Industrial Engineering has undergone significant changes including the adoption of technologies like Additive Manufacturing (3D Printing), and the Internet of Things (IoT) for enhancing the productivity and efficiency of value chain. Moreover, manufacturing is evolving due to emerging technologies like communication technology, data-intensive modeling, cyber-physical systems, simulation, and predictive analytics leading to new network and smart manufacturing approaches. These technologies and approaches focus on value-driven innovation. Hence, technology management plays a key role in creating and capturing the value. The synergistic effect of Industrial Engineering and Technology Management facilitates a value-driven shift in manufacturing and service industry. NITIE, for more than fifty years, is actively involved in leading the changes to enhance the productivity of Indian industry.

Understanding the growing importance of Industrial Engineering and Technology Management for enhancing the productivity of Indian Industries NITIE Mumbai organizes a National Conference to create a platform for the delegates across the Industry and Academia to share their research ideas. The first two versions of the National Conference on Industrial Engineering & Technology Management (NCIETM-2014 and 2016) were incredibly successful, and there was warm feedback from the participating delegates.

The Third National Conference on Industrial Engineering & Technology Management (NCIETM-2018) was organized from November 30 to December 1, 2018. The theme of the conference for this year was “Reimagining Industrial Engineering and Technology Management for Value Creation.” We received 174 technical papers for the above theme from across the country. The conference was a grand success with more than 150 delegates who participated in the conference from various corners of the country. Key themes and the applications discussed in the technical papers presentations during the conference include the conventional method study, work measurement, performance improvement, cost management, throughput improvement, optimization, supply chain management, to emerging areas like technology adoption, diffusion, technology transfer, intellectual property, smart manufacturing, virtual factory, big data, neural network and digital manufacturing.

Another important highlight of the conference was the workshops on Industry-4.0 and Artificial Intelligence. The Industry-4.0 workshop focused on the development of the IoT embedded systems to track and predicts machines behavior, and to link manufacturing resources to capture data by pushing them to the service-based cloud system. AI workshop addressed predictive, prescriptive and descriptive aspects of using live data coming from the various resources. The workshops also discussed how to enhance the connectivity, real-time monitor ability, seamless systems and the scalability of the systems to augment the productivity and competitiveness of the industry.

The conference was inaugurated by the Chief Guests Prof. Prem Vrat, Former Director IIT Roorkee and Mr. M.K. Jha, Sr President (Technical), Prism Cement Ltd, Satna (M.P.) in the presence of the Professor Karuna Jain, Director NITIE, Mumbai and patron for NCIETM-2018. Prof. Milind Akarte, conference chair welcomed all the dignitaries and conference delegates and briefed about the objective of the conference and its theme.

In his inaugural speech Prof. Prem Vrat highlighted the importance of Industrial Engineering for better industry productivity by addressing the primary role of Industrial Engineer which is
concerned with the design, installation, and improvement of the integrated systems of men, materials and equipment. Some of the unique characteristics of industrial engineer that enables productivity addressed by the professor includes holistic approach in problem-solving, waste management, enhancing quality with no cost penalty, improvements in manufacturing processes and customer satisfaction. He also highlighted the challenges of IE, and the future focus of IE. Some of the important issues discussed are sustainability aspects, use of disruptive technologies like IoT, and changing work system for more worker-centric.

Mr. M.K. Jha addressed the newly emerging role of the Industrial Engineer in Industries such as scaling of the demand with existing facilities, wastage reduction and yield improvement by using different IE techniques to tailor-made them from the customer perspective. Prof. Karuna Jain stated that the concepts of IE are pervasive for all the disciplines. She stressed the role of technology management which is an implicit part of industrial engineering and concluded her speech by highlighting the role and advantages of IE. At the end of the inaugural session, Prof. Balkrishna Narkhede, conference co-chair thanks all the dignitaries, delegates and coordinators.

In his key note address, Prof. M.K. Tiwari, Dean, Planning & Coordination and Professor, Industrial & Systems Engineering, IIT Kharagpur highlighted the role of IE in problem-solving, correcting, analyzing and decision-making. He highlighted that the core focus of IE lies on the design, improvement, and installation of the integrated systems of people, materials, and machines and it draws upon the specialized knowledge and skill development in mathematical, physical and social sciences together with the principles and methods engineering and design to predict and evaluate the results obtained from the systems. Prof. M.K. Tiwari also discussed specific case studies of Industrial Engineering application to Agricultural domain.

A panel discussion was arranged with a theme “Changing landscape of industrial engineering: way forward for NITIE.” The eminent speaker for the panel discusses was Mr. Mukesh Kriplani, CEO at Parekhplast India Ltd, Mumbai, Mr. Pankaj Agrawal, Vice President - Operational Excellence at Lupin Pharmaceuticals, Mumbai, Mr. Abhijit Mhetre, VP Marketing Altizon Systems Pune, and Prof. KVSS Narayana Rao, NITIE Mumbai. Prof. V.B. Khanapuri, Dean-Academics, NITIE Mumbai moderated the panel discussion.

Mr. Mukesh Kriplani highlighted about the changing world, and the role played by the people in adopting to them. He encouraged the academic institutes working on the industrial engineering discipline to make their students work on live and virtual learning industrial engineering labs and solve the problem on live data sets from various organizations. Finally, he stressed the importance of the soft skills and the behavioral dynamics to adopt while interacting. The main essence of his speech dealt with the role of the disruptive technologies in changing and managing the manufacturing processes. Mr. Pankaj Agrawal focused primarily the evolution of IE concepts to meet future challenges. He stressed on the development done on the relevant discipline post the year 2000. The analytics and data science for decision-making in the cloud were highlighted in his speech. Mr. Abhijit Mhetre primarily focused on the role of Industry-4.0 on manufacturing. The importance of IoT in connecting the people, resources, and devices present for enhancing the connectivity and data acquisition for intelligent decision-making was presented. Prof. KVSS Narayana Rao focused on the innovation in the IE theory and methods undertaken are the building blocks for enhancing the effectiveness and efficiency
for the organization. The role of IE in productivity improvement and the use of method study
techniques for identifying the inefficiencies is an important area to understand. The functions of
the IE were highlighted followed by the focus areas of the IE are highlighted. Finally, the role of
IE in the era of Industry-4.0 are addressed. Prof. V.B. Khanapuri moderated the proceedings of
the entire panel discussion.

Prof. P. Acharya, Technical Committee Chair summarized the proceedings of the conference.
Best paper awards were presented to the winners from the papers presented during the conference.

Mr. Ashok Srivastava, Former Vice-President, Proctor & Gamble was Chief Guest for
Valedictory function of the conference. He spoke about the role of IE on the optimization of
the processes. The modern manufacturing philosophies like JIT has reduced the change over
time from 24 hours to just 1 hour. Finally, Prof. Mukundan R. Conference Co-Chair expressed
Vote of Thanks.

A unique aspect of NCIEM 2018 was to conduct industry workshops for the participants.
NCIETM 2018 heartily thanks the sponsors – IIIE, Spotflock and Intellithink. Spotflock and
Intellithink are two startups embodying the spirit of NCIETM – Spotflock is an AI platform
designed for quick deployment and application by functional experts like manufacturing and
Intellithink is focused on providing Industry 4.0 based big data analytics. The participants were
also provided with trial access to the two platforms to explore the world of IE and TM.

Total of 173 Abstracts were accepted, out of which 160 delegates participated in the conference
and 65 full papers were received for NCIETM 2018 and select papers have been shortlisted for
processing in UDYOG PRAGATI – The practicing journal of NITIE and Industrial Engineering
Journal.

Director NITIE declared the dates for NCIETM-2020 as November 20-21, 2020 with Prof. V.B.
Khanapuri as Conference Chair and Prof. Rakesh Raut and Prof. Priyanka Verma Conference-
Co-Chairs.

Some snapshots of the conference is provided below.
Inauguration of Conference

Conference Delegates
AI / ML Workshop

Industry 4.0 workshop
Prof. M.K. Tiwari Keynote Speaker

Panel Discussion
Technical Awards

Best Paper
Valedictory Function

Thanking Patron and Director NITIE