



## AI Powered Medical Devices

## What is AI Powered??

*AI-powered means the system has used machine learning data and historical algorithms to predict something (near accuracy).*

### Benefits:

- **Improved Speed & Accuracy** in diagnosis.
- **Personalization tailored treatment** based on history and genetics.
- **Reduced Inefficiency** by enhancing workflow in healthcare settings.

# SCOPE OF USAGE

*In healthcare it targets to improve diagnosis, treatment, and patient monitoring.*

## Preventive Health Check



- Prompts for Blood Tests
- Medicine Purchase/ Refill
- Remote Monitoring
- Body attached devices – Watches, Armbands, Holter

## Differential Diagnosis



- Decision Making Tools
- CDSS – Clinical Decision Support Systems.
- Tele Histopathology

## Diagnostics



- Radiology (Biggest AI User)
- USG Hand held devices.
- Endo tube Pathways – Bronchoscopy (COPD) / Endoscopy / GI Capsules etc.

## Tx & Care Plan



- Care pathways
- Monitoring Devices
- Follow up / Home care Devices.

# Interesting Facts

- Over 1,400 + AI powered products are now authorized by the FDA,
- 40 % are primarily in **radiology** enhance imaging analysis.
- 30 % are in Monitoring (IP, Home etc.) including power wearables for real-time vitals monitoring,
- New Generation ones now guide robotic surgeries.
- Healthcare data is the NEW OIL.

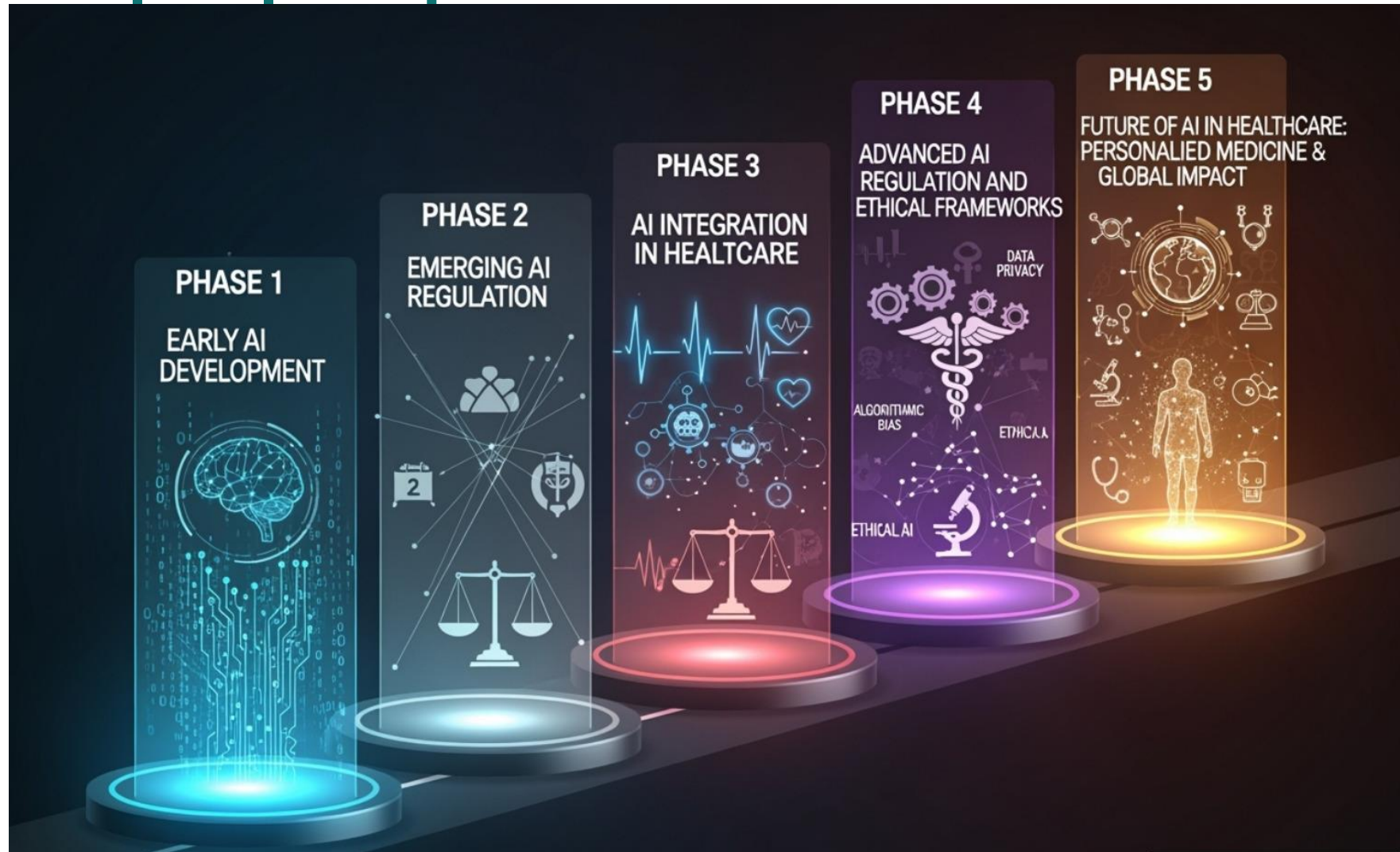
# Key Areas of AI Medical Device Application:

- **Diagnostic Imaging (Radiology):** AI tools (e.g., Arteris) analyze CT scans, MRIs, and X-rays to detect anomalies like plaques, blockages, or tumors, often identifying issues missed by the human eye.
  - Imaging Reconstruction (while patient on couch).
  - Imaging Reconstruction (after patient is out).
- CATH LAB may reduce Cardiac Surgery. While ever evolving CT Angio has already started replacing Cath Lab interventions.
- Radiation Therapy : Entire treatment plan can change based on patient response to initial cycles and treatment target. AI makes a new plan in 20 minutes.





# Regulatory Framework is being



## Trends and Developments:

- **FDA Authorization:** The volume of authorized devices shows significant growth, with a growing focus on software as a medical device (SaMD).
- **Regulatory Sandboxes:** Initiatives like the UK's "*AI Airlock*" are refining how AI diagnostics are authorized, addressing regulatory challenges. NABH is making a sincere attempt to certify some products.
- **Growth Market:** The global AI in healthcare market is growing rapidly, with significant investments in accelerating medical imaging reconstruction and **AI-driven clinical trials**.



***Possibilities are  
endless.....***

***Have you started your  
Digital Health journey??***