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the crowning glory

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भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Entrepreneurship@IITH



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Dear Esteemed Readers,

Greetings!!

With immense delight, we bring to you the latest edition of किरIITH. At the outset, we extend our heartfelt gratitude for your continued encouragement, thoughtful feedback, and unwavering engagement with our publication. It is this vibrant connection that fuels our commitment to deliver meaningful and inspiring content every edition

This issue, Vol 7, Issue 2, Apr – Jun 2025 (Issue – 23), is dedicated to one of the core strengths and aspirations of IIT Hyderabad—**Entrepreneurship**. At IITH, entrepreneurship is not just an outcome but a culture deeply embedded in our academic and research ecosystem. With the vision of Inventing and Innovating in Technology for Humanity, IITH strives to create an environment that nurtures innovative ideas, encourages risk-taking, and provides a robust platform for translating research into impactful ventures.

Through its dedicated incubators, mentoring support, seed funding, and industry collaborations, IIT Hyderabad has emerged as a thriving hub for aspiring entrepreneurs. Students, faculty, and alumni alike are contributing to building startups that span diverse sectors—from deep tech and sustainability to healthcare, mobility, and beyond. This entrepreneurial ecosystem not only drives economic growth but also addresses real-world challenges, reflecting IITH's mission of serving society through innovation. This edition offers an engaging snapshot of entrepreneurial journeys, success stories, and initiatives that define the spirit of innovation at IITH.

Your constant support motivates us to bring you even more insightful and impactful issues of किरIITH. Access all किरIITH (KirIITH) Issues at <https://pr.iith.ac.in/newsletter/about.html>.

We invite you to read, reflect, and stay inspired!



Prof Mahendra Kumar Madhavan
(Dean - Alumni & Corporate Relations)
(Editor-in-Chief)



Prof C Krishna Mohan
(Department of Computer Science & Engineering)



Prof Deepak John Mathew
(Professor, Department of Design)



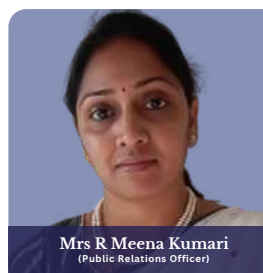
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Dear Friends,

Warm greetings to you all! I wish you continued strength, good health, and unwavering optimism as we journey ahead together.

It gives me immense pleasure to present to you the latest edition of the IITH Newsletter. This edition reflects the institute's recent achievements, innovative pursuits, and the vibrant spirit that binds our community in its collective march toward excellence.

As I present this edition of the Newsletter, it is a matter of great pride to share that in the QS World University Rankings 2026, the institute has attained a distinguished global rank of 664, marking a notable rise from the 681–690 band of the previous year. This achievement is a testament to IITH's unwavering pursuit of excellence in education, research, and societal impact. Of particular significance is IITH's recognition in the Top 10% of global institutions for Citations per Faculty, a vital indicator of research influence.

In parallel with these institutional milestones, IITH continues to break new ground through transformative research and innovation:

- DIGIPIN, an open-source, machine-interpretable geospatial addressing system, has been developed by IITH in collaboration with the Department of Posts and NRSC-ISRO. This landmark initiative is set to revolutionize India's addressing infrastructure by enabling precise and standardised digital addresses nationwide.
- In collaboration with Sharp Semiconductor Innovation Corporation (SSIC) and WiSig Networks Pvt. Ltd., IITH successfully demonstrated advanced Beyond 5G (B5G) and 6G technologies on campus. These trials validated next-generation wireless interoperability, marking a key step toward the Japan–India vision of a digitally connected future.
- At 3GPP TSG RAN #108 in Prague, IITH's pioneering $\pi/2$ -BPSK uplink waveform—initiated at the institute in 2014—was further advanced for global adoption. Already a standard 5G feature worldwide, it now paves the way for enhanced coverage and uplink-intensive services while laying the foundation for 6G.

Further strengthening its collaborative ecosystem, IITH's Centre for Geospatial AI and Digital Twins (CGDT) has signed a groundbreaking MoU with Goa Shipyard Limited (GSL), alongside Neer Interactive Solutions Pvt. Ltd. and AMS College, to harness AI and Digital Twin technologies for revolutionizing shipbuilding.

An MoU between TiHAN–IITH and Mitsubishi Electric Corporation (MELCO) has been formalised to drive joint research and development in autonomous navigation systems, fostering innovation, skill development, and entrepreneurship in this critical domain.

IITH also had the privilege of hosting the International Conference of Young Scientists – Confluence of Visionaries: Empowering Science for Global Change, in collaboration with the Global Young Academy (GYA), Indian National Young Academy of Science (INYNAS), and the Indian National Science Academy (INSA). This landmark event, held for the first time in India, convened 135 international delegates from 60 countries and 65 national delegates, creating a truly global and inclusive platform for young scientific leaders to collaborate on solutions for the world's pressing challenges. The Inaugural Ceremony was graced by the Hon'ble Union Minister of Education, Shri Dharmendra Pradhan, as the Chief Guest.

Adding to this series of distinguished recognitions, two of IITH's Distinguished Professors—Prof. Chennupati Jagadish (Australian National University) and Dr. Mallikarjun Tatipamula (CTO, Ericsson) have been elected as Fellows of the Royal Society (FRS), one of the world's most prestigious scientific honours. Equally noteworthy is the awarding of the Fundamental Physics Breakthrough Prize to the Compact Muon Solenoid (CMS) experimental collaboration, with active participation from researchers of IITH's Department of Physics—an achievement that reflects our institute's strong presence in global science and discovery.

The institute also marked its 17th Foundation Day with a grand celebration themed "Way Forward for the Techade: Opportunities & Challenges." The occasion was graced by Prof. Ajay Kumar Sood, Principal Scientific Advisor to the Government of India, as Chief Guest, underscoring IITH's role in shaping India's scientific and technological trajectory. This was followed by the 10th International Convention of SPIC MACAY, inaugurated at IITH by the Hon'ble Governor of Telangana, which was a week-long cultural immersion that celebrated India's rich artistic and spiritual traditions by eminent artists.

Finally, IITH has been conferred the Institute of National Eminence status by the Ministry of Finance, Government of India, with effect from March 27, 2025. This recognition, which allows donors a 100% tax exemption under Section 80G of the Income-tax Act, marks a transformative milestone in strengthening the institute's philanthropic ecosystem and enabling greater contributions to nation-building.

This edition offers a glimpse into IITH's vibrant and ever-evolving innovation ecosystem, with a special focus on the theme of Entrepreneurship at IITH. From bold ideas to successful ventures, the articles within highlight how IITH is nurturing entrepreneurial talent, fostering industry collaborations, and driving the spirit of innovation to create meaningful impact for society and the nation.

Keep Reading & Stay Connected...

Prof B S Murty
Director
IIT Hyderabad

Entrepreneurship Education in a Competitive World

KID: 20250201

Entrepreneurship is no longer just about entrepreneurs – it has now evolved as a domain that can be honed as a skill to be possessed by everyone. Entrepreneurship has emerged as a field of study and point of reference for innovation, economic development and job creation. At the heart of entrepreneurship is what Eric Ries defined as "Entrepreneurship is Management", which includes identifying an opportunity, planning, managing risk, and creating something meaningful with limited resources. It is not just about having a series of ideas but building your ideas into something meaningful by applying disciplined effort and strategic thought.

Entrepreneurship viewed from a management perspective can reveal the true potential. It is not just driven by intuition or a desire, but mainly by the ability to lead people, processes and knowledge to a common goal. Entrepreneurs operate in a world of constraints, balancing conflicting interests and taking rational, informed decisions in a very dynamic environment. This transformation from seeing entrepreneurship as something emergent to a conscious, trainable process has established the framework for increasing its inclusion in academic and institutional education. Entrepreneurship is now understood as a field of study that incorporates strategy, operations, economics, organisational behaviour, design thinking, finance, marketing and many more domains, including engineering and technology. By viewing entrepreneurship through a management lens, educators can deliver a structured learning module/s that integrates both practice and theory. It engages students to think about innovation as an ongoing process that focuses on discipline, reflection, and adaptability rather than serendipity (which is occasionally true). With these important principles, the potential future leaders, students would be better equipped to not only build new ventures, but alter existing systems, advocate and implement an agenda for innovation, and navigate and solve complex challenges with intent and clarity.

Over time, entrepreneurship has developed as an academic discipline. Earlier, entrepreneurship existed as a field of practice; however, it has now been backed by theoretically sound foundations and rigorous research methods. Throughout the world, universities have acknowledged its worth across different domains of engineering, science, humanities and not just limited to business schools. Today, entrepreneurship is studied not strictly to start ventures, but additionally to gain further insights into innovation, social change, and sustainable development. This type of study has sparked interdisciplinary collaborations, as well as provided students with a critical and entrepreneurial thinking viewpoint in any context. It has become a global movement that provides individuals with the opportunity to address economic, environmental, and humanitarian challenges. Being the world's most populous youth country, India is in a unique situation where entrepreneurship studies and education can be integrated to provide a prosperous future. With a focus on inspiring entrepreneurial ambition and skills for young graduates and to contribute high-quality research in entrepreneurship and management, the Department of Entrepreneurship and Management, IIT Hyderabad, aims to be 'a department of global repute in entrepreneurship education, training, and research'.

The department possesses incredible potential to be a leader in entrepreneurship education and research in the years to come. Following the vision of 'Aatmanirbhar Bharat' (Self-Reliant India), the academic programmes of the department are primarily conceptualized with an intent to promote entrepreneurial mindset and shifting the learners to think being job creators than job seekers. The Department of Entrepreneurship and Management, IIT Hyderabad believes that through innovation, entrepreneurship skills, and ethical leadership, the students can contribute to the economic growth and self-sufficiency of the nation and develop local solutions to global challenges. The department is also interested in 'Management' contextualized for 'New Age Organizations' through research and teaching – this is well connected with the modern view of entrepreneurship. To support this, the Department of Entrepreneurship and Management, IIT Hyderabad offers a range of academic programs including Minor in Entrepreneurship, Major in Entrepreneurship, M.Tech in Techno-Entrepreneurship and PhD, all designed to equip students with the knowledge and skills needed to thrive in the entrepreneurial world.

In the past, entrepreneurship had been regarded as an uncertain or risky endeavour. With the increasing institutional support, digital platforms, and funding arrangements, it has become a practicable occupation for a lifelong career. Most importantly, entrepreneurs are now being viewed as instruments of national development and no longer merely wealth generators, but innovators and change makers. In improving accessibility to entrepreneurship education, for India's youth and the larger population in general, it will take a more sound modern approach. This involves integrating formal and informal entrepreneur education, utilising technological innovation, balancing expectations from entrepreneurs as well as the ecosystem, and developing an encouraging and conducive environment. As the social recognition of entrepreneurship as a feasible career option increases, the interest in entrepreneurship education is also increasing simultaneously. It is imperative, particularly for India's economy, to focus on both job and new venture creation, and to we embrace the "entrepreneurial wave" which is currently sweeping through the world. By doing so, it will unlock the untapped potential for India's youth, foster job creation, and help create sustainable economic growth for India's large youth population.

Let us continue to view entrepreneurship beyond personal gain and see it as a vehicle for societal progress, rooted in knowledge, values, and purpose. At its best, entrepreneurship not only creates businesses; it creates capacity, character, and communities. As the Department of Entrepreneurship and Management, IIT Hyderabad, we are honoured to be part of this larger mission by developing the next generation of innovators, problem solvers, and purposeful leaders.

Dr Lohithaksha Maniraj Maiyar
Head, Dept of Entrepreneurship and Management

BLOOM – Advancing Spatial Computing Sector: Spatial Computing



KID: 20250202

The field of spatial computing is poised to revolutionise human-computer interaction by blending the physical and digital worlds. Traditionally, this space has been dominated by closed ecosystems controlled by major corporations like Microsoft, Apple, and Meta. These systems rely on expensive hardware, restrictive licenses, and high-cost components, creating significant barriers for innovation, customisation, and accessibility.

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One of the primary challenges in advancing spatial computing in India lies in developing lightweight, low-power, and affordable AR headsets with real-time spatial tracking. Existing systems are often bulky, expensive, and heavily dependent on foreign ecosystems, raising both economic and national security concerns.

Moreover, there has been limited access to adaptable hardware for researchers and developers working on motion tracking and immersive experiences. B100M Computer (pronounced Bloom), a deep-tech startup, is addressing these challenges with its flagship product, the Bloom Mobile Device. This is a transparent, energy-efficient AR headset designed with flexibility and scalability in mind. It is planned to be powered by a RISC-V Compute Module Host System Board, the first of its kind in India.

The Bloom Mobile Prototype device supports advanced spatial tracking capabilities including head, hand (3-DoF and 6-DoF), and position tracking using integrated stereo cameras, all while maintaining a lightweight design with power-efficient architecture. The long term vision is RISC-V silicon powering the full B26 OS ecosystem. The headset operates on B26 OS, a standalone operating system developed in-house for spatial computing applications.

This innovation eliminates reliance on licensed systems, giving developers complete freedom over their applications and interaction logic. The optics system, based on Birdbath Glasses and OLED panels, delivers sharp visuals while keeping costs manageable through the use of materials like PA12 and SLA.

Bloom's commitment to fundamental R&D and IP heavy hardware/software development has led to a modular AR platform with the potential to incorporate future technologies such as eye tracking. By lowering manufacturing costs, simplifying hardware, and building from first principles, Bloom is laying the groundwork for a new era of independent spatial computing in India.

Their efforts are protected by patents in progress, positioning them as leaders in India's spatial tech innovation landscape. With a focus on accessibility, efficiency, and customization for enterprise, Bloom is not just responding to the global AR challenge, it is reshaping the future of spatial computing, making high-performance AR devices accessible to a broader audience, and championing India's place in the immersive technology revolution.



Mr Subhajeet Mukherjee

Founder

BLOOM – Advancing Spatial Computing

PAVAKAH Energy Private Limited

Sector: Cleantech & Advanced Sustainable Materials



KID: 20250203

The transition to clean energy sources has become critical in the face of increasing carbon emissions and the rising cost of fossil fuels. Among the many options, solar energy has emerged as a key pillar of sustainable power generation. However, traditional silicon-based solar panels present significant limitations—they are bulky, expensive to install, and contribute to environmental challenges during decommissioning. With global solar panel waste expected to reach 70 GW annually by 2026, the lack of recycling technologies threatens to undermine the very sustainability goals solar energy aims to achieve.

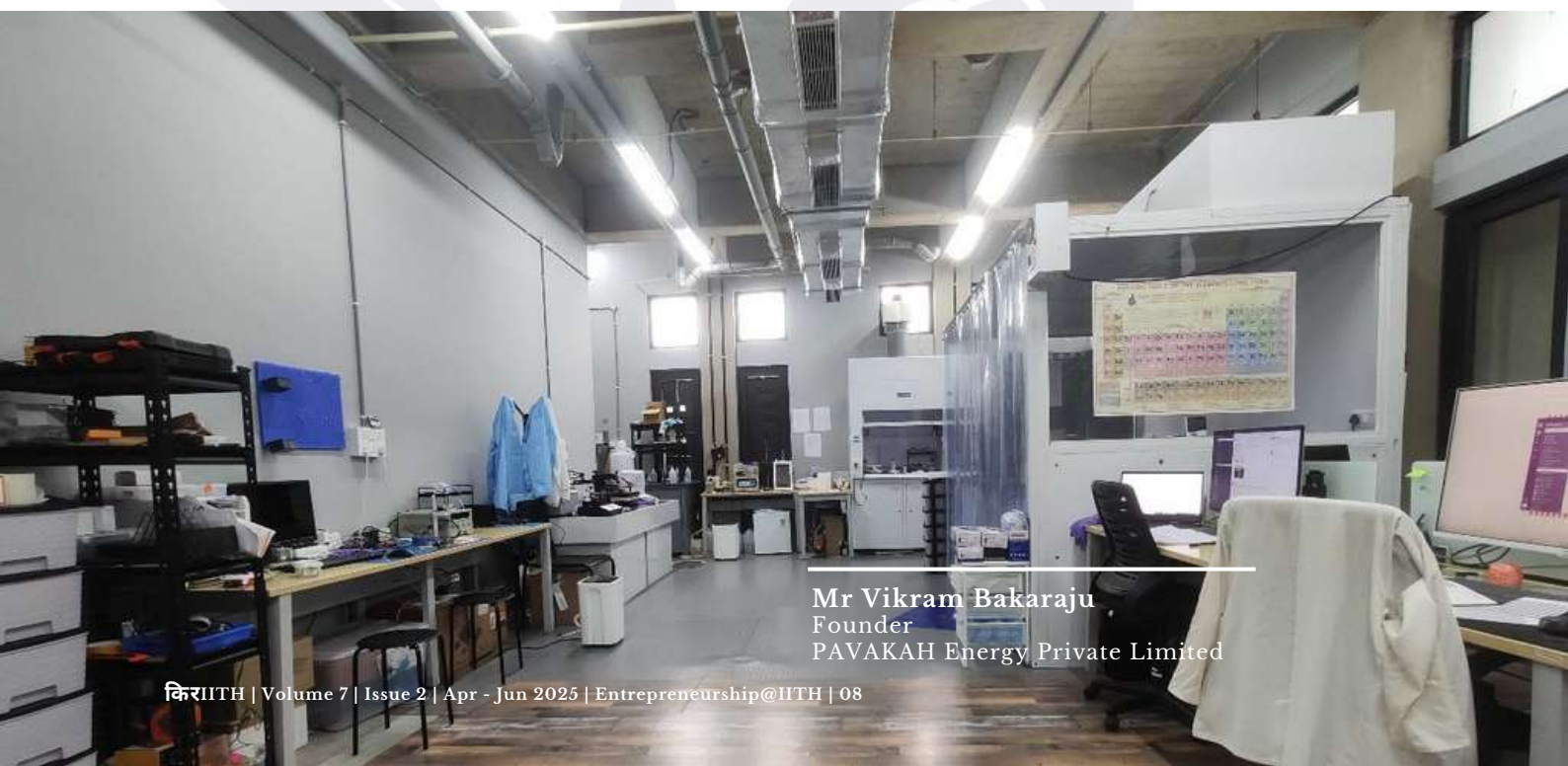
In response to this multifaceted challenge, Pavakah Energy Pvt Ltd, based in Sangareddy, Telangana, has introduced a disruptive approach to solar power generation. The company has developed bulk-heterojunction thin-film solar cells that can be applied like paint to almost any surface—walls, rooftops, or infrastructure. This technology, also referred to as nano-colloidal photovoltaic paint, marks a significant departure from conventional panel systems. It reduces installation complexity, lowers capital expenditure, and offers a recyclable alternative to conventional solar infrastructure.



The innovation lies not only in the method of energy generation but also in its sustainability. Unlike traditional panels, which are difficult to recycle and contribute to growing electronic waste, Pavakah's solar paint is designed with end-of-life recyclability in mind—making it a promising component of the circular economy in renewable energy.

The potential applications of this technology extend beyond rooftops to agrivoltaics, infrastructure, and even rural electrification in regions where traditional solar panels are impractical. Pavakah Energy's innovation can redefine how solar energy is produced and integrated—offering a lightweight, customizable, and low-impact solution for global energy needs.

By addressing both energy generation and end-of-life waste, Pavakah Energy is not only powering the present but also protecting the planet's future. Their work stands as a beacon of innovation at the intersection of energy, environment, and sustainability.



Mr Vikram Bakaraju
Founder
PAVAKAH Energy Private Limited

LiqSure Systems Private Limited

Sector: Wastewater Treatment

KID: 20250204



Industrial wastewater often contains a complex mix of organic pollutants, chemicals, and microbes that must be treated before release. Conventional treatment systems—based on chemicals, membranes, or filters—are expensive, require large footprints, and can generate secondary waste. Industries demand cost-effective, energy-efficient, and sustainable alternatives.

LiqSure has developed a cavitation-based treatment system that meets these needs. Using only electricity to generate micro-bubbles, the system destroys contaminants without chemicals, membranes, or filters, saving on both capital expenditure (Capex) and operational costs (Opex). It also requires minimal space ($\approx 10 \text{ ft}^2$).

The company has built a 25 KLD commercial-scale plant and several smaller pre-treatment units. These have been validated using septage and STP wastewater from GHMC, Hyderabad.

Two systems have been sold commercially, and live trials are underway at Solapur textile CETP, Chincholi MIDC, and Sircilla, Telangana. A textile plant in Chincholi plans to install a 10 KLD unit. The system has also treated biogas slurry and paneer whey wastewater.

LiqSure's achievements are supported by multiple grants, awards, and accolades from state and central government bodies. Their innovation positions them as a reliable provider of sustainable, on-site industrial wastewater solutions.

With a focus on real-world deployment, LiqSure's systems are designed to be retrofitted easily into existing industrial infrastructure, making adoption seamless for companies looking to upgrade their environmental compliance.

The consistent performance across different effluent types—from urban sewage to agro-industrial waste—demonstrates the versatility and robustness of the technology.

By combining innovative design with operational simplicity, LiqSure is helping industries reduce their environmental footprint while also lowering treatment costs—marking a significant step toward scalable and sustainable water management solutions in India.



Dr Sarjerao Babu Doltade
Founder
LiqSure Systems Private Limited

AI Platform to Revolutionize Regulatory Documentation in Pharma and FMCG Sectors

KID: 20250205



I am an MTech student from the Department of Entrepreneurship and Management at IIT Hyderabad. I have developed Cmplai, a GenAI-powered documentation platform set to transform regulatory compliance in industries such as pharmaceuticals, FMCG, life sciences, and speciality chemicals. Guided by Dr Lohithaksha Maniraj Maiyar and Dr Maunendra Desarkar, I have built the platform as part of MTech thesis, which earned the prestigious V.S. Prasad Best Thesis Award in Techno-Entrepreneurship.

Cmplai leverages a fine-tuned proprietary Large Language Model (LLM) trained on regulatory frameworks like GMP, QMS, ALCOA+, and 21 CFR Part 11. It enables automated generation of critical documents—BMRs, validation protocols, deviation reports—through text-based prompts, drastically reducing manual errors and accelerating compliance workflows. The platform ensures 21 CFR-compliant audit trails, version control, AI-powered risk alerts, and structured templates aligned with global regulatory bodies such as USFDA, TGA, EMA, and CDSCO.

With increasing regulatory stringency and complexity, AI-based documentation tools have become essential across regulated sectors. These systems help reduce manual effort, eliminate errors, and ensure real-time compliance with evolving global standards. Especially in the pharmaceutical industry, where precision and traceability are critical, such platforms play a pivotal role in meeting regulatory expectations efficiently.

McKinsey & Company “Generative AI in the pharmaceutical industry: Moving from hype to reality”

<https://www.mckinsey.com/industries/life-sciences/our-insights/generative-ai-in-the-pharmaceutical-industry-moving-from-hype-to-reality>

Supported by the MeitY and iTIC Incubator @IITH, Cmplai is now moving from proof-of-concept to market deployment, promising up to 95% reduction in documentation errors and substantial cost savings for regulatory-heavy sectors.



“With increasing regulatory stringency and complexity, AI-based documentation tools have become essential across regulated sectors”

- [1] Mr Narasimha Murthy
MTech student, Dept of EM
- [2] Dr Lohithaksha M Maiyar
Assistant Professor, Dept of EM
- [3] Dr Maunendra Desarkar
Associate Professor, Dept of CSE

Bridging the Climate Crisis: The Role of Green Finance in Advancing Energy Efficiency Startups in India

KID: 20250206



The threat of climate change is evolving from a scientific concept to an urgent existential crisis. Climate changes are primarily driven by variations in Earth's orbital patterns, which alter the amount of solar energy reaching the planet. Increasing temperatures, unpredictable monsoons, glacial melt, and severe weather phenomena have made South Asia, especially India, exceedingly susceptible. Greenhouse gas (GHG) emission is a global problem, the major sources of GHG emissions from burning fossil fuels, iron-steel production, deforestation, cement production, food production, and various other sources (Planton et al., 2008).

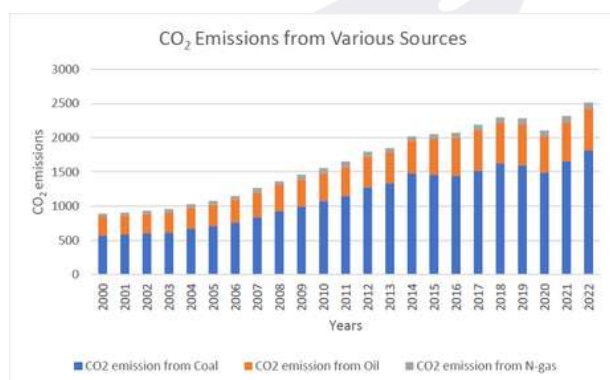


Figure 1. CO2 emissions from India from the year 2000 to 2022, Source: IEA

As in the figure 1 year-wise graph of CO2 emissions shows that coal is the primary source of emission over the period from 2000 to 2022. According to the World Energy Outlook (2023), a reduction in CO2 emissions can be achieved through fostering technological innovations and promoting energy efficiency in significant CO2-emitting areas. India's pledge under the Paris Agreement to cut its CO2 emission intensity by 45% by 2030 and move towards a net-zero economy by 2070 necessitates a fundamental overhaul of the country's energy production, consumption, and financing systems.

One of the earliest domestic responses to industrial emissions was the Perform Achieve and Trade (PAT) scheme, launched in 2012 under the National Mission on Enhanced Energy Efficiency (NMEEE). It created market-based incentives for large industries to improve energy intensity. While the PAT mechanism targeted heavy emitters, a new wave of entrepreneur-led innovations is now pushing energy efficiency into the mainstream.

Jaffe & Stavins (1994) analysed the energy efficiency gap and found that this gap is due to market failure, lack of information, and principal-agent problems. The theory allows for measuring the gap with different levels of energy efficiency potential. India has taken initiatives for resilient economic growth through the International Solar Alliance, One Sun, One World, One Grid project, and the National Biofuel Policy to support clean tech startups.

Optimising energy use in homes, businesses, and industries, energy efficiency entrepreneurs contribute significantly to the reduction of emissions and frequently provide low-cost, high-impact solutions. Jaffe & Stavins (1994) analysed the energy efficiency gap and found that this gap is due to market failure, lack of information, and principal-agent problems.

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Optimising energy use in homes, businesses, and industries, energy efficiency entrepreneurs contribute significantly to the reduction of emissions and frequently provide low-cost, high-impact solutions. Through advancements in smart grids, storage, and energy analytics, clean energy efficiency firms improve the performance of renewable systems, facilitating a more dependable and scalable shift to green energy. They work together to promote sustainable economic growth and accelerate decarbonisation.

Centralised solutions are giving way to distributed, digital, and data-driven energy efficiency approaches with the rise of energy-tech businesses. These businesses work in fields such as: Efficiency with fossil fuels: boiler retrofits, thermal plant predictive maintenance, and industrial IoT. Clean energy optimization: smart grids, EV charging, solar microgrids, energy storage tech.

"The next 1,000 unicorns will be startups that help the world decarbonize." - Larry Fink

The number of energy efficiency startups has seen a high surge in India over the last ten years, with 35 energy efficiency startups in 2019, which is approximately 128 for the energy generation and consumption space as of early 2024. Meeting of climate change awareness policy, energy efficiency startups, and sustainable finance is essential for the sustainable growth of the economy. Startups are uniquely placed to innovate, and it is essential for a resilient future. Green finance mechanisms amplify their reach, while policy frameworks ensure accountability. However, technology is insufficient without financial support; green finance amplifies sustainable economic growth.

In the race against climate catastrophe, energy efficiency is the lowest-hanging fruit. Startups have infused this space with innovation, scalability, and ambition. With targeted support from green finance instruments, they can create deep, cross-sectoral impacts from carbon mitigation to job creation. Climate change is not a distant crisis; it is a present challenge, and entrepreneurial energy is a key part of the solution.

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Digital Finance: Transforming Entrepreneurship in India

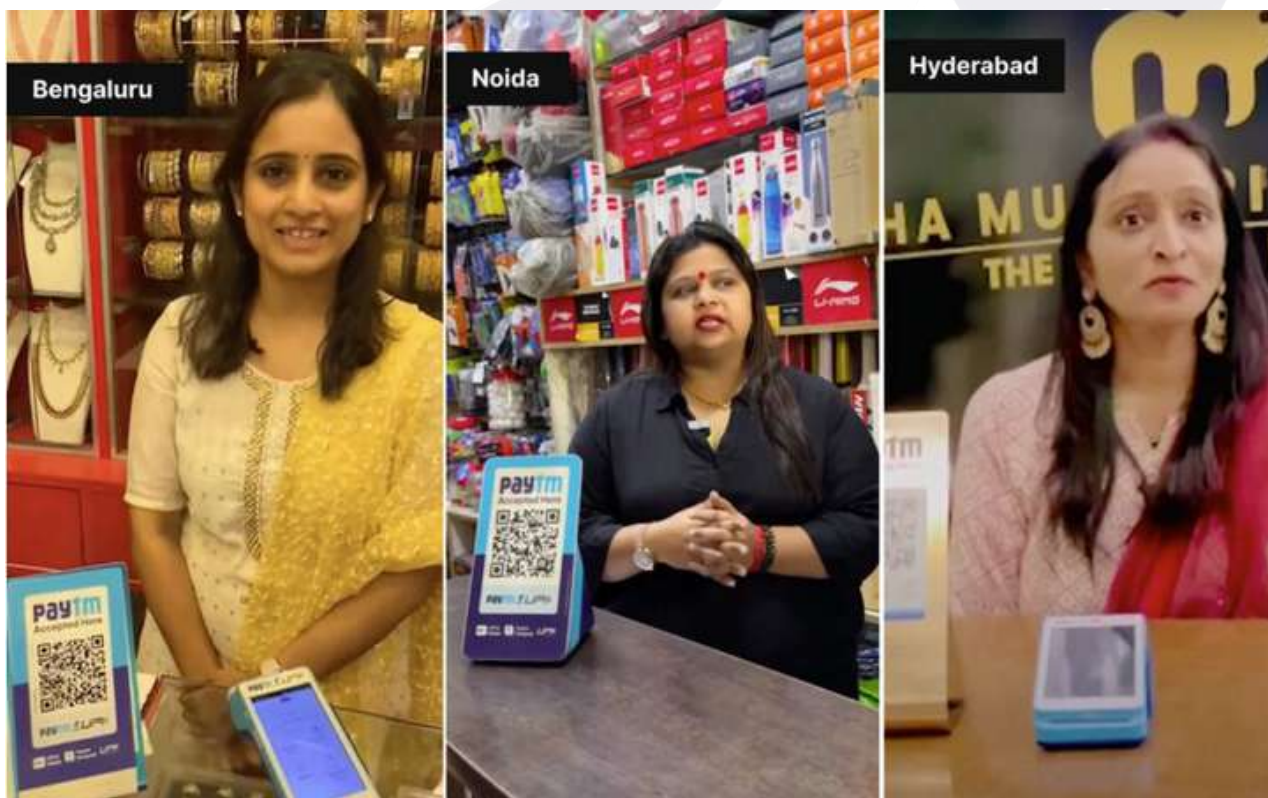
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Entrepreneurship is often acknowledged as the engine which drives economic growth and employment creation. In a country as dynamic and diverse as India, entrepreneurship flourishes not only in tech hubs, but also in local markets, on busy streets, in remote villages, and increasingly online. However, having access to funds is essential for starting or growing any kind of venture. Existing and potential entrepreneurs from disadvantaged groups in entrepreneurship (such as women, youth, immigrants, seniors, and those starting from unemployment) and those involved in social entrepreneurship face greater barriers to access to finance. In addition to a lack of financial competence, collateral, and credit histories, some of the main obstacles are high transaction costs, a dearth of tailored financial solutions, difficulties assessing risks, and preconceptions among lenders and investors (OECD, 2022).

The Alliance for Financial Inclusion (2016) defines Digital Financial Services (DFS) as “the broad range of financial services accessed and delivered through digital channels, including payments, credit, savings, remittances and insurance.” These digital tools - called digital finance platforms -are tech-enabled systems that deliver banking and financial services via mobile apps, websites, or even biometric devices. Whether it's paying someone using a digital wallet or applying for a loan online, these platforms are making financial access faster, easier, and far more inclusive—especially for people who were previously left out of the traditional banking system.

As noted by Lauer & Lyman (2015) these platforms have democratized access to financial services, making it affordable and easy to access. For street vendors, small business owners, and micro-entrepreneurs, these services do more than just offer convenience—they create an economic identity and a credit history, enabling more people to qualify for loans, insurance, and other financial services. India, in particular, has taken a global lead in building what's known as Digital Public Infrastructure (DPI) — open, secure, and scalable systems designed to serve the masses. The most notable example is the India Stack, a homegrown digital infrastructure whose key components include Aadhaar (for digital identity), UPI (for payments), e-KYC (for identity verification), and DigiLocker (for secure document storage). The JAM (JanDhan, Aadhar and Mobile) trinity, together with fintech innovations has enabled even the smallest entrepreneurs to operate in a cashless, connected economy, enabling street vendors, artisans, and home-based entrepreneurs to receive and make payments instantly and at zero cost.

One of the biggest advantages of digital finance is that it makes credit more accessible to people who have been left out of the formal banking system. Traditional banks usually require collateral or strong credit history requirements, which act as a barrier for many small entrepreneurs. But digital lenders are changing the far followed criteria by looking at alternative data like mobile phone usage, payment patterns and utility bill records to assess the creditworthiness.



Source: Verma (2024), Paytm Blog

Fintech lenders like FlexiLoans, NeoGrowth, LendingKart, etc., along with government schemes like MUDRA, have made it much easier for small businesses to get the funds they need without drowning in paperwork.

The Pradhan Mantri Mudra Yojana (PMMJY) has sanctioned over 52 crore loans worth ₹82.61 lakh crore, since its launch in April 2015, fuelling a nationwide entrepreneurial revolution. The scheme has played a pivotal role in promoting women-led enterprises across the country, as women account for 68 per cent of all Mudra beneficiaries. Moreover, 11 per cent of individuals who have availed Mudra loans are from minority communities, illustrating the initiatives' role in promoting inclusive economic development by facilitating the engagement of marginalised groups in the formal economic framework (PIB,2025). Although MUDRA is a government-led microfinance initiative, what truly sets it apart today is how seamlessly it's been integrated into the digital ecosystem. Entrepreneurs can now apply online, complete their KYC process using Aadhar, and receive funds directly in their bank accounts through Direct Benefit Transfer (DBT). These digital features have made the entire process faster, simpler and far more accessible – especially for small business owners who may not have the means or time to navigate traditional credit systems.

Mobile wallets like PhonePe, Paytm, and Google Pay have become a part of everyday business for small vendors, shopkeepers, and even home-run enterprises by making sending and accepting payments quick and hassle-free. At the same time, a new wave of Neobanks (virtual banks)—such as Jupiter, Fi Money, and InstantPay — are offering smart, user-friendly financial tools designed for today's digital generation. Through the use of a smartphone, entrepreneurs can now effortlessly perform tasks such as generating invoices, managing expenses, opening digital accounts, and accessing credit. These innovations simplify financial operations by eliminating paperwork and offering features like real-time tracking, enabling business owners to concentrate more on expanding their ventures rather than navigating complex banking procedures.



Source: Arun (2025), India Today

However, despite its benefits, digital finance continues to face significant limitations. Lack of proper financial and digital literacy, inadequate last-mile digital infrastructure and the in-built biases within the digital systems remain as critical barriers. These challenges hinder the goal of achieving truly inclusive access to financial services, particularly among marginalised populations.

Promoting inclusive entrepreneurship through digital finance could significantly impact India's goal of becoming a \$5 trillion economy. Digital finance is changing the face of entrepreneurship in India by helping people from all corners of the country, despite their background get the financial support they need to turn their business ideas into reality. From street vendors to women running small businesses in villages, digital tools are making it easier for everyone to access credit, make and receive payments and manage money. This shift is breaking down old barriers and giving more individuals and entrepreneurs a fair chance to grow. Essentially, digital finance is not just supporting entrepreneurship: it is reshaping it for the digital age.

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EKAANT: Office pods for a Modern Workspace Environment

KID: 20250208

After the COVID-19 pandemic, the rise of working from home/anywhere has led to an increase in the need for flexible and private workspaces to cater to modern work environments. Open-plan offices with collaborative workspaces often lack acoustic privacy, which helps in boosting the satisfaction for employees leading to a higher retention rate for the company. Similarly, public places like airports and train stations also need to provide quiet zones for those who require workspaces for small meetings or work while travelling, particularly in the age of remote work environments.

Our response to this challenge is the Ekaant: Office Pods, a standalone soundproof and Modular workspace designed to meet the growing needs of people. Engineered with sustainable acoustic material to minimise external noise, these pods also include digital connectivity, allowing users to personalise their environment. The design emphasises modularity and adaptability, making the pods suitable for corporate settings, co-working spaces, and travel hubs, integrated with Wi-Fi, Bluetooth, and an app-based booking system, it offers users a convenient and customizable workspace tailored to their needs



Figure 1. office Pod



The global demand for this kind of acoustic booth is projected to exceed \$20 billion by 2031, particularly in rapidly developing countries across the Asia-Pacific region. Ekaant office pods are positioned as a unique solution that combines privacy, comfort, and sustainability through the use of eco-friendly materials and efficient design. These pods also reduce companies' real estate costs while enhancing workspace comfort and functionality.



Figure 2. Sample of perforated material



Figure 3. Acoustics testing of material

“Ekaant office pods are positioned as a unique solution that combines privacy, comfort, and sustainability through the use of eco-friendly materials and efficient design. These pods also reduce companies' real estate costs while enhancing workspace comfort and functionality”

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Empowering Communication for the Deaf using AI-Powered Translation

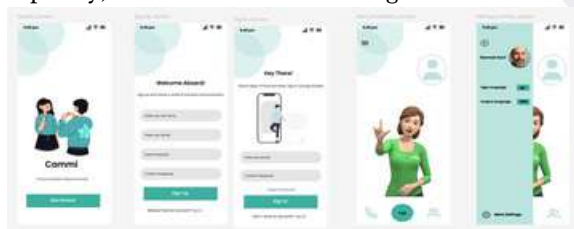
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Abstract

India is home to eighteen million deaf people, as estimated by the National Association of the deaf. Indian Sign Language (ISL) is the native language for people who are deaf or hard of hearing. ISL is used by the deaf community all over India. Interpreters are essential for communication between the deaf and hearing population, but fewer than three hundred certified-Indian ISL interpreters are available in India. This gap often leads to social exclusion and limits opportunities for the deaf community. Existing interpreter services are expensive, regionally constrained, and dependent on human availability. Our research proposed an AI-powered bi-directional application; the application's functionality ensures seamless two-way communication. When a deaf person uses the app, their mobile's camera turns on and captures the sign language gestures. The app's AI-powered backend processes these visual inputs and converts them into spoken voice output for the hearing person. On the contrary, when the hearing person speaks, it is translated into ISL using realistic 3D animated avatars generated via DeepMotion Animate 3D. This tech innovation solution can empower the deaf community to engage in education and employment and access public services without the dependence on interpreters. The assistive tech market is growing rapidly in India, expanding the market segment within healthcare and tech organisations. Corporate and government organisations are under increasing pressure to adopt inclusive solutions.

Design Methodology

The first step involved creating the initial design prototype of the mobile application using Figma. The focus was on building a user-centric interface that enables seamless communication between the deaf and hearing populations through intuitive navigation and accessibility features. Commi is a mobile application designed to empower the deaf and hard-of-hearing community by facilitating communication using sign language avatars and speech-to-sign translation. The app aims to bridge the communication gap with a focus on accessibility, simplicity, and human-centred design.



Prototype

The prototype comprised two core modules: Sign-to-Voice and Voice-to-Sign. For the Sign-to-Voice module, the model for the sign language to voice comprises three main components:



extraction of frames from input videos, key points extraction from hands, classification of gestures using a neural network, and creating real-time gesture recognition using text-to-speech output. This approach integrated certain libraries in computer vision, deep learning, and speech synthesis to bridge the gap in communication between the deaf and hearing populations. The model for the voice-to-sign language used an open-source dataset of Indian sign language, which consists of more than 10,000 words. The sign language gestures are converted to 3D animated avatars using Deep Motion 3D animator. To make it functional, JavaScript and HTML are used for front-end and back-end. A speech recognition Windows kit is used to detect the voice and display an animated video for the corresponding gestures.



Future Scope of the Work

Assistive technologies using AI can transform the lives of individuals with disabilities and improve overall quality of life. There have been innovations for individuals with speech impairment, such as enhanced communication devices for the physically disabled and AI-driven robotics intelligent wheelchairs that can give them personal support. The proposed solution could be implemented in hospitals, public places, and educational institutions. Assistive technologies are continuously developing, catering to many individuals in India, promoting inclusiveness and an accessible environment.

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Entrepreneurship@IITH – E-Cell

KID: 20250210



At the heart of IITH's entrepreneurial ecosystem lies the Entrepreneurship Cell (E-Cell), a student-led body dedicated to promoting innovation, startup culture, and creative thinking. Through impactful initiatives, flagship events, and constant student engagement, E-Cell has become the nucleus for aspiring founders across disciplines at IITH.

One of the most awaited and dynamic platforms driven by the E-Cell is E-Summit, IITH's annual entrepreneurship conclave. The summit brings together founders, investors, and thought leaders for a power-packed celebration of ideas and enterprise. The 2024 edition saw overwhelming participation from across India, with events such as Startup Fair, Startup X, Startup Studio, and Fetching Fortunes gaining immense traction among students and early-stage entrepreneurs.



Startup X served as a pitch competition for emerging founders, providing them a platform to present ideas before a jury of seasoned investors and startup mentors.

Startup Studio offered a more intensive mentorship experience, guiding selected teams through business planning, validation, and growth strategies.

To nurture entrepreneurial instincts beyond events, E-Cell also organizes workshops on topics ranging from design thinking to product-market fit, alongside speaker sessions with notable industry leaders. In recent editions, speakers like Dr. Vijender Singh Chauhan and Acharya Prashant captivated audiences with their insights and journeys.

E-Cell's impact isn't limited to IITH's campus. Through its flagship programs and strategic collaborations with incubation centers and venture partners, it acts as a launchpad for startups ready to scale. With an increasing number of student-led startups making their mark across sectors, E-Cell continues to fuel the entrepreneurial ambitions of the IITH community.

As part of the broader vision of Entrepreneurship@IITH, the E-Cell stands as a testament to how student energy, when supported by institutional resources, can truly build a thriving startup ecosystem.



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From Leaf to Sip: An Entrepreneurial Opportunity from Coconut Waste

KID: 20250211



Every time we take a sip from a plastic straw, we are a little aware that this is going to add to a global crisis. What if the solution to this was lying on the way we walk – literally? Yes, in the quiet corners of Southern India, where fallen coconut leaves were crunched unnoticed underfoot and left for compost, today they are building the blocks of a straw that bends, not breaks, that help the environment sustain itself and provide jobs to underprivileged women. This is the story of a Sustainable entrepreneur and the venture Sunbird Straws, born from an opportunistic sight.



Plastics have become an integral part of modern life. According to the UNEP Report, 2024, annually, 19-23 million tonnes of plastic waste enter the aquatic ecosystem, harming marine life.

Sunbird Straws is a Bengaluru-based enterprise founded in 2020 by Prof Saji Verghese, an English Professor at Christ University, Bengaluru, whose quest to combine environmental protection with community impact led him from the classroom into the realm of agro-waste innovation. The opportunistic sight started with a trigger while conversing with a visiting gentleman from the Netherlands, who commented that single-use plastic straws are a scourge to the environment. The next day, while taking a routine walk, the sight of a naturally curled coconut leaflet immediately suggested its potential as a drinking straw, a moment of opportunistic observation. He gathered a few dried coconut leaflets; here, his kitchen became his experimental lab. This means-driven experimentation marked the beginning of sustainable innovation.



Entrepreneurship commences with the recognition of entrepreneurial opportunities (Shane & Venkataraman, 2000). Further, this experiment revealed the leaflets' natural wax coating conferred Entrepreneurship

commences with the recognition of entrepreneurial opportunities (Shane & Venkataraman, 2000). Further, this experiment revealed the leaflets' natural wax coating conferred hydrophobic and antifungal properties, enabling the production of biodegradable drinking straws that remain structurally sound in liquids for at least four hours. Dr. Verghese recognized the abundance of coconut leaflets, discarded by nature and unexploited as a sustainable raw material.



In entrepreneurship, opportunities are the “situations in which new goods, services, raw materials, markets, and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships” (Eckhardt & Shane, 2003).

Sunbird Straws offers an FDA certified alternative to the harmful plastic straws. Prevents the burning of over two million fallen coconut leaves. As Shepherd and Patzelt (2011) emphasised “Sustainable entrepreneurship is focused on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes, and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy, and society.” Sunbird straws fit this as it has averted approximately 451 kg of CO₂ emissions, while generating sustainable livelihoods for more than 100 women across India's coastal regions.

At the center of entrepreneurship lies the capacity to realize opportunity in places where others overlook. Sunbird teaches us that the strongest businesses are not those that take away but those that give back, the heart of Sustainable Entrepreneurship.



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Idea to Execution: Generative AI as Knowledge Companion in Venture Creation Process

KID: 20250212

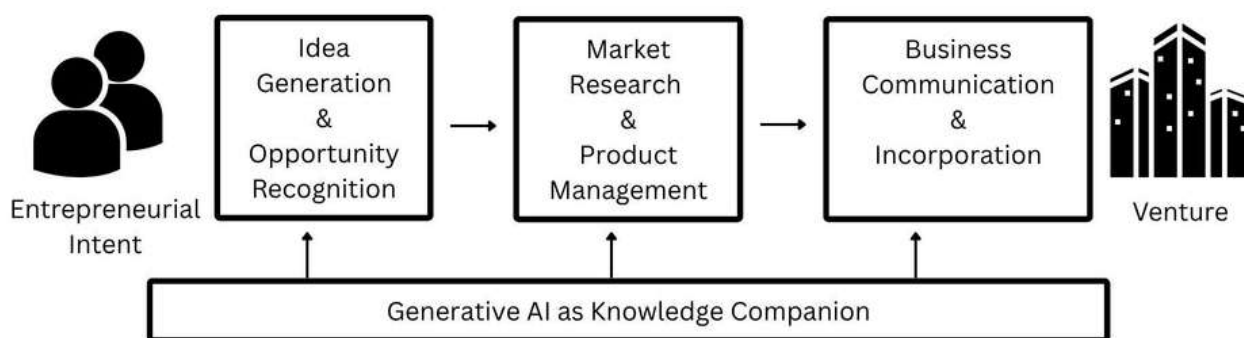


Entrepreneurship is an aspiring dream for individuals, yet unveils an unpredictable, turbulent path in building a venture. Nascent entrepreneurs with no experience often face challenges navigating the venture creation process. This study explored how early-stage founders utilize Generative AI (GenAI), particularly ChatGPT, as a knowledge companion in their entrepreneurial journeys.

A qualitative approach was adopted, involving interviews and informal discussions with startup founders from diverse sectors. The study reveals that AI is not only a technological aid but a knowledge partner in venture creation.

ChatGPT enables entrepreneurs to simplify the business incorporation process and the entire road map of the venture moving forward.

Across these cases, the study found that ChatGPT acted as a knowledge partner and cost-effective tool in the venture creation process. Entrepreneurs without formal business education or technical backgrounds could move forward with confidence and clarity. ChatGPT filled knowledge gaps, supported decision-making, and personalized the learning curve for each founder. Generative AI enhanced both entrepreneurs' creativity and judgment.



Ideas are the starting point of a venture, but finding a successful idea is a real dilemma. ChatGPT played a key role in helping many entrepreneurs in the study sort through multiple business ideas and evaluate feasibility. Founders are new to the industry, ChatGPT has great access to data, and is able to give detailed dynamics on all ideas, leaving the decision-making to humans.

The GenAI served as a filter by eliminating weaker ideas and amplifying promising ones. Market research was another prominent area of use. Market research is crucial for a startup to know its optimal business model and product market fit. Founders turned to ChatGPT to gain insights into market dynamics, trends, and competitor activity. ChatGPT has the potential to provide comprehensive overviews of existing products and emerging opportunities.

Some founders even noted that the tool often gave them multi-dimensional perspectives that were more than expected, and enhanced their confidence in navigating new domains. Beyond ideation and research, GenAI also played a role in execution. For startups developing products, ChatGPT offered support in the technical stack, testing, and refining of the product.

ChatGPT also gave a new way to approach business communication from pitching to customer engagement. ChatGPT is advancing in a way to build a personal branding to company branding in a more sensible way to increase reach.

It acted as a prompt-driven partner available anytime to ideate, guide, explain, and co-create. As this research highlights, GenAI is not just a tool for scaling businesses but can become foundational in how new ventures are born. For first-time founders, the partnership between human intent and machine intelligence offers a new model of entrepreneurial growth. GenAI and other AI enhance human efficiency and push us to think and act differently.

“Market research is crucial for a startup to know its optimal business model and product market fit. Founders turned to ChatGPT to gain insights into market dynamics, trends, and competitor activity. ChatGPT has the potential to provide comprehensive overviews of existing products and emerging opportunities”

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India's Infrastructure: A Concrete Jungle or a Climate Asset?

KID: 20250213

India's urbanisation is accelerating at an unprecedented pace. By 2030, over 600 million people will inhabit its cities, placing immense pressure on already stretched infrastructure and resources. Buildings alone account for around 35 per cent of India's total electricity consumption, a figure set to rise sharply as cooling and lighting demands increase. Yet, despite receiving more than 300 sunny days annually and holding a theoretical solar potential of 750 gigawatts, rooftops, facades, and highway structures remain passive and under-utilised surfaces.

Imagine this: if just 50 per cent of India's solar potential were harnessed, the country could generate approximately 590 billion kilowatt-hours each year. That's a saving of nearly ₹3 lakh crore or 35 billion US dollars annually in electricity costs. However, the absence of integrated and scalable models prevents these savings from becoming a reality.

The implications are serious. Residents face rising electricity bills and worsening air quality. Cities suffer from intensifying heat islands, frequent grid stress and a stark lack of green spaces. Government agencies juggle between energy security and climate goals while infrastructure developers struggle to implement sustainability in practical and cost-effective ways. Climate change is set to exacerbate these challenges further, threatening public health, liveability and economic productivity.

Reimagining Concrete as a Climate Solution

We believe India's vast concrete landscapes from rooftops to metro piers can be transformed into productive, green and energy-generating assets. One of the approaches integrates three proven technologies:

India's Infrastructure: A Concrete Jungle or a Climate Asset?): Rooftops, facades and windows converted into seamless solar energy generators without occupying additional land area.

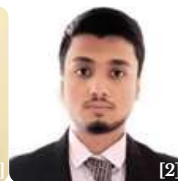
Building Integrated Agrivoltaics (BIAV): Rooftop solar systems combined with shaded greenery or micro-farming, optimising land use and improving building thermal comfort.

Vertical Farming Architecture: Hydroponic vertical farms installed on building walls, highway piers and metro pillars to enhance greenery, food resilience, urban aesthetics and cooling.

Why This Matters

Our solution benefits multiple stakeholders:

- Residents through lower electricity bills and improved indoor comfort.
- Developers and corporates by enhancing ESG performance and asset value.
- City governments and Smart City Missions to meet clean energy and climate goals while improving urban aesthetics and liveability.
- Highway and infrastructure authorities by converting idle surfaces into productive climate assets.



- India as a whole by progressing towards its Net Zero 2070 commitments with scalable, distributed solutions.

Learning from Singapore

Singapore, for example, has successfully integrated vertical greenery and solar technologies into its dense urban fabric. The iconic Punggol Digital District uses building-integrated solar panels and vertical gardens to save millions in energy costs while enhancing urban cooling and aesthetics. This model has proven that green infrastructure is not merely an environmental commitment but also an economic imperative.

Then what can be the potential implementation we can do?

India has set an ambitious target of reaching Net Zero by 2070. Although that milestone feels distant, the urgency is already mounting, especially in our villages and smaller towns, where energy access remains volatile and climate impacts are felt most acutely. Relying on any single technology won't suffice. Instead, we can deploy a three-pronged model backed by decades of academic and field research that ensures practical feasibility, climate resilience and strong economic returns:

Consulting & Retrofitting

Assessment of existing structures from residential rooftops to commercial façades, highways, and metro piers should be prioritised to identify opportunities for rapid conversion into energy-positive, green-integrated assets.

This includes energy audits to benchmark current consumption, structural evaluations for load-bearing capacity, and thermal comfort analyses to map how agrivoltaic shading and vertical greenery can reduce cooling loads.

“ India's urbanisation is accelerating at an unprecedented pace. By 2030, over 600 million people will inhabit its cities, placing immense pressure on already stretched infrastructure and resources. Buildings alone account for around 35 per cent of India's total electricity consumption, a figure set to rise sharply as cooling and lighting demands increase ”

New Construction Integration

Architects, engineers, and contractors can embed these core technologies from the design stage itself:

BIPV modules integrated into roof membranes, curtain walls and even window glass, harvesting sunlight without sacrificing aesthetics or usable floor area.

BIAV systems that combine elevated PV canopies with hydroponic planter boxes or modular micro-farms, generating electricity while cultivating crops that **improve air quality and add revenue streams**.

Vertical farming architecture using lightweight, stackable growing racks affixed to exterior walls and pillars, bringing fresh, hyperlocal produce to dense urban corridors.

Precast Modular Products

To accelerate deployment and minimise onsite construction delays, Indian steel and infrastructure industries could focus on manufacturing prefabricated sustainable pods and panels that snap together like building blocks. These could include:

“*India has set an ambitious target of reaching Net Zero by 2070. Although that milestone feels distant, the urgency is already mounting, especially in our villages and smaller towns, where energy access remains volatile and climate impacts are felt most acutely*”

- **Solar-Integrated Office Pods & Cabins** for remote government offices or defence outposts.
- **Compact Solar Homes** for affordable housing projects, complete with pre-installed BIPV façades and rainwater harvesting systems.
- **Scalable Agrivoltaic Panels** designed to clip onto highway noise barriers or metro viaducts, instantly greening and powering miles of concrete infrastructure.

Each of these approaches has been validated, from energy yield studies at Fraunhofer Institute to agrivoltaic trials at Wageningen University, suggesting a holistic, future-proof pathway to transform India's built environment into a network of productive, green and energy-generating climate assets.

Impact Potential

Utilising just 10 per cent of India's urban rooftop area for BIPV could add nearly 60 gigawatts of solar capacity, generating about 95 billion kilowatt-hours annually. This is equivalent to saving 47.5 million tonnes of coal and avoiding 85 million tonnes of CO₂ emissions each year. Additionally, each square metre of vertical farming can yield 40–50 kg of vegetables annually without occupying any ground space.

A Call to Action

It is time we stop seeing India's infrastructure merely as concrete jungles. With the right vision, technology and implementation, we can reimagine every rooftop, facade and highway pillar as a climate asset, ensuring clean energy, food resilience, economic productivity and a liveable future for all.

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Invention to Innovation to Entrepreneurship: TiHAN's Pioneering Role in Autonomous Navigation



KID: 20250214

At the forefront of India's autonomous mobility revolution, TiHAN at IIT Hyderabad stands as a beacon of translational research and entrepreneurial advancement. Conceived under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) and supported by the Department of Science and Technology, Government of India, TiHAN is India's first full-stack testbed for Autonomous Navigation. It unifies aerial and ground mobility platforms across a real-world simulated infrastructure, transforming fundamental research into deployable, market-ready solutions.



Figure 1. TiHAN IITH Testbed

TiHAN developed an end-to-end autonomous navigation stack to pilot deployment and entrepreneurial spin-offs. A prime example is the Autonomous Campus Shuttle, deployed at the IIT Hyderabad campus, A.P. Secretariat, Amaravathi, Naval dockyard Visakhapatnam, and LABASANA (Lal Bahadur Shastri National Academy of Administration) Mussoorie, Uttarakhand.



Figure 2. TiHAN IITH Autonomous Campus Shuttle

SAFARI project, which amassed multimodal sensor data over 10,000+ kilometers across diverse Indian terrains. This indigenous dataset now powers AI-driven navigation models suited to India's road and weather complexities, creating foundational IP for startups and industries working in this domain.



Figure 3. SAFARI – TiHAN IITH Data Collection Vehicle

In ground mobility, TiHAN has developed and tested indigenous solutions for GNSS/map-based navigation, AI-based collision avoidance, electric shuttle systems, and real-time traffic coordination using 5G-CV2X.

A notable success includes the commercial transfer of CV2X hardware modules to Indian industry, exemplifying successful technology handoff from lab to market. In aerial autonomy, TiHAN is shaping the future of UAVs with innovations in indoor navigation, drone swarms, BVLOS operations, and heavy payload delivery—paving the way for future Urban Air Mobility (UAM)

“TiHAN provides a robust launchpad for deep-tech startups. It houses a dedicated Technology Business Incubator, fostering ventures in mobility, AI, and embedded systems. Several alumni and research scholars have transformed their doctoral research into real-world startups addressing national challenges in defense, agriculture, healthcare, and logistics”



Figure 4. OBU and RSU



Figure 5. OBU, RSU pole deployment

TiHAN provides a robust launchpad for deep-tech startups. It houses a dedicated Technology Business Incubator, fostering ventures in mobility, AI, and embedded systems. Several alumni and research scholars have transformed their doctoral research into real-world startups addressing national challenges in defense, agriculture, healthcare, and logistics.

In the last 5 years, TiHAN has made significant progress. In Technology Development, 66 patents/IPs and 88 technology products were developed, along with 367 publications, PR, and other intellectual activities. A 106-CPS research base was established. TiHAN supported 58 R&D collaborators, 19 faculty fellows from various institutions, and executed 36 MoUs with industries.

In Entrepreneurship Development, 1 Technology Business Incubator (TBI) was established, supporting 43 start-ups and spin-off companies. TiHAN conducted 9 Grand Challenges & Competitions (GCC) and 3 Dedicated Innovation Accelerators (DIAL). PRAYAS supported 3 aspiring technology entrepreneurs, while the CPS-Entrepreneur In Residence (EIR) program benefited 32 individuals. Additionally, 2 CPS-Seed Support Systems (CPS-SSS) were supported, creating 784 jobs.

In Human Resource Development, 396 graduate, 139 postgraduate, 74 doctoral, and 25 postdoctoral fellowships were awarded. TiHAN also engaged 19 faculty fellows and 6 chair professorships. Skill development programs trained 9,184 individuals, and 31 international collaborations were established.

TiHAN is not just a research facility; it's a movement from invention to innovation to entrepreneurship, positioning IITH as a national leader and global contender in autonomous navigation. As TiHAN continues to scale, it exemplifies how academic research, when strategically aligned with industry, policy, and societal needs, can catalyse entrepreneurial ecosystems of the future.

Prof P Rajalakshmi

Professor, Department of Electrical Engineering



Purpose-Driven Profits: In the Era of Sustainable Entrepreneurship

KID: 20250215



The global entrepreneurial ecosystem has been undergoing drastic changes in the last few years, with heavy waves and tides witnessed in the entrepreneurial and investment ecosystem. The ongoing revolutions in the entrepreneurial world, particularly the notable shift towards sustainable and socially responsible entrepreneurship, have become a hot topic of discussion today. Sustainable entrepreneurship is an emerging paradigm that integrates economic performance with environmental stewardship and social responsibility. It is not merely starting a business for profit, but addressing the environmental and societal problems through responsible business models for the long-term survival of the business.

Sustainability and social responsibility are synonymous terms that encompass the ethical, environmental, social, and governance facets of financial investing activities. The increased amount of money being invested using socially conscious standards has made socially responsible investments (SRI) a more significant field. Based on the Social Investment Forum (2020) estimates, nearly one in nine dollars in the USA under professional management is invested in this manner. Also, as per the United Kingdom Social Investment Forum (2019), many institutional investors, including pension funds that manage up to 78% of all pension assets, include social issues in their investment strategies. This trend is supported by predictions that strong socially responsible and sustainable practices may lead to higher returns.

India, too, has witnessed a growing momentum in sustainability-driven entrepreneurial efforts, although figures are still modest. The investment environment in our country has also undergone changes based on prioritizing ethics and principles over mere profits and balance sheet figures. Data shows that the total fleet of the SRI base in India stands at 28 billion, which is 0.1 % of global SRI assets (Angelone.in, 2024). It underscores the increasing demand for firms to redefine their business practices and focus on long-term value creation.

“Sustainability and social responsibility are synonymous terms that encompass the ethical, environmental, social, and governance facets of financial investing activities”

By incorporating sustainability into the core of their business strategies, corporations like Tesla and Patagonia have completely reshaped the narrative surrounding entrepreneurship on a global scale. In a similar vein, Indian companies such as SELCO and Barefoot College have shown how sustainable business practices can influence society significantly without sacrificing profits. Sustainable investments are considered as the strategy that each business should follow to ensure its long-term survival in this competitive world.

This is where governance and long-term strategic planning of the firms come into play. In the circumference of ethical governance, firms are motivated towards fairness and correctness in their proceedings and transparency in their dealings. Decisions are made in the organisation aligning with the interests of other stakeholders, which also include shareholders, investors, consumers, etc. For the longer existence and survival of the organisation, the firm should align its operational activities with corporate social responsibility.

Hence, firm decisions should be society's legal, ethical, ecological, and prosperity-driven (Li et al., 2018), and the policy makers should consciously emphasise this. The increased intervention by the government and communal pressure triggers the entrepreneurs and the policymakers of the firm to follow or engage in broader corporate affairs and indulge in sustainable activities and performance for long-term value creation (Eesley et.al., 2016). India should lead its young entrepreneurs to create and support change by prioritising impact as much as income. Sustainable entrepreneurship cannot be considered only as a new business trend, but it is a necessity for creating a resilient, equitable, and healthier planet.

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Redefining Innovation: How Women Are Transforming Entrepreneurship in India

KID: 20250216

Despite India's growing entrepreneurial ecosystem, women are still underrepresented. As per Ministry of MSME, only 20% of the micro, small, and medium enterprises (MSMEs) in the country are women-owned, with most of these ventures being informal or existing on a micro-scale. Even in the booming startup scene, the gap is enormous, less than 6% of startups have been founded solely by women. The numbers get even more less while looking at the unicorn founders, which are only 5 out of 136 founders in 2021.

In India, there are a number of social-structural and systemic problems that challenge women who want to become entrepreneurs. All new entrepreneurs deal with problems like intense competition and accessing to funding, but those problems are magnified and made more difficult for women in terms of gender biases and societal expectations.

Other barriers include the lack of role models and opportunities for mentorship, limited access to professional networks, safety while traveling or in workspaces, and the field's bias towards men for higher revenues, especially in sectors like construction or manufacturing. These barriers impact this cohort's mobility, opportunity, and the ability to scale their solutions (Baral et al., 2023).

However, women entrepreneurs are redefining what constitutes innovation. Beyond chasing profits, many women are establishing businesses that seek to create social impact, community development, sustainability, and inclusiveness. Whether that is frugal innovation, local empowerment models, or digital upskilling pathways, women-led ventures stem from empathy and purpose.

In industries that are already overlooked by mainstream entrepreneurship, such as menstrual hygiene, rural e-commerce, inclusive education, and green energy, women entrepreneurs are also bringing new market insights and integrated ways of thinking. Their thinking is shaping India's entrepreneurial narrative as they multitask responsibilities, connect with untapped underserved markets to solve local problems, and build trust at the community level.



Figure Source: Hindustan Times(2021)

The Government of India has recognized the need to empower women entrepreneurs, and launched numerous financial schemes like Mudra Yojana, Annapurna Yojana, Dena Shakti, and Mahila Udyam Nidhi Scheme (Startup India, n.d.).

The schemes have empowered women by offering low-interest, collateral-free loans to support and encourage women to start and scale their initial working enterprise. Ultimately, more awareness, easier access, and tailored mentorship support are required to make such schemes more effective.

Women entrepreneurs in India are leading not just a business revolution, but also a movement that is transforming entrepreneurship to be more empathetic, impact-driven, and sustainable. (Elam et al., 2024) While their innovations might not always be front-page news, they are helping change lives and changing what it means to lead today.



Figure Source: Global Entrepreneurship Monitor (2022)



Figure Source: @Ajaita_shah on X

Falguni Nayar, founder of Nykaa, took a leap from the corporate world and built one of India's largest beauty and lifestyle platforms, now publicly listed on the stock exchange. Her journey is inspiring—it proves that age does not limit innovation and that women-founded digital platforms can thrive in hyper-competitive spaces.

By teaching women to sell solar lights and renewable energy goods as distributors in off-grid communities, Frontier Markets founder Ajaita Shah empowered hundreds of rural women. In underprivileged and impoverished areas, she produced jobs and offered long-term solutions.

“*Women entrepreneurs in India are leading not just a business revolution, but also a movement that is transforming entrepreneurship to be more empathetic, impact-driven, and sustainable. (Elam et al., 2024) While their innovations might not always be front-page news, they are helping change lives and changing what it means to lead today*”

If we are going to redefine innovation the entrepreneurial ecosystem in India needs to be more inclusive not just in finance, also in mentorship, safety, visibility, and opportunities.

Universities, incubators, VCs, policy-makers, and more need to create together environments where women can thrive as business owners.

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Role of Institution's Innovation Council in Nurturing Entrepreneurship at IIT Hyderabad



KID: 20250217

In the year 2018, the Ministry of Education (MoE), through the MoE's Innovation Cell (MIC), launched the Institution's Innovation Council (IIC) program in collaboration with AICTE for Higher Educational Institutions (HEIs) to systematically foster the culture of innovation and start-up ecosystem in educational institutions. Any Institute (HEIs) willing to establish IIC and meet any one of the following criteria can establish IIC at their Institute if

1. They have pre-incubation centres/incubation centres, student idea clubs
2. Participated in the NIRF Ranking
3. Recipient of TEQIP –III fund & establishment of Start-up Cell
4. Government/Government-funded/Deemed University
5. HEIs offering non-technical programs can also establish IIC.

To date, a total of 15940 IICs have been established in institutions across 28 states and 9 union territories.

The objective of IICs is to engage a large number of faculty, students and staff in various innovation and entrepreneurship-related activities such as Ideation, Problem solving, Proof of Concept development, IPR, Project handling and management so that the innovation and entrepreneurship ecosystem gets established and stabilised in HEIs.

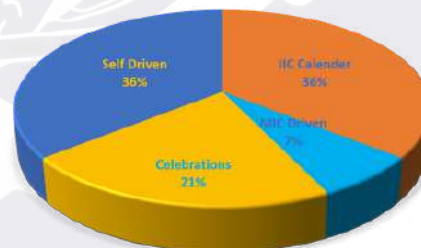
IIC is emerging as a very sustainable and scalable model for promoting innovation within HEIs, and the efforts of these IIC Institutes can be seen as an impactful contribution towards making the country's innovation and start-up ecosystem more vibrant and dynamic. It must be noted that there is no major capital investment required.

The IIC program makes use of the Institute's existing infrastructure to foster the culture of the I&E ecosystem on campus MoE's Innovation Cell (MIC) has mandated different programs and schemes for all the IIC Institutions across the country such as Innovation Ambassador Program (Training &

Mentoring support to students & faculties), Impact Lecture Session (Organizing lectures), Innovation Contest (Experiential Learning Program for potential student entrepreneurs), Mentor-Mentee Program (Peer-group mentoring support), Yukti National Innovation Repository (Repository of ideas, innovation and startups).

The Institution's Innovation Council at IIT Hyderabad was established in February 2018 with Innovation, IPR, and Entrepreneurship as its 3 pillars. Currently, the IIC has 35 members with a diverse representation of members from different departments, student bodies and industry specialists. The IIC at IIT Hyderabad meet once in a quarter to formalize the discussion and keep action points for activities in the coming quarter and regularly update it.

Every year the MoE's Innovation Cell (MIC) issues a Star Ranking (out of 5 stars) to reward the institutes for their performance in fulfilling all programs and activities as outlined by the MoE. We are happy to share that IIT Hyderabad has received 3.5/5 stars for the year 2022-23, and 2023-24. If you are interested in contributing to Innovation and Ecosystem at IIT Hyderabad, please connect with us at convenor.iic@iith.ac.in. More information regarding IIC at IIT Hyderabad can be found here <https://innovationcouncil.iith.ac.in/>



IIC Activity Statistics at IITH for FY 2023-2024

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Startup Alliances

KID: 20250218

Introduction

Strategic alliances are a form of collaborations between firms, and firms enter into strategic alliances agreements to achieve or attain goals and objectives of common interest by staying independent. Strategic alliances are not a new phenomenon, historically firms entered into various forms of agreements.

Examples include strategic alliances by top firms like Microsoft, Apple, Intel, IBM and how these firms entered into multiple collaborative agreements and leading to the evolution of new ecosystems.

In the Indian context, the top business houses like Reliance Industries, Tata Group, and other business houses, which command the top market share, entered into multiple collaborative agreements over a period. Some of the recent examples of strategic alliances entered by Reliance (in the context of Reliance Industries and Reliance Jio) with Microsoft (2019), Saudi Aramco (2019), Facebook (2020), Google (2020), Qualcomm (2020), Intel (2020) and other collaborations. Similarly, the other top business house in India, the TATA group, entered strategic alliances, Tata Motors with Fiat (2007), Tata Consultancy Services with Microsoft (2000), Oracle (2004), IBM (2005), Cisco (2014), SAP (2018), Google Cloud (2019).

Apart from big established organisations, Indian startups are also entering strategic alliances. Examples of startups entering strategic alliances include: Razorpay with Master card (2020) to expand the product offerings with the digital payment solutions, Tiger Global (2019) for support on expansion and operational growth; Lenskart with Softbank for scaling operations and enhancing technical capabilities with the investment. Other examples include: Yulu and Zepto (2023), Blusmart and SKIL (2023), etc.

Considering established organisations, startup activity is challenging because of the environmental conditions under which it operates and the technological changes/disruptions happening. When we compare these facets of startups with those of the established organisations, it becomes evident that the problems of startups and those of established organisations may not be the same.

The research gap is to study strategic alliances in the startup context, with the intent to gain insights into specific aspects of alliance in the startup context. Studies on alliance formation by startups shall enable to understand similarities and differences in strategic alliances formation and governance between startups and established organizations.

Motivation of the Study

From the literature, we understood that firms enter alliances to overcome challenges, difficulties, gain capabilities, etc.



It was observed that Startups are also forming alliances with other firms to overcome challenges (technical, environmental, etc.) and gain capabilities. In the backdrop, the research study focuses on startups and alliances by these firms.

Research Objectives

The following are the research objectives proposed in the study:

1. To understand the extant literature on strategic alliances in the startup context.
2. To identify and empirically validate the factors that influence alliance formation by startups in the Indian context.
3. To validate the findings of the empirical analysis through case analysis.

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“The research gap is to study strategic alliances in the startup context, with the intent to gain insights into specific aspects of alliance in the startup context”

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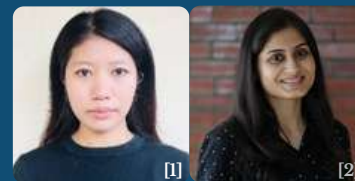
Sustaining Crafts, Creating Opportunities: Entrepreneurs and Artisans Together

KID: 20250219

The story of India's handicrafts and handlooms is deeply rooted in its history and identity. These crafts are not just products, but a reflection of our culture, shaped over generations. The diversity and craftsmanship seen across the regions reflect India's cultural richness and the millions of people depending on this work for their livelihoods. The handicraft sector, which engages over 70 lakh artisans, contributes significantly to the economy, with the market valued at USD 4.56 billion in 2024 and expected to grow at a CAGR of 6.39% between 2025 and 2033 (IMARC), while exports contributed ₹31,095 crore (USD 3.8 billion) in FY24 (IBEF, 2025).

In the current market landscape, there is a notable shift in consumer preference. A growing number of consumers, both in India and globally, are moving towards sustainable, ethical, and handmade products. People are paying closer attention to where their products come from, how they are made, and who makes them. Sustainability, slow fashion, and responsible consumption are no longer fringe ideas. They have moved into the mainstream, influencing how brands design, how consumers shop, and how businesses think about growth and impact. Eco-conscious consumers, changing lifestyle choices, and a renewed appreciation for heritage crafts drive this demand.

Despite this rising interest, many artisans and craft communities are still struggling. Even with their skill and dedication, many of them find it difficult to keep up with what the market demands today. Limited exposure to modern design trends, irregular income, lack of direct market access, exploitation and low wages continue to pose challenges. Various studies and field reports highlight that many artisans struggle to earn enough to make a decent living from their craft.



This is where entrepreneurs are stepping in. Recognising the opportunity to combine tradition with innovation, they are creating business models that not only link artisans to new markets but also tackle the challenges that limit their growth.

Trade fairs and exhibitions are no longer the only way forward for artisans. Entrepreneurs are opening new doors through digital platforms, collaborations across borders, and design inputs that were once out of reach for most artisan communities. From startups selling handmade products online to established brands working with rural clusters, these efforts are helping artisans connect directly with buyers, earn fairer prices, and keep up with changing consumer tastes.

What sets many of these entrepreneurs apart is their approach. They do not just see artisans as part of the supply chain, but as valued partners in a shared journey towards building a sustainable business. By bringing in innovation, storytelling, design expertise, market understanding and knowledge, entrepreneurs help artisans expand their horizons.

Together, they are playing a vital role in bringing India's rich craft heritage to new markets and helping it thrive in a rapidly evolving world. This journey is not just about crafting products but about fostering livelihoods, pride, and a more inclusive, resilient future for India's artisan communities.

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A representative image



The New Dawn of Tech-Entrepreneurship: Why Now Is the Best Time to Start Up

KID: 20250220

A decade ago, tech-entrepreneurship was a high-stakes game. It was risky, capital-intensive, and often gated behind deep technical expertise or access to networks and funding. Today, a silent revolution is underway. Fueled by generative AI (GenAI), low-code and no-code platforms, and an ecosystem well-primed for agile experimentation, the barriers to becoming an entrepreneur have not only lowered but they have fundamentally changed.

The 'Build-Measure-Learn' cycle cost and cycle time, as recommended by Eric Ries in *The Lean Startup* book, have significantly lowered with the usage of GenAI tools. We are witnessing the democratisation of entrepreneurship. Starting up is no longer just for the seasoned technologist or the well-connected MBA; it is now well within reach for a student with an idea, a laptop, and the will to build. Let us dive into understanding various aspects of how these efforts have become more affordable.

From Code to Clicks: The Tech Barrier Has Crumbled

Building software once required assembling a team of engineers, months of development, and significant funding. Today, thanks to generative AI and no-code/low-code platforms like Webflow, Bubble, Glide, and Cursor, the rules have been rewritten. What used to take months and money can now be done in hours and imagination. You do not need to write complex code to build a website, an app, or even an AI-enabled product. Students can launch real, working prototypes before even graduating. Entrepreneurs can validate solutions with real users before raising a single rupee. This shift is not just a productivity boost. It fundamentally changes the entrepreneurship timeline: capital is no longer the starting point, curiosity is.



[1]



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Real-Time Collaboration, Real-Time Innovation

A huge shift often overlooked is how frictionless collaboration has become. With cloud-based tools and real-time AI pair programmers, an entrepreneur in Hyderabad can iterate live with a user in Berlin, a designer in Mumbai, and a developer in Manila—all in one afternoon. This compression of discovery cycles makes it possible to co-create with users, not just for them. It brings the entrepreneur closer to the heart of product-market fit, understanding problems deeply, and solving them elegantly.

Ideas Are No Longer Limited by Execution

In the past, technical feasibility often determined which ideas could survive. Many were killed not by lack of demand but by the complexity of execution. That constraint is fading fast. With AI now able to read, write, code, generate images, and process natural language, ideas have fewer limits than ever before.

Call to the Aspiring Founders

If you're sitting on an idea, waiting for the "right time" or the "perfect team" or the "big funding", you might be waiting for something that does not matter anymore. The only thing that matters is this: Will you start? Because now, more than ever, you can. Let this be the generation where entrepreneurship becomes not just an aspiration, but a mindset, where every student becomes a builder, every idea a prototype, and every prototype a possibility. India does not need more job seekers. It needs more problem solvers. And you, reading this at IIT Hyderabad, might just be one of them.

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STARTUP

The Valley of Death: Does Funding Matter for the Success of Early-Stage Indian Startups?

KID: 20250221



Indian startup ecosystem becomes the 3rd largest in the world with 1.59+ lakhs registered startups under DPIIT (Press Information Bureau, 2025). With 119 unicorns (Tracxn, 2025) and a substantial growth of Angel investors, Incubators, Venture Capitalists (VCs) and Government support like the Digital India programme (2014), Startup India Scheme (2016), the ecosystem becomes more vibrant for entrepreneurs. However, beneath this glittering surface lies a harsh reality: a significant number of Indian startups die during the early stage (between the Seed to Series B stage). This phase is called the “Valley of Death”.

This describes the critical early-stage period where startups build a prototype, form a team, and launch an MVP. During the initial days of operations, entrepreneurs have more information about their ventures than outside investors do. This leads to the generation of high information asymmetry between fund providers and entrepreneurs.

However, 90% of the Indian startups failed during their first 5 years of initial operations (Goswami et al., 2023) due to one of the reasons of “lack of funding”. Figure 1 reveals the funding disparity (94.01%) between Indian and US-based startups in early-stages, which is higher than the Growth and Later-stage funding disparity.



Additionally, due to liabilities of smallness (Freeman et al., 1983) and newness (Stinchcombe, 1965), there exists a significantly higher information asymmetry between new firms and investors that ultimately impacts the funding decisions negatively.

Ultimately, financial managers should make prudent financing decisions to remain competitive in a dynamic business environment.

Moreover, the optimum financing decisions will lead to better risk management, maximisation of the value of firms and performance.

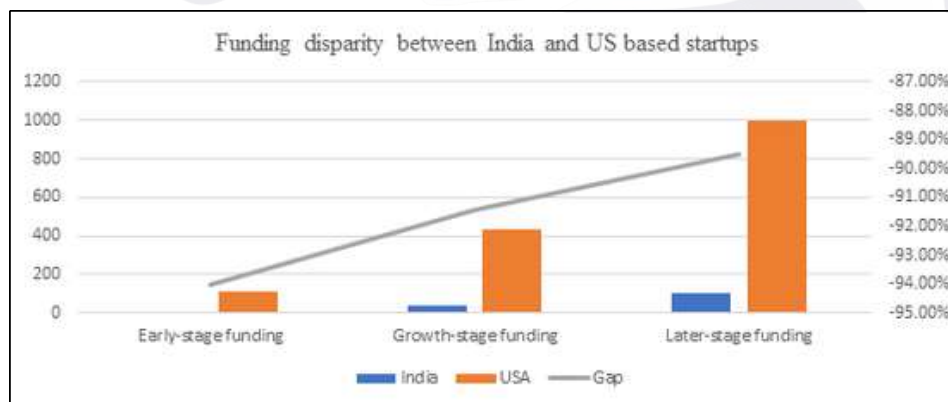


Figure 1. Author's creation. Source: Inc42 Report (2024)

Ultimately, it becomes utmost important for the startups to maintain their optimal capital structure by adjusting the costs and benefits associated with the funding decisions. During the early stage, entrepreneurs require a substantial amount of funding not only for R&D investments and product development, but also for successfully establishing and initiating businesses. However, a lack of credit history and reputation hinders startup's ability to secure external funding.

Importantly, the government may design various supportive public policies, such as tax incentives and interest subsidies for early-stage startups, while attracting Foreign Direct Investment (FDI) in the Indian ecosystem to reduce the funding disparity and boost new venture performance.

As India aspires to become 3rd third-largest economy in the world with its tremendous startup ecosystem growth as a global startup hub, the question is no longer just about how to chase higher valuation of a startup in a short period of time, but rather fostering value creation, which ensures long-term sustainable growth.

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Tribal Entrepreneurship in Odisha

KID: 20250222

Odisha, located on the eastern coast of India, is known for its vast tribal population, rich biodiversity, rich minerals and unique cultural heritage. More than 23% of its population belongs to Scheduled Tribes (STs), and Odisha is one of the most tribal-dominated states in India. Tribal communities such as the Kondh, Saura, Juang, Bonda, and Dongria Kondh have preserved their customs, knowledge systems, and traditional skills for generations. In recent times, there has been a growing focus on tribal entrepreneurship to promote self-reliance, economic development, and cultural preservation. With abundant natural resources, growing market access, and supportive government policies, the scope for tribal entrepreneurship in Odisha is both vast and promising.

Saura Paintings and the Artist Cooperatives of Gajapati and Rayagada

Tribal communities are skilled in handicrafts, handlooms, bamboo work, and natural medicine. These skills can be turned into successful businesses when supported with modern tools, design innovation, and market access. Saura paintings, created by the Saura tribe of Gajapati and Rayagada districts, have gained national and international appreciation. Traditionally used to decorate walls during rituals, these artworks have found their way onto canvas, apparel, and home décor.

Tribal cooperatives like Saura Tribal Art Promotion Society have helped artists earn a sustainable income by connecting them with buyers and exhibitions across India. Government and NGO support has helped promote these artworks online, expanding market reach globally.



Van Dhan Vikas Kendras in Kandhamal and Malkangiri

Tribal regions of Odisha are endowed with Minor Forest Produce (MFP) such as sal leaves, tamarind, honey, mahua, and medicinal plants. These products are traditionally harvested by tribes but often sold without value addition. Under the Van Dhan Yojana, the Tribal Cooperative Marketing Development Federation of India (TRIFED) has established Van Dhan Vikas Kendras (VDVKs) in various tribal districts of Odisha. For instance, in Kandhamal, tribal women collect tamarind, sal seeds, and turmeric, which are processed into ready-to-sell products like powder, oil, and dried spices. These units are managed by tribal SHGs, ensuring profit-sharing and community empowerment. In Malkangiri, tribal groups collect mahua flowers and process them into health drinks and sweeteners. With support in packaging and branding, their products are now sold under tribal brand labels, both online and through TRIFED outlets.



Millets Mission and Tribal Startups of Koraput and Rayagada

Koraput, Kandhamal, and Rayagada are known for cultivating millets such as ragi, kodo, foxtail, and barnyard millet. Once considered a subsistence crop, millets have now been rebranded as superfoods. Under the Odisha Millets Mission (OMM), tribal farmers are trained in organic millet farming, post-harvest processing, and entrepreneurship. In Rayagada, the tribal farmers' collective "Shakti Farmers Producer Company" has launched millet-based ready-to-cook products like cookies, ladoos, and energy bars. The cooperative is run by tribal women and has partnered with local bakeries and nutrition startups. Their products are sold in local urban markets, online, and through government canteens, offering a source of stable income and improved nutrition.

Daringbadi Eco-Tourism Opportunities

Tribal-dominated areas in Odisha like Similipal, Daringbadi, Koraput, and Niyamgiri, offer beautiful landscapes, forests, and unique cultural experiences. Tribal communities can earn income by offering homestays, guided cultural tours, and eco-tourism services. Daringbadi in Kandhamal, often called the "Kashmir of Odisha," has emerged as a tribal tourism destination. Eco-tourism projects managed by tribal youth offer guided forest treks, birdwatching, local food experiences, and homestays. Supported by the Forest Department and local panchayats, these camps generate income for tribal households while promoting sustainable tourism. Local tribal women cook traditional meals, guide tourists through spice gardens, and perform tribal dances during festivals. These models not only boost income but also preserve tribal culture and connect it with urban audiences.

Mayurbhanj Handloom Cluster (Santhal)

Many tribal women are skilled in handloom weaving using natural dyes and traditional patterns. In areas like Mayurbhanj and Keonjhar, weaving has become an economic activity with strong demand in niche markets. Santhal tribal women in Mayurbhanj have revived traditional weaving techniques with the help of NGOs and government support. Under the Cluster Development Programme, they have formed producer groups and created new textile designs that blend tradition with modern fashion. Their products—scarves, sarees, cushion covers—are sold in handicraft exhibitions, Fabindia outlets, and e-commerce platforms. The weavers have received training in color matching, loom upgrades, and quality control, resulting in higher incomes and recognition.

Online Sal Leaf Plate Enterprise in Sundargarh

Access to digital platforms and e-commerce has opened new doors for tribal entrepreneurs, especially youth. Platforms like TRIFED's online portal, Amazon Karigar, and Flipkart Samarth allow tribal products to reach national and global markets. In Sundargarh district, a group of tribal youth set up a small sal leaf plate-making unit, which began selling biodegradable plates through e-commerce platforms. Initially supported by a tribal development NGO and Start-up Odisha, the group received training in digital marketing and logistics.



Within two years, their brand attracted eco-conscious customers in Bengaluru and Delhi, creating jobs for over 40 tribal youth and women. The enterprise also contributed to environmental sustainability and inspired similar ventures in nearby villages.

Challenges and way forward for tribal entrepreneurship in Odisha

The main challenges are that access to credit is limited, and tribal areas lack basic infrastructure, such as roads, electricity, and internet. Education and skill development are needed to help tribal youth compete in the modern market. There is also a risk of exploitation and cultural commodification if tribal knowledge is misused without proper safeguards. The scope for tribal entrepreneurship in Odisha is vast and transformative. With access to natural resources, traditional knowledge, government schemes, and digital platforms, tribal communities can evolve from passive recipients of welfare to active economic contributors. The success of millet cooperatives in Rayagada, forest-product ventures in Kandhamal, and eco-tourism in Daringbadi demonstrates that tribal entrepreneurship is not only possible—it is thriving. By investing in skill development, providing market access, and respecting tribal identities, Odisha can become a model for inclusive, sustainable, and culturally respectful entrepreneurship. Tribal entrepreneurs have the potential to lead the way toward a self-reliant and equitable future, rooted in tradition but equipped for modern challenges. Strengthening tribal cooperatives and SHGs with technical, financial, and marketing support, providing interest-free micro-credit and startup capital through tribal banks and NABARD, and developing entrepreneurship hubs in tribal districts for incubation, design, and packaging. Protecting tribal intellectual property rights through legal frameworks and involving local communities in planning and decision-making will ensure inclusive growth.

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Turning Fields into Fortunes: Exploring the Entrepreneurial Goldmine of Agritourism

KID: 20250223

Growing need for recreational tours

Due to post-COVID-19 effects, people are looking to disconnect from their daily tech life and reconnect with nature, as it helps them escape their daily lives. The health and wellness trend is also in boom, creating an awareness to take care of physical and mental health, seeking organic food, and sustainable and mindful experiences. In recent times, there has been an immense growth of experiential tourism as more travellers now value doing than just sightseeing. According to Booking.com's 2024 travel trends report, 65% of tourists prefer travel experiences that help them connect with local culture and environment. This provides immense scope for agritourism to satisfy the need to connect people with local culture.

Agritourism and recreational demand

Agritourism, a form of niche tourism that combines agricultural environments with recreational tourism, offers visitors immersive educational and recreational experiences on working farms while promoting sustainable rural development, cultural preservation, and generating additional farm income for the farmers. Agritourism generally takes place at working fields, and it focuses on educating and entertaining visitors. Agritourism is the best way to escape from daily life as it provides authenticity by providing real experiences like nature walks, picking fruits, gaining education on harvesting, milking cows, cooking and eating farm food, etc. Provides a healthy environment, fresh air, organic food and mental relaxation. It fulfils travel goals or a weekend getaway for visitors at budget-friendly prices.



Preparing a farm for agritourism: The 4E approach
In our research, we found that the best Agritourism farms blend 4Es (education, entertainment, esthetics, escapism) of experience to create memorable visitor experiences. Entertaining experiences lean towards customer absorption and passive participation- like watching flora and fauna by tourists without disturbing them, while Educational experiences involve active participation and absorption- Like tourists planting trees, cheese-making workshops, and composting lessons on a farm. Escapist experiences may include a degree of education but involve greater customer immersion, for example, immersive and active involvement that lets tourists escape their daily routine, "Be a farmer for a day" programs, fruit-picking, livestock care, and tractor rides. Esthetic experiences typically result in higher levels of customer immersion but with low levels of customer participation-

for example, nature walks, peaceful accommodations, aesthetic farm layout and design. The best experience often blends all these four Es and creates a balance, forming a "sweet spot" around the area where the 4 spectra meet (Pine & Gilmore 1998).

Future market and entrepreneurial scope in agritourism

According to the Ministry of Tourism, agritourism is an entrepreneurial goldmine, as it is included under its rural tourism promotion schemes to encourage micro-entrepreneurship in villages. As it's a low-capital investment business, it creates employment in hospitality and guiding. The 2019 NABARD report states that agritourism can increase a farmer's income by 30-40% when it's executed effectively. Some of the states in India promote agritourism to a greater extent, Maharashtra being the first state to draft an agritourism policy in 2020 and has about 100-plus registered agritourism centres. Punjab has over 400 farm stays, as they attract both domestic and foreign tourists. Whereas Kerala and Tamil Nadu are integrated with eco-tourism and Agro-heritage tourism.

Challenges in agritourism entrepreneurship

There are a number of challenges in agritourism entrepreneurship, such as a Lack of infrastructure, including poor rural roads, electricity and internet problems, and restrooms that create a lower tourism attraction. Adding on to this knowledge gap of farmers regarding marketing or hospitality services, creating a challenge in execution.

Absence of administrative support, such as complicated licensing, limited funding/grants for services. A lack of standardisation while providing quality services. These challenges affect the agritourism business.

Conclusion:

Despite challenges, turning fields into fortunes is an Agritourism model; it solves major problems like declining farmers' income, rural unemployment, migration to urban cities, etc. With proper execution and support, agritourism entrepreneurship can emphasise the need for organic food practices, create employment, and boost the local economy.

Reference

Pine, B. J., & Gilmore, J. H. (2011). The experience economy. Harvard Business Press.

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Tinkering the Startup Spark: How Tinkerer's Lab Fuels Entrepreneurship at IITH

KID: 20250224

At the heart of IIT Hyderabad's innovation ecosystem lies Tinkerers' Lab (TL) — a vibrant maker space that goes far beyond tools and tech. It is where student imagination meets engineering execution, often culminating in bold entrepreneurial ventures. With over 40 interdisciplinary projects spanning mechatronics, machine learning, and software development, TL has evolved into a creative launchpad for startups rooted in experimentation, failure, iteration, and innovation.

From gesture-controlled robots to smart traffic optimizers and a prototype for a matless Dance Dance Revolution (DDR) simulator, every TL project begins with curiosity and grows through mentorship,

Extending its entrepreneurial spirit beyond the lab, Tinkerers' Lab organizes Thrust — a flagship 3-day tech festival that brings together students, industry leaders, and innovators to explore emerging technologies through hands-on workshops, exhibitions, and summits. Events like the WTF Summit and TL Expo offer students invaluable opportunities to pitch their ideas, showcase prototypes, and receive real-time feedback from mentors and experts. By providing a space for idea exchange and early-stage validation, Thrust helps TL members refine their innovations and take the first steps toward turning them into viable ventures.

With entrepreneurship emerging as a key focus at IIT Hyderabad, Tinkerers' Lab stands as the creative hub where ideas are born, built, and tested. Many TL members go on to join incubators, file patents, or launch startups — all starting from the same place: a messy workbench alive with possibility.

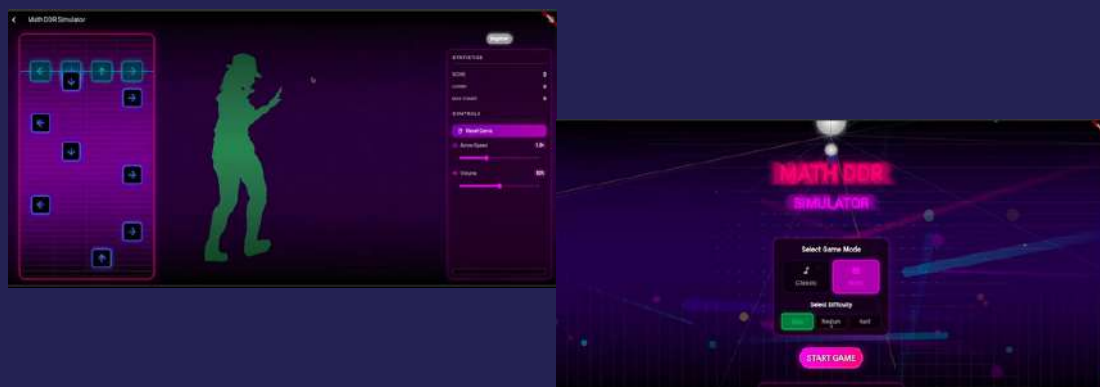


Figure 1: Prototype for a Matless Dance Dance Revolution (DDR) Simulator, a collaborative project from Japan

collaboration, and rapid prototyping. These practical projects tackle real world problems, draw industry interest, and push students toward finding product-market fit — the first step in entrepreneurship.

Projects like AINexus, BidBull, CardioEdge, and the Grammar Correction Model show how TL turns student ideas into real-world ventures by blending research with practical problem solving. With diverse projects and a collaborative, student-led culture, TL teaches students to design for users, navigate constraints, and build innovative solutions through hands-on teamwork.



Figure 2: Grammar Correction Model developed at Tinkerers' Lab

Team - Tinkerers Lab, IITH

What makes a Tech Start-up competitive

KID: 20250225

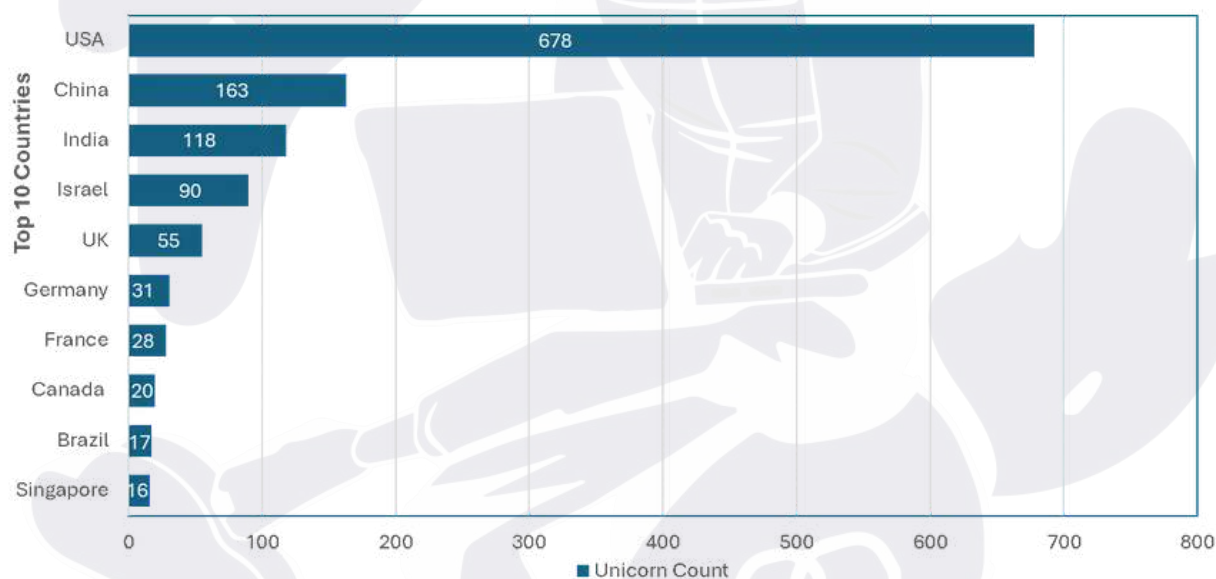
India has emerged as the third largest ecosystem globally with over 70000 tech start-ups, 100+ unicorns and a growing presence in global innovation indexes. Backed by a young population and various government support, tech startups are addressing a wide range of challenges, from agricultural supply chains and healthcare access to financial inclusion. Indian start-ups are no longer confined to traditional IT or software services.

Today, India is witnessing the rise of deep tech, AI platforms, climate tech and SaaS products, driven by entrepreneurs from diverse regions across the country. There is no doubt that start-ups are growing in India, but there is also a side we do not talk about enough – the high rate of failure.

In this context, Indian tech start-ups have a bigger responsibility to build on local knowledge and talent, so we are not always relying on foreign support. The aim of this research is to identify what factors make tech start-ups competitive and to validate these factors through real-world cases. This exploratory study is being undertaken through a multiple process including qualitative and quantitative tools, i.e., a mixed method approach.

The results indicated that factors such as team member commitment, organisational agility, transformational leadership, knowledge sharing, strategic alliances, organisational ambidexterity, entrepreneurial intensity, resource capability, innovation intensity and internationalisation are crucial for competitiveness.

India Has the Third Highest Number of Unicorn Globally



Source: Inc42 (Indian Unicorn), CB Insights

Despite the funding and support, a large number of tech start-ups shut down within just a few years of operation. They struggle to scale, retain customers and adapt to evolving markets. Although there's been a lot of buzz around India's start-up ecosystem, one important theme has received limited attention – and that's the competitiveness of tech start-ups.

Let me brief competitiveness so it is the ability and capacity to compete in a specific market and to produce and deliver high-quality goods and services at a low cost, and aim to fulfil several purposes in a sustainable manner: to increase its market share, to enter international markets and reward employees, to satisfy customers' needs and shareholders' values while making a profit."

Exploring the competitiveness of tech start-ups is important because many companies from developed countries try to tap into emerging markets like India by providing technological support.

We have also observed that these factors do not work in isolation- they are all connected and influence each other. To understand how they interact, we have developed a hierarchical model that shows which factors play a driving role and which ones are more dependent. This helped us see the bigger picture of how competitiveness takes shape within a start-up.

The findings have been supported by real-life cases from the agriculture, e-commerce and health care industries that supported the results and demonstrated why these factors matter.

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Sustainable Supply Chains for Agri startups in Indian omnichannel market space: Models for Cost, Waste Reduction, & Emissions Management

KID: 20250226



Launched in 2016, Startup India has seen remarkable success, with 182,166 registered startups recognised by the Department for Promotion of Industry and Internal Trade (DPIIT). With the ongoing agri-tech revolution, over 6,000 agriculture startups and 2,800 Agri-Tech startups are now recognised by DPIIT. These startups use technology, precision farming, and data analytics to support smallholder farmers by improving access to markets, finance, and innovations, while also promoting eco-friendly practices.

However, the sector faces major challenges such as food loss and waste, particularly during post-harvest handling. Food losses and waste globally constitute a market failure, costing over US\$1 trillion annually. India alone loses up to US\$14.3 billion annually due to poor post-harvest management, primarily affecting fruits and vegetables. These losses negatively impact the environment, as nearly a quarter of global greenhouse gas emissions stem from lost food in supply chains (United Nations Environment Programme, 2024).

Strengthening supply chain linkages across the multi-echelon network is essential to reduce inefficiencies. An integrated cold chain infrastructure, including refrigerated transport and insulated packaging, is crucial for preserving freshness and reducing waste. However, high costs and low awareness limit technology adoption in India, with an 84% gap in refrigerated vehicle usage. Bridging these gaps is crucial for sustainable agricultural growth in India.

Food loss- The lost opportunity!!



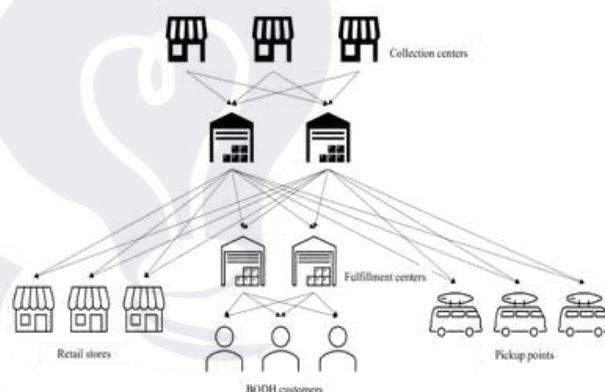
Several startups, like Ninjakart and Bharat Bazaar, have revived farm-to-form supply chain models to preserve product freshness by reducing the time from harvest to market. However, concerns about fresh food waste and its environmental impacts remain unaddressed.

Several startups, like Ninjakart and Bharat Bazaar, have revived farm-to-form supply chain models to preserve product freshness by reducing the time from harvest to market. However, concerns about fresh food waste and its environmental impacts remain unaddressed. As omnichannel shopping experiences proliferate, startups aim to establish presence in both online and offline retail spaces to enhance customer satisfaction. However, maintaining an omnichannel network poses logistical and transportation challenges, contributing to increased carbon emissions.

Our research proposes a novel mixed integer nonlinear model for a multi-echelon omnichannel fresh food distribution network. The model is designed to optimize freshness preservation and minimize fresh food loss while minimizing carbon emissions associated with transportation. We examine several critical aspects, including the quantity of fresh food transported between echelons, the flow of fresh food, investment decisions regarding freshness-keeping measures, and the corresponding levels of freshness-keeping activities.

Our model incorporates two key parameters: purchase probability and freshness-keeping effort, which account for the perishability of fresh food, transportation time between echelons, and the effort required to maintain quality throughout the network. These interconnected quality parameters enable the model to comprehensively address perishability concerns. Given the intricate and nonlinear nature of the model, the Particle Swarm Optimization (PSO) algorithm is utilized to solve a dataset pertaining to Indian food transportation, specifically originating from Gujarat.

Stakeholders must balance transportation and quality loss costs to achieve better overall cost efficiency. The optimal freshness-keeping effort levels differ at supply chain levels. The first tier prioritizes freshness-keeping due to high purchase probabilities, while downstream routes require higher efforts due to reduced probabilities. Agri startups can optimize freshness-keeping efforts and strike a balance between transportation and quality loss costs when designing a supply chain model. This enhances overall cost efficiency and meets the demands of various channels while maintaining environmental consciousness.



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ఆంధ్రజ్యోతి

సంగారెడ్డి మెడక్
జిల్లాల వార్తలు
మంగళవారం 27 మే 2025



అదుగుతున్న శక్తి.. భారతీయ సంస్కృతి

వేదాలు, ఉపనిషత్తులలో కూడిన సమృద్ధతను దేశ వయస్కాల్లో అధ్యాత్మిక ప్రతిబింబం లోకానికి ప్రదర్శన గుర్తుగా వారు గర్వభారం స్వీకరిస్తూ కార్యక్రమాల్లో ముగిసేస్తుంది. రాష్ట్ర గవర్నర్ జిమ్మకేట్ వద్ద విలువ అందించాల్సిన ప్రాంతీయ అంతర్జాతీయ రూపాన్ని

గుంటూరు మే 24న వేదాల, ఉపనిషత్తులలో కూడిన సమృద్ధతను కౌముదీని 24 సంవత్సరాల అధ్యాత్మిక ప్రతిబింబం గా సాగించాల్సిన సందర్భంగా సంగారెడ్డి మెడక్ జిల్లాలో భారతీయ సంస్కృతిని ప్రదర్శించే కార్యక్రమం జరిగింది.

మంగళవారం 27 మే 2025
Source: <https://epaper.abnandhra.org/abn>



శ్రీమంత్రి వేద వేదాన్ని సంగారెడ్డి మెడక్ జిల్లాలో

మంగళవారం 27 మే 2025

అలరించిన కళా నృత్యాలు

ఐఐటీ హైదరాబాద్ లో సాంస్కృతిక కార్యక్రమాలు అదుర్స్

దిశ, సంగారెడ్డి అర్బన్: స్పీక్ మెకానిక్ 10వ అంతర్జాతీయ సాంస్కృతిక నదస్సు కార్యక్రమాలు మూడో రోజు అట్టహాసంగా సాగాయి. ఐఐటీ హైదరాబాద్ వేదికగా జరుగుతున్న ఈ కార్యక్రమాలను తిలకించేందుకు పెద్ద ఎత్తున విద్యార్థులు, ఇతర బృందం సభ్యులు తరలివచ్చారు. త్రిపుర ప్రాంతానికి చెందిన కళాబృందం సభ్యులు హాజరై జానపద నృత్యంతో తమదైన శైలిలో ఆకట్టుకున్నారు. అలాగే పలు సంగీత కచేరీ కార్యక్రమాలు ప్రత్యేకంగా నిలిచాయి. ప్రధానంగా వీటితోపాటు సాయంత్రం తరాపాద రజక్ బృందం సభ్యులు దేవి మహాత్మ్యం అనే అంశంపై చేసిన ప్రదర్శన అబ్బురపరిచింది. ఇందులో కళాకారులు దురామాత, మహిషాసుర మర్ధిని, శివుడు, వినాయకుడు, దేవుళ్ళ ప్రత్యేక వేషధారణతో చేసిన ప్రదర్శన అందరినీ అమితంగా ఆకట్టుకుంది. ఈ కార్యక్రమాలు వచ్చే నెల 1వ తేదీ వరకు కొనసాగిస్తారు.

The institutions sign MoU to promote cooperation in the fields of Sanskrit, Indian Knowledge Systems and technology-enabled research

IN a significant move to enhance interdisciplinary research and foster academic collaboration, the Indian Institute of Technology Hyderabad (IITH) and the Central Sanskrit University (CSU) in New Delhi have signed a Memorandum of Understanding (MoU) aimed at promoting mutual cooperation in the fields of Sanskrit, Indian Knowledge Systems (KS), and technology-enabled research.

The partnership merges IITH, a leading institution in cutting-edge research and innovation, with CSU, a central university focused on preserving and advancing Sanskrit and India's rich traditional knowledge systems. The partnership between both institutes of higher education will focus on academic collaboration in Sanskrit, Indian Knowledge Systems, linguistics, computational Sanskrit, Vedic sciences, philosophy,



demographic publications, course materials, and research outputs to enhance the quality of teaching and learning. dimensions in research and education by engaging traditional wisdom in conversation with modern science and technology."

Speaking on the collaboration's potential between the two, Prof B S Marty, Director of IIT Hyderabad, stated, "This partnership with Central Sanskrit University (CSU) offers a unique opportunity to merge the depth of Indian Knowledge Systems (IKS) with the innovation-driven environment of IITH. The Department of Heritage Science and Technology at IITH, in conjunction with CSU, aims to unlock new

Highlighting the significance of the MoU, Vice Chancellor of CSU, Prof Shrinivasa Varakhedi, explained this agreement marks a historic step in reviving India's knowledge tradition. We view Sanskrit not merely as a language but as a vast reservoir of scientific thought, profound philosophical insights, and a living embodiment of India's cultural and intellectual heritage."

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‘దేబా స్పీడ్’లో ఐబిపీహెచ్ ముందుగు
 » మారుమూల ప్రాంతాల్లో 5వేల నగ్గుల బలోపేతానికి
 అభివృద్ధి చేసిన ఫీచర్ కు ప్రోగ్రామ్ సదస్సు మద్దతు
 » 6వేల అభివృద్ధికి దోహదపడుతుందని ప్రతీతి
 » పరిశోధనలో పాల్గొని నేపాల్, న్యూజిల్లాండ్, నెదర్లాండ్స్

పరిశోధనలో వైసింగ్ నేటివర్క్ సంస్థ సహకారం

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27/06/2025 | HYDERABAD MAIN II (Hyderabad Main_II) | Page : 14
Source : <https://epaper.andhrajyothy.com>

ABN
ఆంధ్రజ్యోతి



అదే హుషారు.. అదే జోరు..

ఇవటిలో నాలుగో రోజు
క్రాంతసాగిన కళా ప్రదర్శనలు

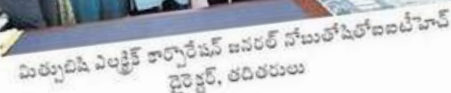
౧౬. సంగమస్థానము : బాదెలి ప్రధానాధిపతి వేదేశికా జమి
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 సంగమ యోగా, మేధావీప్ర, శాస్త్రము సంగీతా సా
 త్విక బాదెలి ప్రధానాధిపతి ప్రాంతబంధుతా ఆధా
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 క్షానం దేశ నయనానందా ప్రాంతాల నుంచి పు



ఇచ్చేందుకు వచ్చిన వారుందరిని బంధిస్తామని
రైలవ్ టి.ఎస్.మూర్తి బృందం సభ్యులు ఘోషించగా
సన్మానించారు.


 Fri, 30 May 2025
<https://epaper.dishadaily.com/c/77458345>

అటానమస్ నావిగేషన్ కు ముందడుగు

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20/06/2025 | Sangareddy-Medak(Sangareddy Medak District) |
Page : 7
andbrajvothy.com

సెలెబ్రిటీ యంగ్ సైంటిస్ట్ కాన్ఫరెన్స్



సంగారెడ్డి ప్రతినిధి, జూన్ 10 (సిరి స్టూన్): హైదరాబాద్ భారతదేశంలో మొదటిసారిగా గ్లోబల్ యంగ్ అకాడమీ వారిక సర్వసభ్య సమావేశాన్ని నిర్వహిస్తోంది. ప్రపంచ శాస్త్రీయ సమావేశంలో 60 దేశాల నుండి 200 మందికి పైగా ప్రతినిధులు పాల్గొంటారు. కేంద్ర విద్యా మంత్రి ధర్మేంద్ర ప్రధాన్ ఈ కార్యక్రమాన్ని ప్రారంభించారు. నేపథ్య సెషన్లు ఈ ఎస్.ఆర్.గ్యం.పరిశ్రమ 5.0 ఆవిష్కరణ, వ్యవస్థాపకతను ఉద్దేశించి ప్రసంగిస్తాయి. ఈ సమావేశం యువ శాస్త్రవేత్తలలో అంతర్జాతీయ సహకారం, నాయకత్వాన్ని పెంపొందిస్తుంది. ఇండియన్ థ్యాన్కి ట్యాల్ ఆఫ్ టెక్నాలజీ హైదరాబాద్, ఇన్స్టిట్యూట్ ఆఫ్ టెక్నాలజీ హైదరాబాద్, గ్లోబల్ యంగ్ అకాడమీ, ఇండియన్ నేషనల్ యంగ్ అకాడమీ ఆఫ్ సైన్స్, ఇండియన్ నేషనల్ సైన్స్ అకాడమీ సహకారంతో, జూన్

8 నుండి 14, 2025 వరకు యువ శాస్త్రవేత్తల అంతర్జాతీయ సమావేశం - ధారానికుల సంగమం, ప్రపంచ మార్పు కోసం శాస్త్రాన్ని సాధికారపరచడం-2025 జూన్ 8 నుండి 14 వరకు నిర్వహిస్తోంది. భారతదేశంలో మొదటి సారిగా జరుగుతున్న ఈ వారం రోజుల కార్యక్రమం, ప్రపంచ సవాళ్లకు సైన్స్ ఆధారిత పరిష్కారాలపై సహకరించడానికి తదుపరి తరం ప్రపంచ శాస్త్రీయ నాయకులను ఒకచోట చేర్చడంలో ఒక ముఖ్యమైన మైలురాయిని సూచిస్తుంది. ఈ కార్యక్రమంలో 60 దేశాలకు ప్రాతినిధ్యం వహిస్తున్న 135 అంతర్జాతీయ ప్రతినిధులు, 65 జాతీయ ప్రతినిధులు పాల్గొంటారు, తద్వారా నిజంగా వైవిధ్యమైన, సమగ్రమైన ఫోరమ్ను ఏర్పాటు చేస్తారు. ఇది గ్లోబల్ యంగ్ అకాడమీ యొక్క వార్షిక సర్వసభ్య సమావేశాన్ని కూడా కలిగి ఉంది.

ప్రపంచ శాస్త్రీయ సమాజంలో అభివృద్ధి చెందుతున్న నాయకుల మధ్య లోతైన సంభాషణ మరియు వ్యూహాత్మక నిశ్చితార్థాన్ని సులభతరం చేస్తుంది. ఈ సమావేశంలో డైనమిక్ చర్చలు మరియు నేపథ్య సెషన్లు ఉన్నాయి. పర్యావరణం, సామాజిక పాలన, గ్లోబల్ వెల్ఫేర్ కోసం ఆరోగ్యం మరియు పోషకాహారం, పరిశ్రమ 5.0: మానవయంత్ర ఇంటర్ఫేస్ను పెంచడం, ఆవిష్కరణ, వ్యవస్థాపకత, గ్లోబల్ ల్యాండ్ స్కేప్, ఈ సందర్భంగా ముఖ్య అతిథి, భారత ప్రభుత్వ విద్యా మంత్రి ధర్మేంద్ర ప్రధాన్ జీ.భారతదేశ జీ20 అధ్యక్షత యొక్క ఇతివృత్తమైన వసుధైవకుటుంబకంను హైలైట్ చేశారు. ఇది భారతదేశం యొక్క పురాతన జ్ఞాన సృష్టి సంప్రదాయాన్ని ఉత్సాహంతో స్వీకరించే మరియు నైతికతలో పాటుకుపోయిందని నొక్కి చెబుతుంది. భారతదేశ శాస్త్రీయ వారసత్వాన్ని ప్రస్తావిస్తూ, ఆయన పురాతన తత్వవేత్తల సహకారాన్ని అంతరిక్ష కార్యకలాపాలలో మైలురాళ్లు, ఆహార భద్రత, ఆరోగ్య మేషన్, రోబోటిక్స్ బిగ్ డేటా ధ్వారా దేశం యొక్క అద్భుతమైన పురోగతిని గురించి మాట్లాడారు. డిజిటల్ డొమైన్లో చేరిక యొక్క ప్రాముఖ్యతను ఆయన నొక్కిచెప్పారు. భారతదేశం పెద్ద భాషా సమానాలు, డిజిటల్ ప్రజామాలిక సదుపాయాలు, మరియు ప్రత్యక్ష ప్రయోజన వ్యవస్థల అభివృద్ధిని ఆయన గుర్తించారు..

ఐఐటి హైదరాబాద్లో ప్రపంచ యువ శాస్త్రవేత్తల సమావేశం



సంగారెడ్డి ప్రతినిధి, జూన్ 16 (సిరి స్టూన్): 60 దేశాల నుండి 200 మందికి పైగా యువ శాస్త్రవేత్తల ప్రతినిధుల వారం రోజుల సమావేశం విజయవంతంగా ముగిసింది, కలిసి పనిచేయడం ద్వారా

మానవాళి ఎదుర్కొంటున్న ప్రపంచ సవాళ్లను నిబద్ధతతో పరిష్కరించుకుంటామని హామీ ఇచ్చింది. చివరి రోజున, ఆసియా-పసిఫిక్ ప్రాంతం నుండి వస్తోందని జాతీయ యువ అకాడమీల నాయకత్వం ప్రాంతీయ సమన్వయ

యాన్ని బలోపేతం చేయడం, ఉత్తమ పద్ధతులను మార్పిడి చేసుకోవడం, సైన్స్ దౌత్యాన్ని ముందుకు తీసుకెళ్లడం. సామర్థ్య నిర్మాణం మరియు స్థిరమైన అభివృద్ధి లక్ష్యంగా సమావేశమైంది. వరుస చర్చల ద్వారా, ఒక సాధారణ ఏకాభిప్రాయం సాధించబడింది, ఇది ఆసియా-పసిఫిక్ యంగ్ అకాడమీల నెట్వర్క్ ప్రారంభంపై హైదరాబాద్ డిక్లరేషన్ మైలురాయిగా నిలిచింది, ఇది కెరీర్ ప్రారంభ మధ్య పరిశోధకులను అనుసంధానించడానికి, బలోపేతం చేయడానికి మరియు మార్గదర్శకత్వం చేయడానికి ప్రాంతీయ సహకార వేదికగా ఉపయోగపడుతుంది. ఇండియన్ నేషనల్ యంగ్ అకాడమీ ఆఫ్ సైన్స్ నాయకత్వంలో, ఈ క్రింది అకాడమీలు ఆసియా-పసిఫిక్ ప్రాంతంలోని యువ శాస్త్రీయ అకాడమీల యొక్క మొట్టమొదటి నెట్వర్క్ను ఏర్పాటు చేయడానికి జాతీయ మద్దతును అందించాయి.

BIZZ BUZZ

IIT-H startup, Japan's Sharp Semicon showcase adv B5G, 6G Tech

The experiments showcased the compatibility and effectiveness of advanced communication terminals

BIZZ BUZZ BUREAU
HYDERABAD

SHARP Semiconductor Innovation Corporation (SSIC), The Indian Institute of Technology Hyderabad (IITH) and WiSig Networks Private Limited (Startup incubated at IITH), have announced the successful completion of ground-breaking field demonstrations for advanced Beyond 5G (B5G) and 6G technologies. This collaboration signifies a major advancement toward Japan and India's shared vision of a digitally connected future.

The joint demonstrations, conducted at IITH Campus in Hyderabad, India, validated the performance and interoperability of SSIC's flexible Software-Defined Radio (SDR) System-on-Chip (SoC) User Equipment (UE) and WiSig Networks' Open RAN (O-RAN) base stations. The experiments showcased the compatibility and effectiveness of advanced communication terminals developed by Sharp Semiconductor Innovation Corporation in Japan.

Leveraging SSIC's state-



of-the-art ASUKA SDR-Box, equipped with a versatile communication SoC, designed to support future communications protocols, the trials confirmed high-quality wireless connectivity and performance comparable to existing commercial 5G SoCs.

Prof Kiran Kuchi, Department of Electrical Engineering, IITH&founder of WiSig Networks(Startup incubated at IITH) and a prominent contributor to 5G and 6G global standards including 3GPP, emphasised the significance of the collaboration: "This initiative bridges academic excellence, industrial innovation, and international collaboration efforts, reinforcing the global partnership of India and Japan in next generation Wireless communications."

ToyofumiHorikawa from

SSIC, who is a technical leader of development of the customisable SDR SoC, expressed enthusiasm about the partnership's outcomes: "The results from tests and experiments carried out at the IITH campus demonstrate the immense potential of customisable SDR SoC platforms in accelerating the development of future wireless technologies. SSIC also exhibited its advanced SDR technology at the Mobile World Congress (MWC25) in Barcelona. In 2026, we plan to further expand this collaboration for advanced communication protocol testing."

Prof BS Murty, Director of IITH, remarked, "This partnership underscores our commitment to fostering international collaboration and driving innovation in wireless communication technologies, placing IITH at

"This initiative bridges academic excellence, industrial innovation, and international collaboration efforts, reinforcing the global partnership of India and Japan in next generation Wireless communications"
- Prof Kiran Kuchi, Dept of Electrical Engineering, IITH& WiSig Networks founder

the forefront of technological breakthroughs."

The partners intend to deepen their collaborative efforts by focusing on advanced use cases such as Fixed Wireless Access (FWA), Mission-Critical Push-to-Talk (MC-PTT), Autonomous navigation (V2X), and Smart metering applications leveraging NB-IoT technology compatible with Satellite communications.

This Indo-Japanese collaboration exemplifies the potential for international partnerships to shape global standards and drive innovation in next-generation Wireless communications.

సాక్షి

ఐఐటీహైదరాబాద్కు ఐఎన్ఎస్ఈ హోదా..



సాక్షిప్రతినిధి, సంగారెడ్డి: ఇండియన్ ఇన్స్టిట్యూట్ ఆఫ్ టెక్నాలజీ, హైదరాబాద్ (ఐఐటీహైదరాబాద్)కు ఐఎన్ఎస్ఈ ఐఐటీ నేషనల్ ఎమినిస్సెస్ (ఐఎన్ఎస్ఈ) హోదా లభించింది. ఈ మేరకు కేంద్ర ఆర్థిక మంత్రిత్వశాఖ నిర్ణయం తీసుకుందని ఐఐటీహైదరాబాద్ వర్గాలు గురువారం ఒక ప్రకటనలో తెలిపాయి. ఈ హోదా లభిస్తే ఐఐటీహైదరాబాద్కు ఇచ్చే విరాళాలపై వంద శాతం ఆదాయపు పన్ను మినహాయింపు ఉంటుంది. ఇప్పటివరకు ఈ ప్రతిష్టాత్మక విద్యా సంస్థకు ఇచ్చే విరాళాలపై కేవలం 50 శాతం మాత్రమే ఆదాయపు పన్ను మినహాయింపు ఉండేది. ఈ సందర్భంగా ఐఐటీహైదరాబాద్ ప్రొఫెసర్ బీఎస్ మూర్తి మాట్లాడుతూ, తమ సంస్థ విప్లవాత్మక విద్యా వ్యవస్థను, భారతీయ సాంకేతిక అభివృద్ధిని, పరిశోధన రంగాన్ని, స్మార్ట్ పునరుద్ధరణ ప్రోత్సహించేందుకు దాతలు, కార్పొరేట్ సంస్థలు భాగస్వాములు కావాలని విజ్ఞప్తి చేశారు. తద్వారా వంద శాతం ఆదాయపు పన్ను మినహాయింపుతో పాటు, విశేష భారతీయ లక్ష్యాన్ని చేరుకునేందుకు దోహదపడుతుందని అన్నారు.

"We wish to focus on Viksit Bharat through innovation-collaboration"

Prof BS Murty, Director, IIT Hyderabad, talks about infrastructure, sustainability, and interdisciplinary research on campus



How is IIT Hyderabad adapting its infrastructure and resources to accommodate the increasing student population while maintaining the quality of education and research?

IITH has a master plan to accommodate 20,000 students on its campus, while the current student strength stands at 5,300+. It is important to note that 60% of current IITH students are PhD+PG students, while the UG students are around 40%, clearly demonstrating its focus on research and technology development. IITH has built its campus, so far, on about 55 acre, while its total land is 600 acre, which surely indicates that it has ample space for future expansion.

IIT Hyderabad's emphasis on interdisciplinary research is evident with departments ranging from AI to Heritage Science. How does this diverse academic structure influence the Institute's research output? The commitment of IITH to interdisciplinary (ID) research is strengthened by the Center for ID Programs

(CIP), established to foster collaboration across various disciplines. IITH not only offers ID programmes at the PG level but also at UG level, such as BTech in Engineering Sciences and BTech in Computational Engineering. Such a structure encourages innovative research.

How does IITH plan to expand its contributions to sustainable development, both locally and globally?

The Institute has established the Greenko School of Sustainability, aiming to promote effective, net-zero, sustainable energy, and industrial transformation through education, research, technology, and entrepreneurial development.

India's first MTech programme on Sustainable Engineering was started in 2023 by IITH. The IIT also has a unique Climate Change department, which offers an MTech programme in Climate Change.



ఐఐటీ హైదరాబాద్కు జాతీయ ప్రతిష్ట హోదా

- 100శాతం పన్ను మినహాయింపునకు అవకాశం
- ఐఐటీకి విరాళాలు ఇచ్చే వారికి ఎంతో ఊరట
- హర్షం వ్యక్తం చేసిన డైరెక్టర్ బీఎస్ మూర్తి

దిశ Fri, 04 April 2025
<https://epaper.dishadaily.com/c/77106271>



ఇన్స్టిట్యూట్ కిదా అని అన్నారు. ఎంతోమంది అంకెనుపెట్టి తదితరులు పాల్గొన్నారు.

ఐఐటిహెచ్ ప్రాఫెసర్లకు అరుదైన గౌరవం

• ఐఐటిహెచ్ డైరెక్టర్ మూర్తి

నవతెలంగాణ-కంది

ఐఐటిహెచ్ కు చెందిన ఇద్దరు తెలుగు ప్రాఫెసర్లకు అరుదైన గౌరవం దక్కిందని ఐఐటిహెచ్ డైరెక్టర్ మూర్తి అన్నారు. ఈ మేరకు బుధవారం విలేజ్ కరలు సమావేశం నిర్వహించారు. ఈ సందర్భంగా ఆయన మాట్లాడుతూ.. ఆస్ట్రేలియన్ నేషనల్ యూనివర్సిటీ ప్రాఫెసర్ చెన్నుపాటి జగదీష్, ఎరిక్సన్ సీటీఓ డాక్టర్ తాటిపాముల మల్లికార్జున్లకు అత్యంత గౌరవం రాయల్ సైంటిఫిక్ సొసైటీ ఆఫ్ ఫెలోస్ (ఎఫ్ఆర్ఎస్)గా ఎన్నికయ్యారని తెలిపారు. ఎఫ్ఆర్ఎస్ అనేది గణితం, ఇంజనీరింగ్ సైన్స్ లోపాలు వైద్య శాస్త్రాలలో సహ సహజ జ్ఞానాన్ని మెరుగు పరచడంలో విశిష్ట సేవలు అందించిన వారికి ప్రతిష్టాత్మక గౌరవం దక్కుతుందన్నారు. ప్రాఫెసర్ జగదీష్ సెమికం డక్టర్ నానోటెక్నాలజీ,



ఫోటోనిక్స్, ఆప్టోఎలక్ట్రానిక్స్లో ప్రసిద్ధి చెందినట్లు తెలిపారు. ఏపీలోని వల్లూరుపాలెం గ్రామంలో జన్మించి, తెలంగాణలోని అరెకాయలపాడు అనే చిన్న గ్రామంలో పెరిగి తన పరిజ్ఞానంతో ఎనలేని కీర్తి ప్రతిష్టలు సంపాదించారన్నారు. అలాగే డాక్టర్ మల్లికార్జున్ తాటిపాముల రీజ్, తర్వాతి తరం నెట్వర్క్ల అభివృద్ధిలో విశేషమైన పాత్ర పోషించారన్నారు. తెలంగాణలోని వరంగల్లో జన్మించిన డాక్టర్ మల్లిక్ టెలి కమ్యూనికేషన్స్లో ప్రపంచవ్యాప్తంగా పేరు సంపాదించారన్నారు. ఐఐటిహెచ్ ప్రాఫెసర్లు ప్రపంచంలోని అత్యంత ప్రముఖ శాస్త్రవేత్తలలో ఫెలోస్ ఆఫ్ రాయల్ సొసైటీలో చేరడం ఐఐటిహెచ్ కు గౌరవంగా ఉందని తెలిపారు

ఆంధ్రప్రదేశ్

ఐఐటి హైదరాబాద్ కు జాతీయ ప్రతిష్టిత సంస్థ హోదా ప్రదానం



ఐఐటి హైదరాబాద్

సంగారెడ్డి ప్రతినిధి, ఏప్రిల్ 3 (ఆంధ్రప్రభ): భారత ప్రభుత్వ ఆర్థిక మంత్రిత్వ శాఖకు చెందిన అద్యక్షుల శాఖ ద్వారా 2025 మార్చి 27 నుంచి ఆమలులోకి వచ్చేలా ఐఐటిహెచ్ జాతీయ ప్రతిష్టిత సంస్థ హోదా కల్పించబడింది. ఈ గుర్తింపు ఐఐటిహెచ్, దాని దాతృత్వ కార్యక్రమాలకు ఓ ముఖ్యమైన మైలురాయిగా మారింది. ఇంతకుముందు, ఐఐటిహెచ్ విరాళాలిచ్చిన దాతలకు

50 శాతం పన్ను మినహాయింపు వర్తించేది. అయితే, ఇప్పుడు ఈ కొత్త ఆమోదంతో, దాతలు తమ విరాళాలపై 100 శాతం పన్ను మినహాయింపు పొందవచ్చు. ఇది దాతృత్వాన్ని మరింత ఆకర్షణీయంగా చేస్తుంది. ఈ నూతన విధానం వ్యక్తిగతాలు, సంస్థల నుండి అధిక విరాళాలను ప్రోత్సహించే అవకాశం కల్పించనుంది. తద్వారా ఆకాదమిక్ విలక్షణత, అత్యాధునిక పరిశోధన, సాంకేతిక అభివృద్ధిలకు,

మౌలిక సదుపాయాల అభివృద్ధి వంటి లక్ష్యాలను ఐఐటిహెచ్ వేగంగా సాధించగలుగుతుంది. ఐఐటిహెచ్ ను జాతీయ ప్రతిష్టిత సంస్థగా గుర్తించడం, భారతదేశంలోని సైన్స్, టెక్నాలజీ విద్య, ఆవిష్కరణ రంగాల్లో దాని అభివృద్ధి చెందుతున్న నాయకత్వ పాత్రను ప్రతిబింబిస్తుంది. ఐఐటిహెచ్ డైరెక్టర్ ప్రాఫెసర్ బి.ఎస్. మూర్తి మాట్లాడుతూ, ఐఐటిహెచ్ తన విజ్ఞాతృక విద్యా వ్యవస్థను,

• 1961 ఆదాయపన్ను చట్టంలోని సెక్షన్ 80జి ప్రకారం అందుకున్న విరాళాలపై 100 శాతం పన్ను మినహాయింపు

భారతీయ సాంకేతిక అభివృద్ధిని, పరిశోధన రంగాన్ని, స్టార్టప్ వాతావరణాన్ని మరింత బలోపేతం చేసేందుకు దాతలు, కార్పొరేట్ భాగస్వాములు, మరియు శ్రేయోభిలాషులు మా ప్రయాణంలో భాగస్వాములవ్వాలని అహ్వనిస్తున్నామన్నారు. ఈ 100 శాతం పన్ను మినహాయింపు, విరాళాల ద్వారా విజ్ఞిత భారత్ లక్ష్యాన్ని చేరుకోవడానికి దోహదపడే గొప్ప అవకాశంగా మారనుంది. ఐఐటిహెచ్ డీన్ ఏసీఆర్ ప్రాఫెసర్ మహేంద్రకుమార్ మాధవన్ అన్నారు. సంక్షేమానికి ఉపయోగపడే నిజమైన కారణాలకు విరాళం ఇవ్వడం అనందకరం అని, ఇప్పుడు ఐఐటిహెచ్ కు విరాళాలపై 100 శాతం పన్ను మినహాయింపు అందుబాటులో ఉండటం, పరిశోధన, అభివృద్ధి కార్యక్రమాలను మరింత వేగంగా ముందుకు తీసుకెళ్లేందుకు తోడ్పడుతుంది. భారతదేశంలోని జ్ఞాన కేంద్రంగా ఐఐటిహెచ్ మరింత అభివృద్ధి చెందనుందన్నారు.

IIT Hyderabad successfully celebrated its 17th Foundation Day, featuring a keynote lecture by Prof Ajay Kumar Sood, Principal Scientific Advisor to the Government of India



*Glimpses of Bharatanatyam by
Padma Vibhushan awardee, Dr Padma Subrahmanyam at the SPICMACAY, curtain
raiser*



*Glimpses of violin Recital by Padma Vibhushan artist
L. Subramaniam*



*IIT Hyderabad proudly hosted the
SPIC MACAY 10th International Convention 2025,
celebrating a vibrant confluence of culture and tradition*



IIT Hyderabad Successfully conducted Plantation Drives



Plantation Drive for the month of April



Plantation Drive for the month of May



Plantation Drive for the month of June

IITH celebrated the 11th International Yoga Day



IITH organized a Cycling Competition on campus on the occasion of Olympic Day

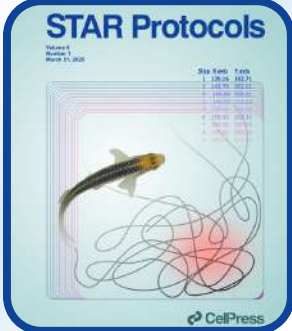




Dr. Anamika Bhargava
Associate Professor
Department of Biotechnology



Mr. Atanu Pramanik
PhD Scholar
Department of Biotechnology



IITH researchers' zebrafish behavioral analysis method gets featured on the cover of Cell Press' STAR Protocols



Prof. Rajakumar Eerappa
Department of Biotechnology



Mr. Milva Mahana
PhD Scholar
Department of Biotechnology



"IITH Researchers Decode Co-evolution of PARPs, Featured on ACS Chemical Biology Cover"



*Session on "AI and Image Analytics" by Mr Sandeep Kulkarni
Founder & CEO, ImageProVision, Pune, India*



*Session on "Vaccine Science-An industry perspective"
by Ms Madhavi Adusumilli (Manager)*



*The Vision Viksit Bharat @2047 international conference
was held at IIT Hyderabad*



*Session on
"Trustworthy AI Systems for Computer Vision and Medicine" by
Prof Rama Chellappa, Bloomberg Distinguished Professor*



*Session on "ANRF Vision: Catalyzing India's Rise as a
Research & Innovation" by Dr. Shivkumar Kalyanaraman,
CEO of ANRF*



*IITH in collaboration with Marvell Technology, has
inaugurated India's first Data Acceleration and Offload
Lab at the Dept of Computer Science & Engineering*



*Deeptech Symposium on "Building a sustainable deeptech
startup ecosystem in India"*



*Global Young Scientists Conference inaugurated by Shri
Dharmendra Pradhan, Hon'ble Union Minister of
Education, GoI*



IIT Hyderabad successfully commemorated Dr. B. R. Ambedkar Jayanti 2025 with a talk by Prof. Sreepati Ramudu on "Spreading Awareness About Discrimination"



The Foundation Stone Laying Ceremony for the Greenko School of Sustainability was successfully held at IIT Hyderabad



Delegates from Higher Educational Institutions across the Country Visited IIT Hyderabad



Session on "Field/Exposure Visit to Incubation Unit" by Mr Vinay Chilakapati, Chief Executive Officer, Innomet



IIT Hyderabad successfully hosted the JEE Open Day 2025, welcoming aspiring IITians and their families for an engaging day of interactions with faculty, students, and staff



A one day workshop on "Gun Propulsion Technology in India" jointly organised by DRDO and IIT Hyderabad



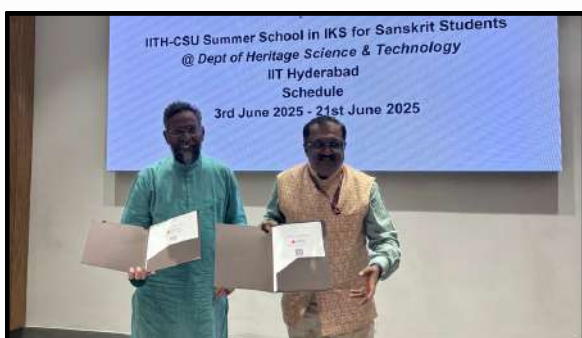
Dr Shiva Ji met H.E. Mr. Sibi George, Ambassador of India to Japan, during his JST Sakura Fellowship visit to Keio University, presenting his work on climate, heritage, and resilient design



Workshop on "Ideation to Scaleup: Navigating Operational Challenges" by Dr. Lohithaksha M Maiyar, Dr. Nakul Parameswar & Dr. Jayshree Patnaik



IITH and Deakin University, Australia, signed an agreement to establish the Joint Centre of Excellence – AMRIT: Advanced Manufacturing Research Innovation and Training



IIT Hyderabad Signed an MoU with Central Sanskrit University(CSU) to foster collaboration in Indian Knowledge Systems (IKS) and Interdisciplinary Research



IIT Hyderabad & Deakin University has signed an agreement for a Joint Centre of Excellence (AMRIT)



MoU signed TiHAN, IITH, Advanced Technology R&D Center, Mitsubishi Electric Corporation (ATC-MELCO)



IIT Hyderabad has signed an agreement for a joint center of excellence with Shimane University, Japan



An MoU has been signed between IIT Hyderabad & TCS



**Dr Mallikarjun
Tatipamula**
Distinguished Professor
*Elected as Fellows of the Royal Society
(FRS)*



**Prof Chennupati
Jagadish**
Distinguished Professor
*Elected as Fellows of the Royal Society
(FRS)*



**Prof Chandra Shekhar
Sharma**
**Department of Chemical
Engineering**
*Elected as aAssociate Fellow of Indian
National Science Academy
(INSA - 2025)*



Mr Sundaram Srivastava
**Department of Civil
Engineering**
*Received The International Geosynthetics
Society (IGS) Open Student Award*



Ms Sonal Deshpande
Department of Design
Received The C-Idea Design Award



Mr Shantanab Das
MDes student
Department of Design
Received The C-Idea Design Award



Mr Hashim P
**MTech student, Department of
Biomedical Engineering**
*Received The DAAD Kospie Fellowship
(2025-26)*



**Mr Neeraj Balachandar, Mr
Shriram Hari, Mr A. Padmaprab
& Mr. Kevin D'Souza**
**BTech students, Department of
Mechanical & Aerospace
Engineering**
*Secured second place among Indian
teams participated at the CIEDS-DRDO
Swarm Rescue Challenge*



Team of Physicists
Department of Physics
*was awarded the most prestigious
Fundamental Physics Breakthrough
Prize*

"Four of IITH Alumni Cracked UPSC A Legacy of Excellence Continues!"



**Prof Chandra Shekhar
Sharma**
**Department of Chemical
Engineering**
*Elected as aAssociate Fellow of Indian
National Science Academy
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Mr Sundaram Srivastava
**Department of Civil
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Ms Sonal Deshpande
Department of Design
Received The C-Idea Design Award



Mr Shantanab Das
MDes student
Department of Design
Received The C-Idea Design Award

List of Faculty Joined during this quarter

Name	Designation	Department
Jalihal Chetankumar Adappa	Assistant Professor Gr I	Climate Change
Prasanna R	Assistant Professor Gr I	Civil Engineering
Sangkha Borah	Assistant Professor Gr I	Physics
Anamitra Saha	Assistant Professor Gr I	Climate Change
Doranadula Venkata Sai Praneeth	Assistant Professor Gr I	Civil Engineering

List of Staff Joined during this quarter

Name	Designation	Department
Ummadi Viswanadh Bodhi	Staff Nurse	Hospital
K Nalini	Staff Nurse	Hospital
Aruna C	Staff Nurse	Hospital
Rohini Nair K	Staff Nurse	Hospital
Banothu Devendar	Junior Technician	Chemistry
A Nandini Jain	Staff Nurse	Hospital
Patwardhan Ajinkya Nitin	Physiotherapist	Hospital



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

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