

## OBJECTIVES OF THE TRAINING WORKSHOP

The Training Workshop intends to provide basic knowledge on the subject through interactive lectures about various aspects of the Industry 4.0 framework and explore the disruptive management practices of Industry 4.0 with various opportunities and challenges of the energy management in Industry 4.0 era.

## TOPICS

### Technical Session 1: INDUSTRY 4.0 CONCEPT AND TECHNOLOGIES

- Digital Manufacturing and Design (DMD)
- Industrial Internet of Things (IIoT)
- Cyber Security and Block chain for Industry 4.0
- Reactive to Proactive Maintenance through IoT
- Industry 4.0 New working methods and business models

### Technical Session 2: INDUSTRY 4.0 AND SUSTAINABLE ENERGY

- Industry 4.0 and Renewable energy
- Regulatory changes that drive Sustainable energy
- Sustainable Energy Technology and Products

### Technical Session

- 3A: PRESENTATION BY NAM DIGNITARIES.  
3B: PANEL DISCUSSION

### Technical Session 4: Energy Management for Industry 4.0

- Driving Energy Efficiency through the Industry 4.0 Approach
- Technologies for Energy Management for Industry 4.0.

## RESOURCE PERSON

The resource persons for the Training Workshop will comprise eminent experts and professionals in the relevant fields from India and abroad.

## PARTICIPANTS

Researchers, scientists, technocrats, academicians innovators, government officials and policy makers, legal experts, and representatives from industry and nongovernment organizations - who are engaged in the field of Technology, Industry and Energy, are invited to participate in this Virtual Training Workshop. The combination of participants from various developing countries will allow for exchange of knowledge, ideas and experiences as well as opportunities for global networking and collaboration.

*English will be the official language of the programme.*

## PARTICIPATION FEES

Indian Delegates: Rs. 2,000 (Including GST)

SEEM Members and Students: Rs. 1,000 (Including GST)

SEEM Student Members: Rs. 500 (Including GST)

Group Discount of 10% apply for delegates registering as a group of 5 or more.

E-Certificate will be issued to participants who will attend all the sessions

## REGISTRATION LINK

<https://forms.gle/peugrLQVokQrjZ7J7>

## ADVISORY COMMITTEE

Mr. M C Jain President , SEEM

Dr. C S Azad General Secretary , SEEM

Dr. Vivek Nanoti Director (LTJSS-Engg.),PCE, Nagpur

Dr. M. Chaudhari Dean (R&C), VNIT Nagpur

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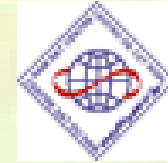
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**SOCIETY OF ENERGY ENGINEERS  
AND MANAGERS, INDIA (SEEM)**

**AND**

**CENTRE FOR SCIENCE &  
TECHNOLOGY OF THE NON-ALIGNED  
AND OTHER DEVELOPING  
COUNTRIES  
(NAM S&T CENTRE)  
NEW DELHI, INDIA**

**ORGANIZES  
INTERNATIONAL TRAINING  
WORKSHOP  
ON**

**INDUSTRY 4.0 AND ENERGY  
MANAGEMENT  
(A VIRTUAL EVENT)**

**JANUARY 19-20, 2022**

**HOSTING PARTNER**

**LOKMANYA TILAK JANKALYAN SHIKSHAN SANSTHA'S  
PRIYADARSHINI COLLEGE OF ENGINEERING,  
NAGPUR(M.S.)**

**Committee Chairman**

**Prof. Mohan Khedkar, VNIT, Nagpur**

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## INTRODUCTION

The global manufacturing sector has witnessed various industrial revolutions. Currently in the fourth industrial revolution phase high technological production strategies blended with intelligent decision support system, takes the sector to new heights of productivity.

The principle of Industry 4.0, unlike the traditionally hierarchical and centralized manufacturing system, exhibits a decentralized architecture in which autonomous industrial things connect with one another. These autonomous things interact among themselves with a connected Decision Support System (DSS) to self-diagnose and self-respond in the overall manufacturing scenario. The technologies that are incorporated for the decision-making are the Internet of Technology (IoT), Cloud Computing, and Big Data. The overall framework of these technologies is connected under a common platform called Cyber Physical System (CPS). CPS is a backbone of Industry 4.0, where the physical world and virtual space are linked for a live communication environment of the shop floor. CPS provides a live digital copy of industrial assets and processes. The robust analytical decision-making system utilizes the real data captured from the various sensor devices attached to industrial physical environment. Inequalities between the economic developments of industrialized, emerging economies and developing countries could further deepen, if all countries cannot tap into digital development benefits.

Energy availability, reliability and manageability are essential ingredients of energy-critical buildings and manufacturing processes in the scope of Industry 4.0. This is driven by a mix of environmental factors, cost challenges, regulations, proactive energy consumption capabilities and the integration of alternative sources of energy in the energy mix. Industry 4.0 requires innovative technological solutions capable of limiting energy waste and providing real-time control over consumption. In short, without energy management, there is no Industry 4.0.

To keep abreast of the growing significance of Industry 4.0, to deliberate upon the role of energy management in Industry 4.0, to impart skills and knowledge on the principles and practices of energy management for emerging manufacturing processes and premises in future, the Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre) is organizing a two days International Training Workshop on 'Industry 4.0 and Energy Management' during January 19-20, 2022 jointly with the Society of Energy Engineers and Managers (SEEM), India. The Workshop will be held in Virtual Mode.

## ABOUT THE ORGANISORS

### NAM S&T CENTRE

The Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre; [www.namstct.org](http://www.namstct.org)) is an Inter-Governmental Organisation with a Membership of 47 countries spread over Asia, Africa, Middle East and Latin America. The Centre was set up in 1989 in New Delhi, India to undertake a variety of programmes, including organization of workshops, symposiums and training courses and implementation of collaborative projects. It also offers short-term Research Fellowships to scientists from developing countries in association with the Centres of Excellence in various countries. The Centre also brings out technical books and other scientific publications in different subjects of interest to developing countries. The Centre's activities provide opportunity for scientist-to-scientist contact and interactions; familiarizing participants on the latest developments and techniques in the subject areas; identification of the requirements of training and expert assistance; locating technologies for transfer between the Members and other developing countries, and dissemination of S&T information etc. In addition, the Centre encourages Academic-R&D-Industry interactions in the developing countries through its NAM S&T-Industry Network.

### SOCIETY OF ENERGY ENGINEERS & MANAGERS (SEEM)

Society of Energy Engineers and Managers (SEEM), India is the national professional body of Certified Energy Managers, Auditors and energy professionals in India. SEEM has 15 chapters and 7 centers, spread over 22 states and is engaged in delivering networking and skill development opportunities to its members, by organizing training programs, workshops, etc. SEEM works to help industries achieve the important goal of realizing energy efficiency, choosing the right service that gives the best possible outcome from energy audits, and engaging in meaningful discussions to achieve industrial energy efficiency targets. To share knowledge, insights and case studies from other industries, experts and agencies from India and abroad, SEEM also publish a quarterly print magazine 'Energy Manager'

### ABOUT THE HOSTING PARTNER

### PRIYADARSHINI COLLEGE OF ENGINEERING

Priyadarshini College of Engineering, the Premier College of the Sanstha with 32 years of Proven Track Record, endeavors to impart academic excellence through promoting technology, scientific thinking and Corporate Social Responsibility. Priyadarshini College of Engineering has been awarded with an A+ grade status with CGPA 3.31 by NAAC for a term of 5 years upto 27.03.2024. The institute has successfully received accreditation for eight of its departments, namely Civil Engineering, Mechanical Engineering, Electronics & Tele communication Engineering and Electrical Engineering, Biotechnology, Computer Science Engineering, Electronics and Power, Chemical Engineering for a period of 3 years, upto year 2023-24 i.e. upto 30-06-2024 by National Board of Accreditation (NBA), New Delhi. The Institute runs 15 Under-graduate programs, 8 Post-Graduate Programs and 3 Ph.D. Programs. The Institute has also been conferred with Grade A by the Government of Maharashtra for Academic excellence and is the recipient of Gold Rank Category in AICTE-CII survey in 2017 & 2018 & Platinum Rank Category in 2019. The Institute has also received World Education Award 2017, Innovation in Teaching Pedagogy; India's Education Excellent Award 2018, Berkshire Media USA; and Outstanding Engineering Institute for Research and Innovation held at 15- World Education Summit-2019.