TECHIN of IIT Palakkad
presents
PRABHAAV | प्रभाव Innovation Grand Challenge
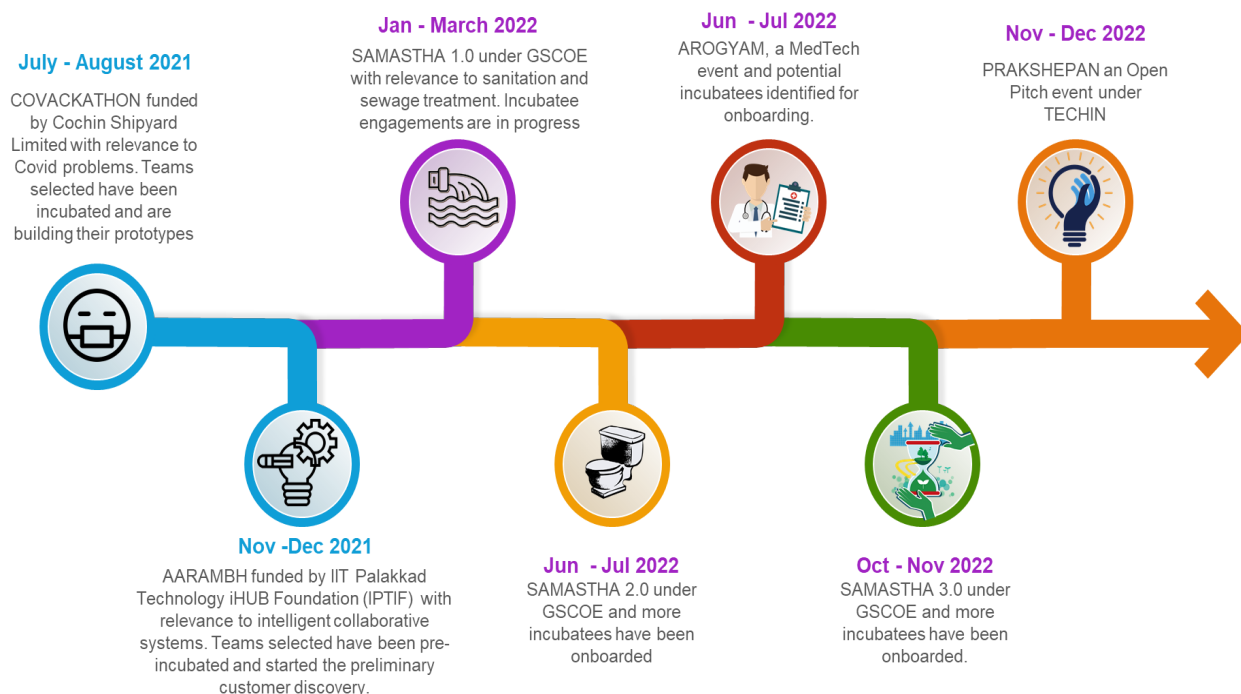
About IIT Palakkad

IIT Palakkad is a third generation IIT started in 2015. It is situated in the Palakkad region and its new campus is located on a picturesque 500 acres at the foot of the Western Ghats. The Institute has bachelors programs in 4 core disciplines, masters and doctoral programs in various disciplines apart from the core disciplines. The masters programs include a program in data science and in manufacturing. There are close to 1000 students and 90 + faculty. The Institute has state of the art facilities for research and development in areas ranging from micro-nano fabrication, high performance computing, computational imaging, materials and manufacturing, instrumentation, for Innovation, and fabrication of prototypes. The young dynamic faculty, doing research in frontier areas with International and National collaboration with academia and Industry provides a fertile ground for generation of new ideas for research and products.

About TECHIN

Technology Innovation Foundation of IIT Palakkad (TECHIN), a section 8 (not for profit) company set up as an Incubator arm of IIT Palakkad. TECHIN is a collaborative entity with Institutes and Industry to create an impactful innovation ecosystem, discover disruptive technologies and enable entrepreneurs & startups. Multiple centers of excellence are emerging under this company, with initial focus on water sanitation and hygiene, and biomedical devices. A Technology Innovation center which will take care of all the training, innovation and incubation needs for the startups across domains.

TECHIN conducts pitch events, workshops, hackathons. Teams are selected for pre-incubation, incubation or acceleration depending on their stage of growth. The ideas that are selected include domains in sanitation, medical technological devices, smart mobility, Intelligent collaborative systems. The ideas selected thus far had relevance to current challenges in the world including sustainable, electric mobility and wireless long range communication in emergency situations.

Timeline of outreach activities organized by TECHIN

Jan - March 2022
SAMASTHA 1.0 under GSCOE with relevance to sanitation and sewage treatment. Incubatee engagements are in progress

Jun - Jul 2022
AROGYAM, a MedTech event and potential incubatees identified for onboarding.

Nov - Dec 2022
PRAKSHEPAN an Open Pitch event under TECHIN

July - August 2021
COVACKATHON funded by Cochin Shipyard Limited with relevance to Covid problems. Teams selected have been incubated and are building their prototypes

Nov -Dec 2021
AARAMBH funded by IIT Palakkad Technology iHUB Foundation (IPTIF) with relevance to intelligent collaborative systems. Teams selected have been pre-incubated and started the preliminary customer discovery.

Jun - Jul 2022
SAMASTHA 2.0 under GSCOE and more incubatees have been onboarded

Oct - Nov 2022
SAMASTHA 3.0 under GSCOE and more incubatees have been onboarded.

About the Event Prabhaav Innovation Grand Challenge

GSCOE under TECHIN is hosting an **'Prabhaav| प्रभाव INNOVATION GRAND CHALLENGE'** focusing on Sanitation, Hygiene (Toilet, sewage treatment, septic tanks) and related thematic areas with the objective to foster/ nurture early stage and growing entrepreneurs in the country. The event will be scheduled from January to May 2023 in hybrid mode with multiple in-person and online events planned across few South Indian cities and will host Technical and Business talks from eminent academicians, Industry experts, social entrepreneurs and Technocrats from across the country. It will form a platform for integration and collaboration on technological advancement, business possibilities and impact generation through a holistic approach to sanitation for the overall welfare of society and the country.

Applicants will have the opportunity to present their solutions and ideas to an expert audience while the program will facilitate the entrepreneurs in leveraging domain expert advice on a case to case basis. Applications will be accepted from January through February. The event expects offering the winners exciting prizes including early exploration funding, incubation grants, prototyping assistance, capacity building and a host of other nudges and support.

Talks and panel Discussions

The Prabhaav | प्रभाव Innovation Grand Challenge has multiple talks and panel discussions spread over a month and a half and include technical, business and impact aspects in the journey of an Entrepreneur in Sanitation. These talks and panel discussions will take place in offline mode in multiple cities and some talks are online. Details will be posted on our website https://techin-iitpkd.org These talks will be

beneficial for the budding entrepreneurs to understand the nuances of Sanitation space in India and the world and thereby improve their pitch. These talks will be beneficial for the Industry and collaborators to exchange ideas in this domain and brainstorm disruptive innovation and strategy moving towards Swachh Bharat and SDG goals.

Themes

- **Pathogen free Resource recovery along with clean and safe septage/ sludge management - Management of septage from septic tanks/ sludge from STPs resulting in mineral recovery (for ex. phosphate), energy generation (biogas or other modes), conversion to manure for safe land application etc.**

- **On site greywater treatment/ safe disposal techniques/ devices for households which are compact and have no odor.**

- **Improved modular septic tanks/ in-situ sewage treatment systems with lower footprints (area reduction to half), higher treatment efficiencies (above 75%), lower sludge levels and odor control.**

- **Innovative toilet designs for water use reduction to minimum 30%**

- **Comprehensive toilet cum treatment systems (zero liquid discharge type etc.), reduced pathogen release**

- **Safe and Cost-effective toilet cleaning solutions (solid, liquid or gaseous form),**

- **Toilet Cleaning devices - semi-automated or automated cleaning**

- **Toilet disinfection devices - semi-automated or automated disinfecting**

- **Nature based technologies for sewage and greywater management**

- **Leak detection techniques in sewers.**

- **Sewer based Community Health monitoring equipment/ systems.**

- **Innovative sewer replacement techniques**

- **Modular Automated sewer pumping systems.**

- **In line sewage treatment systems - Modular units installed in sewer lines providing treatment.**

- **Improved sewer construction techniques/ devices/ components**

- **Improved sewage pumping systems for household collection/ maintenance**

- **Improved Appliances for Sewer jetting/ cleaning and O&M of sewers**

- **Personal Protective equipment for sanitary workers which are comfortable and usable**

- **Treatment plants for high water table areas, hilly regions, other terrains**

- **Maintenance and monitoring of hygiene and disinfection in toilets**

- **Toilet solutions for disabled individuals/ patients**

- **Retrofitting treatment solutions for septic tanks for zero solid and water waste disposal and/or water recycling and solid reuse**

- **Menstrual hygiene solutions which are biodegradable or provide treatment options**

- **Energy neutral/ energy efficient treatment technologies for municipal sewage treatment - Development of sewage treatment technologies with energy-neutral/ very low energy consumption for large sized city level STPs**

Guidelines for Prabhaav | प्रभाव PITCH:

- ❖ This pitch is open to all!
- ❖ **At least** an initial prototype of the idea should have been tested and an initial customer survey of at least 10 customers should have been conducted.
- ❖ This is a Pitch to actually make a difference and the winning ideas will be incubated. The team should be **willing to take the idea to product level**.
- ❖ This is a **team** participation event. Team can consist of at least two team members to a maximum of 4 members. A person cannot be a part of more than one team.
- ❖ It is an **online pitch**, you can participate from anywhere. You need a **stable internet** and a laptop. The **software ideas** will be showcased and can be further **developed during the event**. The ideas that have a **hardware** component have to showcase the **design, simulation, prototype**. The winning ideas will need to incubate and develop the market ready prototype

and this **incubation phase will be offline and based in Palakkad**.

❖ Once the pitch starts, you will get an option to submit your presentation, the last version within the time frame will be considered as the final submission.

❖ You are expected to come up with **new and innovative ideas**, any idea that has been copied from somewhere will be disqualified.

❖ **The decision of the organizers / competition judges will be final and no communication in this regard will be entertained.**

❖ Terms and conditions for incubation in the incubation agreement will apply

❖ Prabhaav Grand Challenge starts on **19th January 2023** and end on **13th May 2023**

❖ **Last date of application** - **11th March 2023**

Schedule

Date	Day	Prg	Time	Venue
19.01.23	Thursday	Call for application	10:00 AM	
28.01.23	Saturday	Talk and panel discussions 1	10:00 AM	Online
04.02.23	Thursday	Talk and panel discussions 2	10:00 AM	Coimbatore
11.02.23	Saturday	Talk and panel discussions 3	10:00 AM	Online
16.02.23	Thursday	Talk and panel discussions 4	10:00 AM	Bangalore
21.02.23	Tuesday	Talk and panel discussions 5	10:00 AM	Online
25.02.23	Saturday	Talk and panel discussions 6	10:00 AM	Cochin
04.03.23	Saturday	Talk and panel discussions 7	10:00 AM	Chennai
11.03.23	Monday	close application	04:00 PM	
15.03.23	Thursday	Shortlist	04:00 PM	
18.03.23	Saturday	Mentoring 1	10:00 AM	Online
21.03.23	Tuesday	Pitch 1	10:00 AM	Online
22.03.23	Wednesday	short list	04:00 PM	
18.04.23	Tuesday	review of prototype building	10:00 AM	
29.04.23	Saturday	Mentoring 2	10:00 AM	Online
13.05.23	Saturday	Finale - offline	10:00 AM	Palakkad

What can you do before the start of the event?

- ● THINK THINK THINK through your idea and your Customer
- ● Write documentation for your proposed design

Mentoring and Review:

Review 1:

- ❖ Incubation / Best Product : Is it solving a clear problem? Is it clear who it's being built for or how they will use it? Does the solution address the problems at hand? Is it useful?
- ❖ Scalability / Global Impact : Does this idea have the potential to reach many people at a large scale, nationwide? Could it be used by different people in different regions of the world?
- ❖ User Experience / Design : Is this solution easy to use? Is it aesthetically appealing? Is it an innovative take on guiding user action?
- ❖ Originality / Most Unique Concept : Is this idea unique, creative or novel? Is this idea different from existing products out there? Does it solve the problem in an unusual but effective way?

Review 2 and 3 :

- ❖ Concept : Clarity in the concept and whether the challenges are addressed effectively.
- ❖ Novelty : The concept should be novel and innovative and not a recreation of a preexisting one.
- ❖ Viability : Feasibility of the solution and a realistic chance of it being adopted considering economic and social conditions.
- ❖ Ease of use and user interface : user–friendly and easy to understand by the end consumer.
- ❖ Engineering Excellence: Does it work? Are the implementation and/or approach interesting? How much did your team write vs. pull from other libraries? Is it useful?

Judging criteria :

Round 1 - Evaluation Parameter

The project will be judged by a Jury based on the following criteria:

- ● Innovativeness: How innovative / creative / unique is the idea? Was there a novel approach applied to solve the problem?

- Technical Competence: How technically simple/ sophisticated / advanced was the solution?
- Social Impact: How impactful is the idea? How will it impact society?
- Commercial viability: Is there a business potential? Market value of the product.

Round 2 and Final Presentation Evaluation Parameters

1. Concept and Design
- Creative, novel and Innovative
- Quality & Level of design/ code/innovation of the proposed solution
- Use of pre-existing gadgets and /or modules/Algorithms, APIs, Logic, Frameworks, and external libraries in code.
- Maturity of technologies/open-source technologies/frameworks used
- Interface and design of components/adaptors for connections/ APIs for analytical insights
- Data and metadata management and scalability for higher volumes of data

2. Overall Usability
- Practical usability potential
- Viability on a global scale
- Relevance to the masses and latest dataset
- Additional features,insights
- Lesser problems,bugs,cost and Documentation
- Collaborative tools and ease of solution adaptablity

3. Implementation
- Functionality and working of the prototype
- Relevant metrics to be taken care of such as accuracy, adaptive mechanisms, etc.
- Good technological process, coding, development, ethical practices to be followed.
- How much time, effort and cost will be involved in implementation
- Easy to understand and elaborate design
- Assumptions and constraints

4. Idea-pitch
- Overall demo of solution build
- Technical and non-technical justifications

Apply here:- **Application form link** **- https://forms.gle/Um21oRr9bt1DeBBH6**

Slide Template

SLIDE 1: Team name and lead. Who are your team members and their skills?

SLIDE 2: What is the problem you are trying to solve?

SLIDE 3: What are your solutions?

Why did you choose the current solution?

SLIDE 4: Video (max 3 min) (of your team and product)

SLIDE 5: Who is your customer?

What are your channels?

SLIDE 6: What is the market segment?

Who are your competitors?

SLIDE 7: What is your Business plan?

Who are your investors?

What funds do you want to raise?

SLIDE 8: (If you already have a startup) What funds have you already raised? What is your shareholding? What is your revenue?

Prizes:

In the spirit of engaging the community in our innovation efforts, the prizes for the teams will be determined based on the declared need of the winning teams, and the interest the idea is able to generate from angel investors and other sponsors.

Select teams (decision of judges is final and cannot be contested) may get upto Rs 50000 for prototyping after round 1.The prototype must be ready for the round 2 evaluation. Due accounting diligence for the utilization must be submitted.

We expect to provide prizes with incubation grants worth upto Rs 10L(depending on the stage) towards incubation and other forms of support for the winning teams. Terms and conditions of incubation agreement will apply.

Incubation Support:

The winners will be incubated by TECHIN in collaboration with various entities depending on the Theme.

The Incubation Support includes the following:

- Mentoring by world class mentors, faculty, entrepreneurs, including PAN IIT network
- Incubation program for fine tuning the business model canvas, technical and business aspects to cross the valleys of death and achieve success in the startup world
- Incubation space with connectivity
- State-of-the-art fabrication and rapid prototyping facilities
- Training of maintenance and service personnel for plumbing, sanitation and new products
- Access to consultants for legal, financial, IP, business aspects
- Funding for incubation and go to market strategy
- Exposure to the best minds to make a winning team
- An opportunity to pitch to Angels and Venture Capitalists
- Connections to NGOs and Government agencies for field site testing
- Conditions in the incubation agreement will apply