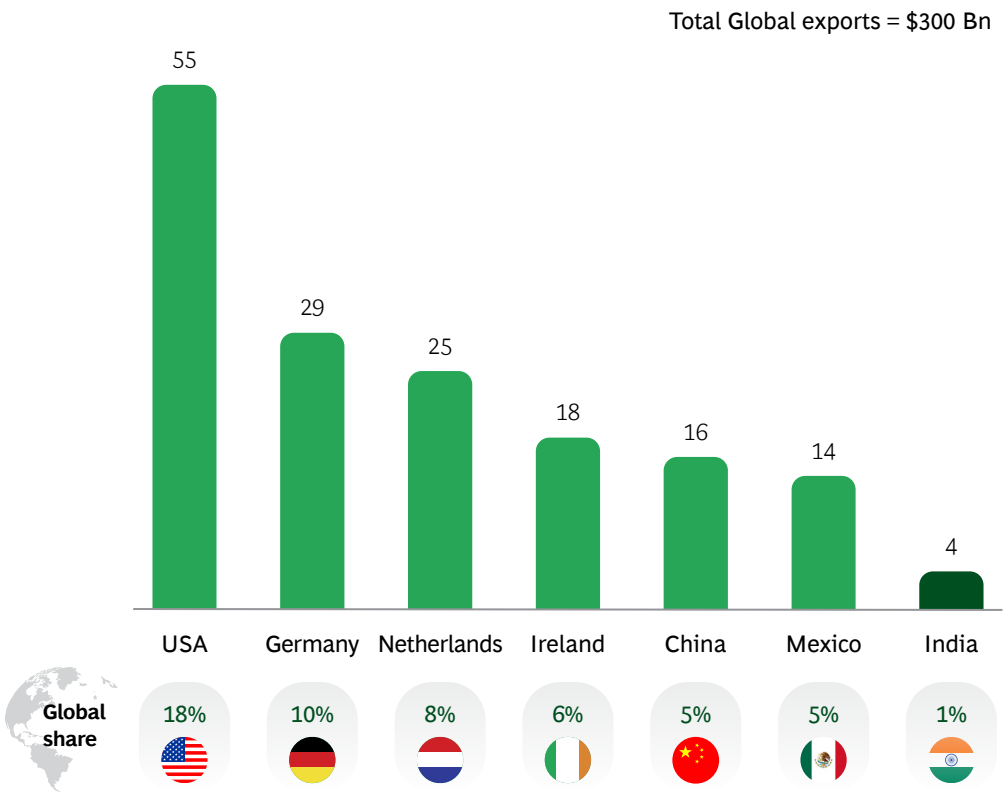
India's MedTech sector projected to grow ~3x of the global MedTech market growth rate



Source: Globe Newswire; Precedence Research; Market Reports; FY-30 Projected as per MoH Press Release

India's share in global MedTech manufacturing and exports has been historically small, at less than 2%

Exports of MedTech by country ($ Bn)



Three winning archetypes today

Innovation hubs (USA, Germany): Export high-complexity, high-margin devices off deep R&D, strong QMS[1] and global regulatory credibility

Contract manufacturing + logistics hubs (Ireland, Netherlands): Dense OEM[2]/CMO[3] plants with high-efficiency EU distribution networks

Cost/scale hubs (China, Mexico): Large EMS[4]/precision-machining bases for mid-tech, disposables and electronics equipment playing on volume and scale

1. Quality Management System; **2.** Original Equipment Manufacturer; **3.** Contract Manufacturing Organization; **4.** Electronics Manufacturing Services
Note: Export market considered for HS-4 headings of 2018, 2019, 2021, and 2022
Source: UN Comtrade; Trend Economy; Observatory of Economic complexity; BCG analysis

There has been a concerted effort to advance manufacturing in Indian MedTech sector

Aspiration of Indian MedTech:
Advance manufacturing and reduce import dependence

- Accelerate India's MedTech market to **$30 Bn by 2030 and capture 10–12% of global market share by 2047**
- **Reduce import dependence to <50%** through domestic manufacturing and innovation
- Expand India's market share in Global exports by **10–12% by 2030**

Multiple initiatives have been taken towards this aspiration

MedTech Infrastructure
- Development of MedTech Parks in Andhra Pradesh, Tamil Nadu, Himachal Pradesh, Madhya Pradesh, and Uttar Pradesh
- NABL-accredited labs and common testing centers

Financial Incentives: PLI[1] Scheme
- ~5% financial incentive on incremental sales
- Outlay of ~$410 Mn in 7 years

Innovation and Investment: PRIP[2] and FDI[3]
- Government grant for promoting innovation
- 100% automatic route FDI since 2015
- ~$3.9 Bn FDI as of December 2024

Upskilling the Nation
- Setup of NIPERs[4] for MedTech training
- Targeted skill enhancement programs for technicians and researchers

Key enablers of cost-competitiveness, entrepreneurial ecosystem and investments

Cost-competitiveness
- India has substantial cost advantage in terms of MedTech manufacturing
  - Land, labor, utilities, regulatory cost

Entrepreneurial ecosystem
- India promotes entrepreneurial skill-sets and environment to boost frugal innovations

Private Investments
- Backed by multiple PE/VC investments focused on manufacturing

1. Production-Linked Incentives; **2.** Pharmaceutical Research and Innovation in Pharmaceuticals; **3.** Foreign Direct Investment;
4. National Institute of Pharmaceutical Education and Research
Source: Department of Pharmaceuticals; Medical Technology Association of India; Press release; Secondary Research; BCG analysis

MedTech Parks | MedTech parks have been built with strong infrastructure; AMTZ[1] being most mature

MedTech Park	R&D Capabilities	Manpower	Regulatory Support	Academic and Industry Linkages	Transport Infrastructure	
01 Andhra Pradesh (Visakhapatnam)	Boosted by Kalam Institute Research Center and advanced labs for testing	150+ MedTech units on-site provide skilled manpower	On-site US FDA, CE, ISO compliance facilitated	ATRIUM[2], WHO and WTCA[3] partnerships; Hosts 150+ companies	Ports nearby; Devices shipped to 80+ countries	
02 Telangana – Sultanpur (Hyderabad)	Good testing labs (EMI/EMC)[4] with 3D printing and CNC[5] machining technology	Abundant talent pool available with top engineering/ medical colleges in proximity	Partnerships with global certification agencies for streamlining approvals	Partnership with SMT[6]; Hosts 65+ companies	Nearby Airport; Exports to 89+ countries	
03 Tamil Nadu (Chennai)	Robust innovation facilities under development fostered by R&D partnership with Anna University	On-site skill development center for training technicians in manufacturing will ensure skilled workforce	Onsite facilities to include certifiedtesting labs and calibration center	Anna University as knowledge partner; Plan to host ~80+ companies	Close to Chennai seaport and airport	

Utilization: No utilization — 100% utilization

Maturity Index: Fully mature — Advanced — Developing

*Multiple New MedTech parks are underway to boost MedTech manufacturing in India, i.e., Gujarat, Madhya Pradesh, Chhattisgarh

Deep-dive ahead;
1. Andhra Pradesh MedTech Zone; **2.** Assistive Technology Réhabilitations Instrumentation Centre; **3.** World Trade Centers Association;
4. Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC); **5.** Computer Numerical Control; **6.** Sahajanand Medical Technologies
Source: Department of Pharmaceuticals; Secondary Research; BCG analysis

AMTZ Example | AMTZ has catalyzed domestic manufacturing in India

Vision

- Position India as a global MedTech hub through **strong public–private collaboration** and **shared infrastructure**
- Develop **replicable MedTech cluster models** for other states (AMTZ[1], 2016; 270-acre built in 342 days)

Actions

- Created integrated MedTech infrastructure with **shared R&D, testing, and advanced manufacturing facilities**
- Introduced **targeted MSME[2] incentives** including a **15% investment subsidy** on fixed capital
- **Power subsidy of ₹1 per unit reimbursement** for a 5-year period to reduce costs
- **Single Desk system** enabling **time-bound approvals** for faster project execution and setup
- Rolled out TS-iPASS[3] single-window mechanism with **15-day clearance for all mega projects**
- **Plug-and-play ecosystem** hosting 150+ firms, with Bio-Valley incubator for diagnostics startups

Outcome

- **Annual turnover > ₹9,000 Cr**; thousands of jobs created
- Enabled Covid-19 responses through rapid scale-up: ~10 Lac RT-PCR kits/day, ~250 ventilators and ~500 oxygen concentrators per day
- Industrial ecosystem through attracting firms like Molbio, Trivitron, Phoenix, Enliva, Amphenol
- Future target: **50% Made-in-India device usage** in Indian hospitals by 2032

AMTZ[1] is a successful blueprint of how focused policy, infrastructure, and innovation ecosystems can transform India from being a MedTech importer into a global hub

1. Andhra Pradesh MedTech Zone; **2.** Micro, Small, Medium Enterprises; **3.** Telangana State Industrial Project Approval and Self-Certification System
Source: Survey Department of Pharmaceuticals

Incentives | State incentives fueling India's MedTech growth

01 Rajasthan

- 100% exemption on stamp duty and electricity
- 100% land tax waiver for 7 years
- 1.2–2% turnover-linked rebate for 10 years
- RajNivesh one-stop portal for time-bound clearances

02 Gujarat

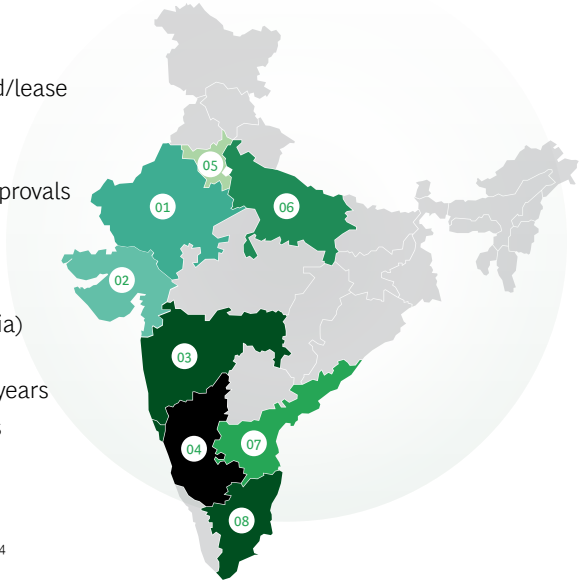
- 100% stamp-duty reimbursement on land/lease Electricity-duty exemption for 5 years
- 25% capex subsidy[1] up to ₹200 Cr
- IFP[2] single-window online platform for approvals

03 Maharashtra

- Patent reimbursement: Up to ₹2 Lac (India) and up to ₹10 Lac (Foreign)
- SGST refund: 100% on first sale for 7–10 years
- Power subsidy: ₹0.5–1 per unit for 3 years

04 Karnataka

- KIADB[3], 30% of land reserved for MSMEs[4]
- Bonus subsidy: +10% if the R&D center is co-located with the plant
- Faster approvals: Affidavit-based system and single-window clearance under NIP[5]



05 Haryana

- 100% electricity duty; 50–100% stamp-duty refund (land)
- MSME[4] term loans: 5–8% interest rebate for 7 years
- Invest Haryana: single-window deemed clearances

06 Uttar Pradesh

- Patent fees reimbursement: 100% domestic and 50% international
- Interest subsidy of 50% p. a. on quality/R&D loans
- Nivesh Mitra portal for fast-track clearances

07 Telangana

- MSMEs[4]: 15% investment subsidy on fixed capital
- Power: ₹1/unit reimbursement for 5 years
- Single Desk: time-bound approvals
- TS-iPASS[6]: single-window; 15-day approvals for mega projects

08 Tamil Nadu

- 1/3 subsidy incentives for companies: Fixedcapital, Flexible (staged) capital or Turnover-based
- TN Single-Window portal + LS[7] PromotionCell for fast-track clearances
- State-affiliated testing labs for export certification

1. For biotech/biomedical devices and units; **2.** Investor Facilitation Portal; **3.** Karnataka Industrial Areas Development Board; **4.** Micro, Small, Medium Enterprises; **5.** New Industrial Policy; **6.** Telangana State Industrial Project Approval and Self-Certification System; **7.** Life Sciences
Note: The incentives are non-exhaustive for the select states (those with current and planned MedTech parks)
Source: Survey Department of Pharmaceuticals

Government Initiatives | Progressive policies are unlocking growth, innovation, and global competitiveness in Indian MedTech

Strengthening Regulation and Global harmonization

National Medical Devices Policy (NMD), 2023

Schedule M (Revised)–Medical Device Quality Standards, 2023

Revised GMP[1] standards for MedTech under Drugs Act

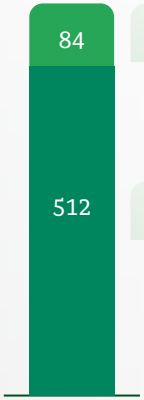
- Adoption of international standards like QSREU[2]
- Regulatory clarity for devices now under CDSCO[3], higher trust and reduced global import rejections

Promoting investment for innovation

Promotion of Research and Innovation in Pharma MedTech (PRIP), 2023

Government grants

~$600 Mn



Component A

Establish CoEs[4] at existing NIPERs[5] to enhance research infra/capacity

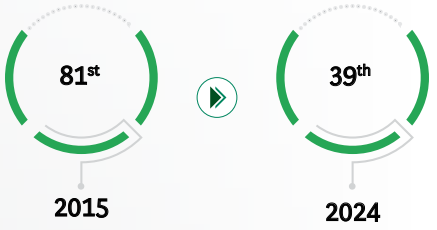
Component B

Fund startups, MSMEs[6] and established cos; support in-house and academia research

Developing Talent and IP Ecosystem

Intellectual Property Rights (IPR) Policy, 2016

Significantly align India's IPR regime with global IP standards



Improvement in GII[7] Innovation Ranking for India

1. Good Manufacturing Practice; **2.** Quality System Regulation European Union; **3.** Central Drugs Standard Control Organization; **4.** Centers of Excellence; **5.** National Institutes of Pharmaceutical Education and Research; **6.** Micro, Small, Medium Enterprises; **7.** Global Innovation Index
Source: PIB Press Release; GII Rankings; Secondary Research

India's Cost Advantage | India offers substantial cost advantage for local MedTech manufacturing: illustration for mid-sized plant (~5,000 sq. m)

Indicative

Cost Component	India	China	Mexico	USA	Europe
Land Cost (5,000 sq. m)	$0.1–0.3 Mn; one-time purchase	$0.5–1 Mn national average	$0.1–0.8 Mn national average	$0.2–0.4 Mn; vary widely by state	$1.5–2.3 Mn, average across EU-5
Construction (50,000 sq. ft CE facility)	$1–1.3 Mn	$1–2 Mn	$3.5–6 Mn	$4–7 Mn	$5–7 Mn
Labor–Unskilled/ Semi-skilled (per month)	$150–350	$450–750	$715–1,040	$2,500–3,000	$2,000–3,000 for entry-level manufacturing workers
Labor–Skilled/ Engineer (per month)	$300–600	$1,500–3,000	$2,300–4,500 (Engineer) $1,200–2,100 (Technician)	$6,000–8,000	$5,000–8,000/ month, strong labor laws add indirect costs
Utilities – Electricity	~$0.09 kWh	$0.10–0.13/ kWh–heavily state-regulated	$0.12–0.18/kWh	$0.08–0.1/kWh	$0.15–0.25/kWh (Industrial rates are high due to energy taxes)
Utilities – Water	$0.5–0.8/m³	$0.4–0.8/m³ for industrial water	$0.8–1.2/m³	$1–3/m³ on average	$2.2–5.5 including wastewater fees
Product Regulatory Fees	$12–60/ device (CDSCO)	Moderate fees- $1,000–7,000 depending on device class	$20,000–60,000	510 (K) fee ~$24,335 ($6,084 for small business)	EU MDR compliance costs $250,000–700,000

Cost Low Med High

Note: All costs are weighted averages and widely vary from state to state and regions within a country
Source: Secondary Research; Expert interviews; BCG analysis

Evolving ecosystem | MedTech ecosystem has emerged with frugal innovations across full spectrum of Medical devices

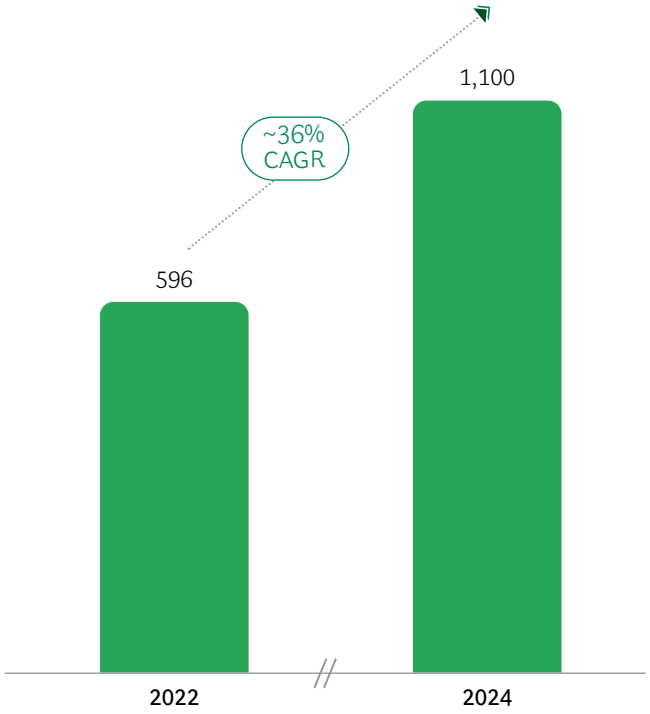
	Diagnosis and Detection	Treatment and Intervention	Post Operation – Recovery and Rehabilitation	Wearable and Assistive Technologies
Select Use Cases	↗ Chest X-ray AI for TB screening ↗ Pocket ECG for rural heart diagnostics ↗ Handheld oral cancer detection tool	↗ Minimally invasive orthopedic surgery via robotic system ↗ Transcatheter valve replacement ↗ Stem-cell based therapy	↗ Robotic exoskeleton for stroke rehabilitation ↗ AI gait trainer for neuro recovery ↗ Lightweight wheelchair for independent mobility ↗ Smart brace for guided home physiotherapy	↗ Bone conduction aid for hearing loss ↗ Smart walker for elderly fall prevention ↗ Tablet-based cognitive screening for dementia ↗ Low-cost assistive tech for visual impairment
Startup Stories	**qure.ai** AI-powered chest X-ray analysis used in 139+ facilities, including TB programs	**SS innovations** Multi-specialty surgical robotic system with telesurgery/tele-proctoring approvals	**Bionic Yantra** REARS exoskeleton enables mobility (1/3rd reduction in Rehabilitation time)	**We hear** Wearable hearing device bypassing damaged eardrum
	Agatsa Keychain-sized, leadless 12-lead ECG enabling cardiac screenings	**Meril** Developed Myval TAVR, India's first local transcatheter valve system	**Genrobotics** AI-driven robotic device for gait training in stroke/ Parkinson's recover	**Maitra** Digital tool for neuro cognitive assessments

Patient Clinician Hospitals Recovery and Rehabilitation Center

Source: Department of Pharmaceuticals-Government of India Annual Report 2024-2025; PBI Press Release; Industry Reports; Secondary Research; BCG analysis

PE/VC Investments | PE/VC investments have ramped up to support efforts to enhance manufacturing in India

PE[1]/VC[2] investments in India's MedTech ($ Mn)



Notable PE[1]/VC[2] MedTech deals

Company	Investor	Purpose of seeking investment	Deal size ($ Mn)
Healthium MedTech	KKR	Accelerate global expansion	840
Sahajanand Medical Technologies	Samara Capital	Global expansion and build next-generation cardiovascular solutions	150
Biorad Medisys	Kotak Strategic Situations Fund	Set up new manufacturing plant	48
Appasamy Associates	Warburg Pincus	Product innovation and export market growth	300
Futura Surgicare	Jashvik Capital	Build innovative devices and consumables	25
S3V Vascular Technologies	AM Naik and Madhusudan Kela	To set up manufacturing facility for neurovascular devices	36

Deal momentum with manufacturing as focus activity in India MedTech sector

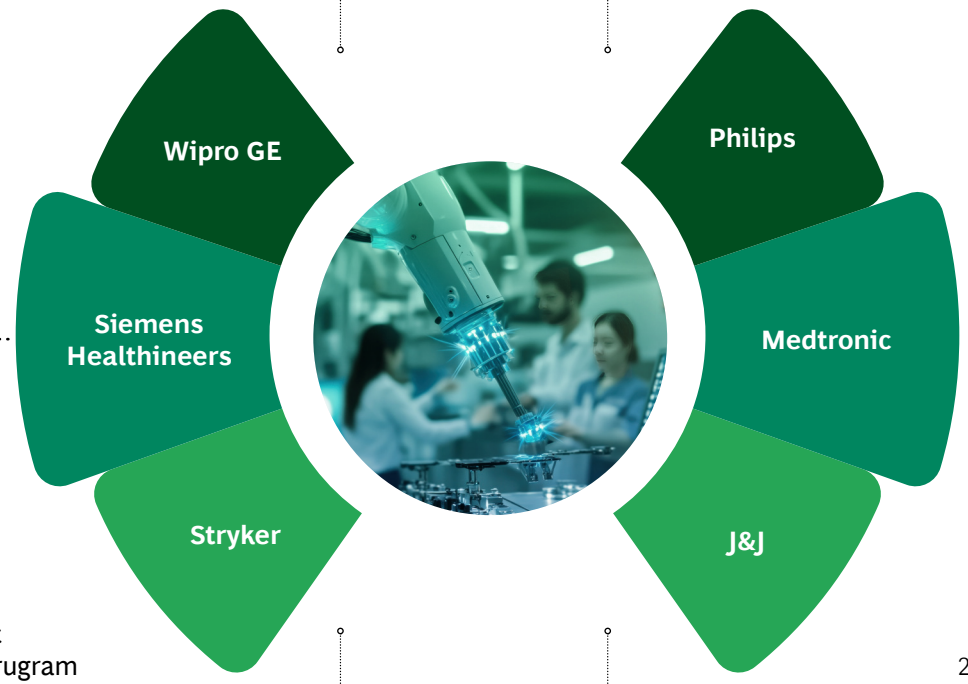
1. Private Equity; **2.** Venture Capital
Source: Pitchbook-2023; Secondary Research; BCG analysis

MNCs are investing to leverage the Indian advantage on cost and technology

- Committed **~$916 Mn for local manufacturing and R&D expansion** till FY29
- **4 local production lines** (PET-CT, CT, MR coils, X-ray) - Raise local production from current **40–45% to 70% by 2030**
- **Exporting to 70+ countries**

- **Investment of ~$148 Mn for Bengaluru innovation hub** under "Strategy 2025"
- Expands Make in India footprint with local manufacturing of Multix Impact E Digital Radiography X-ray System along with C-Arms, CT and MRI System

- **Announced opening of 150,000 sq. ft R&D facility at International Tech park, Gurugram**
- **Expanded prototype and testing facility in India** integrates cutting-edge infrastructure, enhanced microbiology capabilities, and a talented team to drive innovation



- **~$12 Mn investment for Health Care Innovation Centre**
- **Expanded Chakan factory by 7,200 sq. m;** MR coils, ultrasound, mobile surgery systems
- Launch of Affiniti ultrasound device

- **Announced investment of ~$481 Mn by 2025** to expand the Hyderabad Innovation Centre **making it largest R&D hub outside the US**
- **Partnered with Philips to train over 300 clinicians** in imaging techniques in its commitment to clinician upskilling

- With the Indian ophthalmic market valued at **~$1,700 Mn** in 2024, J&J vision is **exploring local manufacturing** to support **access and distribution** in India
- They are preparing for locally relevant innovations and **clinical trials** tailored to India

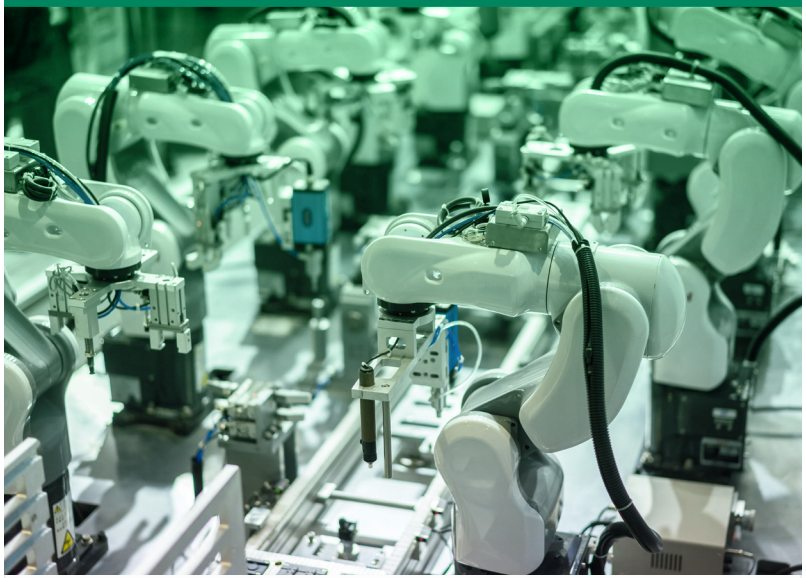
Source: Industry reports; Annual reports; Global MedTech interviews; BCG analysis

Indian companies and manufacturers continue to invest

New Product Approvals

44 high-end devices (CT, MRI, LINAC, ultrasound, mammography) **approved under** the **PLI[1] scheme** for domestic production

Domestic Player Expansion

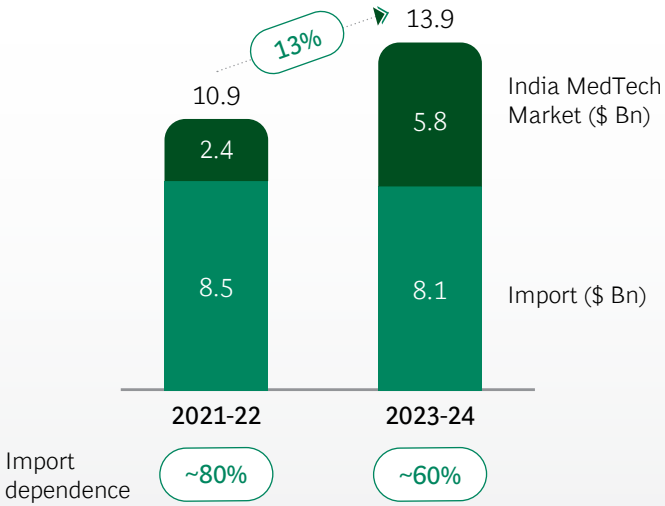


Meril: $18 Mn capex to make new devices[2],
SMT[3]: $10.4 Mn project to manufacturing 1 Mn+ stents and 2 Mn+ balloon catheters, Trivitron: new radiation-protection gloves plant to manufacturing ~2 Lac units annually

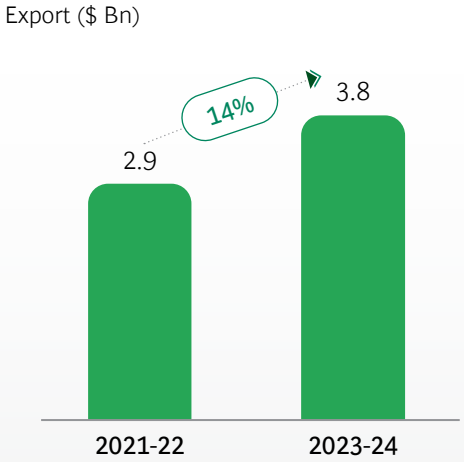
1. Production-Linked Incentives; **2.** Includes orthopedic implants, coronary stents/valves and endo-surgery products; **3.** Sahajanand Medical Technologies
Source: Industry reports; Secondary Research; BCG analysis

Significant uptick in domestic manufacturing and reduction in import reliance

Reduced import dependency from ~80% to ~60%



Exports increased at ~14% CAGR - higher than ~13% industry growth



Source: Department of Pharmaceuticals - Government of India Annual Report 2024-2025; PBI Press Release; Industry Reports; Secondary Research; BCG analysis

02

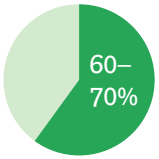
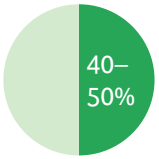
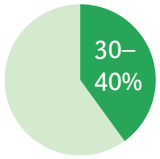
Bumps on the road to becoming a **Global Manufacturing Hub**

There are roadblocks to overcome as India progresses toward its vision of becoming a Global manufacturing hub

Lack of comprehensive ecosystem for high-end devices	↗ India lacks a comprehensive ecosystem of upstream technologies to support manufacturing of high-end equipment, leading to heavy import reliance. Import duty levies on these raw materials reduce export attractiveness, e.g., there are limited foundries for medical grade (cobalt/chromium/steel); limited play in rare-earth and high-field MRI magnets amongst others
Regulatory uncertainty	↗ Classification categories, submission formats and requirements for India vary as compared with USFDA[1]/EU MDR[2] ↗ Limited streamlining of requirements increases burden of manufacturers for additional approvals for exports
Lack of skilled manpower availability	↗ Skilled talent remains a critical bottleneck. This includes biomedical engineering, device design, regulatory, QA/QC, especially in emerging high-tech domains (AI, advanced imaging, etc.) ↗ College and technical curriculum are not alligned with industry needs
Mixed success for MedTech parks and clusters	↗ MedTech park utilization remains low, with mature clusters such as AMTZ[3] operating at 60–70% occupancy, Telangana at 40–50%, and Tamil Nadu at just 30–40% ↗ Limited high-end infrastructure and persistent implementation delays continue to constrain the potential of these clusters
Low PLI scheme value realization	↗ Underutilization of PLI scheme, with ~$15 Mn disbursed from an outlay of ~$390 Mn (FY22–27) ↗ Majorly skewed towards large players, limited MSME[4] benefits/participation under PLI owing to high incremental revenue threshold—undermining goal of creating broad-based MedTech ecosystem

1. United States Food and Drug Administration; **2.** European Union's Medical Device Regulation; **3.** Andhra Pradesh MedTech Zone Limited; **4.** Micro, Small, and Medium Enterprises
Source: Secondary Research; CDSCO website and circulars; BCG analysis

Indian MedTech parks have headroom to improve overall utilization

	(Utilization: >40-50%)		(Utilization: <40%)
			
Utilized	Andhra Pradesh (AMTZ[1])	Telangana	Tamil Nadu
Established year	2016	2017	2021
Space	~270 acres	~300 acres	~136 acres
Total companies	~400	300–400	~400
Key strengths	Integrated manufacturing, R&D, prototyping, innovation hubs	Rapid prototyping, EMI/ EMC testing, Gamma irradiation facility	High-tech facility, aimed to integrate manufacturing with R&D and knowledge support

New MedTech Parks underway:

Gujarat being commissioned by late 2025 with investment of ~$100–150 Mn underway, set to host ~400 MedTech companies

Madhya Pradesh announced its MedTech park in 2024, allotting land to over 30 MedTech companies with proposed investments of around ~$200 Mn and **Chhattisgarh** announced Pharma and MedTech hub in December 2024

Challenges on realizing full-potential of MedTech parks

- Most parks need to strengthen **infrastructure to reach global standards; and attract ecosystem players,** except mature ones like **AMTZ[1]** (MediValley, BioValley) and **Telangana** (T-Hub[2], PPP with government, IIIT-H[3], ISB[4], NALSAR[5], private partners)
- **Funding models differ,** state-only parks (Gujarat, Telangana) are less attractive, while blended parks (AMTZ[1], Tamil Nadu) benefit from both central and state funding
- **Lack of skilled executioners, low talent-building efforts** and innovation infrastructure, impacting full potential realization of parks
- **Unclear marketing and business strategy** to expand to additional MedTech companies including global MedTech

1. Andhra Pradesh MedTech Zone; **2.** International Institute of Information Technology, Hyderabad; **3.** Technology Hub; **4.** Indian School of Business; **5.** National Academy of Legal Studies and Research

Source: Department of Pharmaceuticals - Government of India Annual Report 2024-2025; PBI Press Release; Industry Reports; Secondary Research; BCG analysis

Production-Linked Incentives (PLI) skewed towards large firms, limiting MSME participation

Incremental sales uplift threshold under PLI[1] Scheme for Category A[3] and Category B[4]

Scheme tenure: 2021 to 2028	Threshold minimum incremental sales of manufactured goods	
FY	Category A[3] products	Category B[4] products
Year 1	₹60 Cr	₹20 Cr
Year 2	₹120 Cr	₹22 Cr
Year 3	₹180 Cr	₹24 Cr
Year 4	₹230 Cr	₹27 Cr
Year 5	₹280 Cr	₹29 Cr

> Though there are PLI[1] schemes available, their impact hasn't been as expected. Moreover, they are more focused towards big companies rather than small companies. MSMEs[2], which comprise a large portion of India's manufacturing, are unable to benefit from the scheme. The scheme has criteria of incremental sales of ₹60 Cr which MSMEs[2] are unable to fulfil.
>
> — *Leading executive, Indian MedTech Company*

PLI[1] Challenges

PLI's[1] greenfield-only requirement

The high upfront capex for new plants makes participation largely out of reach and discourages smaller players

High sales thresholds in PLI[1] schemes constrain participation:

Even when MSMEs[2] secure approvals, the steep incremental sales criteria (especially for Category A's[3] ₹60 Cr in Year 1 rising to ₹280 Cr in Year 5, make it difficult for smaller players to keep pace as MSME[2] typically have an overall turnover of only ₹100-500 Cr

1. Production-linked incentives; **2.** Micro, Small, Medium Enterprises; **3.** Category A consists of Large, high-capex advanced equipments like CT, MRI, LINAC etc;
4. Category B consists of Smaller, less-cost intensive devices like X-ray tube, Anesthesia syringes and needles, Cyclotrons etc.;
Source: Department of Pharmaceuticals Report; Ministry of Finance Report; Secondary Research

03

Next-level unlock for **India's leadership** in **MedTech manufacturing**

9-point agenda for India to emerge as a global manufacturing hub (I/II)

Solution Themes	Initiatives
01 Fine-tune PLI to promote MSME participation	↗ Introduce **'step-down thresholds' under PLI schemes and increase awareness** to ensure that MSMEs and smaller companies also qualify for **incentive disbursements in subsequent years,** rather than being limited to just gaining approvals under the PLI policy
02 Streamline imports aimed at exports and promote manufacturing	↗ Promote **SEZ[1]/EPZ[2] with import duty rationalization** on import of raw materials for export oriented ventures ↗ Consider duty exemption for critical raw materials – such as biomedical-grade plastics, special alloys, electronics, sensors, etc. aimed at exports
03 Support creation of raw material ecosystem in India	↗ Extend incentives for manufacturing of medical grade critical raw material (e.g. rare earth magnets, foundries of medical grade Co[3]/Cr[4]) and enable co-location in a MedTech park
04 Attract MNC manufacturing and R&D to India	↗ Create structured engagement with global MNCs to establish **manufacturing hubs and local design and R&D centers** in India by offering faster/single-window clearances; special concessions in the MedTech parks; access to clinical trials in India; and fast-track approvals for launch of their global portfolio in India ↗ Actively engage with global and Indian manufacturers to promote JV[5]/CMO[6] engagements for large global players to make in India for the world, while addressing common concerns on IP protection and talent

1. Special Economic Zone; **2.** Export Processing Zone; **3.** Cobalt; **4.** Chromium; **5.** Joint Venture; **6.** Contract Manufacturing organization
Source: BCG proprietary knowledge; Industry experts; Market Reports; Department of Pharmaceuticals Reports; Secondary Research

9-point agenda for India to emerge as a global manufacturing hub (II/II)

Solution Themes	Initiatives
05 Unlock the power of MedTech parks fully	↗ Promote integration between MedTech parks and research institutes for enable prototyping and pilot testing ↗ Establish cross-park collaboration forums (as parks currently work independently) to drive knowledge sharing and joint advancement with global partners ↗ Facilitate global companies to set-up **'Co-innovation labs'** within MedTech parks, engaging as **OEMs and R&D partners,** to accelerate technology transfer, deepen product R&D and move beyond buyer–seller relationships
06 Align regulatory requirements to support quick global approvals	↗ **Build bridge pathways to support Indian enterprises achieve global regulatory approvals aimed at exports, on back of their domestic approvals and quality assurance** ↗ **Streamline regulatory approvals** with a **single-window approval system** along with 'preliminary regulatory assessment feedback' to simplify the existing 7-step approval process
07 Promote public-private collaboration in innovation and manufacturing	↗ Promote collaboration between **public R&D institutes and Indian manufacturers and industry** to accelerate indigenous design, rapid prototyping and commercialization of critical devices through creating structured forums and information exchanges
08 Promote global awareness and acceptance of Indian innovation	↗ Build an accessible **innovation ecosystem** through partnerships with global hospitals helping accelerate **clinical validation** for Indian MedTech innovations and drive user centric design
09 Enable training and upskilling	↗ Establish **training hubs and hands-on workshop centers** for clinical education ↗ **Integrate advanced skills and clinical knowledge with academia** to build skilled manpower for specialized clinical applications, ensuring large-scale education in advanced medical procedures ↗ Launch **'Hospital-Engineer fellowship' programs,** that provide biomedical skill-based training inside tertiary hospitals for 6-9 months, addressing unmet needs and offering hands-on MedTech exposure

Source: BCG proprietary knowledge; Industry experts; Market Reports; Department of Pharmaceuticals Reports; Secondary Research

Note to the Reader

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