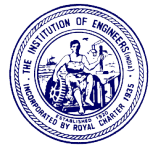




Engineering Staff College of India

Mining Division



4-Day Residential Professional Development Programme

Leveraging Advanced Technology to Enhance Performance in Opencast Mines”

16-19 June 2026

Introduction

The mining industry is undergoing a rapid transformation driven by the integration of digital technologies that enhance safety, streamline operations, and boost productivity. To stay ahead in this evolving landscape, it is essential for professionals to understand and effectively apply these innovations.

It offers a comprehensive overview of the latest digital tools and strategies revolutionizing the mining sector. Participants will gain insights into smart sensors, automation, data analytics, remote monitoring, and AI-driven systems that are redefining operational efficiency and workplace safety.

Objectives

This programme aims to equip mining professionals, engineers, safety officers, and decision-makers with a comprehensive understanding of how emerging digital technologies can be effectively applied to enhance safety and boost productivity in mining operations. Participants will explore the latest advancements in areas such as real-time monitoring systems, automation, data analytics, artificial intelligence, IoT, and drone-based surveillance. The training will focus on practical insights into implementing smart mining solutions, improving hazard detection, reducing operational risks, and optimizing resource management. By the end of the programme, attendees will gain actionable knowledge and skills to drive digital transformation in their respective mining environments, aligning with global best practices and regulatory standards.

Benefits to the Participant

To learn and understand, practical insights into how tools such as IoT, AI, real-time monitoring, automation, and data analytics can significantly enhance operational safety and productivity. Through expert-led sessions, and interactive discussions, attendees will learn to identify, evaluate, and implement digital solutions tailored to their specific mining environments.

Course Coverage

- Introduction to Industry 4.0 in Mining
- Key concepts: IoT, AI, Big Data, Cloud, Automation
- Smart Mining Infrastructure
- Real-Time Monitoring Systems
- Remote Sensing and Geospatial Technologies
- Use of Drones, LiDAR, GIS
- Wearables, Proximity Sensors and Fatigue Monitoring

- Real-Time Environmental Monitoring
- Noise / Vibration Analysis
- AI and Machine Learning for Safety Insights
- Autonomous and Semi-Autonomous Equipment
- Fleet and Asset Management Solutions
- GPS tracking, Utilization Analytics, and Maintenance Alerts
- Integrated Decision Support Systems
- Cybersecurity and Data Governance in Digital Mines

Methodology

- Lectures/presentations by identified industry experts and eminent faculty/resource persons in the classroom.
- Interactive sessions.

Target Participants

This programme would be useful to mining engineers, safety officers, operations managers, and technical staff.

Programme Dates & Timings

16-19 July 2026

10.00 a.m. - 5.30 p.m. each day

Resource Persons

The faculty consists of experts from the industry, research establishments and academia besides in-house faculty of ESCI.

Course Fee for 4-Days:

- **Residential: INR 27,000/-**(Rupees Twenty Seven Thousand only) per participant which includes course material, course kit, single sharing AC accommodation, breakfast, lunch, dinner, tea and snacks during the actual days of training programme.
- **Non-Residential: INR 21,000/-**(Rupees Twenty One Thousand Only) per participant which includes course material, course kit, lunch, tea and snacks during the actual days of training programme.
- **Special concession of 10% in course fees to organization for 5 or more delegates attending the programme.**
- **GST @18% is to be paid extra over and above the course fee.**
- **ESCI provides complimentary accommodation to participants a day prior to the commencement of training programme and a day after the conclusion of the programme (check in & check out at 12:00 noon respectively).**
- **Overstay will be charged as per ESCI norms.**

PAN: AAATT3439Q, GST No: 36AAATT3439Q1ZV, HS No.: 999293 (under commercial training or coaching services – clause 65(105) (ZC) of Finance act – 1994).

Course fee is to be paid in favour of “**THE I.E.(I) – ENGINEERING STAFF COLLEGE OF INDIA**” in the form of demand draft payable at Hyderabad. Alternatively the payment may be made by **Electronic Fund Transfer (EFT)** to ESCI –**SB A/c No. 33705165550 with State Bank of India, Manikonda Branch, Door No.2-30/1, Indira Nagar, Gachibowli, Hyderabad – 500032, our NEFT/RTGS/IFSC Code No. SBIN0011076 – MICR No. 500002107.** *While using EFT method of payment, please ensure to communicate your company name, contact details, our invoice reference and programme title.*

Registration

To register please send your nominations giving details of name, designation, contact address, fax, telephone, email address and mobile number along with the details of mode of payment of fee, addressed to the **Course Director**.

Certification

A Certificate of participation will be awarded to each participant on conclusion of the programme.

Profile of Expert Speakers



Mr. Sai Sridhar Pagadala Naidu is a visionary entrepreneur, seasoned IT leader, and the Founder & Chief Architect of Extreme-Spartan Cognitive Industries Pvt. Ltd., **an innovation-driven enterprise specializing** in Automation as a Service (AaaS), cognitive automation, and Agentic safety systems. With over two decades of professional experience, he has consistently delivered transformative solutions in enterprise architecture, cloud technologies, and industrial automation, with a strong focus on fire safety, mining safety, and disaster response. Renowned for his pioneering work in AI-powered fire risk management, Mr. Naidu developed AI in the SKY, a platform integrating AI, 5G-enabled IoT, BIM, robotics, and automation to revolutionize fire risk assessment and mitigation. His leadership has also produced flagship products such as Botafly (an AI-driven fire engineering app) and Botobiography (an AI-powered professional representation tool), reflecting his commitment to scalable, human-centric innovation. Having collaborated with global leaders like IBM, NVIDIA, Honeywell, Airbus, and BNP Paribas, Mr. Naidu brings a rare blend of technical mastery and strategic foresight. He is widely respected for architecting audit-grade, lifecycle-aware automation systems that reduce costs, improve efficiency, and unlock new opportunities for industries ranging from aerospace to banking and mining. Driven by a passion for industrializing intelligent automation, Mr. Naidu continues to champion modular, defensible, and regulation-compliant solutions that align with modern infrastructure needs and operational realities, positioning Extreme-Spartan as a national leader in cognitive automation and safety innovation.



Mohammed Abdul Khuddus did his BE (Mining), from Osmania University (Gold Medalist, 1982). He later pursued his Masters in Electrical Engineering & Computer Science from the University of Illinois, Chicago, USA. He worked for AT&T Bell Labs, USA, Motorola, Lucent, Copart in senior executive positions for 2 decades. He is a 30-year Telecom & IT Professional with considerable experience in SW product development, network operations, sales, and business development with a variety of international assignments (USA, Gulf, India), in Wireless and Wireline Telecom Industry, IT & SW Industry. He is currently consultant for the Digital PMO, Cabot Corp., USA.



Dr. G Karthik did B.Tech and M.Tech from Jawaharlal Nehru Technological University, Hyderabad & Ph.D. from NIT Rourkela during 2013-18. He has published various technical papers in 15 International and 5 National Journals, 12 International Conferences and 30 National Conferences and published one Patent. Research areas include Landslides, Slope Stability, Internet of Things, Wireless Sensor Networks, and Soft-Computing. He was conferred with Young Scientist-2019 organized by International Association of Research and Development organization (IARDO) and Homi J Baba Award 2020 by Eudoxia Research Centre. He is working as an Associate Professor, R&D Coordinator, and DQAC Member in the Electronics and Communication Department at Stanley College of Engineering and Technology for Women, Hyderabad. He is a member in various professional bodies such as UACEE, IAENG, IDES, IFERP, IETA and ASR and as an Editorial Board member in various international Journals such as SCIREA Journal of Electrics, Communication and Journal of Advances in Wireless Communications and Networks etc.



Mr Mahesh Kumar T. graduated in Mining Engineering from KSM/OU and post-graduation in Industrial Engineering from NITIE (Mumbai) in 1996. Later he worked with Tata Steel, Sonata Software & Cap Gemini before founding Minematics Solutions in 2018. He has over 2.5 decades of experience in both operations and technology consulting. His expertise lies in using technology to optimize operations and increase efficiency. Currently, at Minematics Solutions, he helps mining, construction and manufacturing companies to gain visibility of operations, identify bottlenecks and improve efficiency through the use of technologies such as IoT, Analytics & Data Science.



Mr Rahul Pinnamaneni

CEO, Founder of Polygon Geospatial Pvt. Ltd., Hyderabad.

He completed M.S. in Civil Engineering (Transportation Planning), UNC Charlotte, USA and M.Tech.in Civil Engineering, GITAM University, Vizag.

Professional Experience: Detail-oriented Civil Engineer with experience in managing different phases of engineering operations. Experience in drone survey, GIS, 3D mapping, traffic engineering, traffic data collection, transportation planning, traffic safety studies, traffic modelling and simulation, ITS, and streetlight design. Ability to generate high-quality leads and convert them into sales desired. Achieve a company's goals that focus on customer satisfaction and customer experience.

As COO and BD Head at Drogo Drones Private Ltd, responsible for developing new business avenues, conducting field visits, drone data collection, analysis and preparing reports with recommendations.



Dr N Srinivasa Rao, Scientist – M.Sc.(Physics) Osmania University. Ph.D (Remote Sensing), JNTU – Hyderabad . His research interests are Remote Sensing, Ocean Colour, Web GIS, and Open Source GIS. He has 20 Years of Research Experience in Remote Sensing Application (Land, Ocean& Atmospheric) and guided 50 Academic Projects. He is a Resource Person to Universities, Academic Institutes & Research Organizations and ESCI.



Dr N Sri Chandras is a Blasting Specialist and a Mine Planner with over 12 years of combined Industry and Academic experience. He holds an M.Tech in Opencast Mining and a Ph.D in Blasting from IIT(ISM). He has strong expertise in AI-Driven Blast Optimization, UAV Based Monitoring and Advanced Mine Planning using tools such as Deswik and Strayos. He has contributed extensively to research with 35 publications including 9 SCIE Q1 papers, and has been involved in diverse mining projects focusing on mine planning and scientific blasting studies. Currently, he is associated with Strayos, USA, as a Senior Solution Engineer, where he works on integrating AI and Data driven technologies to enhance drilling & blasting performance.



Er K J Amarnath a Gold Medalist, in BE (Mining Engineering) from College of Engineering, Osmania University, Hyderabad. He retired as Chief General Manager from The Singareni Collieries Company Ltd. (A Government Company) after rendering a meritorious service of about 38 years in various capacities in Underground and Opencast Technology in Planning & Operations, Human Resource Development, Business Development, Education, Safety, Corporate Planning and Projects. Further, he was Director in NSGPVL, A Joint Venture Company of NTPC Ltd, A Central Government PSU and The Singareni Collieries Company Ltd, A Government Company.

He visited the United Kingdom, Spain, United States of America & Australia which enhanced his Technical, Managerial & Business Skills. He is also a holder of First Class Manager's Certificate of Competency issued by The Director General of Mines Safety, Ministry of Labour, Government of India. He is a Fellow of Institution of Engineers (FIE) and Life Member of Institution of Engineers, MEAI (Mining Engineers' Association of India), Vice-Chairman of MGMI (Mining, Geology, Metallurgical Association of India),Hyderabad Chapter and Vice-President of The Alumni of Mining Engineers' Association (Osmania University)

Presently, he is working as Senior Faculty-Head, Mining Division, Engineering Staff College of India, Hyderabad.

Course Director

Er K J Amarnath, FIE

Course Director

Sr. Faculty& Head

Mining Division

mining@escihyd.org

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