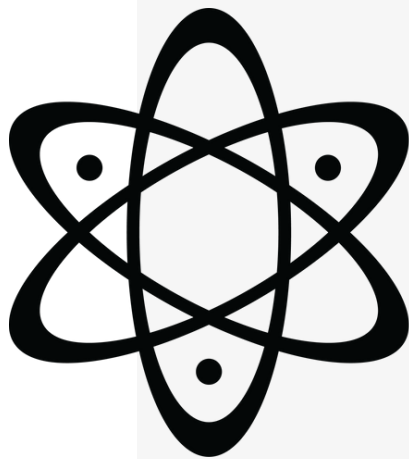


ROSA TECHNOLOGY PRIVATE LIMITED

KEEP CREATING

COMPANY PROFILE



ROSATM
T . E . C . H

SUPPORTED BY



IIT KANPUR



INCUBATION AND INNOVATION

STARTUP
INCUBATION AND
INNOVATION
CENTRE
IIT KANPUR

WWW.ROSATECH.IN

ABOUT US

05



A LITTLE BIT ABOUT OUR HUMBLE COMPANY

We are a team of young individuals with the aim to develop a sustainable ecosystem with cutting-edge technology. Our vision is to develop the most advanced research, testing, and manufacturing facility for robotics.

Rosa Tech is an early-stage deep tech startup working in robotics, embedded systems, and supporting technologies.

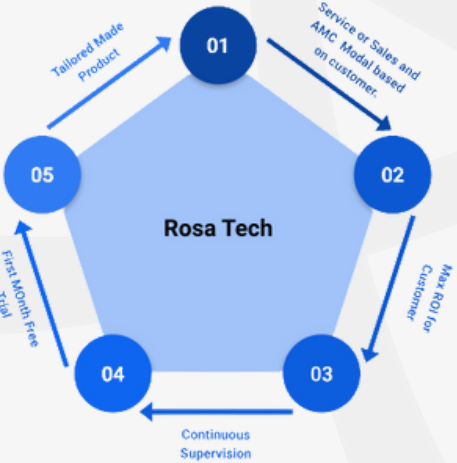
OUR APPROACH

WE PUT GREAT EFFORT INTO RECRUITING INDIVIDUALS WITH SIMILAR MINDSETS AND PASSIONS.



We encourage a positive and friendly team culture from which naturally transpires creativity, eagerness, innovation and excitement about the results we yield for our customers. Our work philosophy and tireless team efforts are reflected in the relationships we build with our customers where outstanding customer service and transparency is guaranteed.

At Rosa Tech, we approach a problem in a holistic way by studying each of the constraints and discussing them with every the stakeholder involved. We then strive to develop a sustainable, secure, superior, economical and efficient solution that can be implemented on a large scale.



PARTNERSHIPS & COLLABORATIONS

AT ROSA TECH, WE VALUE ON BUILDING LONG-TERM RELATIONSHIPS THAT CAN DRIVE INNOVATION THROUGH CREATIVE THINKING AND BUILDING THE PRODUCT FOR THE FUTURE.



SIIC, IIT Kanpur



Jyoti Cero Rubber



Department of Science and Technology,
Government of India



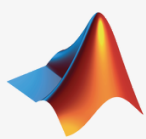
IIT Kanpur



Innovador Infotech Pvt Ltd.



Autodesk Fusion 360 for Startups



MathWorks® Microsoft for Startups

Matlab for Startups

Microsoft for Startups

- We are an Incubated Startup at SIIC, IIT Kanpur, and have access to India's biggest Technical Incubator ecosystem.
- Jyoti Cero Rubber, Innovador Infotech Pvt. Ltd. gives us access to their infrastructure for product development.
- We are selected for some of the world's biggest startup programs and have free access to the ecosystem of Mathworks, Autodesk and Microsoft.
- We had also received grant from the Department of Science and Technology, Government of India

WE HAVE PARTNERED WITH LEADERS OF THEIR RESPECTIVE FIELDS.

OUR SCOPE OF WORK

OUR AREA OF RESEARCH AND EXPERTISE

- **3D Printing:** We use Aeqon 400 V3 | Mid-size double extruder FDM-based 3D printer with an industrial-grade build quality that ensures reliable print cycles. We also have partnered with **Med Tech Lab, IIT Kanpur** to provide customized application development.
- **Printed Circuit Board:** We develop, design, prototype and manufacture PCBs. With the support of **Autodesk StartUp Cohort**, we have access to the Fusion 360 ecosystem for engineering development.
- **Embedded Systems:** Our core strength is designing, developing, and producing Embedded systems. With our application-oriented team and access to Labs like the **National Flexi Electronics Laboratory, IIT Kanpur** we can test and validate our solutions and provide you with full-proof products.
- **Control System:** We are also working on customized control systems based on the application as C++ and embedded C as our primary language. We were also supported by Mathworks under its cohorts and had full access to Matlab for development.
- **Material Engineering:** We had partnered with Jyoti Cero Rubber for environment-specific application development that works in the tandem of rubber, polymer, UHM, etc.
- **Cross-Platform Applications:** After developing numerous applications for android, ios, windows and Linux we have developed a keen understanding of cross-Platform applications. We work with software like Flutter, Android studios, Java, Kotlin, dart, etc. to develop applications.
- **Backend Full-Stack Development.** Our team is cable in handling end-to-end backend development for different products and embedded systems at scale. With the support of **Microsoft for Startups Program**, we have access to Visual Studio Professional, Azure cloud, etc. We develop solutions in C++, Python, Node.js, etc.
- **Cad and Cam:** We had an extensive R&D design team to develop, simulate, prototype and manufacture product designs for end users. With the access of **Imagine Lab, IIT Kanpur** we have access to precision CNC and machining technology.
- **IoT:** We live in the age of connectivity. Industry 4.0 has emphasized the importance of IoT and the connectivity of everything to everything. We have worked with Wi-Fi, RF, BLE, and Lora-Wan with several wireless technologies. We also have an in-house hybrid high-bandwidth and low latency data transfer protocol. Security being a major criterion we have MOU with Cert certified **Innovador Infotech Pvt. Ltd.** to secure our end product and networking channels.

OUR PRODUCTS

ASTRA

A mobility platform and ecosystem ideated, designed and manufactured to solve intra-logistics automation, sensing, monitoring and safety in the heavy industries, defense and agriculture.



ASTRA IS DESIGNED TO WORK AS A MULTIPURPOSE MOBILITY PLATFORM WITH MINOR DESIGN CHANGES.

- **Autonomous Intralogistics:** The intralogistics within a workspace is a tedious and time-consuming repetitive task. This leads to operational inefficiencies, productivity loss, and hindrance in the workflow. According to some studies, intra-logistics approximately loss 7Cr per 1000 sq meters of space.
- **Autonomous Surveillance:** Surveillance poses a great challenge in terms of deploying manpower and logistics and still it can lead to huge lapses in the security of the plant. On the other hand surveillance of several areas poses a different challenge as it is extremely difficult to work in certain areas because of their hazardous conditions and the unwillingness of the personnel to work in those areas.
- **Autonomous Mapping:** Mapping the plant, the hazardous, workshop, and critical component provides accurate information about the location of structures in the plant and helps you better understand the plant and plan the upcoming projects accordingly.
- **Unmanned Fire Fighting:** Fire breakout is a challenge for heavy industries, leading to loss of life and property, loss of production, etc.
- **Debris Removal Robot:** Debris falls below the belt conveyor poses a huge maintenance problem. Our mobility platform can be modified to do excavation task in congested dangerous areas
- **Underground Mine Reclamation:** Mines once used can be reclaimed back to ecologically functioning and economically usable state. We develop robots that can solve the logistics difficulty related to the task.
- **Underground Mine Explorations:** Mine exploration puts the workforce at huge risk. We can deploy our robots to de-risk the whole process and provide a sustainable method to the whole process.
- **Intelligent Autonomous Mine Water Spraying:** With the help of computer vision and AI/ML mine water spraying can be automated which be further programmed to use water efficiently.
- **Critical Inspection:** A lot areas in steel plant and mines need regular inspection, these areas are sometimes congested and dangerous because of various reasons. Our robots can provide with necessary support to completely remove workforce from that area.

OUR PRODUCTS

SIMPAS

SIMPAS stands for **Smart Idler Monitoring And Prediction Systems**. A green idler solution that reduces and predicts the random breakdown of the conveyor systems is user-friendly and scalable.



THE HEALTH OF THE BELT CONVEYOR IS HIGHLY ASSOCIATED WITH THE PROPER FUNCTIONING OF THE IDLER. THIS BEING A GINORMOUS TASK CONSUMES A LOT OF MAPOWER. WITH THE HELP OF OUR SYSTEM WE CAN MOINTOR THE FUNCTIONING OF THE IDLERS

Monitoring System:

Through monitoring various parameters, we could figure out the functioning of the idlers and thus the health of the entire belt conveyor.

- Bearing Temperature
- Ambient Temperature of the Idler.
- RPM of The Idler:
- Vibration of the idler
- Depletion of the polymer Coating, if any.

Prediction System:

The data generated in the monitoring system can be fed into the AI/ML model, which then is trained to discern an anomalous idler behavior form the rest through pattern recognition and can predict the approximate life of the idler and the optimum replacement time

BENEFITS FROM SUCH SYSTEMS ARE IMMENSE. IT WILL SAVE THE MAINTENANCE COST AND THE MANPOWER REQUIRED FOR MAINTENANCE AND MANAGEMENT OF THE CONVEYOR SYSTEM. IT WILL BOOST PRODUCTIVITY, DECREASE DOWNTIME AND DRIVE DOWN THE INVENTORY AND RELATED COSTS FOR THE IDLERS.

OUR ACHIEVEMENTS.



CDAC Finalist



3M CII Young Entrepreneur Challenge Semi-Finalist



Abvil, Government of Jharkhand

THE TEAM

WE ARE A TEAM OF ENGINEERS, WITH A YOUNG AND DYNAMIC CORE TEAM WITH RELEVANT EXPOSURE TO DIFFERENT INDUSTRIES. WE HAVE AN EXCELLENT ASSORTMENT OF MENTORS AND ADVISORS THAT HAVE A COMBINED EXPERIENCE OF MORE THAN 100 YEARS.



ROHIT ANAND
CEO, FOUNDER



SAKET ANAND
COO, CO-FOUNDER

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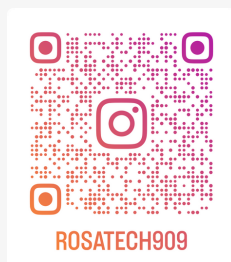
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ROSE
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