



# Diagnostics & Imaging

Executive Summary Report

Executive Summary  
**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.

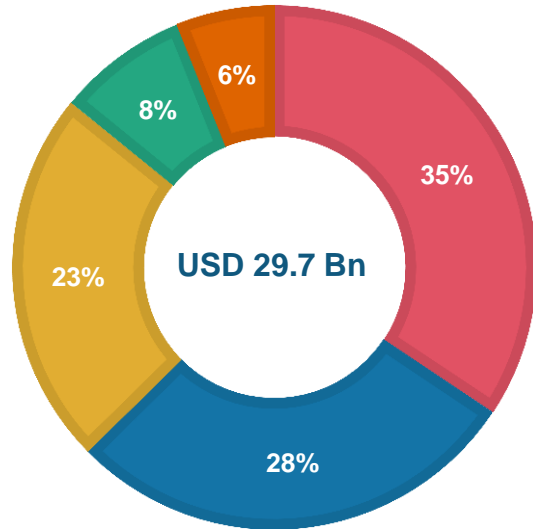
We offer advisory and actionable insights around public policies, investment tracking along with the obstacles faced by investors, innovation and strategy impact monitoring, identification of industry potential, and technology mapping through comprehensive and standardized research methodology and tools.

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.

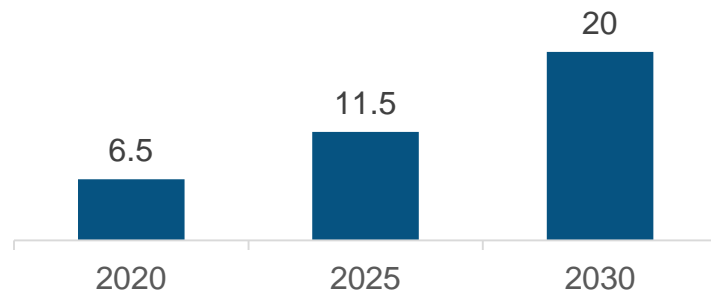
Our success is directly linked to our client's growth and we ensure to exceed it every time we engage with our existing clients and future prospects. We aim to be a knowledge partner for our customers and gradually become their trusted intelligence provider.

## Global Market Share, 2020

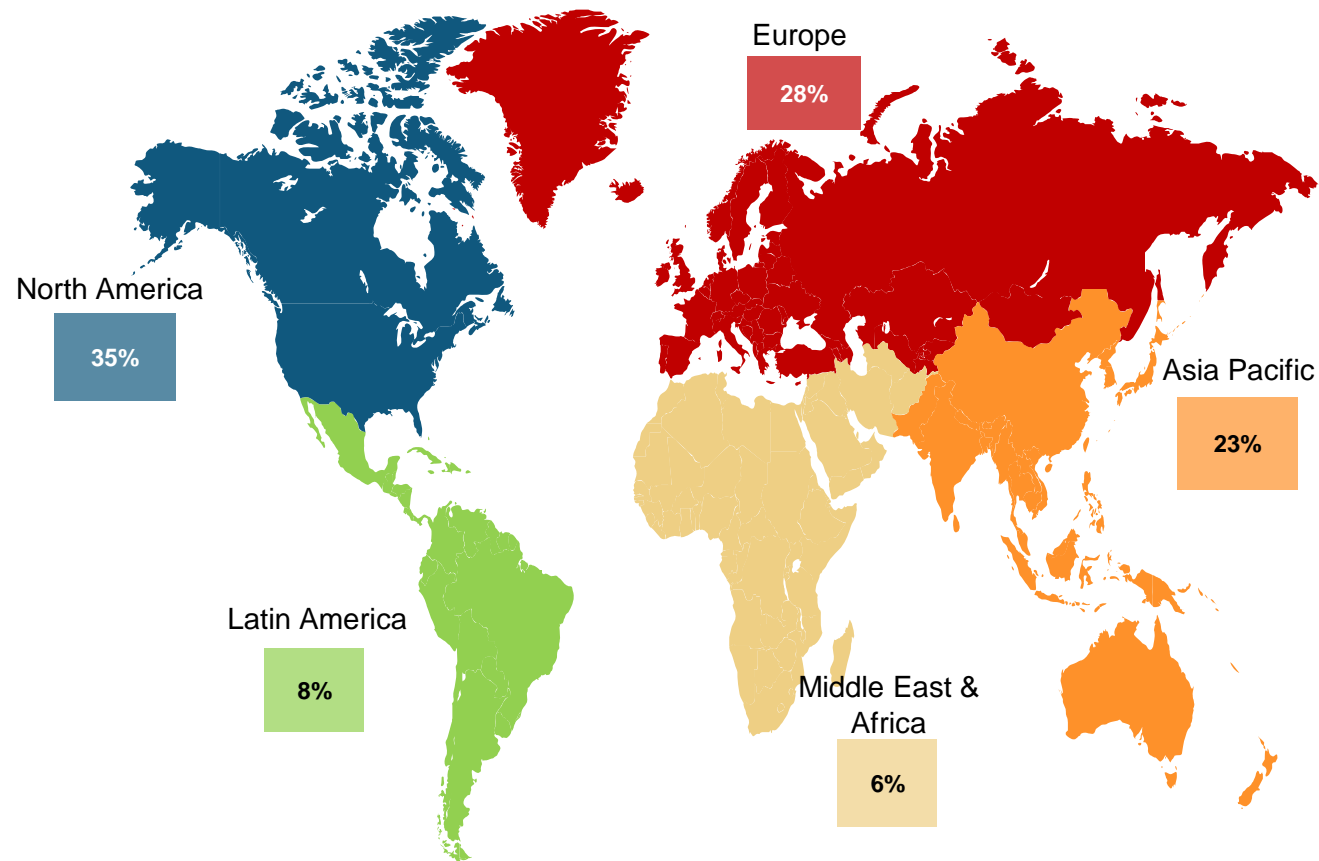


■ North America ■ Europe ■ Asia Pacific ■ Latin America ■ Middle East & Africa

## Indian Diagnostic & Imaging Market (USD Bn)

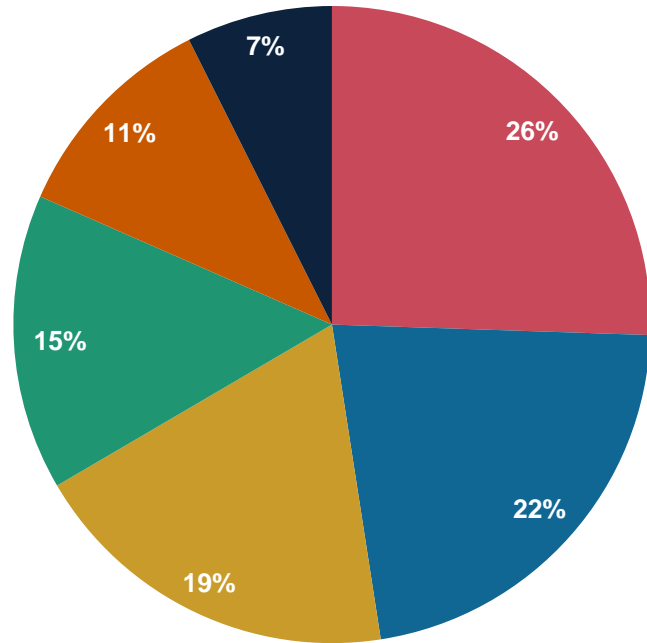


- The global diagnostic imaging market is projected to reach USD 40 Bn by 2025 from USD 29.7 Bn in 2020, at a CAGR of ~6% from 2020 to 2025.
- North America holds the largest share in the global diagnostic imaging market, followed by Europe. However, the Asia-Pacific market is expected to grow at the highest CAGR of 6.5% during the forecast period. The Asian countries represent the fastest growing markets due to increasing government support for research and rising industry and academic partnerships for pre-clinical research
- The key players in the global diagnostic imaging market are GE Healthcare (U.S.), Siemens Healthineers (Germany), Koninklijke Philips N.V. (The Netherlands), Canon Medical Systems Corporation (Japan), Hitachi Ltd. (Japan), Carestream Health, Inc. (U.S.), Esaote S.p.A (Italy), Hologic, Inc. (U.S.), Fujifilm Corporation (Japan), Samsung Medison (South Korea), and Shimadzu Corporation (Japan), among others.
- The Indian Diagnostic Imaging Market is expected to register a CAGR of ~12% during the forecast period. The propelling factors for the growth of the Indian diagnostic imaging equipment market include the rise in the prevalence of chronic diseases, increased adoption of advanced technologies in medical imaging, and the growing geriatric population.



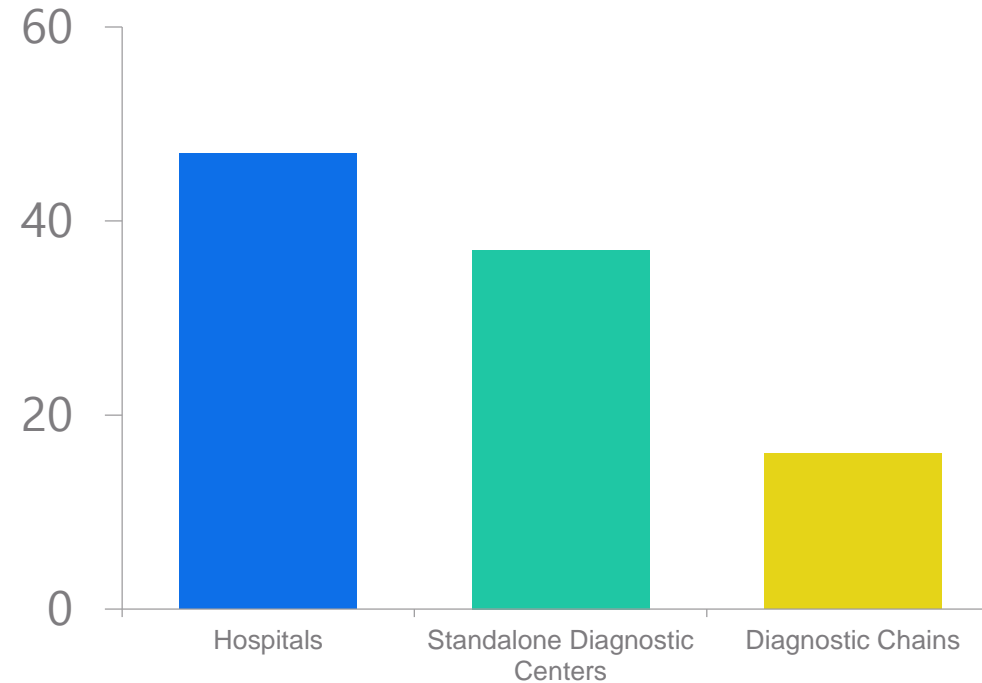
- North America accounted for the largest share of the diagnostic imaging market in 2020. Growth in the North American diagnostic imaging market is mainly due to the rising geriatric population and associated diseases, easy accessibility to diagnostic imaging modalities, and high adoption of technological advancements.
- Europe has the second largest market share. In Europe some modalities such as Ultrasound Systems are witnessing significant growth owing to factors such as the large number of ongoing clinical research projects in the field of ultrasound, and early commercialization of these devices and the increasing healthcare expenditure across mature European countries.
- The Asia Pacific region has the third largest market share and is expected to grow at highest CAGR owing to the improving healthcare systems, increasing investment in the region.
- Developing economies such as India, China, Brazil, South Korea, Turkey, Russia, and South Africa offer high growth opportunities for major players in the diagnostic imaging market. Although the cost factor is a concern in these developing countries, their huge population base—especially in India and China—offers a sustainable market for diagnostic imaging devices.

## Global Diagnostic & Imaging market Share by type, 2020



- CT Scanners
- X-Ray Imaging System
- Ultrasound Imaging Systems
- MRI Systems
- Nuclear Imaging Systems
- Mammography Systems

## End Users



**47%**

**Hospitals**

Hospitals with own labs

**37%**

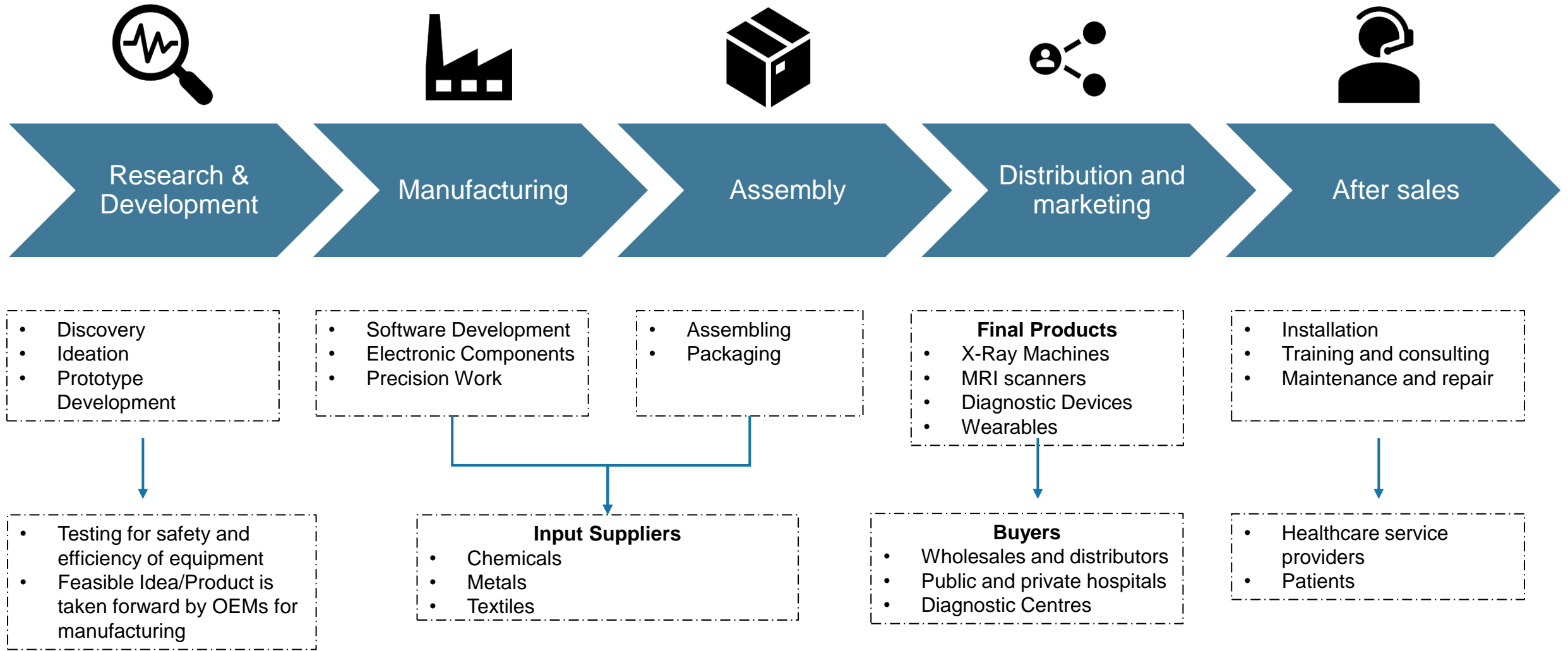
**Standalone Diagnostic Centers**

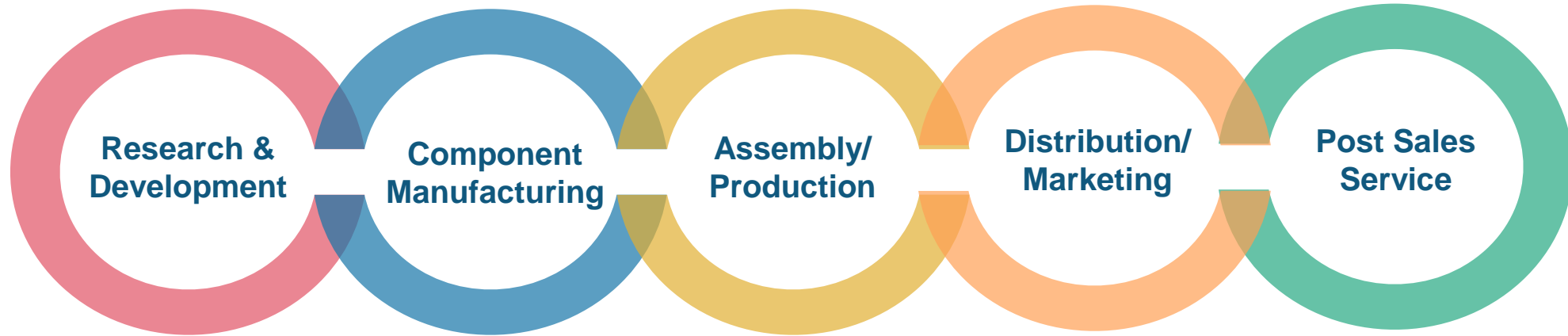
Small labs with basic tests

**16%**

**Diagnostic Chains**

Hub and spoke models





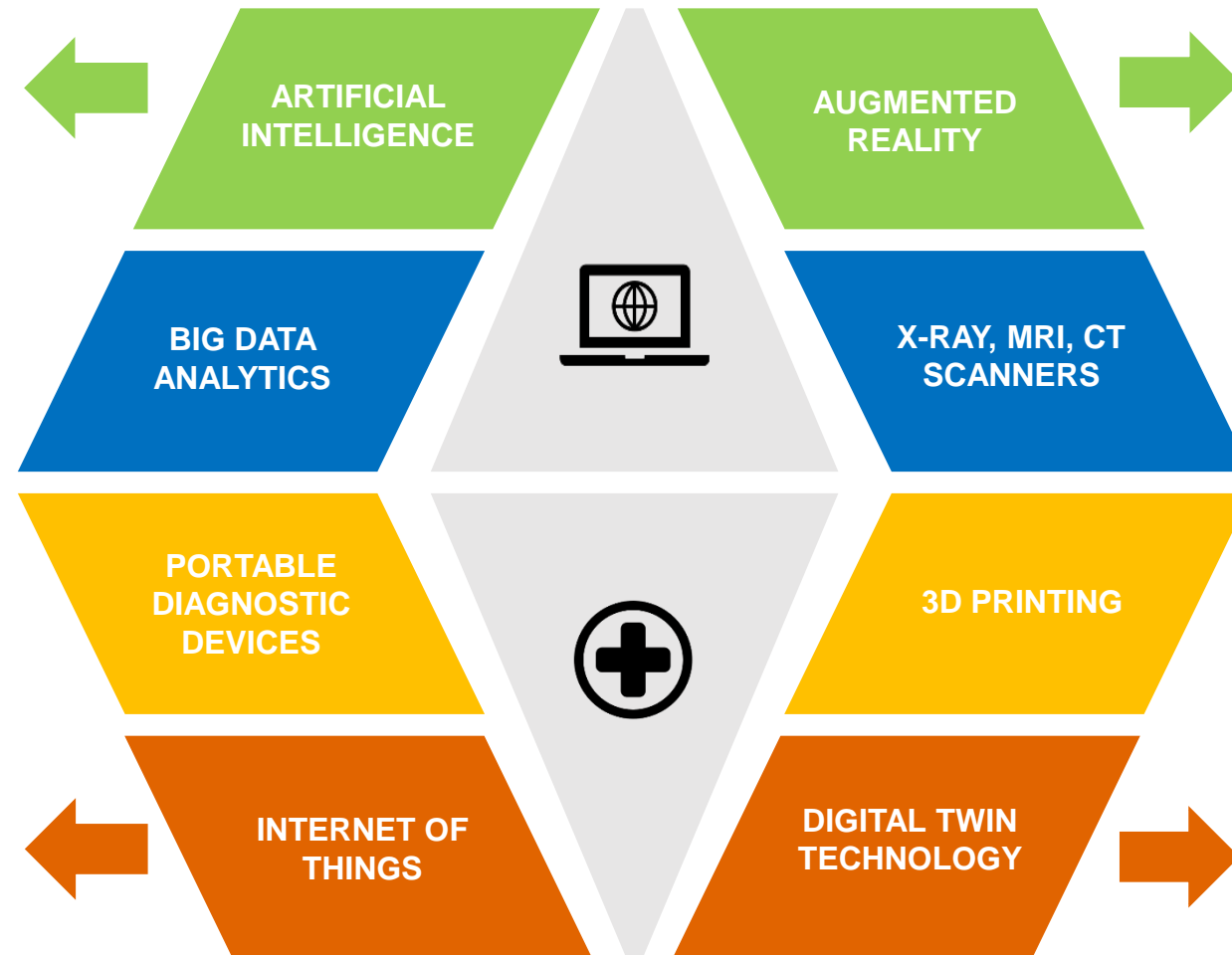
- Koninklijke Philip N.V.
- Agfa-Gevaert N.V.
- Siemens Healthineers
- Canon Medical Systems Corporation
- Hologic, Inc.
- Wipro GE Healthcare
- Allengers Medical Systems
- Olympus Medical Systems

- GE Healthcare
- GeoMedical Systems
- Philips Medical Equipment
- Fujifilm Holdings
- Wipro GE Healthcare
- Shimadzu Corp
- Toshiba Medical
- Vision Engineering

- Fujifilm Holdings
- Hitachi medical Corp
- Shimadzu Corp
- Toshiba Medical Systems Corporation
- Philips Healthcare
- GE Healthcare
- Siemens Healthcare
- Esaote
- Hologic
- Carestream Health

- Agilent Technologies
- GE Healthcare
- Iris Healthcare
- Carestream Health
- Cura Healthcare
- Philips Healthcare
- Siemens Healthcare
- Barco
- Trivitron Healthcare
- Medsynaptic
- Wipro GE Healthcare

- Philips Healthcare
- Labcorp
- Danaher
- Sysmex
- Siemens Healthcare
- GE Healthcare
- Abbott
- Biomerieux
- Konica Minolta
- Grifols
- Fujifilm



- AI can analyze and interpret data in more complex and diverse combinations than a human mind, providing extremely potent data for effective and accurate diagnostics.
- Medical imaging has become the leading and most popular field for AI applications..

- IoT has disrupted the healthcare industry by intelligently connecting devices, systems, and objects that are used by billions of people worldwide, to utilize and leverage data and enable more timely, specific, and contextualized decisions.
- A connected healthcare ecosystem results in dedicated procedures, improved treatment and accurate diagnosis.

- With AR, medical images can be converted and mounted on AR headsets that the surgeon can wear while performing the surgery.
- An example of an AR-based pre-surgical planning solution is Novarad's **OpenSight AR system**, which is now U.S. Food and Drug Administration (FDA)-approved.

- This provides realistic visualization of the organ functions that can help surgeons with planning procedures, explaining medical procedures to patients and to help better diagnose disorders
- Siemens Healthineers, for example, discussed its organ digital twin technology (powered by AI) for enabling simulation of the organ's physiology to help doctors choose a therapy with best possible outcomes —as tested virtually on the digital twin.





## Automated CT Scanners

These devices offer high image quality with improved spatial resolution and low radiation exposure to the patient as well as surgeons. These advanced CT devices have a simplified console, offer ease of operability, and provide affordable installation with minimal space requirements.



## Hybrid Imaging Technology

These hybrid systems can provide precise images with better resolution compared to standalone systems. They can provide morphological as well as physiological information in just one examination.



## Imaging Systems with Lowered Doses of Ionizing Radiation

Major players in medical imaging technology are continuously striving to gain a competitive edge by reducing the radiation dose in imaging systems. This reduces the harmful effects of radiation on patients as well as technicians.



## Contrast Agents in Diagnostic Imaging

Owing to the increase in demand for diagnostic imaging procedures, governments across the globe are increasingly granting approvals for the use of various contrast agents in diagnostic imaging procedures.



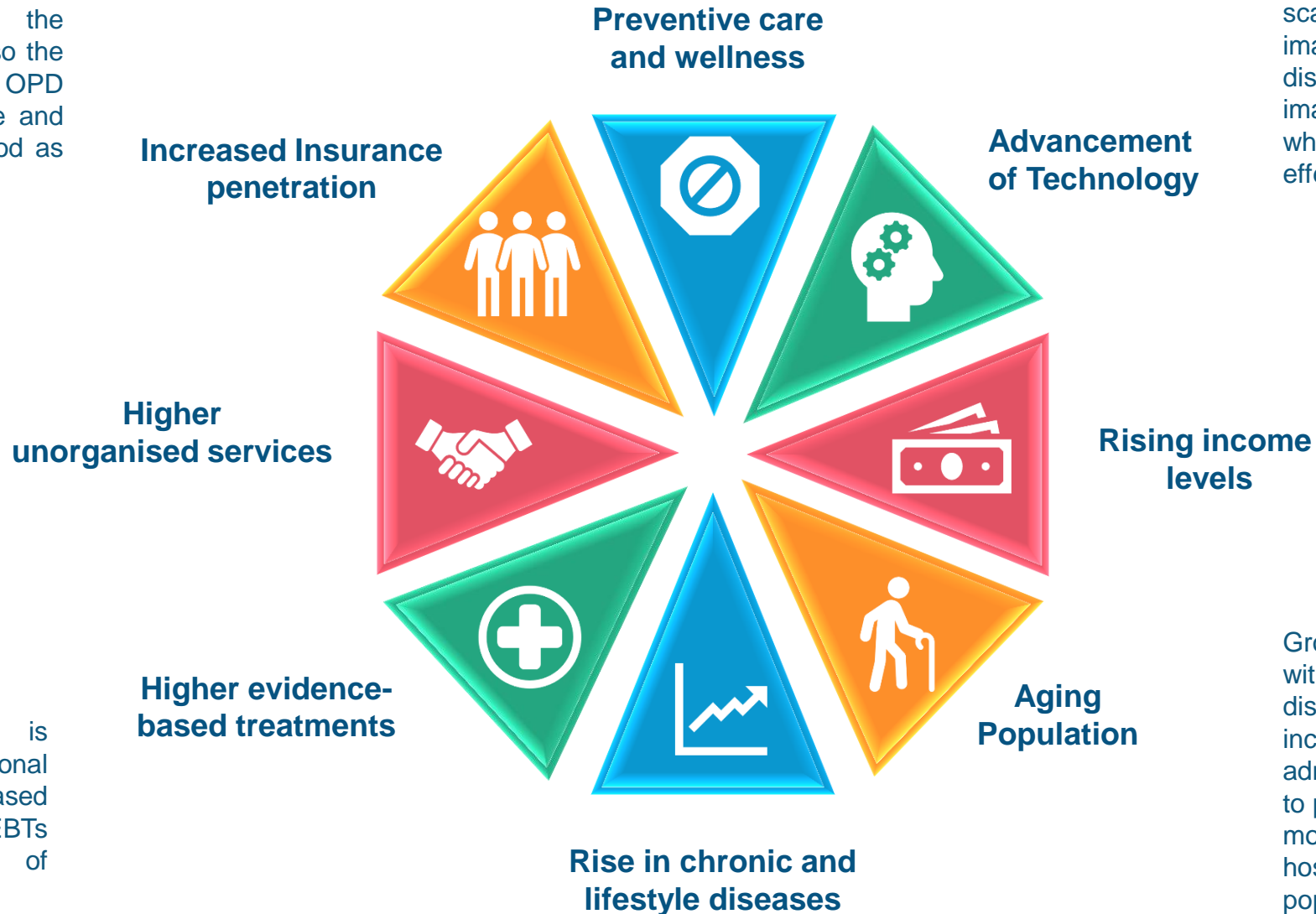
## Cryogen-Free Preclinical MRI Scanners

Development of cryogen-free preclinical MRI scanners has served as a vital step to overcome the challenges associated with depleting helium gas supplies.



It is noteworthy that the medical policies not only cover the hospitalization costs but also the expenses incurred towards OPD and diagnostic tests before and after a stipulated time period as prescribed by the policy.

From ultrasounds to MRIs to CT scans, doctors need and use medical imaging to properly diagnose and treat diseases. Doctors also use medical imaging technologies to determine whether a particular therapy has been effective in patients.

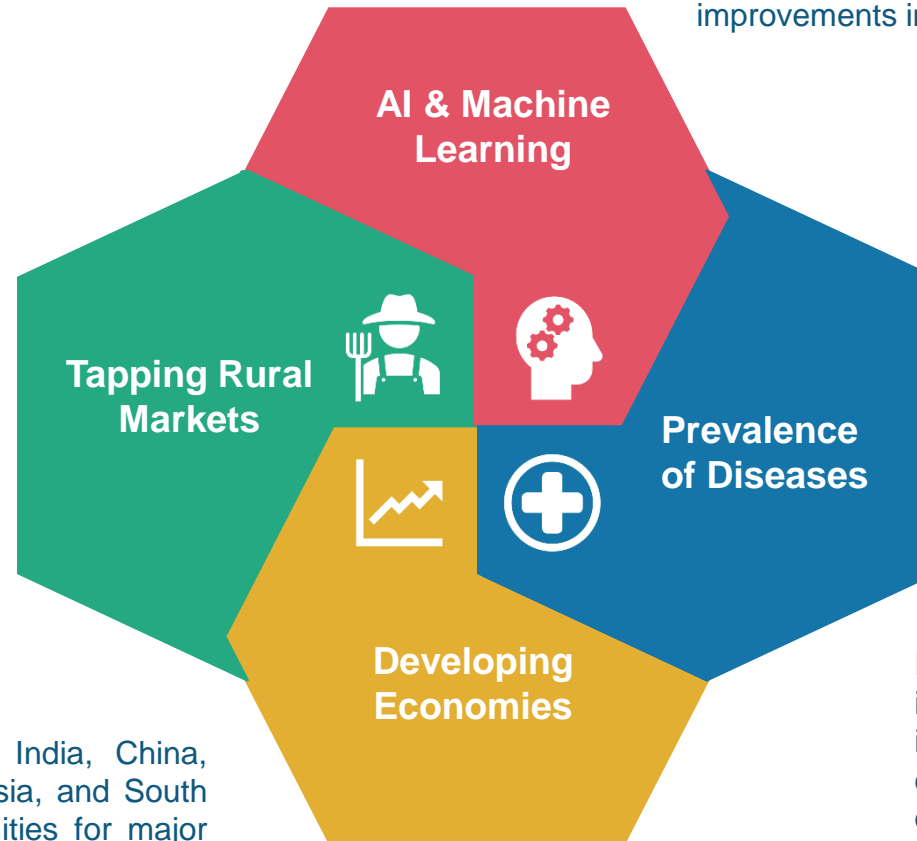


Evidence-based practice is the idea that occupational practices ought to be based on scientific evidence. EBTs are pushing the use of Diagnostic equipment

Growing aging population is linked with the rising prevalence of chronic diseases which in turn is likely to increase the number of hospital admissions. Further, aging often leads to problem of falls - which is one of the most common causes of injury and hospital admissions in the geriatric population.

The growing application of AI and machine learning to the field of medical imaging is expected to bring a myriad of benefits, including augmentation and improvements in diagnosis.

Portable Diagnostic devices would enable deeper penetration of healthcare services into rural India, hence increasing access of diagnostic devices in remote regions



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

Developing economies such as India, China, Brazil, South Korea, Turkey, Russia, and South Africa offer high growth opportunities for major players in the diagnostic imaging market. Their huge population base-especially in India and China offers a sustainable market for diagnostic imaging devices.

Focusing on retail network and home collection - Commitment to quality and reliability of services, Online report, data analytics, Preventive healthcare screening and chronic / lifestyle disease management services.

Focusing on hospital lab management - Provide both lab management and specialized lab testing to polyclinics, Increase existing tie-ups in hospital lab management – leverage scale and efficiency of network.

Focusing on corporate customers - Marketing to HR departments and other decision makers , Healthcare packages across test types.

Cluster and focused geography approach - Deepen presence by developing additional reference labs, Targeted expansion into unexplored regions.

Expand through strategic acquisitions and partnerships - M&A provides growth kicker, Acquisition opportunities in select new geographies.

Focusing on hospital based clinical labs - Increase existing tie-ups, Leverage scale and efficiency, Provide lab management and specialized lab testing services to polyclinics.

Symphony AI acquired TeraRecon, Symphony AI being a leading in business-to-business Artificial intelligence also captures Advance visualization and AI solution provider of medical imaging.

CurveBeam LLC. (US) launched an improved version of Planmed Verity CBCT scanner with a 3D imaging solution for orthopedic as well as head and neck imaging.

In 2021, GE Healthcare (US) launched Venue Fit, a streamlined and compact POCUS system, alongside an industry-first AI offering for cardiology.

A new smart imaging system launched by Ping Insurance company of China, assisted doctors with efficient and accurate diagnosis by leveraging Artificial intelligence for detection of COVID19.

In 2021, Koninklijke Philips N.V. (Netherlands) launched the spectral detector-based Spectral Computed Tomography (CT) 7500 solution for precision diagnosis.

In 2021, Siemens Healthineers (Germany), received FDA clearance for the Biograph Vision Quadra, a PET/CT scanner for clinical use and translational research.

## Growing Population

India's population is set to touch 1.5 Bn by 2028, making it the world's most populous nation

## Life Expectancy

From the current 67.5 years, life expectancy in India is expected to increase to 70 years by 2025

## Shifting Disease Burden

Non-Communicable Diseases (NCDs) account for 50% of the disease burden and 60% of all deaths in India

## Changing Preferences

Growing health awareness, changing attitude towards preventive healthcare, increasing lifestyle diseases

## Growing Middle Class

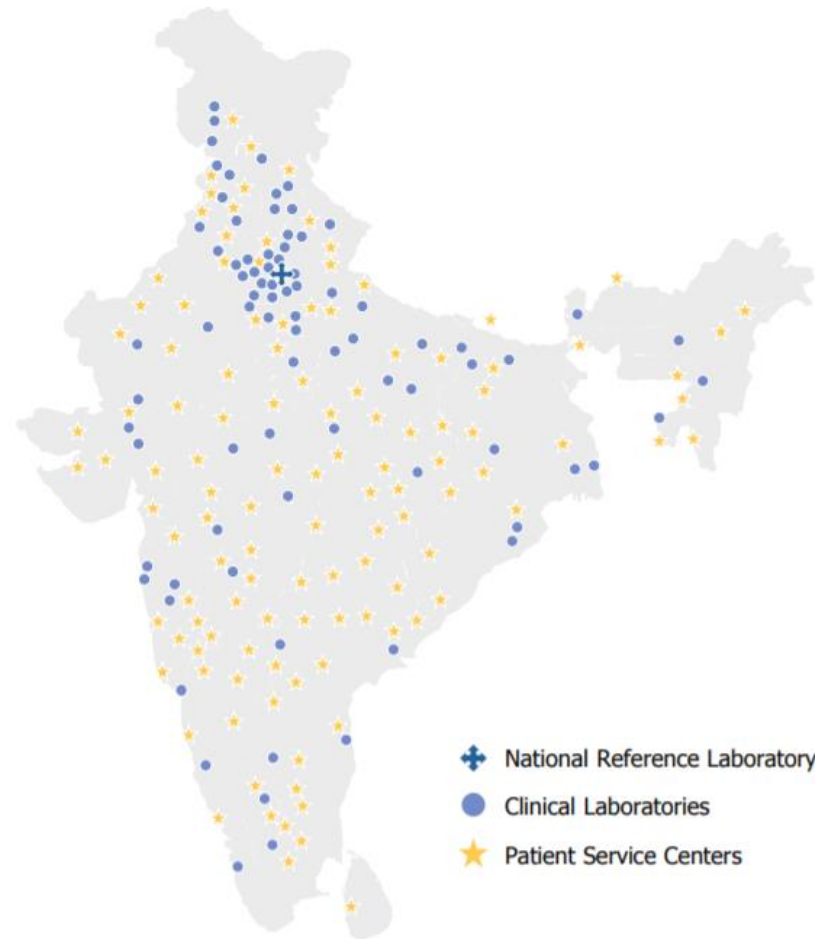
A rapidly growing middle class has contributed to the growth of private players in healthcare

## Increasing disposable income

8% Indians will earn more than \$ 12,000 p.a. by 2025

## Health Insurance

Approx 20% of Indians have health insurance cover. This number is expected to increase with rising incomes and growing urbanization



The India Diagnostic Imaging Equipment Market is expected to register a CAGR of 12.4% during the forecast period. The propelling factors for the growth of the Indian diagnostic imaging equipment market include the rise in the prevalence of chronic diseases, increased adoption of advanced technologies in medical imaging, and the growing geriatric population.

The Indian diagnostic industry is highly fragmented and under-penetrated despite the presence of over 1 lakh labs. Diagnostic chains command ~16% market share. The 4 major players – Dr Lal PathLabs (DLPL), Metropolis Healthcare (METROHL), SRL Diagnostics (SRL) and Thyrocare Technologies – have a share of ~6%. So, there is a huge opportunity for national players to consolidate and for organic expansion.

In the area of medical diagnostics, India currently has only 2,700 mammograms installed, less than 5% of the mammograms available in the US. Similarly, India has only 120 PET-CT scanners, with most of them concentrated in the metropolitan cities. Further, only 30% of cancer centers have advanced imaging technologies. With the Government emphasizing early diagnosis of NCDs through initiatives like the HWCs, there is an increased demand for medical devices, including for the purpose of large-scale screening.

The Diagnostic imaging technologies global market over the forecast period 2020 to 2025 is expected to grow at a CAGR of more than 5.8%. Increasing incidence of life threatening diseases with growth of aged cohort, growing awareness among people about early disease diagnosis and improving healthcare expenditure in emerging markets, high number of ongoing research activities across the globe are the factors driving the market growth.

North America holds the largest share in the global diagnostic imaging market, followed by Europe. However, the Asia-Pacific market is expected to grow at the highest CAGR of 6.5% during the forecast period. The Asian countries represent the fastest growing markets due to increasing government support for research and rising industry and academic partnerships for pre-clinical research. Factors such as economic slowdown, pricing pressures may compel the companies to focus on Asian markets.

There are significant growth opportunities in India's diagnostics sector. Over the next few years, growth is expected to continue at a fast pace. Diagnostic and pathology centres are also expanding their offering to include various kinds of services in specialised areas like cardiology and neurology. A challenge for the sector currently is that it is highly fragmented, divided between organised labs, standalone and hospital-based centres. Large investors are, however, building hub-and-spoke structures, thereby consolidating the industry. The notification of the Clinical Establishment (Central Government) Rules, 2019, will also lead to standardisation and better quality. Another area of growth is miniaturised diagnostics as it is now becoming possible to diagnose many conditions very cheaply with a small hand-held device or an add-on to a smartphone. The capability of such devices is increasing exponentially as is their potential to diagnose a large number of ailments instantly at a low cost.

Global diagnostic players have been gaining market share continuously over the past few years on account of expanding collection centres and laboratory networks, which has helped them improve their asset utilisation. Global diagnostic players would gain market share in coming years, especially post the COVID-19 pandemic, which would further lead to industry growth.

Reports and Data forecast promising developments for increased adoption of Diagnostics imaging services. The companies are designing new product concepts according to the current customer expectations coupled with best clinical outcome. According to industry experts, new manufacturers are expected to enter the market, which is likely to change the market dynamics. New companies entering the industry would focus on innovating and providing through advanced technologies, thereby reducing complexity, and lowering the overall total cost of operation.

— **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](mailto:engage@pukkapartners.com)