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INCUBATION AND INNOVATION
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STARTUP
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CENTRE
IIT KANPUR

March 2025

TECH की बात

SIIC startups aren't just swimming with sharks—they're making the waves!

VOLUME 4

EDITION - 03

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

Play Big: How India's Toy Industry is Transforming into a Global Powerhouse

India's toy industry is experiencing rapid growth, emerging as one of the fastest-growing sectors globally. The domestic market, valued at $1.5 billion in 2023, is projected to reach $4.4 billion by 2032, growing at a CAGR of 10.6%.

Exports have surged by 239% over the past decade, with global brands and major retailers like Walmart and Amazon increasingly sourcing from India. Competitive labor costs (1/5th of China's, half of Vietnam's), strong raw material availability, and a thriving e-commerce ecosystem give India a strategic advantage. The industry's formalization, driven by quality control measures and policy support, further strengthens its global competitiveness.

Government initiatives are key to the growth of the sector, with Quality Control Orders (QCOs) ensuring product quality and 100% FDI facilitating investment. The National Action Plan for Toys (NAPT) promotes innovation and e-commerce. The SFURTI scheme supports around 11,000 artisans across 19 clusters, while large industrial hubs like the Aequs facility in Karnataka and a facility in Uttar Pradesh empower MSMEs and manufacturers.

India has just begun tapping into its export potential in the $80 billion global toy market. With Vietnam's toy exports reaching $4 billion in 2022, India is strategically positioning itself to attract global investment. Engaging with international toy companies and participating in global fairs are key steps forward.

Why Now is the Best Time for Toy Startups in India

- ☑ Booming domestic demand, driven by a growing middle class and e-commerce expansion
- ☑ Government policies supporting quality control, investment, and innovation
- ☑ Increasing exports with strong global partnerships and OEM opportunities
- ☑ Emerging toy clusters enhancing MSME participation and local manufacturing
- ☑ Rising consumer preference for high-quality, locally produced toys

With a strong policy framework, growing investor confidence, and a thriving consumer base, India's toy industry is at an inflection point. The time to act is now—innovate, invest, and expand to make India a global toy powerhouse!

STARTUP INCUBATION AND INNOVATION CENTRE IIT KANPUR

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Take a deeper look into the exhilarating developments within the thriving SIIC-IIT Kanpur ecosystem throughout the month.

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Program Highlights

Learn about some outstanding accomplishments in the various program verticals that are currently up and running at SIIC, IIT Kanpur

Refer to the section for more details.

Success Stories

Know more about the inspiring startups that have elevated our incubation ecosystem with their remarkable accomplishments on a national scale.

Refer to the section for more details.

Innovators se Baat

Discover the unique and advanced technologies that are currently being incubated at SIIC, IIT Kanpur.

Refer to the section for more details.

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18th February 25

SIIC (FIRST), IIT Kanpur, and the National Institute of Pharmaceutical Education and Research (NIPER), Raebareli, have partnered to promote entrepreneurship through consultation, mentoring, cooperation, and incubation support. Their collaboration aims to spur innovation through workshops, networking events, and knowledge exchange. Startups from NIPER Raebareli will have the chance to be co-incubated by FIRST, both virtually and physically, as part of their Co-Incubation Model. The partnership also focuses on accelerating startup growth through investment programs and ecosystem development.

26th March 25

SIIC (FIRST), IIT Kanpur, and Toyota Tsusho India Pvt. Ltd. (TTIPL) have partnered to foster innovation and entrepreneurship by supporting startups at various stages of growth. The collaboration focuses on identifying and selecting startups for proof-of-concept trials and new business opportunities, transforming ideas into prototypes, and facilitating open innovation through hackathons. Additionally, TTIPL and FIRST will conduct technical and business assessments to strengthen startup viability and market readiness.

PROGRAM

HIGHLIGHTS

STARTUP INCUBATION AND INNOVATION CENTRE IIT KANPUR

IIT Kanpur hosted its Advanced Entrepreneurship and Skill Development Programme (ESDP) and Management Development Programme (MDP) in February and March, 2025, benefiting 250+ MSME leaders, startups, and students. Supported by the Ministry of MSME and hosted at Kanpur and Noida campuses, the programs enhanced technical and managerial skills. Led by industry experts, IIT faculty, and IAS officers, sessions covered Agri-preneurship, Cybersecurity, Industrial Automation,Design Thinking for Entrepreneurship, Sustainable Business Practices, Retail Management: Branding, Marketing & Distribution, Legal framework for Entrepreneurs, and Leadership & Emotional Intelligence. Participants received Ministry-recognized certificates, boosting employability and entrepreneurship. This initiative strengthens India's MSME ecosystem, drives job creation, and reinforces IIT Kanpur's commitment to industry-aligned skill development.

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IIT Kanpur's AIIDE Centre of Excellence (CoE) successfully launched Cohort-4, focusing on AI/ML applications from ideation to product design and market launch. Extensive outreach efforts included a dedicated webinar on AI/ML for startups, enhancing awareness and participation. The initiative engaged startups from esteemed institutions, including IIM Lucknow, CIED Integral University Lucknow, JSS Noida, Sharda University Noida, and STPI Lucknow. By fostering innovation and collaboration, AIIDE CoE continues to strengthen the AI/ML startup ecosystem, driving technological advancement and entrepreneurial growth in India.

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SIIC, IIT Kanpur has been officially recognized as an ecosystem enabler under the GENESIS Scheme, supported by the Ministry of Electronics and Information Technology (MeitY). This recognition reinforces SIIC's commitment to empowering startups through funding, mentorship, and strategic opportunities, fostering technological innovation and entrepreneurship. As a partner agency, SIIC plays a crucial role in strengthening India's startup ecosystem. Honored to participate in the PRAVAAH MeitY Incubators Conclave 2025 at BITS Pilani, Goa, SIIC engaged with key stakeholders shaping the future of innovation.

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PROGRAM HIGHLIGHTS

IIT Kanpur, in collaboration with MP-IDSA, hosted a Capability Assessment Workshop on Drones and Autonomous Systems (Feb 24-25, 2025), marking a key milestone in India's UAV ecosystem. Led by IIT Kanpur Director Prof. Manindra Agrawal and MP-IDSA DG Ambassador Sujan R. Chinoy, the event featured top defense and industry leaders. Discussions covered UAV infrastructure, indigenous technology, and policy frameworks, with a tour of IIT Kanpur's advanced drone facilities. A strategic roadmap was unveiled to position IIT Kanpur as India's leading drone innovation hub, reinforcing its role in UAV research and self-reliance.

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On February 27, SIIC, IIT Kanpur, in collaboration with Boehringer Ingelheim India and NIPER Raebareli, launched AMRIT - Alliance for Medicinal Research, Innovation, and Translation. This flagship initiative under 'Joint Innovation and Incubation' aims to bridge research excellence with entrepreneurship in the pharmaceutical sector. Supported by Boehringer Ingelheim India, AMRIT integrates NIPER Raebareli's R&D ecosystem with IIT Kanpur's startup support, accelerating market-ready innovations. This collaboration is set to drive significant societal and economic impact through pharmaceutical advancements.

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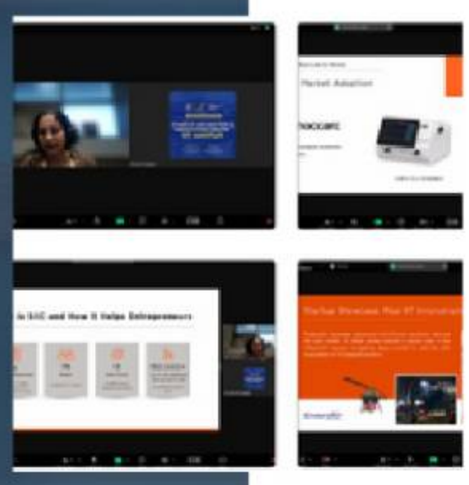

On February 28, National Science Day, Dr. Poorna Roy from SIIC, IIT Kanpur, conducted a webinar on "From Lab to Market: How IIT Startups Are Solving Real-World Problems." The session outlined how scientific research transforms into impactful, market-ready solutions. Using SIIC-incubated startups as case studies, it emphasized innovation beyond creativity—focusing on practicality and scalability. Encouraging students to engage with IIT Kanpur's entrepreneurial ecosystem, the session highlighted research-driven entrepreneurship and opportunities for young innovators to tackle global challenges through technology-driven solutions.

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SUCCESS STORIES

ROYAL BENGAL GREENTECH

secured a ₹2 crore deal for 10% equity on Shark Tank India Season 4, backed by four investors. They focus on sustainable materials, particularly their patented BhavisyaPlast, a 100% biodegradable plastic from agri-waste, and the GREEZY range of eco-friendly lubricants that are free from petroleum and animal fats. Their innovations aim to provide environmentally friendly alternatives to conventional plastics and lubricants.

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SCANXT, TERRAQUA UAV SOLUTIONS, EKARIGIRI (KRISHI MANDI), AND STILLSWEB

have been selected under Operation Dronagiri, part of the National Geospatial Policy 2022. This initiative showcases the impact of geospatial technologies in agriculture, livelihoods, and transportation. After a multi-stage evaluation, 25 geospatial startups were chosen for funding and support, with the mentioned four startups receiving recognition—ScaNxt, TerrAqua UAV Solutions, and Ekarigiri in the Growth Stage, and Stillsweb in the Early Stage category.

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F2DF

a pioneering agritech startup recently featured on Shark Tank India, is making significant advancements in enhancing the livelihoods of farming families. Recognized for its high-impact social innovation, F2DF has been selected for the third cohort of the Social Innovation Lab, a prestigious program by Citi India and IIT Kanpur that supports for-profit startups driving meaningful change. With a mission to transform agriculture into a more profitable and sustainable sector, F2DF is dedicated to reducing input costs, increasing output value, and creating diversified revenue streams for farming communities

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CODEMATE® AI

in collaboration with Qualcomm, demonstrated the power of AI-assisted programming at the Snapdragon X India Launch on February 24 at Taj Palace, Delhi. This cutting-edge partnership is set to redefine the end-user experience, enabling seamless coding and product development through natural language commands—even in offline environments like flights or no-network zones. Running entirely locally on the latest Snapdragon X Series AI PCs, the integration leverages industry-leading built-in NPU support of 45 TOPS, ensuring flawless execution of ML models with zero lag or performance compromises.

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JATIN SHARMA

In this edition of Innovator Se Baat, we feature Jetson Robotics, a deep-tech startup founded by Jatin Sharma, revolutionizing the solar energy sector with automation solutions. Jetson Robotics builds automated robots that clean solar panels without using water. These robots remove dust, bird droppings, and other pollutants using a dry-cleaning method, making the panels more efficient. Regular cleaning helps solar plants generate up to 20% more electricity.

Jatin, with a background in Mechanical and Automation Engineering and experience in warehouse robotics, recognized a major challenge in solar panel maintenance. His startup, Jetson Robotics, is addressing this issue with advanced robotics and AI-driven automation, making solar energy more efficient and cost-effective. Incubated at IIT Kanpur, the company is rapidly refining its technology to meet industry needs. In this interview, Jatin shares insights on problem-solving in hardware startups, scaling deep-tech solutions, and his vision for the future of sustainable energy automation.

RP (Rishabh Pandey): You have a background in engineering. Was your B.Tech degree specifically focused on robotics?

Jatin Sharma (JS): I hold a B.Tech in Mechanical and Automation Engineering, during which I actively participated in robotics competitions like ABU Robocon. These experiences provided hands-on exposure to Mechanical CAD, Electronics, and Programming, shaping my interest in automation and problem-solving. After graduation, I spent 3-4 years working in various companies, primarily in Warehouse Automation, where I specialized in developing robots for material handling. My work involved designing autonomous systems, optimizing logistics, and improving efficiency in industrial settings.

I identified a significant challenge in solar panel maintenance—traditional cleaning methods were inefficient, costly, and water-intensive. Recognizing both its commercial potential and our technical expertise, we founded Jetson Robotics to develop an innovative, automated solution that would make solar energy more accessible and sustainable.

RP: Could you provide insights into your product and share your vision for the industry's future?

JS: At Jetson Robotics, we are transforming solar panel maintenance with automation. Traditional cleaning is slow, labor-intensive, and wastes 2-3 liters of water per panel. Our dry-cleaning robots operate 5-10 times faster, cutting costs and improving energy output by up to 20%, making solar power more efficient and sustainable.

India's solar sector is growing rapidly, with industrial rooftops benefiting from lower electricity costs and accessible financing options. However, poor maintenance can lead to performance losses, reducing the benefits of solar adoption.

Our goal is to ensure seamless, cost-effective upkeep through robotics and automation. By optimizing solar maintenance, we aim to support emerging business models, improve operational efficiency, and accelerate the shift toward a more sustainable energy future.

RP: How do you navigate problem-solving and product development to create impactful solutions as a startup founder?

JS: As a startup founder, my main role is to understand market trends, customer needs, and user challenges. I focus on problem-solving with empathy, using design thinking and structured frameworks to refine our approach.

For example, in solar panel cleaning, I interacted with workers and even cleaned panels myself to identify real pain points. Balancing user experience and commercial viability is key since the end-user operates the product while the customer invests in it.

RP: What advice would you give deep-tech entrepreneurs on scaling their startups, particularly through incubation in India's startup ecosystem?

JS: Building a successful startup starts with becoming a problem expert before a solution expert. As engineers, we often jump into building, but deeply understanding the problem is essential before developing an effective solution.

Incubation support has played a crucial role in accelerating our development. Before joining an incubator, logistical challenges slowed our iteration cycles. Now, with everything—workspace, development facilities, and residence—consolidated in one place, we save valuable time and iterate much faster. Having a dedicated lab and office space, like at IIT Kanpur, has been a game-changer for deep-tech startups, enabling us to scale efficiently and focus on innovation.

> "Master the problem before the solution—innovation starts with understanding"

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बायरैक birac Biotechnology Industry Research Assistance Council

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START IN UP A Government of UP Initiative

ICMR INDIAN COUNCIL OF MEDICAL RESEARCH

iDEX Innovations for Defence Excellence

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sidbi

MeitY Startup Hub

SBI

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futureskills prime A MeitY - NASSCOM Digital Skilling Initiative

DWIH New Delhi Land of Ideas

AI ENABLEMENT

PELTARION

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FICCI

AIMED Encouraging Responsible Manufacturing Association of Indian Medical Device Industry

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