



Medical Device Market

Executive Summary Report

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Report

PREPARED BY
Pukka Partners

ABOUT PUKKA PARTNERS



Pukka Partners provide customized intelligence solutions to C-suite executives and functional growth leaders, with sound expertise in business research, strategy consulting, advisory, business intelligence, and data analytics.

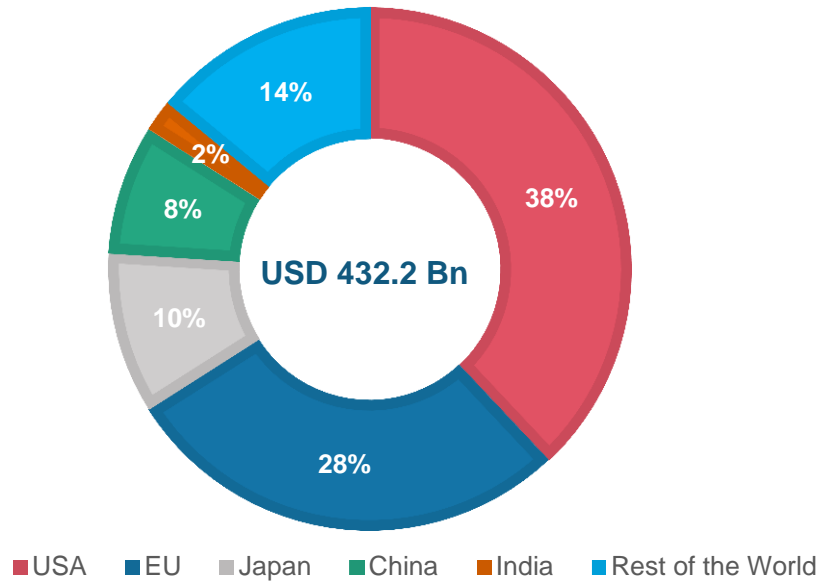
We offer advisory and actionable insights around public policies, investment tracking along with the obstacles faced by investors, innovation and strategy impact monitoring, identification of industry potential, and technology mapping through comprehensive and standardized research methodology and tools.

We deploy our solutions to solve prioritized and critical business challenges by leveraging our in-house expertise as well as continuous engagement with industry thought leaders in the business ecosystem.

In a short span of time, our consultants have had the opportunity to engage and deliver domain & sector specific tailor-made strategic projects to top executives and functional growth leaders, empowering them to make informed business decisions.

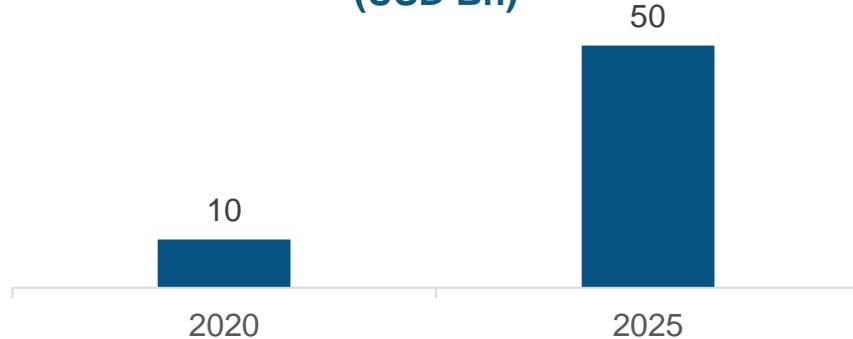
Our success is directly linked to our client's growth and we ensure to exceed it every time we engage with our existing clients and future prospects. We aim to be a knowledge partner for our customers and gradually become their trusted intelligence provider.

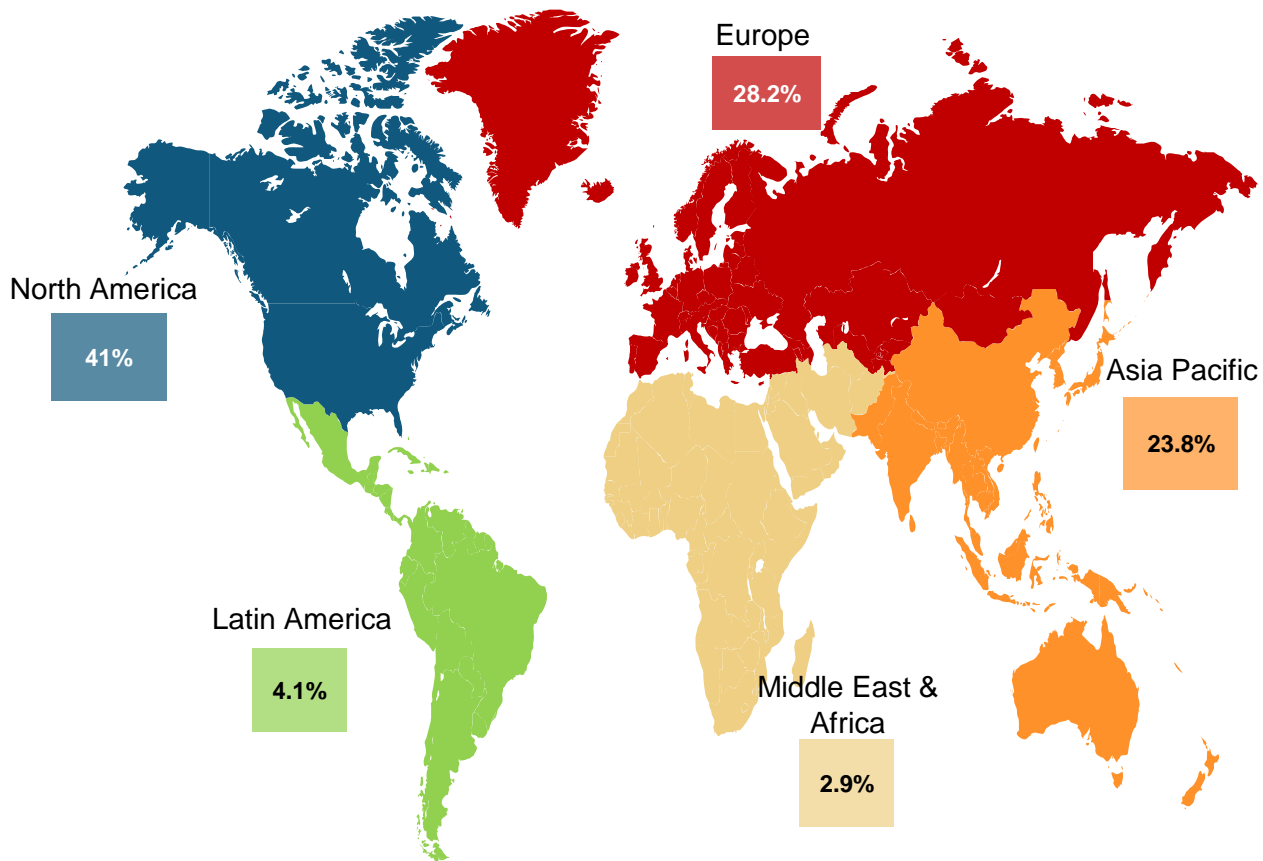
Global Market Share, 2020



- The Global Medical Device Industry's current worth stands at USD 432.23 Bn and is expected to reach USD 612.7 Bn by 2025, growing at a CAGR of 5.4%. The United States is the market leader and is worth USD 168 Bn in 2020.
- The global market is fragmented, with players like Medtronic, Johnson & Johnson Services, Inc., Abbott, Stryker accounting for a major share in 2020. The top market players focus on strategies such as acquisitions, collaborations, and new product developments and launches to strengthen their market position globally.
- Increasing investment of medical technology companies in research & development and favorable scenarios provided by regulatory authorities for their approval is expected to boost the medical devices industry in the forecast period.
- The medical devices sector in India comprises large multinationals and small and mid-sized companies. The Government of India (GOI) 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. From April 2000 to December 2020, FDI inflow in the medical and surgical appliances sector stood at US\$ 2.18 billion.

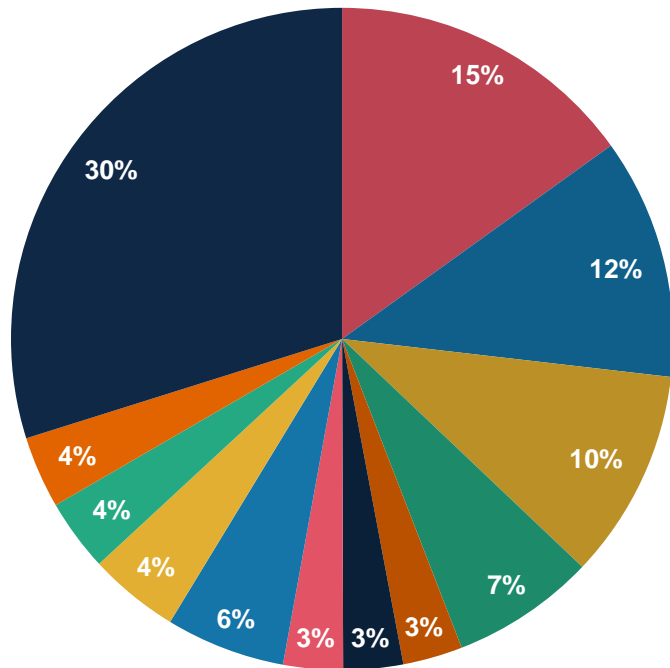
Indian Medical Device Market (USD Bn)



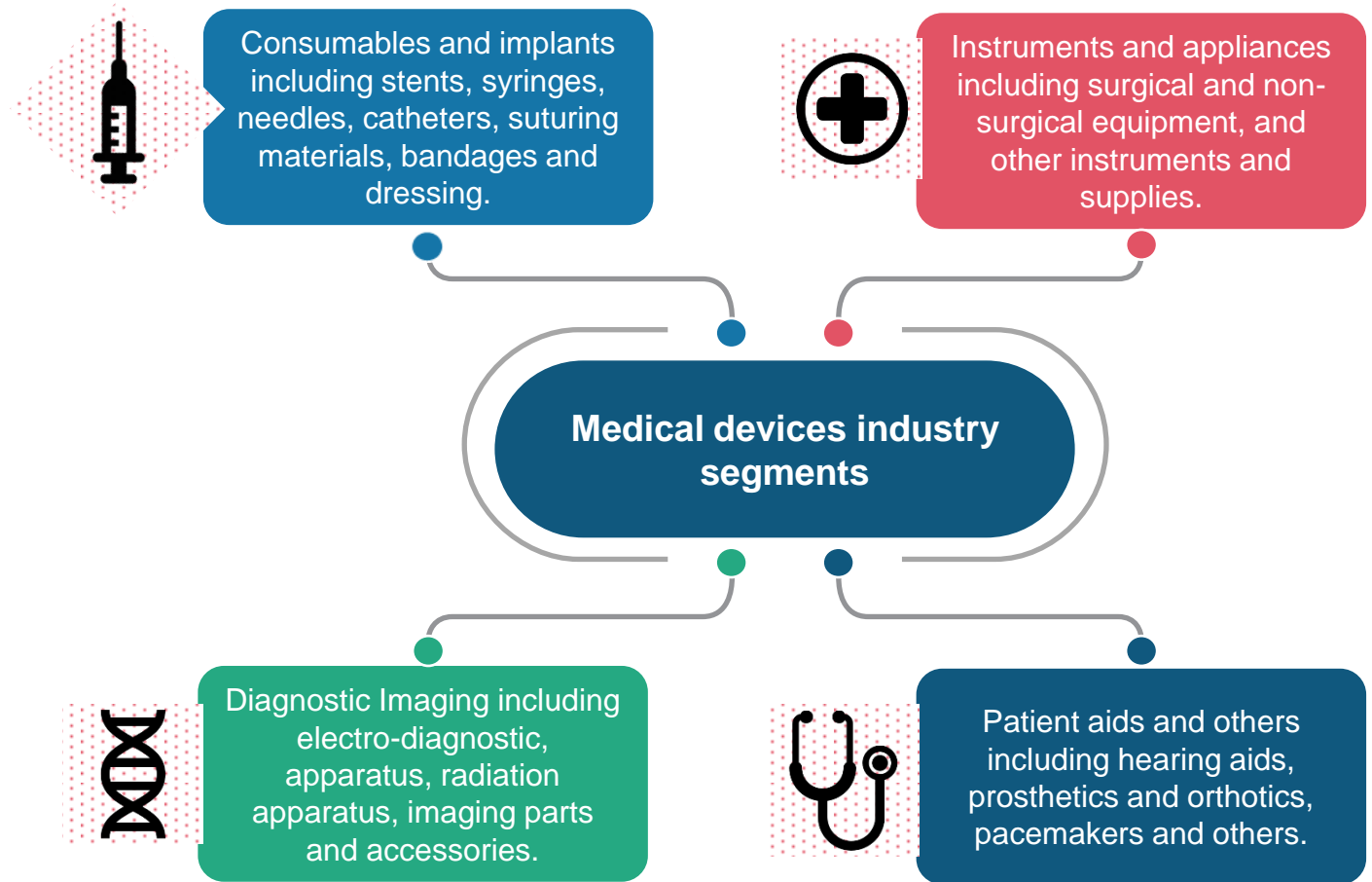


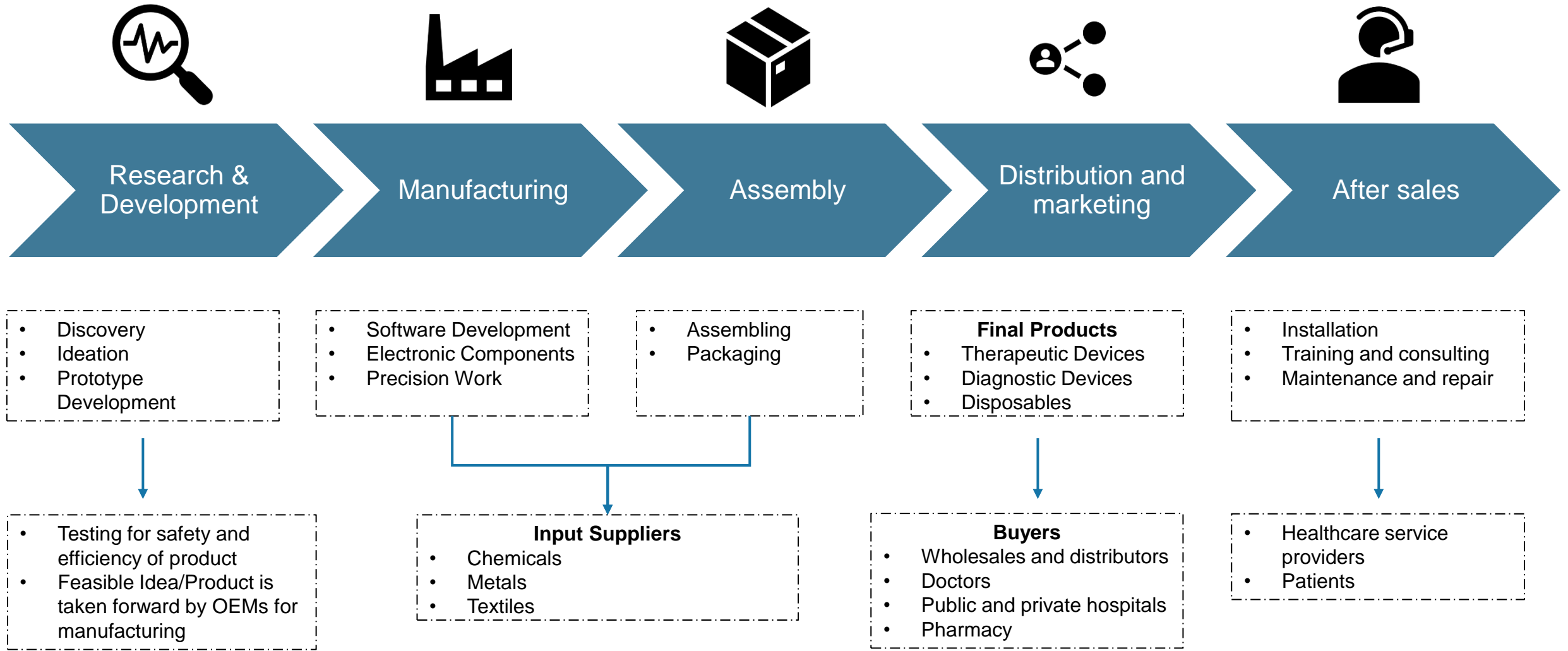
- The market size in North America stood at USD 168.76 billion in 2020. Presence of adequate and favourable government regulations, developed healthcare infrastructure, rapid adoption of advanced medical technologies, and key players in the region are major factors primarily responsible for its dominance.
- The market in Europe is anticipated to register a significant CAGR owing to increasing healthcare expenditure, well-established infrastructure, and increasing adoption of advanced diagnostic and treatment devices.
- Asia Pacific is expected to grow at a comparatively higher CAGR due to the increasing prevalence of diseases such as cardiovascular disorders, infectious diseases, dental disorders, diabetes, etc., along with the increasing focus of market players to expand its direct presence in emerging countries, including China, India and fulfil the demand of patients in this region.
- On the other hand, Latin America and Middle East & Africa is expected to register a substantial CAGR during the forecast period due to rapidly developing healthcare infrastructure in few countries such as Saudi Arabia, Brazil, etc., and the entry of global market players in these regions through direct or indirect presence.

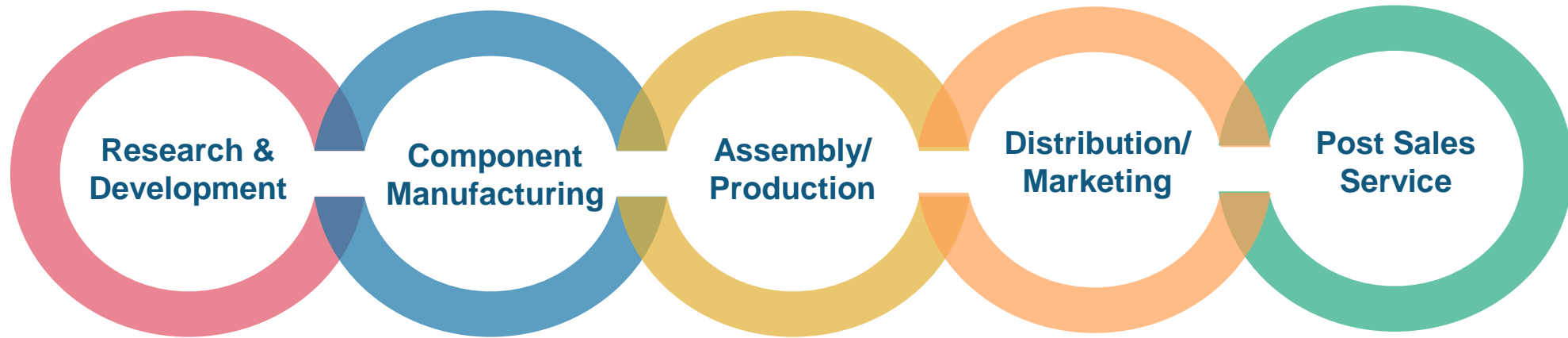
Global Medical Device Market Share by Type, 2020



- In Vitro Diagnostic
- Orthopedic Devices
- Diabetes care
- Nephrology
- Cardiovascular Devices
- MIS
- Ophthalmics
- General Surgery
- Diagnostic Imaging
- Wound Management
- Dental
- Others







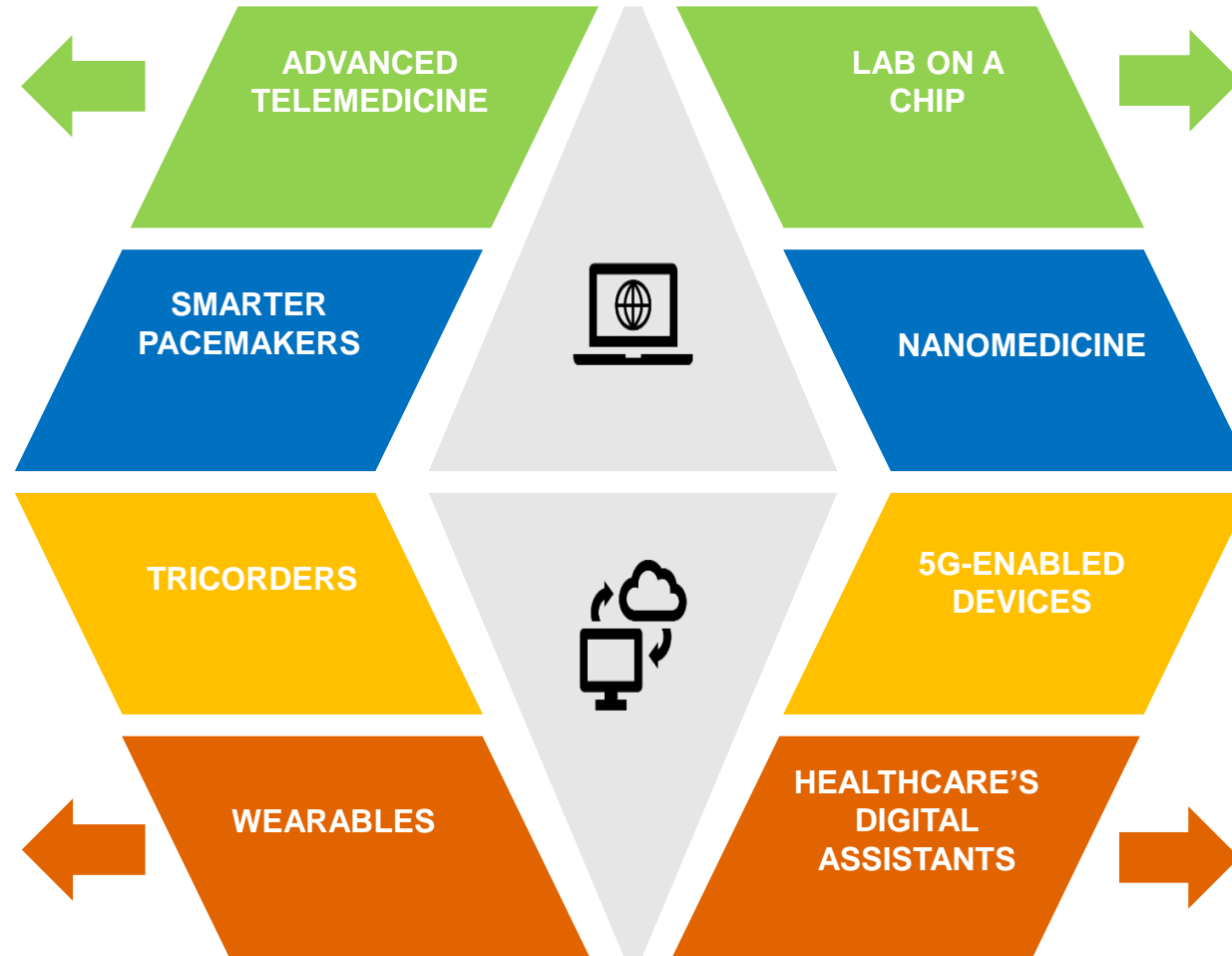
- Ximedica
- HS DESIGN
- Jabil
- Flex
- Plexus
- Hinge Clinica
- Fresenius
- Medtronic
- Thermo Fisher Scientific
- Starfish Medical

- Karl Storz Medical Equipment.
- Philips Medical Equipment
- Zeiss Medical Equipment.
- BPL Syringe Pump.
- Maquet Medical Equipment.
- Donatelle
- Qosina

- Trivitron Healthcare
- Hinge Clinica
- Troikaa Pharma
- Johnson & Johnson
- Medtronic
- Philips Healthcare
- GE Healthcare
- Siemens Healthcare
- Boston Scientific
- Danaher Corp
- Abbott Labs

- Singex Medtech
- Valk Healthcare India
- Medilink Enterprises
- Bysons Medicare
- Johnson & Johnson
- Philips Healthcare
- Siemens Healthcare
- Recombigen Laboratories
- Poly Medicure Ltd
- Novartis AG

- Medtronic
- Johnson & Johnson
- Philips Healthcare
- Novartis AG
- Siemens Healthcare
- GE Healthcare
- Abbott Labs
- Hinge Clinica
- Cardinal Health
- Stryker Corp
- Boston Scientific



➤ Telemedicine took a great leap forward during the Covid-19 pandemic.

➤ Virtual visits will continue to be used as a way to increase access to primary care and urgent care, as well as to improve collaboration with clinics, long-term care facilities, dialysis centers, and mental health services.

➤ Fitness trackers have been on the rise for years: FitBit shipped 9.9 million of its wearable devices in 2019.

➤ For diabetes patients, wearable continuous glucose monitors (CGMs) are set to become the new normal.

➤ This allows users to see the immediate impacts of food and exercise, and shape their lifestyles accordingly. It can also catch cases of hyperglycemia immediately.

➤ Researchers at Stanford University recently developed what they call “a lab on a chip” based on CRISPR enzyme Cas12.

➤ About half the size of a credit card, it contains a complex network of channels smaller than the width of a human hair and can deliver a coronavirus test’s results in under 30 minutes. With a lab on a chip, that testing can be done quickly, safely, cheaply, and more efficiently.

➤ Digital assistants like Alexa and Google Home have changed the way people interact with technology

➤ Natural language processing and ambient listening have natural applications in the capture, analysis, and utilization of health data.

➤ AI startup Saykara has launched a new voice assistant that can listen to, and understand, a physician-patient conversation, without being prompted through voice commands.

Start-ups

- The medical devices market is evolving at a fast pace on the back of constant innovations and research that are making medical devices affordable and accessible. Several Indian start-ups and SMEs have entered the medical devices market and are contributing with innovative solutions.
- With the entry of start-ups in this sector, new investments are being observed in the market.

Big Data

- Numerous companies have been utilizing predictive analytics models by gathering key patient vital signs, along with other observations from devices, to make decisions about the overall health of patients.
- Medtronic and IBM created a mobile personal assistant application that provides real-time glucose insights for individuals with diabetes. This helps understand the links between glucose readings & lifestyle choices

VR/AR/ MR

- Paring this technology with medical devices has many practical applications in the medical world.
- VR devices can create virtual training worlds where doctors or surgeons can practice their craft in a way that looks and feels real without having to use a real patient.
- AR can be used to overlay X-rays on patients to give surgeons what is akin to x-ray vision to help them be much more accurate during surgery.

Wearables

- Wearables such as glucose monitors, exercise trackers and wearables for mental health are becoming popular among consumers because of their ease of usage.
- These devices offer measurements of body temperature and a pulse oximeter, as well as of vitals such as electrocardiography (ECG), blood pressure and heart-rate.

Robotics

- Selective Compliance Articulated Robot Arm (SCARA) robots can be easily mounted on a tabletop and fit well in small confined spaces; this is typical of a medical device manufacturing facility.
- In February 2021, Siemens Healthineers introduced Corindus, a robotic system, to drive cardiovascular interventions with robotic assistance

Blockchain

- Blockchain has many uses in healthcare security and can be used in medical devices to securely store and transfer patient data.
- It would keep a public record of every transaction and give an almost un-hackable code to each record that can only be accessed when the appropriate people are given the code. It is one of the best ways to protect all the personally identifiable data these devices collect.

Unique Product Identifier (UDI) initiative by the FDA

Medical device buyers have realized that UDIs can help them drive inventory and supply efficiencies. For instance, Mercy Healthcare System in the US was able to save \$400,000 in the first few months after they implemented a UDI system.

Operational efficiency

Customers of medical device manufacturers are under more pressure to streamline their processes and do more with less and they're passing that demand down the supply chain. Operational efficiency and profitability requirements will be the primary driver, challenge, and opportunity for medical device manufacturers.

Diversified support base

Innovations like 3D printing are already dropping the cost of traditional healthcare manufacturing, and that trend will only continue as more startups are funded, purchased, and partnered with by big players. Major players will fund startups and form partnerships with software companies to expand their offering to healthcare providers to stay one step ahead of disruption.

Cloud-based software solutions

55% of business applications will be cloud-based in the next 3 years, with on-prem incumbents fall fast. And the medical device world isn't immune. Cloud-based solutions will become the norm, both because they're less expensive and can reduce cost, and because they'll catalyze the IoT to complete the feedback loop.

Drug counterfeiting

Pharmaceutical companies will try to curb drug counterfeiting with RFID chips — an initiative that, if successful, is likely to be rolled out through the rest of the medical industry.

Growth Despite Covid-19

Despite Covid-19, the Medical Device market should increase by 5.4% p.a., on average, over the 2020-2025 period.

Increase in Demand

The demand for hospital supplies, in-vitro diagnostic devices, and respiratory care devices has significantly increased since the emergence of COVID-19 across various countries.

Cost Advantage

Indigenous manufacturing would substantially improve serviceability hence, healthcare service providers need not build in redundancy. This, in turn, reduces set up cost for the provider

Tapping Rural Markets

Domestic manufacturing would enable deeper penetration of healthcare services into rural India, hence increasing access of medical devices

Improves Efficiency of Healthcare System

Easy availability of medical devices would help reduce time to set up new healthcare centers and improve the operational efficiency of existing ones

Prevalence of Diseases

Rapid increase in the prevalence of infectious diseases as well as the increasing prevalence of chronic diseases will support the global medical devices market's growth.

Move from a “hands off” distributor led approach to actively building local insight, presence and service.

Successful GTM (Go to market) model will benefit both premium and mid-tier segments and should be simple enough to implement, but also differentiated enough to “look and feel” different to traditional approaches.

Be the leader in increasing device penetration by helping develop treatment protocols and influencing patient funnels.

Opportunistically leverage partnerships/acquisitions to enhance portfolio, reach and relevance while recognizing local challenges.

Establish a separate service infrastructure to drive relationships and local market insights.

Invest to attract and retain top talent as scarcity and competition for local capabilities are on the rise.

Smith & Nephew partnered with Movemedical, a U.S based company, to expand its inventory automation solutions and improve customer experience. (Jan 2021)

Koninklijke Philips N.V., launched the abdominal aortic aneurysm (AAA) model, providing physicians a more patient-friendly solution compared to the current standard of care for managing AAA patients. (Jan 2021)

J&J captured a significant medical devices market share in 2020 and is estimated to continue to hold its position in the forecast period due to its strong presence across the world and a vast distribution network.

The department of pharmaceuticals launched a PLI scheme for domestic manufacturing of medical devices, with a total outlay of funds worth Rs.3,420 crore (US\$ 468.78 million) for the period FY21-FY28.

The top market players focus on actions such as acquisitions, collaborations, and new product developments and launches to strengthen their market position globally.

Koninklijke Philips N.V. acquired the U.S. based cardiac diagnostics and monitoring company, i.e., BioTelemetry, to expand its offerings of remote care products. (Dec 2020)

INCREASING DEMAND

- Rising number of medical facilities will boost the demand for medical devices in the market.
- Various government initiatives such as 'Production Linked Incentives (PLI) Scheme for Medica Devices 2020' and establishing medical parks will augment demand.

POLICY SUPPORT

- 100% FDI is allowed in the medical devices sector In India.
- Categories such as equipment and instruments, consumables and implants attract the most FDI.
- In February 2021, a production-linked incentive (PLI) scheme was announced with an outlay of Rs. 3,420 crore (US\$ 468.78 million) for FY21-FY28 for promotion of domestic manufacturing of medical devices



INCREASING INVESTMENT

- This sector has attracted significant investments over the years.
- In FY20, foreign investments in the medical devices sector increased 98% YoY to Rs. 2,196 crore (US\$ 301.01 Mn) as against Rs. 1,108 crore (US\$ 151.87 Mn) in FY19.

OPPORTUNITIES IN EXPORT

- The Indian medical device is driven by 75-80% imports from countries such as the US, China and Germany.
- India and Russia have set the bilateral trade target at US\$ 30 Bn by 2025. Trade is expected to increase by an additional US\$ 5 Bn per annum, with opportunities in pharmaceuticals & medical devices, minerals, steel, and chemicals.

Gujarat
 Category: Pharmaceuticals
 Location: Ahmedabad, Vapi Industrial Corridors
 Key Players: 3M Co., Bayer AG, Meril Life Sciences and Sahjanand Medical Technologies

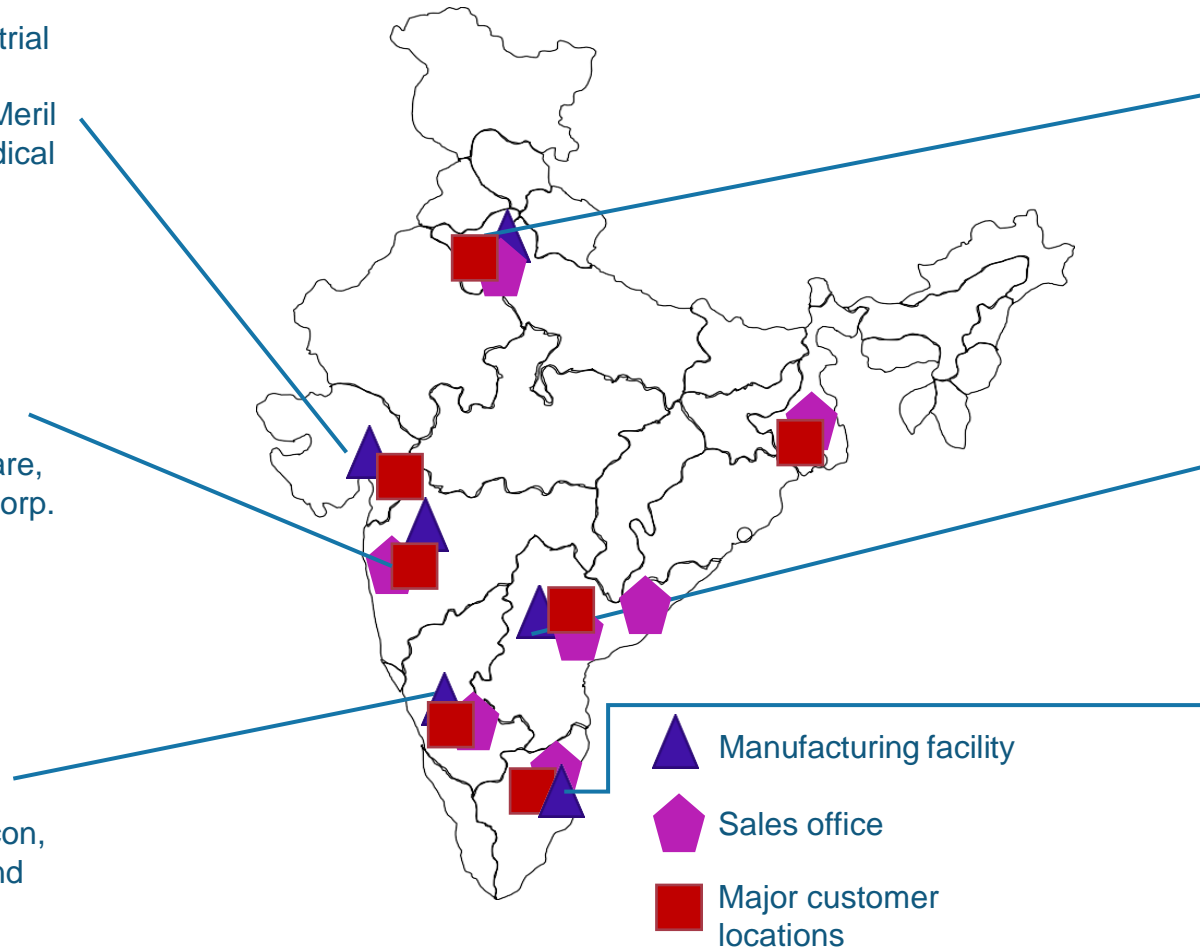
Maharashtra
 Category: Pharmaceuticals
 Location: Mumbai, Pune, Nagpur
 Key Players: Johnson & Johnson, Smith & Nephew, Philips Healthcare, Siemens, Nipro Corp., Danaher Corp. and Remi Laboratories

Karnataka
 Category: Insulin pen, Stents & Implants, Medical Electronics
 Location: Bangalore, Mangalore
 Key Players: GE Healthcare, Biocon, Medived, Skanray, Bigtec Labs and Vascular Concepts

Haryana
 Category: Low-end Medical Consumables
 Location: Chandigarh, Ballabhgarh, Faridabad, Manesar
 Key Players: Boston Scientific Corp., Becton Dickinson India and Hindustan Syringes

Andhra Pradesh, Telangana
 Category: Medical Electronics
 Location: Hyderabad, Visakhapatnam, Sultana
 Key Players: B Braun, Medtronic, Relysis and Sahjanand Medical Technologies

Tamil Nadu
 Category: Medical Electronics
 Location: HLL Medical Park, Chennai
 Key Players: Roche, Trivitron Healthcare, Perfint Healthcare, Opto Circuits, Schiller and Appaswami Associates



Increasing investment of medical technology companies in research & development and favourable scenarios provided by regulatory authorities for their approval is expected to boost the medical devices industry in the future.

The rapid adoption of sedentary lifestyle and lack of patient visits to clinics for routine check-ups in some emerging countries are responsible for quick proliferation in lifestyle diseases. Also, chronic diseases including hypertension, diabetes and cardiovascular disorders have exerted a substantial economic burden on the healthcare system. For instance, according to the International Diabetes Federation (IDF), an estimated 463 Mn people in 2019 suffered from diabetes, which translates to an estimated 9.3% of the global population. This figure is projected to reach 10.2% by 2030.

Also, a rapid rise in the geriatric population is supplementing ophthalmic and orthopaedic devices growth due to the increasing incidence of impaired vision and hip fractures in the elderly population. For instance, according to the report published by United Health Foundation 2019, more than 300,000 adults aged 65 and older are estimated to be hospitalized each year for hip fractures.

Coming to India, policy makers 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. While the Make in India initiative is directionally right, its impact on improving access to affordable quality healthcare depends on how it is framed, developed and implemented over the next few years. A 'step change' is possible through collaborative transformation, with key levers being suitable policy initiatives, focus on fostering local innovation and making India a global hub for medical device manufacturing.

Medical device companies will 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. Thus, the above factors and growing emphasis of healthcare agencies and government actions have resulted in rising awareness among the population and is subsequently propelling the market's growth.

— **THANK YOU** —

Asia Pacific

Pukka Partners

Jaymala Business Court, 1st Floor, E-Wing,
Solapur Pune-Hwy, Pune, Maharashtra – 412307

Phone: +91 70226 21355 / +1 858 939 9252

Email: engage@pukkapartners.com