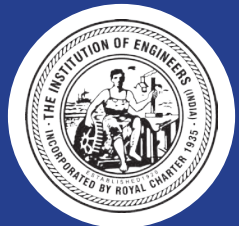


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# The Institution of Engineers (India)

In service of the Nation since 1920

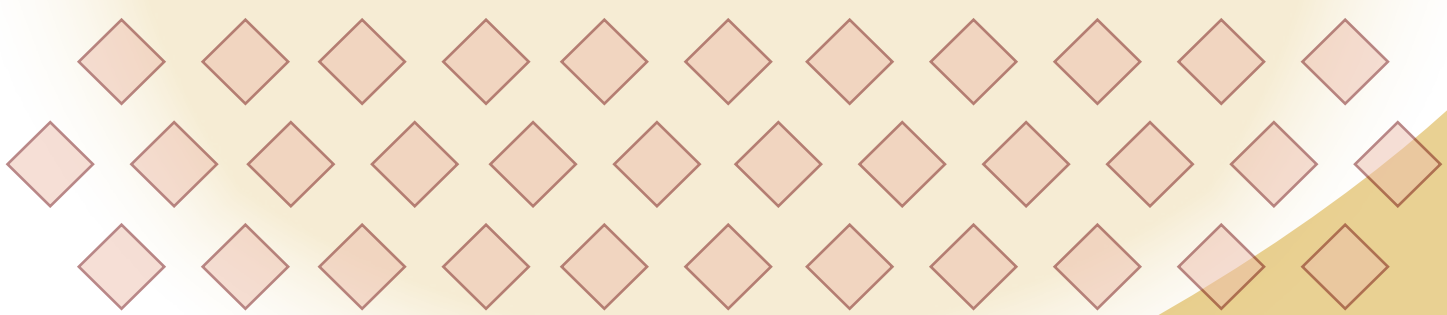


# 36<sup>th</sup>

# Indian Engineering Congress

**December 26-27, 2021, Delhi**

**Hosted by Delhi State Centre**



**Theme**

**Engineers for Viable Technology and \$ 5 Trillion Economy**

**Technical Sessions will be held  
online during 15 to 17 December 2021**

## About The Institution of Engineers (India)

The Institution of Engineers (India) [IEI] is a statutory body to promote and advance the science, practice and business of Engineering in all its branches (hereinafter referred to as “Engineering”) in India., established in 1920 and incorporated by Royal Charter in 1935. It is the largest multi-disciplinary professional body of engineers encompassing 15 (fifteen) engineering disciplines with a membership of more than 0.9 million, and serving the nation for more than a Century. The IEI has its headquarters located in Kolkata and it function through 125 Centers and several Overseas Chapters, Foras and Organ. Besides, IEI has bilateral agreements with about 34 international bodies and membership of another eight international bodies of the developed nations across the globe. Being recognized as a Scientific and Industrial Research Organisation (SIRO) by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India, IEI promotes the cause of research and development by providing Grant-in-Aid support to Undergraduate, Post Graduate Students and Ph.D. Research Scholars of Engineering Institutions and Universities.

In order to create sharp focus on National priority areas, The Institution of Engineers (India) has established the following Organ and Fora to work in close co-operation with the stake holders in the respective fields.

- **Engineering Staff College of India (ESCI)**, Hyderabad for providing continuing education and Research & Development, is an autonomous Organ of IEI
- **National Design and Research Forum (NDRF)**, Bangalore to encourage design talents in engineering and technology
- **National Skill Development Forum (NSDF)**, Shimla to enhance skill of engineering and technical personnel
- **Rural Development Forum (RDF)**, Kolkata to encourage and promote multifaceted development of rural India
- **Safety and Quality Forum (SQF)**, New Delhi to address the aspects of Safety and Quality in Engineering Profession
- **Sustainable Development Forum (SDF)**, Patna for expression of authoritative views on technologies for sustainable development and for enunciating practical solutions to the problems faced by India
- **Water Management Forum (WMF)**, Ahmedabad to promote and advance the engineering and practice of water resources management in its totality.

IEI conducts Section A & B Examinations in various engineering disciplines (popularly known as AMIE examination), the successful completion of which is recognized as equivalent to Degree in appropriate field of Engineering for students enrolled on or before 31 May 2013.

IEI in collaboration with Springer regularly publishes peer-reviewed International Journal in five series, namely, Series A, Series B, Series C, Series D and Series E covering 15 engineering disciplines, which are Scopus Indexed.

For further details, please visit: [www.ieindia.org](http://www.ieindia.org)

## Indian Engineering Congress

The aim of the Indian Engineering Congress is to bring to fore the developments in various fields of engineering and prepare our engineers to face the future challenges for sustainable development of the country.

The objectives of the Indian Engineering Congress are:

- To debate and discuss the theme of the Congress to create awareness, promote ideas, innovations in their respective engineering disciplines.
- To provide Engineers with a forum for exchange of knowledge, updating information and developing a sense of responsibility in their professional functioning.
- To promote and inculcate social responsibilities of engineers towards fulfilling the basic needs of common citizen of our country.
- To promote the Engineering practice that meets the challenges of sustainable resource management.
- To promote Emergent Engineering Challenges.

## Theme of the 36<sup>th</sup> Indian Engineering Congress

### Engineers for Viable Technology and \$ 5 Trillion Economy

India has emerged as one of the fastest growing major economy and is expected to be one of the top three economic powers in the world over the next 10-15 years, backed by its robust domestic consumption and demographic dividend. Govt of India has set a target to emerge as a \$5 trillion economy by 2025. The pandemic has made the achievement of this target more challenging.

Currently, India's GDP is about \$2.78 trillion. India's nominal GDP, estimated at about \$2.74 trillion in FY20 pre-pandemic, shrank to \$2.66 trillion in FY21. While attaining this milestone within four years is indeed demanding, the growth in the key segments of the economy, Agriculture, Industry and Service need to fire in achieving this target.

Agriculture has not just survived but thrived through Covid. Agriculture reforms can address income volatility of the farmers through improved market access, enhanced productivity, and modernised infrastructure. The reform process will also give a boost to the Agro Chemical industries, Food processing sector etc.

To achieve India's ambitious goal to be a USD 5 trillion economy by 2025, strong infrastructure growth is essential. In particular, the success of India's manufacturing sector and

the focus on “Make in India” are directly influenced by how strong the backbone of India’s infrastructure is. India needs to focus on building new cities, ports, bridges, high-speed rail and highways. Projects as part of National Infrastructure Pipeline (NIP), with capital spending of \$1.4 trillion, should be expedited and monitored against timelines.

The way India has handled the COVID19 vaccination project indigenously for its 1.3 billion people is commendable and insures it from any future economic disruption from COVID 19. This momentum should be capitalized to fully vaccinate our population. This is in line with the initiative of the Government for “Atmanirbhar Bharat”. Investment in several sectors needs to be given priority to take advantage of China Plus One strategy. Land reforms, along with attracting longer-term capital, will support the “Make in India” initiative.

The services sector has suffered heavily during Covid-19 pandemic. But one of the services sector that gained from the pandemic situation is the software services sector which is an unexpected beneficiary, with surging global demand for digital services, reviving client additions, topline growth and most important, hiring. Another segment where there is immense growth potential and is the health-care system.

However, the challenge is to attain growth in an environment-friendly way. The country has committed to achieving Sustainable Development Goals adopted by the United Nations and also wishes to play its role in addressing global concerns such as climate change. India is committed to implement the SDGs based on the nationally defined indicators responding to national priorities and needs. NITI (National Institution for Transforming India) Aayog has mapped the SDGs with centrally sponsored programs of different Central Ministries/Departments. Following its commitment towards achieving the SDGs, Government has also initiated a series of nation-wide welfare and developmental programs. The Government is committed to ensuring “SabkaSaath, SabkaVikas, SabkaVishwas” in the spirit of the Sustainable Development Goals’ motto of “Leaving No One Behind”.

### **Sub-Themes:**

- ❖ Economic Development with minimum Environmental Impact
- ❖ ESG and Carbon Neutral Economy
- ❖ Inclusive Growth
- ❖ ‘Atmanirbhar’ Bharat
- ❖ Agriculture Reforms
- ❖ Start up economy
- ❖ Contribution of Engineers in reaching \$ 5 Trillion economy
- ❖ Leveraging Demographic Dividend.

## **Call for Papers**

**(Technical Sessions will be held online during 15 to 17 December 2021)**

### **Guidelines for Authors**

Authors intending to submit a paper for the Indian Engineering Congress are advised to adhere to the guidelines as mentioned below.

1. Papers should be camera-ready in MS-Word format, not exceeding 3000 words in length and should not carry more than 5 illustrations/photographs.
2. The language of the Publication is English. The mode of presentation should be in third person.
3. The template for preparation of article is attached for ready reference of the authors.
4. SI units should be used wherever applicable. Other units, if used, should be given only in parentheses preceded by SI units.
5. Mathematical symbols should be typed and care should be taken to differentiate between similar characters (e.g. 1 and I), upper and lower case letters and superscripts and subscripts.
6. Lengthy mathematical proofs and derivations and extensive test data should be given as an appendix.
7. The Template of Paper can be downloaded from the link:  
[https://www.ieindia.org/webui/IEI-Activities.aspx#Call\\_Papers](https://www.ieindia.org/webui/IEI-Activities.aspx#Call_Papers)

### **The papers will be submitted in two-step process:**

#### **Step-1**

Papers will be pre-submitted to Prepare@U system for plagiarism checking of similarity by iThenticate software and DOI number allocation. The charges for the same (Rs. 500/- inclusive of taxes) will have to borne by the author.

#### **Process of submission:**

1. Go to <https://www.prepare.org.in/preprint/index.php/iei>
2. Click on Submit Manuscript from Menu.
3. For existing users - Login with username & password

#### **For new users - Register and Login**

4. Submit the article
  - Make payment (Rs. 500/- inclusive of taxes) from the available link
  - Upload manuscript
  - Enter keywords
  - confirm the submission

The paper-presenters may also submit papers in the prescribed format along with a similarity check report using iThenticate/URKUND Plagiarism Detection Software

## Step-2

After the papers are peer-reviewed and accepted for presentation, the authors have to submit a copyright declaration form (available at [https://www.ieindia.org/webui/IEI-Activities.aspx#Call\\_Papers](https://www.ieindia.org/webui/IEI-Activities.aspx#Call_Papers)), details of which will be communicated to the author along with the acceptance. For presentation of the paper the authors are required to register paying the Registration Fee.#

### Publications:

- Few selected papers will be recommended to the Journals of IEI Series A to E, which are SCOPUS-indexed. Fast-

track review of those papers by the Editorial Team of the Journals will be ensured

- Technical Volume of the Indian Engineering Congress with ISBN** will be brought-out in electronic form.
- In the Technical Volume, abstract of all papers accepted for presentation will be published along with the full text of the papers, which have not been recommended to the IEI journal.
- The papers submitted to the journal, if found unacceptable by the Editorial Team of the journals, will be accommodated in a supplementary Technical Volume of the Indian Engineering Congress.

<b>Aerospace Engineering</b>	<b>Agricultural Engineering</b>
<b>Architectural Engineering</b>	<b>Chemical Engineering</b>
<b>Computer Engineering</b>	<b>Civil Engineering</b>
<b>Electrical Engineering</b>	<b>Electronics and Telecommunication Engineering</b>
<b>Environmental Engineering</b>	<b>Marine Engineering</b>
<b>Mechanical Engineering</b>	<b>Metallurgical &amp; Materials Engineering</b>
<b>Mining Engineering</b>	<b>Production Engineering</b>
<b>Textile Engineering</b>	

The above areas are indicative. Authors may also submit papers on other areas based on the main theme of the 36<sup>th</sup> Indian Engineering Congress

## Nodal Dates

Submission of full-text	November 07, 2021
Acceptance will be conveyed to authors:	November 27, 2021
Submission of Registration Fee:	November 30, 2021
Intimation about Presentation:	December 06, 2021

## Copyright

The papers are considered for possible publication on the understanding that these have not been submitted to any other publisher. The copyright of papers accepted for publication lies with The Institution of Engineers (India) and reproduction of the papers or any part thereof is not allowed without the permission of the Institution. Contributors are required to sign a declaration to this effect while submitting their papers.

As per Bye-Law 115 of IEI, Copyright of each paper published in Institution Journals or Proceedings in full or in Abstract at its Centres shall lie with the Institution.

The Declaration Form of IEI can be downloaded from the link: [https://www.ieindia.org/webui/IEI-Activities.aspx#Call\\_Papers](https://www.ieindia.org/webui/IEI-Activities.aspx#Call_Papers)

## Contact for Paper presentation

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Convener, Technical Committee  
36<sup>th</sup> Indian Engineering Congress and  
Director (Technical)  
The Institution of Engineers (India),  
8 Gokhale Road, Kolkata – 700020  
Email: [iectech@ieindia.org](mailto:iectech@ieindia.org)

**Registration charges for paper presenters:** ₹ 1500 + 18% GST\*

**Certificate of participation in Online Technical Sessions:** ₹ 200 + 18% GST

\* Valid for the Online Technical Sessions and the programmes at the venue.

## Payment details:

Name and address of the Beneficiary	The Institution of Engineers (India) 8 Gokhale Road, Kolkata 700 020
Account Number of Beneficiary	005010100002704
Name and address of the Bank Branch (where payments are to be sent by Applicant)	Axis Bank Ltd, Kolkata Main Branch, 7 Shakespeare Sarani, Kolkata 700 071
IFSC Code of the Bank Branch	UTIB0000005
PAN	AAATT3439Q
Name in PAN	The Institution of Engineers (India)
GSTIN	19AAATT3439Q1ZR