



CIL INNOVATION & INCUBATION CENTRE

भारतीय प्रौद्योगिकी संस्थान
भारतीय खनि विद्यापीठ
धनबाद



IIT ISM
INDIAN INSTITUTE
OF TECHNOLOGY
INDIAN SCHOOL OF MINES
DHANBAD

Legacy that Inspires the Future



**IIT (ISM)
DHANBAD**
1926-2026

Quarterly Report

**CIL Innovation
& Incubation
Centre**
IIT ISM (Dhanbad)



October - December 2025



कोल इण्डिया लिमिटेड
Coal India Limited
भारत सरकार का उपक्रम
A Government of India Undertaking
एक महारत्न कंपनी A Maharatna Company



TEXMiN
Technology Innovation Hub of IIT (ISM) Dhanbad



FROM THE DESK OF HOC

CIL Innovation & Incubation Centre IIT (ISM) Dhanbad

It gives me immense pleasure to present the Quarterly Report of the CIL Innovation & Incubation Centre, IIT(ISM) Dhanbad, highlighting the key activities and achievements during the period October to December 2025. This quarter was marked by a series of impactful initiatives aimed at strengthening the Centre's innovation ecosystem. The CII team made notable progress in enhancing PCB (Printed Circuit Board) prototyping capabilities, supporting the development of research-driven prototypes, startup projects, and innovative solutions. The Centre's facilities, products, and advanced equipment were also showcased to students, industry executives, and visiting guests.

Major highlights include the successful organization of an online PitchFest under the Entrepreneurship Excellence Program (E2P) Cohort 1.0 on 15 November 2025, in collaboration with Moonpreneur, followed by the Zero Session of E2P Cohort 2.0 on 26 November 2025, which witnessed enthusiastic participation from 55+ students.

This quarter, the 4th Governing Body Meeting was held on 8th November at IIT(ISM) Dhanbad to review the Centre's second-year progress. The meeting acknowledged steady advancements in infrastructure, startup support, and ongoing projects.

Additionally, the Centre successfully conducted the Project Evaluation Presentations under the Pre-Incubation Program on 16 December 2025, providing a valuable platform for innovators to showcase progress and receive expert feedback.

RKSinha

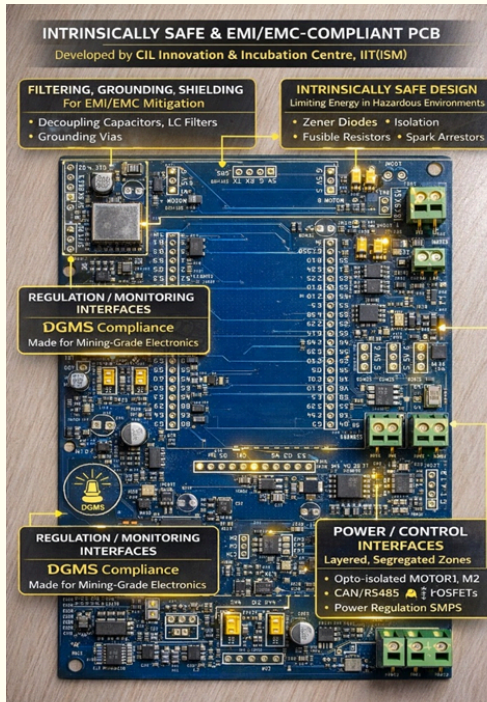
Prof. Rabindra Kumar Sinha
Head of the Centre

**CIL Innovation & Incubation Centre
IIT(ISM) Dhanbad**



EVENT & ACTIVITIES:

Innovation in Progress: PCB Prototyping and Product Development at the Centre



The centre designed and implemented a highly electronically complex, multi-interface control and sensing platform, in collaboration with TEXMiN. The board integrates dense routing, multiple power and signal domains, and a wide range of peripheral interfaces (motor control, sensors, communication buses, and power conditioning), making it inherently challenging from an EMI/EMC and safety point of view.

From the design stage itself, EMI/EMC mitigation principles were systematically embedded into the layout, including controlled impedance routing, optimised ground referencing, segregation of noisy power electronics from sensitive low-level signal paths, and strategic placement of decoupling, filtering, and protection networks. Such design practices are mandated from a DGMS compliance perspective for electronic systems intended for deployment in mining and hazardous environments, where uncontrolled emissions and susceptibility can directly impact operational safety and system reliability.



In parallel, the PCB reflects a strong emphasis on intrinsically safe (IS) design philosophy, addressing energy limitation, fault tolerance, and safe interfacing with external sensors and actuators. These considerations align with DGMS requirements and relevant IEC intrinsic safety standards, which necessitate rigorous control over fault energy, creepage/clearance, and external interface behaviour in underground and explosive atmospheres.

The successful realisation of this PCB highlights the advanced design capability and domain expertise of the CIL Innovation & Incubation Centre team at IIT(ISM) in executing DGMS-mandated, EMI/EMC-compliant and intrinsically safe electronic architectures. The centre's ability to translate regulatory, safety, and system-level constraints into a robust, manufacturable PCB demonstrates its strength in delivering compliance-ready, mining-grade electronic systems for research, prototyping, and field deployment.

4TH GOVERNING BODY MEETING:

The 4th Governing Body (GB) Meeting of the CIL Innovation & Incubation Centre was convened on November 8, 2025, at IIT (ISM) Dhanbad. During the meeting, the GB reviewed the progress of the Centre comprehensively. Key areas of discussion included the development and strengthening of physical and technological infrastructure, the steady growth and performance of pre-incubated startups, and the status of ongoing research, innovation, and project-based initiatives supported by the Centre.

Updates highlighted activities undertaken during the year, including collaborations, seminars, conferences, workshops, and events conducted at the centre, aimed at fostering innovation and entrepreneurship. The GB appreciated the Centre's active engagement with students and its efforts to create an innovation ecosystem.

The GB noted significant achievements and acknowledged awards received by the Centre's startup. Overall, the Centre demonstrated strong technological advancement and meaningful contributions to the mining sector.



EQUIPMENT PROCURED DURING THE QUATER:

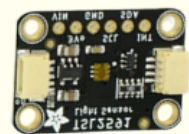
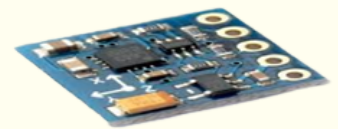
Sheet Metal Bending Machine & Electronic Sensor

During the period Oct-Dec 2025, the CIL Innovation & Incubation Centre enhanced its laboratory capabilities by purchasing essential equipment to support ongoing student-led projects. The newly acquired Sheet Metal Bending Machine will facilitate prototype development for mechanical and manufacturing-focused projects, allowing students to conduct precision fabrication and testing.



Additionally, an Electronic Sensor Module was procured to support research and development activities related to automation, monitoring systems, and sensor-based solutions.

These acquisitions demonstrate the Centre's ongoing commitment to providing advanced infrastructure that empowers innovators to turn their ideas into functional prototypes and impactful technologies.



Student Visit and Demonstration at the CII Centre Labs



INSPIRING YOUNG MINDS



A brief demonstration of the facilities at the CII Centre Labs, along with a showcase of the innovative products developed at the CIL Innovation & Incubation Centre, was organized for the students. The visit provided the students with valuable exposure to cutting-edge technologies, research facilities, and innovation-driven projects, encouraging them to develop curiosity and interest in science, technology, and entrepreneurship.

Academic Outreach: Visit of SSVM Giridih at CIL Innovation & Incubation Centre

The CIL Innovation & Incubation Centre hosted students and faculty from Saraswati Shishu Vidya Mandir (SSVM) Giridih on 16th and 19th December 2025 as part of its academic outreach initiatives. The visit aimed to provide exposure to the Centre's innovation ecosystem and research facilities encouraging young mind towards innovation and entrepreneurship.

During the visit, participants walked through the Design Thinking Lab, AR-VR Lab, Mine Automation Lab and interacted with officials of the Centre, gaining insights into ongoing innovation activities and applications of technology in the mining sector. The initiative reflects the Centre's commitment to fostering scientific temper and promoting innovation among young learners.



PITCHFEST: ENTREPRENEUR EXCELLENCE PROGRAM (E2P)

Pitchfest



PITCHFEST
ENTREPRENEUR EXCELLENCE PROGRAM (E2P)
CIL INNOVATION & INCUBATION CENTRE,
IIT(ISM)DHANBAD, AND MOONPRENEUR

15 NOVEMBER
2025

MOONPRENEUR
Future-proofing the Next Generation
IN COLLABORATION WITH
IIT Dhanbad (ISM Dhanbad)
PRESENTS
PITCHFEST

MOONPRENEUR
PRESENTS
WildBloom
Elisir of Power
Team Members:
ALI SHASH

MOONPRENEUR
PRESENTS
VoltShare
Community EV Charging Network
Team Members:
GYANAVI NAYAR

MOONPRENEUR
PRESENTS
FreshBox
Team Members:
TEJASWINI

Honorable Guests

Prof. R.K. Sinha
Head of CII Centre, IIT(ISM)

Mr. Alok Jaini
CEO of Moonpreneur

Mr. Day Veerlapati
CEO & President of S2Tech

Panelist

Mr. Rahul Raj
CEO, CII Centre IIT (ISM)

Mr. Prashant Vajpayeej
Senior Product Manager at Salesforce

Mr. Prateek Sachdevj
Expertise in Innovation & Startups

CIL INNOVATION & INCUBATION CENTRE
Innovation, Incubation & Entrepreneurship -
IIT(ISM) Dhanbad
In Collaboration
MOONPRENEUR
Future-proofing the Next Generation
PRESENTS
ENTREPRENEURSHIP AND LEADERSHIP
DEVELOPMENT PROGRAM
Cohort 1.0
Powered by **S2Tech** **Future Fund**

PITCH FEST (E2P)

A PitchFest was organised under the Entrepreneurship Excellence Program (E2P) Cohort 1.0, offering participants a platform to present their innovative business ideas. Students from various academic backgrounds pitched their concepts with clarity and creativity, receiving valuable feedback from the reviewing panel. Conducted by the CIL Innovation & Incubation Centre, IIT (ISM) Dhanbad, in collaboration with Moonpreneur India Pvt. Ltd., the event highlighted the cohort's enthusiasm and strengthened their entrepreneurial skills.

Entrepreneur Excellence Program Cohort 2.0

Zero Session Successfully Conducted

The Zero Session of the Entrepreneurship Excellence Program (E2P) Cohort 2.0 was successfully conducted online on 26th November 2025. The session witnessed enthusiastic participation from more than 55 students, representing diverse academic backgrounds and showcasing a strong interest in innovation, entrepreneurship, and experiential learning. The Zero Session introduced participants to the program structure, key objectives, and the exciting opportunities they will explore in the next 18 weeks, starting from 26th November 2025.

ENTREPRENEUR EXCELLENCE PROGRAM (E2P) COHORT 2.0

CIL INNOVATION & INCUBATION CENTRE, IIT (ISM) DHANBAD, AND MOONPRENEUR

For the students and working professionals

Learn the fundamentals of Entrepreneur Excellence from seasoned educators and global business leaders

Management Offering Free Enrollment to The First 30 IIT ISM Students

POWERED BY: S2Tech Enabling Client Success and Fortune Fund

ABOUT THE PROGRAM



Developing & Delivering Startup Business Idea



Learn about Entrepreneur Excellence and



Tips and Tricks to Become a Successful



Getting Ready for the Future

The successful commencement of the Zero Session sets a promising tone for the upcoming modules and activities of E2P Cohort 2.0. The organizing teams from both CIL Innovation & Incubation Centre and Moonpreneur India Pvt. Ltd. extend their best wishes to all participants for a fruitful learning experience ahead.

AccuDepth Pro: Patent Filed for Advanced Trench Depth Profiling Device

Device for finding the depth profile of trenches with super-accurate location.

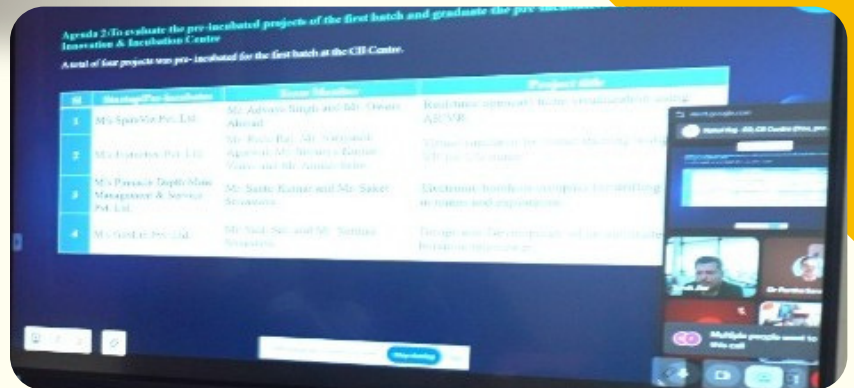
AccuDepthPro is a device for real-time, accurate trench depth profiling using LiDAR scanning synchronized with RTK GNSS positioning. It achieves <10 cm absolute and 2-3 cm relative accuracy. Data is transmitted via IoT to mobile/web dashboards for live monitoring. The system, when scaled up, improves safety, efficiency, and decision-making in mining by automating overburden measurement, ore zone delineation, and volumetric analysis.

The innovation addresses critical challenges in infrastructure, construction, and utility assessment by offering superior accuracy and reliability. The patent was applied for by the team's inventors at the CII Centre in November 2025. This development highlights CIL's continued commitment to fostering cutting-edge, application-oriented research and indigenous technological solutions.



Pre-Incubation Programme: Evaluation and Selection of Innovative Ideas

The CIL Innovation & Incubation Centre conducted a Pre-Incubation Drive on 16th December 2025 as part of its structured selection process for identifying high-potential candidates and innovative ideas for Pre-incubation and Seed Funding under the Centre's incubation framework.



The program aimed to identify promising innovations in the mining sector and to provide focused mentorship and institutional support to transform selected ideas into viable products with entrepreneurial potential.

A total of nine proposals were received and evaluated by the Standing Project Evaluation Committee (SPEC). Based on the quality of innovation, technical feasibility, and entrepreneurial potential, two proposals were selected for Pre-incubation in the CIL Innovation & Incubation Centre.

This initiative reflects the Centre's continued commitment to fostering innovation, supporting entrepreneurial talent, and strengthening the innovation ecosystem in the mining sector.



Team Profile of the CII Centre



Prof. R.K Sinha
Head of the Centre



Mr. Rahul Raj
Executive Officer



Mr. Deepak Kuamr
Technical Assistant



Mr. Binod Kumar
Technical Assistant



Mr. Vimal Kr. Mahato
Junior Technician



Mr. MD. Shourab
Junior Technician



Ms. Arti Kumari
Office Assistant



Mr. Rohit Kr. Goswami
Young Professional



Mr. Neetish Raj
Young Professional