

MedTech

A CoE in MediElectronics
And Health Informatics by



AI & Emerging Technologies in Healthcare

Presented by:

Mr. Shyam Kumar, COO, STPI-MedTech CoE, Lucknow

MedTech-Centre of Excellence

SGPGIMS, Lucknow

 : <https://medtech.stpi.in>  : medtech@stpi.in

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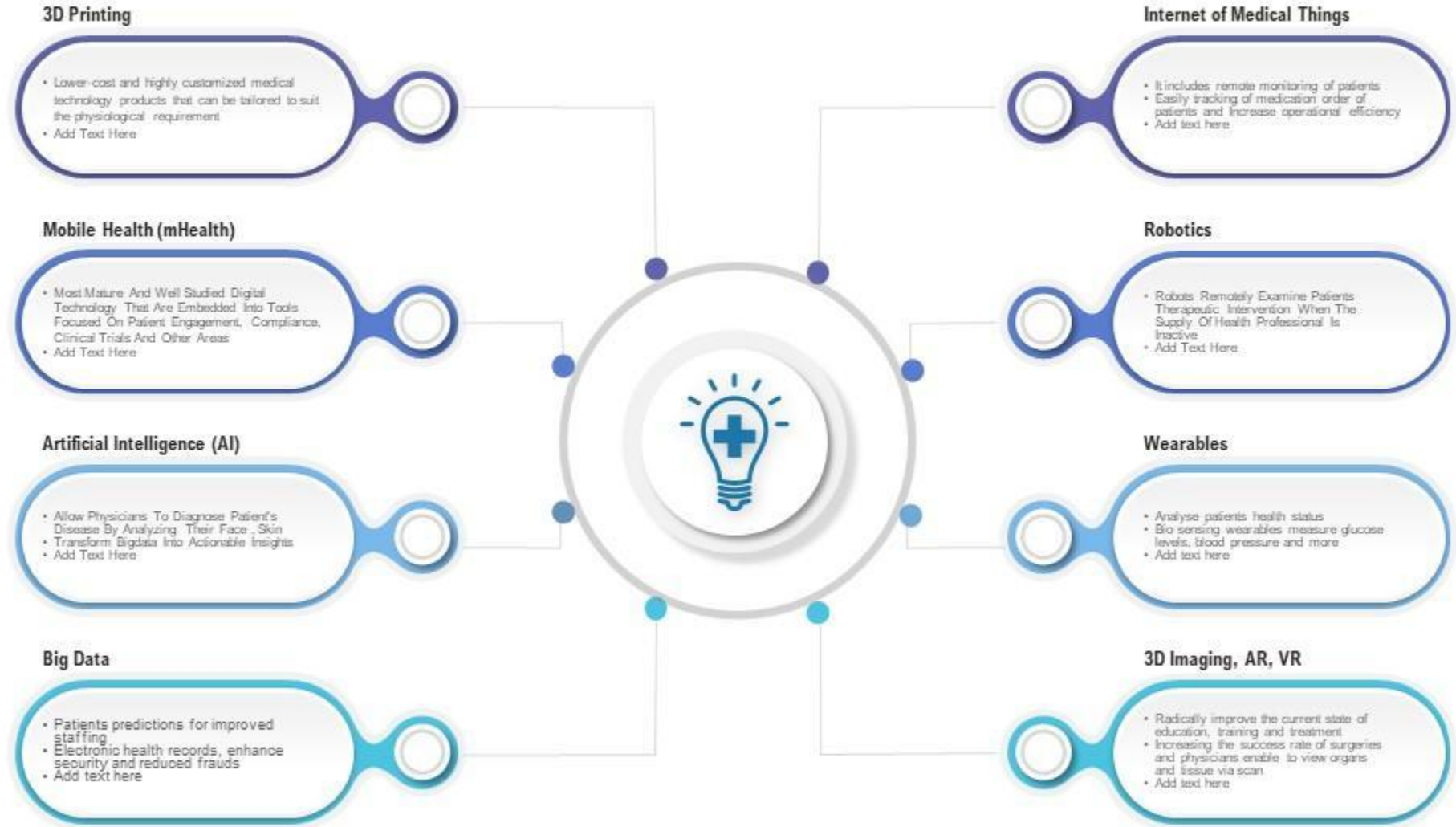
INTRODUCTION

AI is rapidly transforming global healthcare, with significant growth projected. India's AI healthcare market is poised for substantial expansion and is driven by a robust healthcare sector. AI integration promises to enhance efficiency, accessibility, and patient-centricity within the Indian healthcare system. With strategic focus and investment, India can lead in AI-powered healthcare solutions.

- The global AI healthcare market is projected to grow from USD 19.27 billion in 2023 to an astounding USD 613.81 billion by 2034, at a CAGR of 36.83%, demonstrating AI's undeniable transformative potential.
- Reports estimate that the Indian AI healthcare market will achieve a remarkable CAGR of 40.6% to reach \$1.6 billion by 2025.
- As India's healthcare sector is set to hit \$650 billion by 2025, growing at 22.5% between 2016 and 2022.
- AI's integration stands at the confluence of innovation and necessity. It promises to address critical challenges while creating a more efficient, accessible, and patient-centric healthcare ecosystem.

Healthcare Innovation Framework with Emerging Technologies

This slide is 100% editable. Adapt it to your need and capture your audience's attention.



AR: Augmented reality
VR: Virtual reality

KEY EMERGING AREAS FOR AI:

1. Medical Imaging & Diagnostics

AI algorithms can analyze medical images (X-rays, MRIs, CT scans) faster and often more accurately than humans.

•Use Cases:

- Detecting tumors, fractures, or abnormalities
- Diagnosing diseases like pneumonia, breast cancer

2. Predictive Analytics & Risk Assessment

AI models analyze patient history, genetics, and lifestyle data to predict the likelihood of diseases.

•Use Cases:

- Early detection of sepsis or heart attacks
- Hospital readmission predictions

3. Drug Discovery & Development

AI accelerates the R&D phase by identifying potential drug candidates and simulating clinical trials.

•Use Cases:

- Molecule screening
- Predicting drug efficacy and side effects

4. Remote Monitoring & Wearables

AI processes data from wearables and sensors to monitor patients remotely and alert providers of anomalies.

•Use Cases:

- Chronic disease management (e.g., diabetes, heart)
- Post-surgery recovery monitoring

5. Mental Health & Behavioral Analytics

•AI analyzes voice, text, and facial expressions for mental health screening.

•Supports digital mental health platforms for early detection of depression, anxiety.

6. Hospital Workflow & Operational Efficiency

•Optimizes scheduling, patient flow, and bed management.

•AI supports clinical decision-making and administrative tasks.

•Reduces burnout for healthcare workers

KEY CHALLENGES OF AI IN HEALTHCARE:

- **Availability of Data:** *AI need large amount of data to derive prediction & results.*
- **Quality of Data:** *inconsistent or noisy data can affect the model performance*
- **Data Privacy & Security:** *Sensitive data, ensuring AI systems comply with laws, risk of data breaches & misuse of high*
- **Regulatory and Ethical Concerns:** *regulatory frameworks are still adapting to AI*
- *Integration with clinical framework*
- **Interpretation and Trust:** *Many AI system lack transparency and making it hard for clinicians to trust or explain their decision*
- **Cost & Implementation:** *Developing, deploying & maintaining AI systems can be expensive*
- **Lack of Standardization:**
- **Clinical Validation:** *Lack of large clinical trails or real world studies to prove efficacy.*
- **Change Management & Training:** *Integration to established routine is challenging training is required for adaptability.*
- **Overreliance on AI:** *Too much trust on AI and override the judgements*
- **Scalability across settings:** *Promising pilots may struggle to scale across the large systems*

MedTech-Centre of Excellence

- ❖ MedTech – A Centre of Excellence (CoE) in Medical Electronics & Health Informatics is an initiative of The Software Technology Parks of India (STPI), an autonomous society under the Ministry of Electronics & Information Technology (MeitY).
- ❖ Inauguration of STPI-MedTech CoE by Shri Rajeev Chandrasekhar, Hon'ble Union Minister of State for Skill Development and Entrepreneurship, Electronics and Information Technology Government of India at Lucknow On 18th December 2021.
- ❖ This CoE at Lucknow has been set up by STPI & MeitY in collaboration with Sanjay Gandhi Post Graduate Institute of Medical Sciences (SGPGI), Lucknow; Department of IT & Electronics (Govt. of UP); Association of Medical Device Industry (AiMED); and Andhra Pradesh MedTech Zone (AMTZ). Padamshree Dr. Saurabh Srivastava, Former Chairman of NASSCOM, Founder, Indian Angel Network is the Chief Mentor of MedTech CoE.
- ❖ The CoE is setup at the SGPGIMS campus, with a built-up space of 15,000 sq. ft. With an estimated budget of Rs. 16 crores (after the PRSG meeting dated 11.01.2023), the CoE will nurture 50 startups over a period of five years, stimulating R&D in medical electronics and health informatics while facilitating an entrepreneurial ecosystem to promote young innovators to create affordable, high-quality indigenous medical products, drive employment, and contribute to the economy.

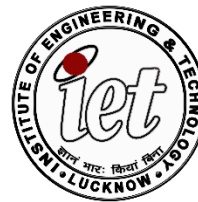
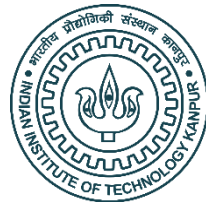


MedTech CoE – Collaborations & Partners

Supported by:



Academia Partners:



Knowledge Partner:



Industry Associations:



GE HealthCare



Investment Partners:



Ecosystem and Mentors for Startups



Dr. Saurabh Srivastava
Chief Mentor



Dr. Jitender Sharma
MD& CEO,AMTZ
Co-Chief Mentor



Dr. R.K. Dhiman
Director, SGPGI
Lucknow



Dr. P Siva Kumar
AiMED
Director
ESI MedTek Solution



Mr. Sunil Moonga
AiMED
Executive Director
Prognosys Medical
Systems



Dr. Arun Mohan
Sherry
Director
IIIT Lucknow



Dr. Arun abha
Mukopadhyay
IIM Lucknow



Andhra Pradesh Medtech Zone

- AMTZ provides Handholding and mentoring of selected startups to make them sustainable and transition of such projects from bench-to-bedside.
- Selected startups are being getting Testing and Validation Facility at AMTZ on free of cost basis.



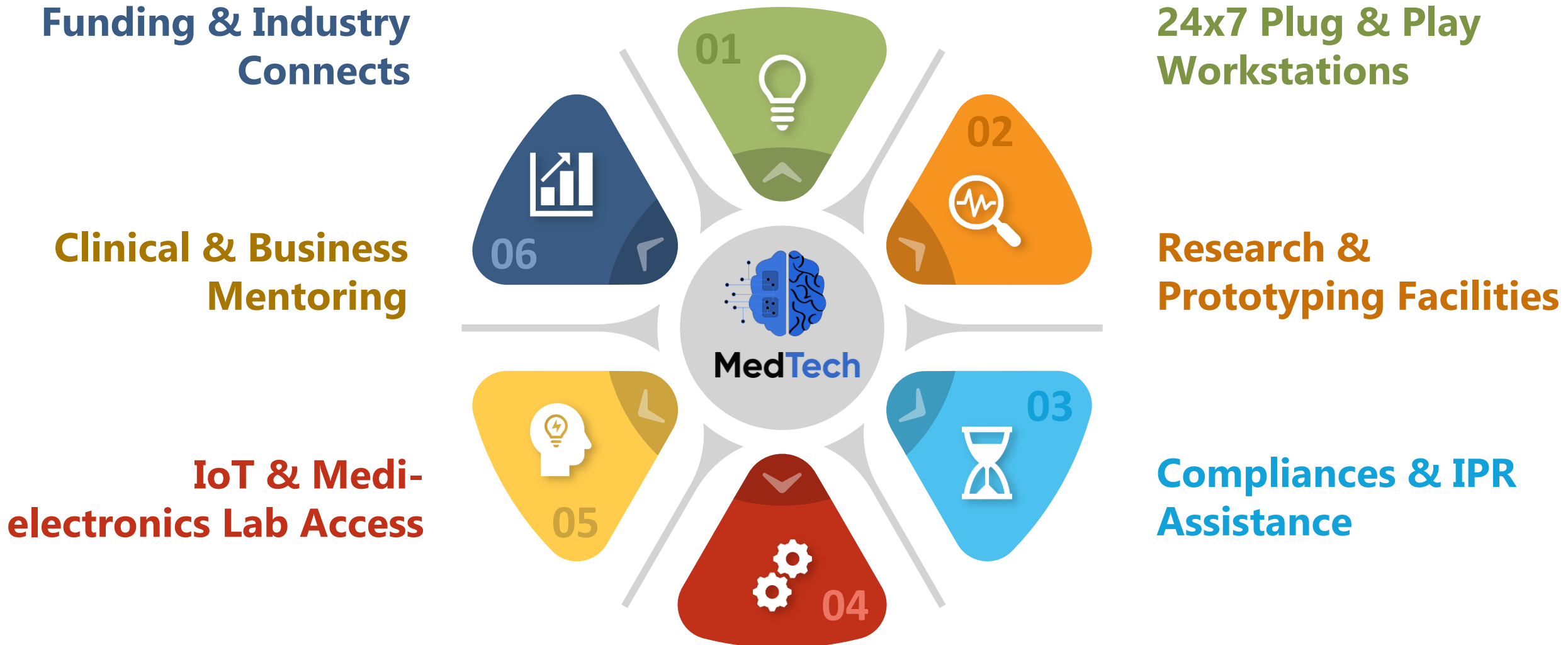
Association of Indian Medical Device
Industry

- AiMED provides industry link and access to market support.
- AIMED also provides interface to the VCs for connecting to start-ups for exploring funding options

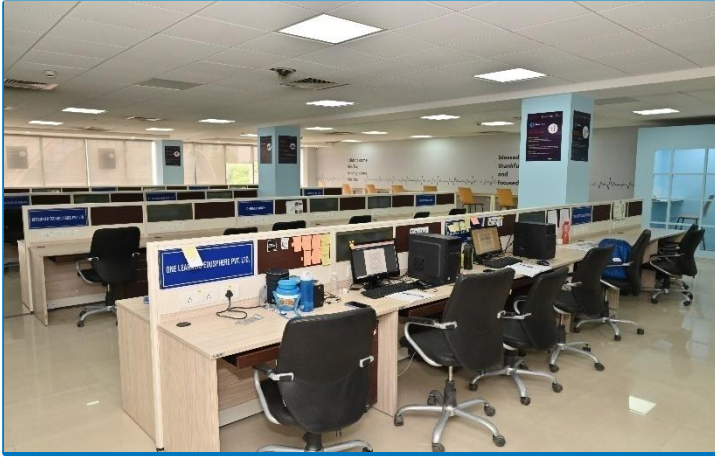
MedTech CoE-Mentors Panel



Offerings to MedTech startups



INFRASTRUCTURE SNAPSHOT



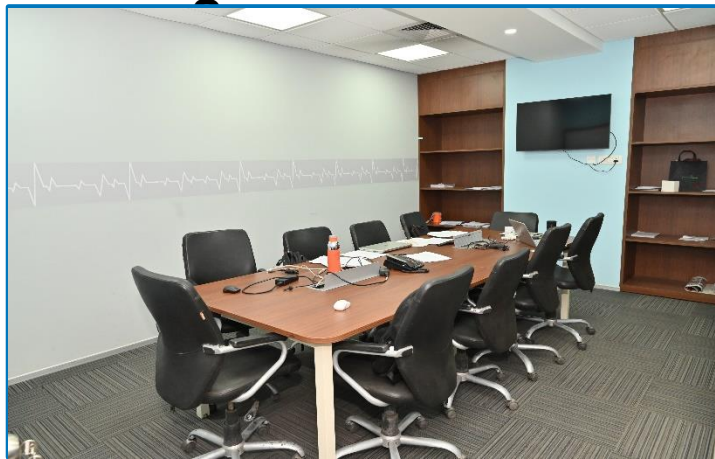
Coworking



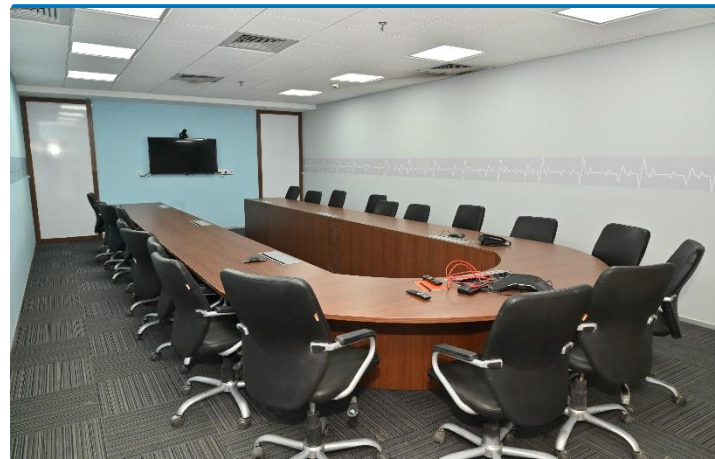
Reception



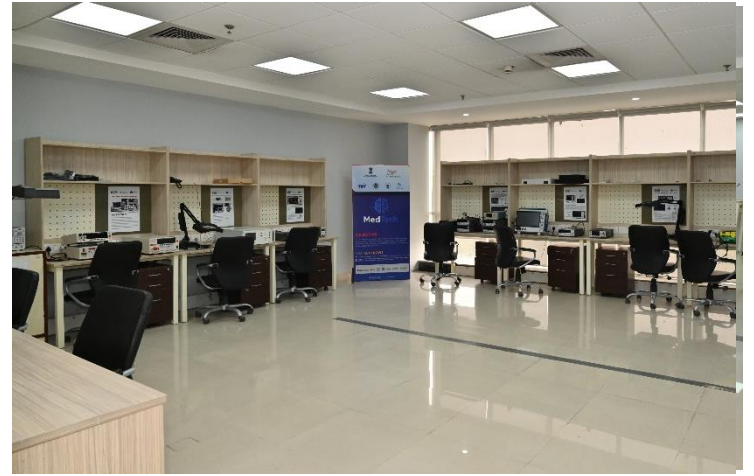
Medi-Lab



Meeting Room



Conference Room



IoT Lab

Snapshot of Lab Infrastructure



IoT Lab

- Equipped with all modern equipment's needed for IoT.
- 2/4/8 Channel Multimeters
- RF signal generator, Real-time spectrum analyzer, Mix-signal Oscilloscope, battery simulator; LCR & Impedance analyzer

MediElectronics Lab

- Equipped with world class equipment's needed for Medical device R&D & prototyping.
- Medical Simulator manikins, Simulation Software
- PCB Fabrication Lab, 3D Printer, scanner



COE - HIGH IMPACT STARTUPS



AI products for Pulmonary
Screening, Child Pneumonia

Significant achievement/milestone

- Product is in compliances & pre-commercialization stage.
- Current Valuation ~25Cr.
- Won prize in Startup Samvad at UP Startup Challenge & Expo 2022 on date **18.06.2022**
- Quebec Market Access Winner – **12.11.2021**
- Ms Saumya Shukla participated as Speaker in “TiE Women –Global Pitch” Competition in Abu Dhabi on **19.10.2021**.
- Won 1st place in the TiE WOMEN GLOBAL PITCH COMPETITION on **28.08.2021**.



Significant achievement/milestone

- Current Valuation ~90Cr.
- Revenue generated ~7.28Cr
- Employment Generated ~28



**Air Sterilization in
Hospital**

Significant achievement/milestone

- Current Valuation ~34Cr
- Revenue generated ~31L
- Employment Generated ~5



AI products for mental health

Significant achievement/milestone

- Current Valuation ~09 Cr.
- Product is in Validation Stage.
- Employment Generated ~8



Monitoring the bilirubin level in
the neonates non-invasively and
instantly

Significant achievement/milestone

- Current Valuation ~10Cr.
- Winner of JanCare Challenge organized by NASSCOM and DBT of Prize Money 10L - Feb'2023.
- Top 5 finalists of Stanford Seed program – Feb'2023
- Employment Generated ~6
- Patent Filed – 1
- Trademarks filed - 6

SPECIAL EVENTS GLIMPSE



UP Health Technology Summit
14th & 15th July 2023 at Lucknow

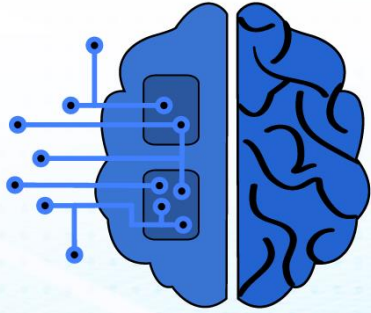
STANFORD FOUNDERS FORUM MEET



Stanford Byers Centre for Biodesign Founder Forum Meet on April 13, 2024 at MedTech CoE

AWARENESS SESSIONS FOR YOUNG ASPIRANTS





MedTech

A CoE in MediElectronics and
Health Informatics
at SGPGI, Lucknow

MedTech CoE

OPEN CHALLENGE PROGRAM 6.0

Application submission end date: 20 April 2025



APPLY NOW



<https://sayuj.net/apply-contest/medtech-ocp6>

AAROHAN

The act of rising, ascending

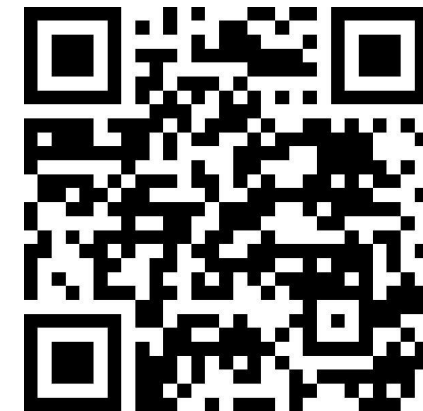
Submission is Live !!...

Apply Now:

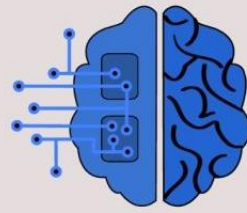
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<https://sayuj.net/apply-contest/medtech-ocp6>

Scan QR:



PROBLEM STATEMENTS OCP-6.0



MedTech

**STPI CoE in
MediElectronics
and
Health Informatics**



**Startups Are You Looking to Create
Innovative Solutions in Healthcare Sector?**

Participate in

Focus areas:

**STPI MedTech CoE
OPEN CHALLENGE
PROGRAM 6.0**

- Early Disease Diagnosis
- Point of Care - Wireless Monitoring System
- Next Generation Technology
- IoT based Deeptech interventions in health monitoring system
- Peri & post-operative care of patients
- Any other products/ services pertaining to healthcare and wellness/ medi-electronics devices



Application submission end date: 20 April 2025

APPLY NOW



<https://sayuj.net/apply-contest/medtech-ocp6>

Timeline of Open Challenge Program 6.0

Dec-Jan, 2025

Call for Problem Statements

Problem statements received from reputed medical institutions, clinical practitioners & industry representatives



Apr 20, 2025

OCP 6.0 Call Ending

Last date to received the applications for OCP 6.0 is April 20, 2025. Hurry up!



Launch of OCP 5.0

The open challenge program launched on Mar 21, 2025 during a physical event at Bharat Madapam, New Delhi

Mar 21, 2025



May 12, 2025

Result Announcement

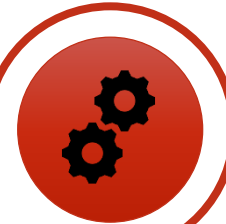
Result of OCP 6.0 will be announced by May 12, 2025.



Screening & Pitching

Application screening shortlisting & Final Pitching will be organized in this period

Apr 21–30, 2025



Snapshot of Launch of Open Challenge Program 6.0



Launch of OCP 6.0 of STPI-MedTech CoE in august presence on Sh. S. Krishnan, Secretary, MeitY; Sh. Arvind Kumar, DG, STPI & other eminent dignitaries in March 21, 2025 at Bharat Mandapam, New Delhi.

Submission is Live !!...

Apply Now! Scan QR:



<https://sayuj.net/apply-contest/medtech-ocp6>

OR

<https://medtech.stpi.in/>

Let's connect social:



Thank You

Let's come together for
ideate, innovate & impact

