STARTUP INCUBATION AND INNOVATION CENTRE IIT KANPUR

April 2025

TECH की बात

Where courage meets technology, SIIC's defence startups quietly power the nation's boldest frontlines

Volume 4

Edition - 04

Mentor
MANTRA

Mr. Rony Banerjee

Rony Banerjee is a seasoned professional with an extensive background spanning over 27 years in diverse development initiatives and brings a wealth of expertise and experience to the table. Recently he has authored a book titled " Is there a Rocket fuel for startups?, presented and made Public in India by: UK Asian Business Council, United Kingdom

Green Grit: Small, Action-Oriented Startups Fueling India's Climate Response

As the world shifts toward climate-resilient growth, a new generation of Indian startups is emerging—small in scale but bold in action. These enterprises, often led by first-time entrepreneurs, are making a tangible impact by integrating sustainability into everyday business models.

For instance, vegetable vendors are adopting biodegradable packaging, while companies offering quick deliveries are reducing plastic waste with paper bags. Grassroots efforts led by micro-innovators, like those creating honeycomb paper, show that climate action isn't just for big corporations. Startups are entering green value chains and reaching remote rural households by using digital marketplaces and climate financing platforms. Government initiatives and private platforms supporting carbon credit generation are boosting this ecosystem, as low-cost tech tools and policy incentives lower barriers for climate-oriented entrepreneurs.

India is setting a new standard—where sustainability is not just an elite agenda but a viable livelihood strategy. This movement transcends mere carbon reduction; it is about restoring dignity, enabling inclusion, and creating scalable models of environmental entrepreneurship.

Now is the best time for climate action startups in India, driven by a growing climate-conscious consumer base that is seeking sustainable alternatives. Availability of climate financing tools like carbon credits and green MSME loans

- ☑ Favorable government schemes supporting eco-enterprise innovation and infrastructure
- ☑ Digital platforms enabling access to global markets and verifiers
- ☑ Rising investor interest in ESG-aligned, impact-driven micro-enterprises

With supportive policy tailwinds, expanding sustainability networks, and global urgency around climate action, now is the time for India's smallest enterprises to make the biggest difference. The path forward is not just green—it's inclusive, innovative, and impact-first.

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New startups with novel and innovative technologies have been incubated at SIIC, IIT Kanpur during January. Read on to learn about the startups.

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Innovators se Baat

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NEW INCUBATION

MILESTONE ALERT

40 new companies incubated last month!

Pattuthadam

HAB Biomass

Matolutions

Malhari Projects

Prayas Greentech

Teamstarbase

Eunoia Innovations

Avris Environment Technologies

GG Wastech

Prahana Products

Cococraft Green Ventures

Vital Carbon

Shiniunicorns Solar Technologies

Bhojpatta Agripreneur

Gusteau Foods

Shhroomi Farms

F2DF

Impensus Electronics

Sarva Suvidhaen

Net Zero Initiative

AACGF Solutions

Adiabatic Technologies

Carrus Mobility

C-Disc Technologies

Computational Imaging Tech

Encamp Tourism

Indijan Activated Agrifood

Kuppismart Solutions

Leofelis Instruments

Vertox Labs

Carbonation India

Hoof and Foot

Neuroscape Imaging

Ilandlo Services

Radongrow

Farmplex

IPanelKlean Solar

Agspert Technologies

3R ZeroWaste

Aathma Pranavaayu

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SIIC, IIT Kanpur, and NMexus entered a strategic collaboration to expand global outreach and strengthen innovation ties. Key focus areas include soft-landing and market access for SIIC and IITK First startups, promotion of IIT Kanpur's innovation ecosystem in the U.S., a structured referral and revenue-sharing model, co-branded events and delegations, joint incubation and technology commercialization, alumni-led venture support, and enhanced faculty, mentor, and technical linkages.

PROGRAM

Highlights

SIIC, IIT Kanpur, in collaboration with BFI and DST NIDHI MedTech Centre, hosted a workshop on "Mastering Finance and Compliance for Sustainable Growth." IIM Nagpur's Prof. Shailendra Nigam and Prof. Prashant Gupta offered insightful guidance on financial planning, legal frameworks, and sustainable growth strategies, helping early-stage startups strengthen their foundations and plan confidently for the future.

Read More

SIIC, IIT Kanpur, conducted an expert talk at PSIT College on "Empowering Innovation: AI Centre of Excellence and Startup Incubation." Domain experts Mr. Vasav Krishna and Mr. Animesh Mishra shared their experiences in AI/ML and Defence & Aerospace, offering students valuable insights into deep-tech innovation and the vibrant startup ecosystem, encouraging them to explore future opportunities in entrepreneurship and research.

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On World Creativity and Innovation Day, Prof. Vivek Kant, Associate Professor, Department of Design, led an engaging workshop on human-centered innovation in product development. He emphasized the value of multidisciplinary collaboration and encouraged startups to focus on building diverse teams and creating Minimum Desirable Products (MDPs) that truly prioritize user needs and satisfaction.

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At Startup Mahakumbh 2025, over 20 SIIC-incubated deep-tech startups from defence, MedTech, cleantech, and AgriTech were showcased. The pavilion facilitated impactful connections between founders, investors, and policymakers, offering startups valuable networking opportunities, exposure to investors, and insights from industry leaders, boosting their growth and collaboration potential.

Read More

PROGRAM
Highlights

Maj. Gen. Rajiv Chauhan, ADG, Artillery Directorate, visited on April 5, 2025, engaging with startups in Defence, Aerospace, and AI. His interaction provided key insights on aligning military needs with emerging technologies, inspiring innovators and reinforcing their commitment to defense preparedness and self-reliance.

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At Medical Fair India 2025, held from March 27–29, SIIC engaged in key discussions and collaborations in MedTech and diagnostics. Dr. Deepti Chugh joined a panel at Clin Lab India Conference on "Empowering Rural India with Diagnostics." The event hosted 350+ exhibitors from over 15 countries, fostering global partnerships.

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On March 27, 2025, a one-day Immersion Program under the AMRIT initiative welcomed NIPER Raebareli researchers for industry-academia-startup collaboration. Sessions by experts from the Department of Pharmaceuticals, Boehringer Ingelheim India, and Real Time Angel Fund offered hands-on exposure to IIT Kanpur's deep-tech innovations.

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At Rakshakriti, the defence symposium at Techkriti 2025, SIIC showcased cutting-edge technologies for the Army, Navy, and paramilitary forces. Chief of Defence Staff Gen. Anil Chauhan PVSM visited the expo, where startups like Aethrone Aerospace and EkVayu Tech presented innovations. The event highlighted SIIC's role in advancing self-reliant defence technologies.

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CodeMate® AI Wins Startup Maharathi Award at Startup Mahakumbh

At Startup Mahakumbh, which welcomed over 50,000 visitors, CodeMate® AI proudly launched Version 3.0 to its first beta users, marking a significant milestone in its journey to redefine coding through AI. Further affirming its leadership in innovation, CodeMate® AI was honored with the Startup Maharathi Award in the AI and Deeptech category.

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ScaNxt Signs MoU with Madhya Pradesh for Climate Smart Gram Panchayats

ScaNxt Scientific Technologies signed an MoU with the Government of Madhya Pradesh, supported by IFC, to establish Climate Smart Gram Panchayats across the state. The initiative will boost horticulture exports by leveraging AI/ML and IoT technologies for soil diagnostics, pest management, and crop monitoring. The MoU was signed at the Invest Madhya Pradesh Global Investors Summit in Bhopal.

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Four SIIC startups Chosen for Operation Dronagiri

Startups ScaNxt, TerrAqua UAV Solutions, Ekarigiri (Krishi Mandi), and Stillsweb from SIIC, IIT Kanpur, have been selected under Operation Dronagiri, a key initiative of the National Geospatial Policy 2022. Chosen after a rigorous evaluation, these startups will receive funding and acceleration support to drive innovations in agriculture, livelihoods, and transportation.

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Medantrik® MedTech Conducts Seminar on AI in Healthcare at GSVM Medical College, Kanpur

Medantrik® MedTech, an SIIC IIT Kanpur-incubated startup, held a seminar at GSVM Medical College, Kanpur, focusing on the future of AI in healthcare. CEO Priyaranjan Tiwari discussed AI-driven innovations, including India's first personalized respiratory device for asthma and COPD patients. Expert mentorship from Dr. Anand Kumar and support from Dr. Sanjay Kala highlighted AI's potential in enhancing patient care and medical education.

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Dream Aerospace Secures ₹2 Crore Funding from GAIL to Revolutionize Aerospace

Dream Aerospace, an emerging deep-tech startup from SIIC, has secured ₹2 crore in funding from GAIL (India) Limited under its startup initiative. The support boosts Dream Aerospace's mission to revolutionize aerospace technologies and advances India's push for indigenous innovation in space and defense sectors.

Read More

Cute Brains Hosts Workshop on Learning Disabilities in Varanasi

Cute Brains, with support from IVY Cap Securities, organized a workshop on dyslexia and dysgraphia at Vallabh Vidyapith Balika Inter College, Varanasi. Prof. Braj Bhushan (IIT Kanpur) introduced the startup's assistive app AACDD, aimed at supporting children with learning disabilities. Directors Manas Sinha and Gyan Prakash emphasized nationwide outreach, while local educators joined in certificate distribution and discussions.

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Pradivya Software Showcases Predictive Maintenance Solutions at European Robotics Forum 2025

Pradivya Software Pvt Ltd (Brand-WUS), an emerging leader in industrial automation, showcased its innovations in predictive maintenance at the European Robotics Forum 2025 hosted by ARENA2036. Their participation highlights India's growing leadership in deep-tech solutions for Industry 4.0 on a global stage.

Read More

Royal Bengal Greentech Secures ₹2 Crore Seed Funding from GAIL (India) Limited

Royal Bengal Greentech Private Limited has successfully secured ₹2 crore in seed funding from GAIL (India) Limited, a Maharatna PSU. This strategic partnership marks a major milestone in RBG's mission to make sustainability affordable through its flagship products, BhavisyaPlast and GREEZE. The RBG team also had the honour of hosting senior GAIL leadership at their facility to celebrate this collaboration.

Read More

SecureDApp Wins Fintech Fusion Award 2025 for Blockchain Innovation

SecureDApp (Vettedcode Technologies India Pvt. Ltd.) was honored with the Fintech Fusion Award 2025 in the Blockchain Maverick category on April 16th. The award recognizes outstanding innovation, leadership, and excellence in reshaping the fintech landscape.

IIT Kanpur Wins National IP Award 2024 and WIPO National Award

IIT Kanpur has been awarded the National Intellectual Property Award 2024 for "Indian Academic Institution - Patents" and the WIPO National Award for excellence in innovation. With 1229 IPRs filed and 860 granted in 2024, IIT Kanpur continues to lead India's R&D and innovation ecosystem.

Read More

Pacing Grass Secures Indian Patent for Bamboo Fiber Composite Innovation

Pacing Grass Private Limited has been granted a patent in India for its breakthrough bamboo fiber composite material. The company is redefining sustainability by transforming bamboo and crop waste into climate-smart, eco-friendly bio-composite solutions. This innovation not only advances circular economy practices but also strengthens India's position as a rising force in green manufacturing.

Read More

MARAAL AEROSPACE

In this edition of Innovator Se Baat, we feature Maral Aerospace, a deep-tech defense startup co-founded by Vivek Kumar Pandey, building India's first solar-powered fixed-wing UAV designed specifically for long-endurance strategic missions. With a 12-hour flight time, 150 km one-way range, and an operational altitude of 5 km, Maral's drone is built for critical ISR (Intelligence, Surveillance, and Reconnaissance) operations across India's vast and sensitive borders.

Vivek, an expert in military-grade systems and a former designer of DRDO's Pinaka rocket launcher consoles, teamed up with Dr. Vijay Shankar Dwivedi to create a next-generation UAV platform rooted in indigenous innovation. Incubated at IIT Kanpur's SIIC, Maral Aerospace is quietly powering India's boldest frontlines by addressing deep operational gaps in drone endurance, altitude, and autonomy.

RP (Rishabh Pandey): What is the core innovation of Maral Aerospace, and how does your product address the needs of the Indian Armed Forces?

Vivek Kumar Pandey (VKP): Our core innovation is a solar-powered fixed-wing drone designed specifically to overcome the endurance and range limitations of existing UAVs in India. Most Indian drones offer only 2-hour endurance and 15–20 km range, which limits strategic operations for the Army, Navy, and Air Force. To overcome this, we innovated a solar-powered fixed-wing drone, combining high-efficiency (24%) solar cells with battery backup. This enables 12-hour flight endurance and a 150 km one-way range—total operational coverage of over 600 km per sortie. Designed to fly at 6.5 km, it currently operates reliably at 5 km altitude, making it a game-changer in India's defense ISR landscape.

RP: What inspired you to start Maral Aerospace, especially in a capital-intensive sector like defense?

VKP: The idea began when the main founder, Dr. Vijay Shankar Dwivedi, and I worked at a Noida-based drone startup. My background is in military-grade systems—I designed Pinaka rocket launcher consoles and simulators under DRDO projects, mentored by Prof. A.K. Ghosh and Prof. Kamat from IIT Kanpur. Prof. Kamat led India's first solar UAV project, funded by ADA (a DRDO lab), which inspired us. In 2022, Vijay and I joined Alcomponics, where we worked on DRDO's DCPP and defense programs. We also participated in DRDO's Defense Innovation Challenge with a concept for a solar UAV acting as a High Altitude Pseudo Satellite (HAPS).

However, the company leadership couldn't grasp defense incubation or TDF (Technology Development Fund), which offers grants up to ₹50 crore. Realizing the potential and national need, we decided to start our own venture in August 2023. By October, Maral Aerospace was formally incorporated in Noida with Wing Commander R.K. Sharma joining as investor and co-founder. We got incubated at IIT Kanpur and expanded to a 3000 sq. ft. facility in Technopark. Our 12-meter fixed-wing drone, developed from Vijay's Ph.D. work, is now a rugged ISR-ready system. The prototype is built, and test flights are scheduled for late May.

RP: What was the turning point when you realized that this was no longer just a lab project, but a serious company building for the Indian armed forces?

VKP: I think when we started flying our own aircraft and started getting good performance, we realized we were solving real problems. And then when people from DRDO started visiting us and said, "You've built something interesting. Can you build something for us?"—that was a moment. It was like, okay, people who matter are noticing. And that gave us the confidence that we can build for India's armed forces. We're not just doing research—we're building for the real world.

RP: Maral is a deep-tech startup in aerospace—hard tech that needs time and patience. How did SIIC IIT Kanpur support your early journey?

VKP: Honestly, I don't think we would be here without SIIC. We started as a student project, and when we realized this is something real, SIIC gave us space, funding, and time. The mentoring, the resources, and especially the trust—they believed in us when we just had a flying prototype. That early support is rare, and it gave us the runway to build what we are building today.

RP: How can India's defense forces benefit from Maraal?

VKP: Maral's drone is designed for use across all three wings—Army, Navy, and Air Force. With 12-hour endurance, 150 km range, and 5 km altitude operation, it enables 24x7 surveillance in remote terrains, precision artillery correction, and target geolocation without detection.

It can act as a radio relay in mountainous, non-line-of-sight areas, support search and rescue missions, and operate from -20°C to +55°C, ensuring all-terrain readiness. Though not a logistic drone, it supports light payload delivery. Its deployment across India's vast land and marine borders would significantly enhance operational capabilities.

"When you realize the nation needs—you build, you launch, and you serve."

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