



STEM CELL

deep science startups FSID | IISc



2024 ANNUAL IMPACT REPORT

HIGHLIGHTS AND INSIGHTS



About FSID

The origins of FSID go back to 1991 when SID (Society for Innovation and Development) was set up in close collaboration with IISc within its sylvan, historic campus. At inception, its mission was to use the incredible repository of knowledge, world class infrastructure and talent present within IISc to help business enterprises and thereby the economy and the nation at large.

The **Foundation for Science Innovation and Development** (FSID) was incorporated on 8th August 2020 as a Section 8 Company under the Companies Act, 2013. FSID is promoted by Indian Institute of Science and was incorporated to further this original mission. It has now grown to become a single window of access for all stakeholders to the deep science and deep tech knowledge within IISc. It provides a 360 degree set of offerings that facilitates the delivery of its objectives.

Foreword

As I reflect on 2024, I feel a deep sense of pride and fulfilment reflecting on everything we've accomplished together this year. It has been a year of significant milestones, impactful initiatives, and collective growth.

Through **STEM**, we successfully incubated around 14 startups and 5 Entrepreneurs-In-Residence (EIRs), providing them with robust support in deep science, technology, and funding. These efforts have enabled these startups to grow, innovate, and make meaningful contributions to their respective industries. Looking ahead, 2025 looks more promising. We are poised to embark on new projects, explore exciting opportunities for collaboration, and pursue ambitious goals, including raising additional funds to expand our ability to incubate and support more partners. Together, we aim to build on the momentum of this year and set the stage for even greater achievements.

Let's step into 2025 with renewed energy, shared vision, and unwavering commitment to innovation and excellence.

Here's to a year of even more success and progress!

Regards,

B. Gurumoorthy

Professor, Department of Design and Manufacturing and Mechanical Engineering,
Indian Institute of Science





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ABOUT US



STEM incubates startups that have deep science and societal impact. STEM is one of the few truly deep science incubators in the country. Its origins in the Indian Institute of Science give it a privileged perspective in understanding the specific needs and challenges of a science-based start-up.

Our Offering



Space

Fully furnished rental free physical space on campus.



Access to Labs at IISc

Get access to labs at IISc as per IISc policy.



Learning

Access to trainings, events organized by FSID and its partner organizations.



Seed Capital

Upto 1cr* of seed funding through grants and equity related funding.



Mentoring

Access to Technical and Business Mentors from IISc as well as Industry.



Credits

Access to Cloud Credits from Partner Organizations.



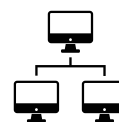
Debt Funding

Access to working capital and Debt funding through our partners.



Health Insurance Coverage

Founders and Employee are insured under Group Medical Insurance coverage.



Peer Network

Become part of a highly select peer network of existing entrepreneurs at IISc.



Access to MATTER facility

Use our prototyping labs to build your prototypes quickly at concessional rates.



Further Funding

Connects to Angels Network, VC's, Corporates etc.



Alumni Network

Connect to IISc alumni.

Building the Future Today: FSID's Multidisciplinary Startup Incubated in 2024

A circular infographic with a central green tree on a blue background, surrounded by twelve icons representing various fields: a gear, a rocket, a globe, a group of people, a globe with latitude/longitude, two people, a globe, a group of people, a globe, a group of people, a globe, and a group of people. A large white arrow points from the tree towards the top right.

These startups symbolize the synergy between cutting-edge technology and policy-driven growth, driving forward a vision of inclusive and sustainable progress. ■

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Our startups

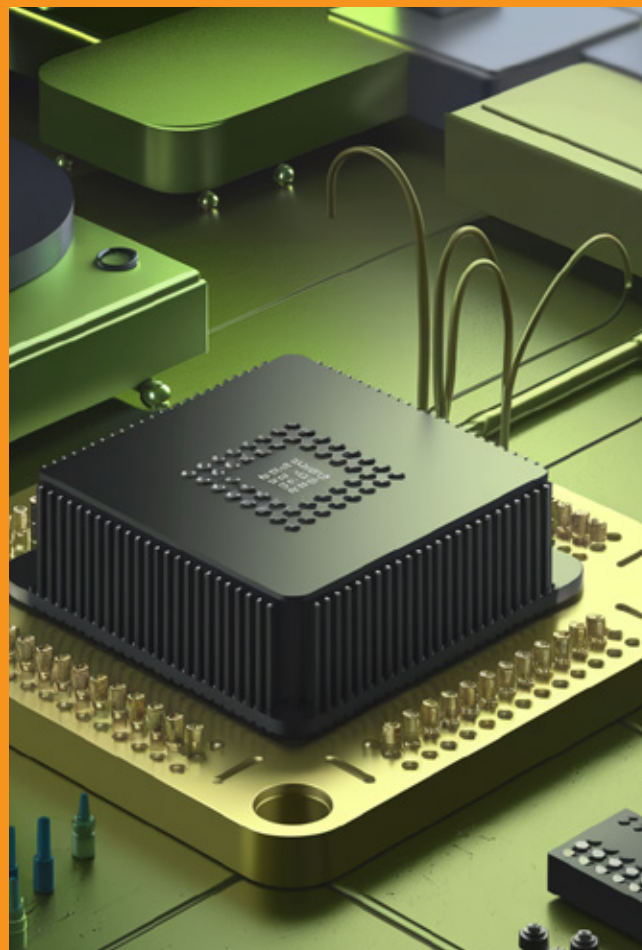
**Ushering in a new world
using deep science and
deep tech**

ClimateTech: Powering Tomorrow with Sustainable Energy

Voltanova Energy Pvt Ltd. (voltanova.in) is revolutionizing industrial energy with its groundbreaking Thermal Battery Energy Storage System (BESS). With a 40+ year lifespan and unmatched cost efficiency at just one-fifth the cost of traditional solutions, Voltanova's carbon-free innovation is transforming industrial power and enabling grid balancing. As the global energy market surges, this cutting-edge solution leads the charge toward a sustainable, green future, empowering industries to achieve unparalleled energy security.

Meerkats HeatCrafters Pvt. Ltd.

(heatcrafters.in) specializes in advanced thermal management solutions for semiconductors and electronics. The company's innovative Multi-Functional Nanocomposite-Hybrid Coatings (MNC) address critical challenges in thermal conductivity and durability. By enhancing the lifespan and performance of electronic components, HeatCrafters reduces e-waste, promotes energy efficiency, and aligns with global climate technology goals. Its advancements enable more reliable and sustainable electronics, and also drive socio-economic growth by fostering innovation and creating opportunities within the semiconductor ecosystem.





AI:

Transforming Industries with Intelligence

In the BFSI sector, **BillionGradients Lab Pvt. Ltd.** (Interflow) is redefining customer engagement through their Voice-AI platform. By blending cutting-edge technology with strategic outreach, they are setting a new benchmark for operational efficiency and client interaction in critical industries.



Biotech & MedTech: Innovating for a Sustainable and Healthier World

Apratima Biosolutions Pvt. Ltd. has taken on the global plastic crisis with their enzymatic PET recycling process, proving that biotech can lead the charge in creating a circular economy.

Meanwhile, **Rejuvome Therapeutics Pvt. Ltd.** (RTPL) is pioneering Microbiome Therapeutics, offering innovative solutions to improve the lives of aging populations. Their work addresses critical healthcare gaps, underscoring biotech's role in shaping palliative and preventative care.

FSID also supported **Newtorr Pumps & Systems Pvt. Ltd.** in developing Containerized Medical Oxygen plants, addressing crucial healthcare infrastructure needs.

Additionally, **Easecan MedTech Pvt. Ltd.** is revolutionizing neonatal care by building innovative products for neonatal hearing screening, highlighting MedTech's transformative impact on early healthcare.



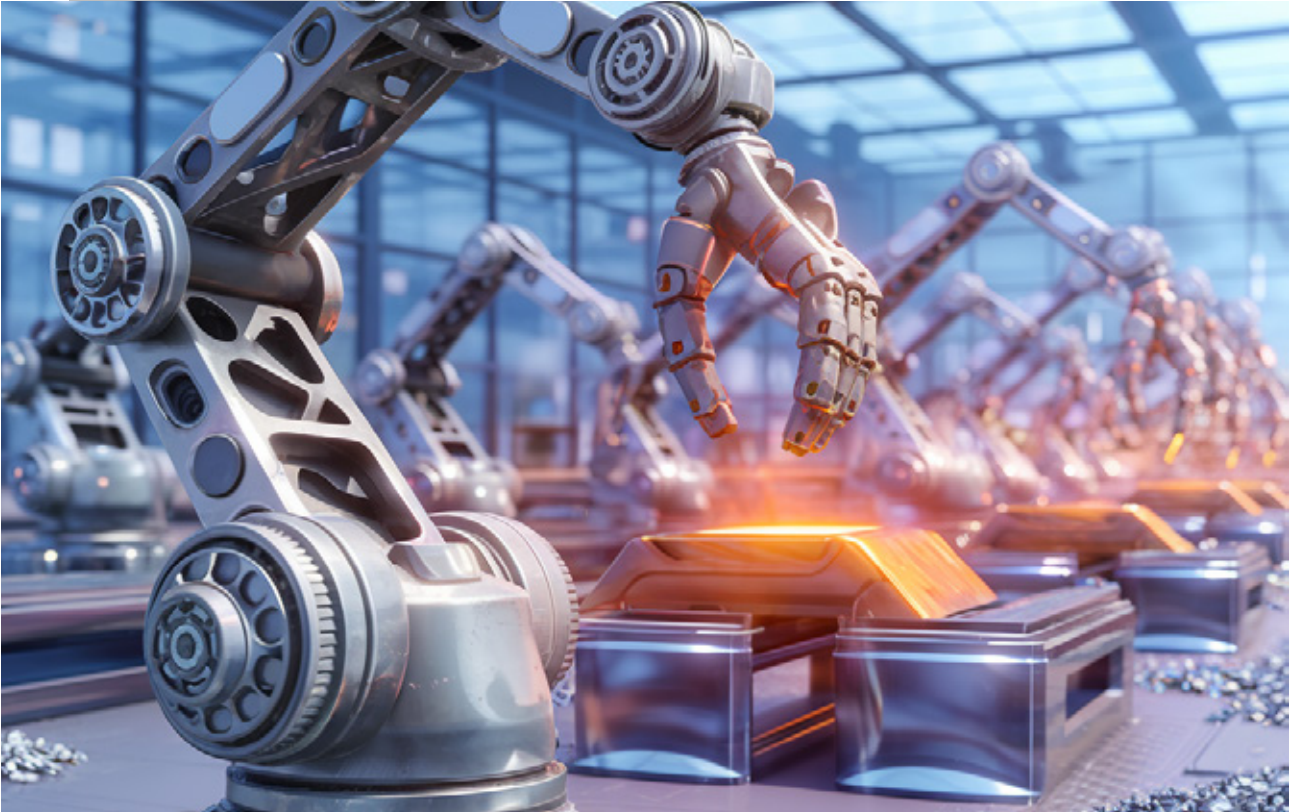
SportsTech: Empowering the athlete in everyone

Visist AI Technologies Pvt. Ltd. is levelling the playing field in sports tech with their comprehensive **Visual Intelligence Platform**—offering video journaling, AI assisted coaching and assessments, smart court automation, and injury prediction. By merging AI and sports science, they are redefining how athletes train, perform, and stay injury free. They are on a mission to empower a million grass root athletes in the next 5 years.

Audio-Tech: Harmonizing Innovation and Performance

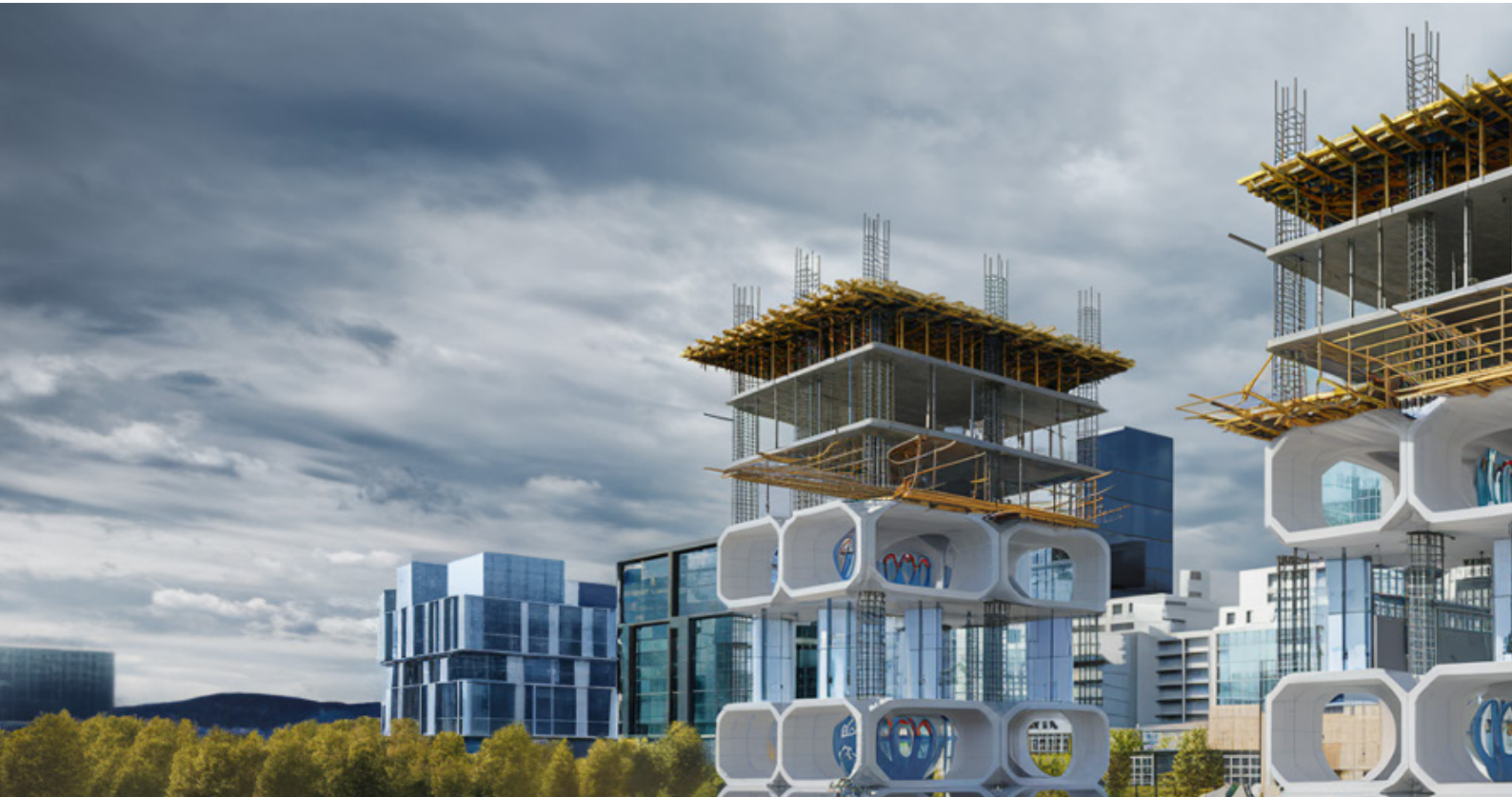
LMSM Console Pvt. Ltd. has reimagined audio technology with a Mac-compatible software solution that replaces traditional consoles. Their approach to live audio management is setting a new standard for quality and adaptability.





Metallurgy: **Redefining traditional industries through Decarbonisation and Software**

In the iron and steel industries, **Rescons Solutions Pvt. Ltd.** has unveiled software that optimizes the carburizing process, blending precision and sustainability to elevate one of the world's most essential sectors. It also provides the latest technology to SiC manufacturer to increase their production by 150% which helps in environment protection. Rescons is also helping iron and steel sectors in decarbonisation using biomass/syngas in the reduction of iron ore. In addition, Rescons has developed a technology to extract the Rare Earth Elements at room temperature.



Aerospace, Space Tech, and Telecom: Expanding Boundaries

AlgoBotix Pvt. Ltd. is a pioneering deep-tech venture established by a team comprising faculty and students from the Indian Institute of Science (IISc). With a core focus on drones, the company develops reliable and user-friendly software solutions for businesses and governments. The team is on a mission to make drones more useful, efficient, and safer while unlocking the potential for mass operation on a scale never seen before.

Vishvasys Technologies Pvt. Ltd. exemplifies deep-tech versatility, tackling air-traffic management, satellite navigation, UAV development, and even diabetic care automation. Their groundbreaking innovations span sectors, addressing critical global challenges.





Construction Tech: Building Smarter, Faster, and Better

Spacyphy Tech Pvt. Ltd. is transforming construction with modular, 3D-volumetric solutions that promise efficiency, quality, and sustainability. Their work reimagines the future of the \$8 trillion building sector.

Decarbonization: Engineering a Greener Tomorrow

Carbsorb Solution Pvt. Ltd. is advancing renewable biofuel and chemical production from biomass. Their efforts align with global decarbonization goals, offering sustainable alternatives to traditional industrial processes.



Entrepreneur-in-Residence (EIR)s supported





Rait Setu Eco Tech Solutions LLP is an Agri-Tech startup founded by agripreneur Shri Santosh Rayappa Kittur from Belagavi, Karnataka. Funded through FSID's CSR-supported EIR program in 2024, it tackles rural labor shortages in jaggery and sugar production by developing a small-scale sugarcane harvester and enhancing jaggery production and marketing. This initiative empowers small-scale agripreneurs to set up cost-effective units, boosting rural employment and offering farmers better returns than selling to factories.



Atomic Models: Prof E.N Prabhakaran used the EIR route to build a niche science tool called **"Elementary Atomic Models"** revolutionize science by offering advanced, modular tools for drug discovery, efficient material production, and STEM education. These dynamic models enable users to visualize molecular structures, design synthetic pathways, and predict intermediates, drastically reducing R&D costs and reliance on skilled

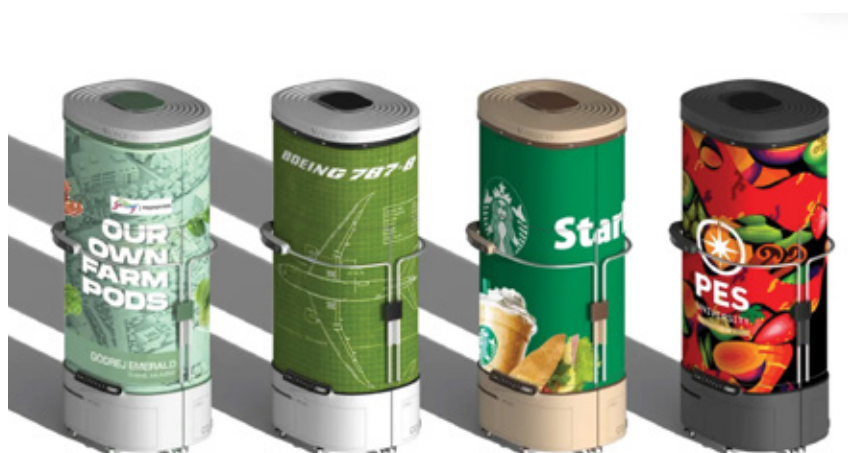
scientists. With applications spanning research and academics, they are transforming chemical understanding and innovation, making science more accessible and impactful.

aimed at:

- i) drastically speeding drug discovery;
- ii) significantly improving drug development efficiency; and
- iii) considerably cutting cost of material production at all chemical industries. These are high-quality, advanced, modular, and interactive models, with unique features including sticky interactions, dynamic structures, quantum orbitals, etc.

These features empower users to:

- a) visualize and design the shortest synthetic pathways for manufacturing of molecules like drugs, polymers, etc.;
- b) to construct molecular structures that are otherwise intangible; and
- c) to predict transient intermediates which otherwise require multimillion dollars' worth research efforts to perceive. The ease of chemical understanding brought through these models, also significantly cuts down human resource in industry, so that the research planning and execution that traditionally required several trained scientists can now be addressed routinely by technical staff. These models are also useful for academic learning. In the space of education, these Atomic Models cater to schools, universities and researchers across R&D centres, addressing the need for engaging and hands-on learning and investigation tools in Science, Technology Engineering Mathematics (STEM) education.



Wegro: Mr. Sunandan Paul and Mr. Suraj Kesri used the EIR program to build their prototypes to solve for urban agriculture, health and nutrition. Urbanites are finding themselves living in high-rise buildings with limited access to greens. The vegetables come from distant farms; thus, they lose nutrition and are often tainted with pesticides. **Wegro** (wegro.in) is an envisioned design-driven startup developing novel inventions that integrate modern farming practices of hydroponics with housing-units through smart IOT & AI-enabled Construction materials & Grow Pods.



Sanicare is an increasing number of women use sanitary pads, and improper disposal of these products has become a significant environmental and health concern. A single sanitary pad takes 500- 800 years to dispose of completely, and India generates 1200 Cr of them every year. 98 % of those end up in landfills and water bodies. Mr. Pankaj Shakya and Mr. Raviraj Bhadange used the EIR program to address the critical issue of sanitary pad disposal by introducing an innovative and sustainable solution at the source. The byproducts generated by the product include dried shreds and Super-absorbent polymer, which can be recycled or repurposed for various applications and, at the least, can be processed through conventional channels of waste disposal.



BPC Bioproducts Pvt. Ltd. is working to replace non-eco-friendly packaging with more sustainable options, primarily through new materials that are fully degradable and leave no harmful traces, currently led by Amritha Mani.



Supporting Def-Tech via iDEX

Foundation for Science Innovation and Development (FSID) is one of the **Partner Incubators (PI)** for the startups who emerge as winners for the iDEX Challenges. By partnering with iDEX Challenge winning startups, FSID plays a crucial role in driving innovation in defence technology and strengthening India's defence capabilities.

Through strategic mentorship, technical assistance, and financial support, FSID empowers startups to develop groundbreaking solutions for defence applications, particularly in emerging domains of technology and science by leveraging the expertise and resources available.

At FSID as PI, the iDEX challenge winners benefit from world-class infrastructure, cutting-edge research facilities, and access to a vast network of experts, mentors, and investors. The incubator offers tailored support programs designed to address the unique needs and challenges of each startup, helping them to scale their innovations and bring them to market successfully.



Following startups are engaged in processing the iDEX projects as shown against them:

1	Prayasta 3D Innovations Pvt. Ltd.	Designing thermal mannequin to measure comfort parameters at high altitude
2	Astrome Technologies Pvt. Ltd.	4G/LTE Tactical LAN
3	Astrome Technologies Pvt. Ltd.	Four-Axis stabilised Antenna
4	Tsall Aerospsce Technologies Pvt. Ltd.	Caged Drone to operate in Confined Spaces
5	Tsall Aerospsce Technologies Pvt. Ltd.	An integrated system for surveillance & reconnaissance
6	Tsall Aerospsce Technologies Pvt. Ltd.	Autonomous Cargo Carrying Ariel Vehicle
7	Bellatrix Aerospace Pvt. Ltd.	Micro Propulsion Systems
8	Bellatrix Aerospace Pvt. Ltd.	Hall Effect Plasma Thrusters
9	Next Defence Pvt. Ltd.	Drone for Tactical combat support
10	Astrome Technologies Pvt. Ltd.	Customised Remote Modem
11	Agnit Semiconductors Pvt. Ltd.	Advanced Gallium Nitride Semiconductors
12	Bellatrix Aerospace Pvt. Ltd.	ADCS
13	SpaceFields Pvt. Ltd.	Ariel Smoke Generator
14	SpaceFields Pvt. Ltd.	SparkType Ignitor Box and ignitors
15	Akashlabdhi Pvt. Ltd.	Development of IR Identifier Patches
16	Falcon Victor Pvt. Ltd.	Wireless Headset

Updates from our thematic incubators:

The Gallium Nitride Ecosystem Enabling Centre and Incubator (GEECI) is a specialized facility at the Indian Institute of Science (IISc) in Bengaluru, India. Located within the Centre for Nano Science and Engineering (CeNSE), GEECI focuses on the production, characterization, and packaging of semiconductor wafers and devices, particularly those based on gallium nitride (GaN) technology. Established through funding from the Ministry of Electronics and Information Technology (MeitY) and managed by the Foundation for Science, Innovation, and Development (FSID)—the incubation arm of IISc—GEECI serves as a hub for GaN expertise in India. Its mission is to foster innovation and entrepreneurship in GaN technology by providing state-of-the-art resources and support to researchers and startups. GEECI offers various programs to support entrepreneurs, including the Entrepreneur-in-Residence (EIR) program. This initiative is designed for individual entrepreneurs or early-stage startups with innovative ideas in GaN technology, providing access to resources that help de-risk and solidify plans for incubation and company launch. The facility is equipped with end-to-end GaN wafer production and device fabrication tools, housed within India's largest academic class 100 cleanroom facility at the National Nano Fabrication Centre (NNfC). This infrastructure supports comprehensive research and development in GaN technology, enabling advancements in various applications such as high-frequency and power devices.

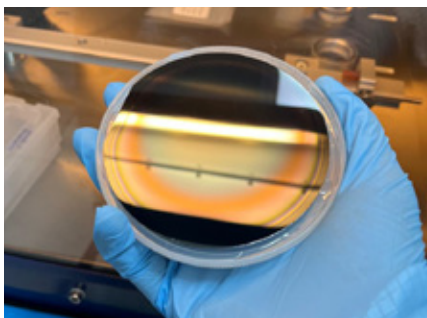




Highlights:

- GEECI fab installation was completed during 2024. All 35 tools are now installed, commissioned, qualified, and production ready.
- GEECI's production-grade MOCVD reactor set up was completed in September which gives the GaN ecosystem in IISc the capability to produce homegrown GaN wafers.
- Agnit did a \$3.5 million fund raise in seed round (incense may capture this point too).
- GEECI's packaging line started serving new customers such as Honeywell, TE connectivity, HHV and Izmo for low volume electronics packaging requirements.

The **Incubator for Nano Science and Engineering** (INCeNSE) is a specialized **Technology Business Incubator** (TBI) at the **Centre for Nano Science and Engineering** (CeNSE), **Indian Institute of Science** (IISc), Bengaluru. Funded by the Government of Karnataka, INCeNSE supports entrepreneurs and startups in nanotechnology and deep science fields, providing access to state-of-the-art laboratories, fabrication facilities, and expert mentorship. Its programs include pre-incubation for idea validation and incubation for business development, aiming to transform innovative concepts into market-ready products.



Incubation updates:

Meerkats HeatCrafters Pvt. Ltd.

specializes in advanced thermal management solutions for semiconductors and electronics. The company's innovative Multi-Functional Nanocomposite-Hybrid Coatings (MNC) address critical challenges in thermal conductivity and durability. By enhancing the lifespan and performance of electronic components, HeatCrafters reduces e-waste, promotes energy efficiency, and aligns with global climate technology goals. Its advancements enable more reliable and sustainable electronics, and also drive socio-economic growth by fostering innovation and creating opportunities within the semiconductor ecosystem.

CPDMed TBI

(cpdmed.dm.iisc.ac.in)

specializes in incubating and supporting founders who are building products in the area of MedTech and geriatric healthcare, providing resources for the development of advanced medical devices and systems tailored to the needs of an aging population.

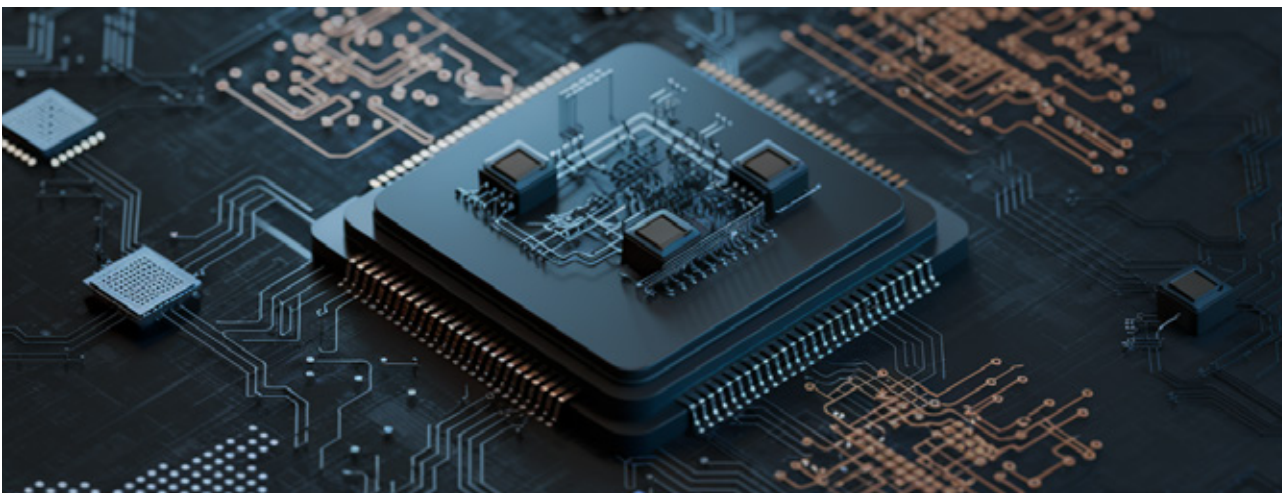
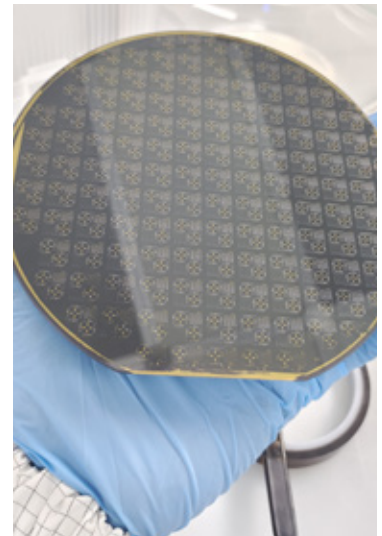
Newtorr Pumps & Systems Pvt. Ltd.

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Easecan MedTech Pvt. Ltd. is revolutionizing neonatal care by building innovative products for neonatal hearing screening, highlighting MedTech's transformative impact on early healthcare.



Funding Highlights





Theranautilus Pvt. Ltd. raised a funding of **\$1.2 million** in its seed fund raise led by Pi Ventures.

AGNIT Semiconductors Pvt. Ltd. raised **\$3.5 million** in a seed funding round. The investment was led by 3one4 Capital and Zephyr Peacock.

Spacefields Pvt. Ltd. raised **₹6.5 crore** in a seed round led by HVB88 angels.

Nabhdrishti Aerospace Pvt. Ltd. secured **₹3 crore** in a seed round led by IIMA ventures.

AI Health Highway Pvt. Ltd. raised over **\$1 million** in funding led by Turbostart, driving advancements in health-tech AI

Astrom Technologies Pvt. Ltd. completed their Series B round, raising **₹80 crore**.

General Aeronautics raised **₹61 crore** from a large Indian MNC.

Ykrita Lifesciences Pvt. Ltd. raised **₹25 crore** in a Pre-Series A round led by Venture Catalyst.

Morphing Machines Pvt. Ltd. secured **\$2.76 million** in a seed round led by Speciale Invest.

Our Supporters



FSID recognizes that early-stage capital is crucial for deep science startups to navigate the challenging journey from ideation to commercialization. To address this need, FSID actively collaborates with corporate and government agencies to create funding opportunities and support mechanisms for emerging ventures.

Over the years, FSID has secured various grants and programs that have directly benefited its startups. This past year, we tied up with SIDBI and have received a funding grant of Rs15cr to support deep tech startups. In addition, we have received a CSR grant of Rs. 2.41 crore from HHSIF, the philanthropic arm of Honeywell India; a 2cr grant from EXIM Bank, and additional support from corporates such as Infineon India Pvt. Ltd.. Such funding plays a pivotal role in empowering startups to develop transformative solutions, scale their innovations, and address critical market needs. By fostering partnerships and facilitating access to early-stage capital, FSID is not only helping startups overcome financial barriers but also building a robust ecosystem that drives sustainable and impactful entrepreneurship.

The Honeywell logo, featuring the word "Honeywell" in a bold, red, sans-serif font.



**Foundation for Science
Innovation and Development**
established by IISc