Guidebook
Essay Competition

The 11th
IECOM
2024

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Preface

South East Asia has shown rapid economic growth in the past years. In the words of the Indonesian Bank Governor, Perry Warjiyo, on High-Level Seminar 2023 "ASEAN Matters-Epicentrum of Growth", this growth is considered high in comparison with other areas. He also added the economy's high resistance to the uncertainties that are faced. The promising atmosphere is highlighted in ASEAN Finance Ministers and Central Bank Governors Meeting (AFMGM) 2023 by bringing the theme ASEAN Matters: Epicentrum of Growth. Moreover, South East Asia's leaders encourage making efforts on development and recovery of economy and digitalization. The goal of this endeavor is to make ASEAN the world center of economic growth, especially with ASEAN's handful of advantages such as abundant natural resources and promising renewable energy sources.

The trail of this yellow brick road is still full of arduous obstacles. The adversities are related to economic, social, and digitalization inequalities. In social inequality, there is a huge gap between rural and urban areas regarding infrastructure and human resource aspects. This problem is also faced by other countries in Southeast Asia. Furthermore, from the digitalization aspect, there are only a few countries that have high internet penetration with others having a very significantly low.

Seizing ASEAN's opportunity, there is a necessity to overcome its stumbling blocks first and turn it to our stepping stones. With this in mind, there is a need in creating a sustainable industry. The sustainable industry will tackle the inequalities by focusing on developing and enhancing community life and human society. Being one of the top-notch organizations in the Industrial Engineering field, the Industrial Engineering Student Union of Bandung Institute of Technology, MTI ITB, zero in on getting involved in working on the problem.

As a piece of the action, MTI ITB bring this issue to IECOM (Industrial Engineering Competition) 2024 by taking the theme "Engineering Horizons: Empowering Communities through Sustainable Industrial Innovation"

IECOM aims to help students all over Southeast Asia to develop their knowledge and skills by learning, sharing, and generating solutions on how to help establish solutions in achieving a sustainable industry. To accomplish this, IECOM conducts two main events that consist of a competition and a grand summit that will provide an abundance of opportunities for students to grow and sharpen their skills.

Furthermore, IECOM serves as an opportunity for industry practitioners, governments, and industrial engineering communities to interact and collaborate on their ideas in the hope of bringing a positive impact to the industry and the world as a whole.

What is IECOM?

IECOM is an international competition in the industrial engineering field aimed at undergraduate students. Held every two years, IECOM is conducted and organized by the Industrial Engineering Student Union of Bandung Institute of Technology as known as MTI ITB. With over 10 years of experience, IECOM has been indented as a distinguished event with participants from sundry countries in South East Asia. In carrying out the 11th IECOM in 2024, we determined to exceed expectations and spark innovations.
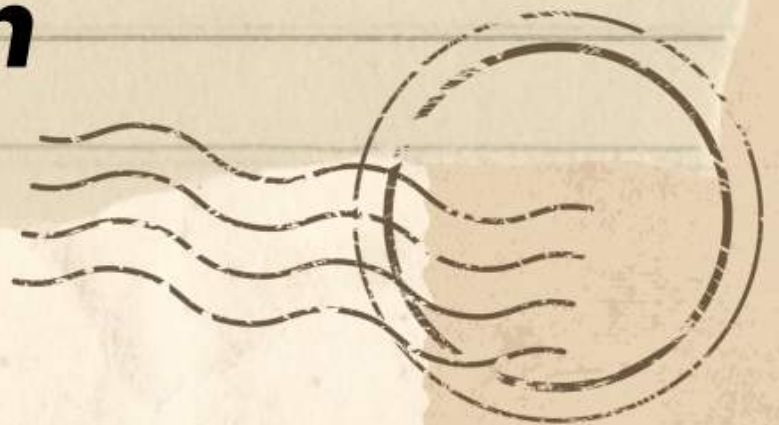
Vision

"IECOM as best practice of South East Asian Industrial Engineering Competition in Indonesia"

Mission

- Conduct an industrial engineering competition with highly relevant and innovative main topics on an international scale.
- Expand connection and networks of MTI and IE/EM ITB on a national and international scope.
- Provide the ultimate experience and opportunity for IECOM's participants to develop and enhance themselves.
- Create a delightful experience of managing a project for the committee team in self-development.
- Ensure and make the IECOM 2024 a project with the prospect of return value.
- Boost knowledge and awareness regarding prominent and relevant topics and issues with IE and EM.

Engineering Horizons: Empowering Communities through Sustainable Industrial Innovation

This Year's Theme

Why

Rapid ASEAN growth amidst inequalities in rural areas

In recent years, the countries of Southeast Asia have witnessed substantial economic progress, surpassing other regions and displaying remarkable resilience amidst global economic uncertainties. The ASEAN-5 nations, comprising Indonesia, Singapore, Malaysia, Thailand, and the Philippines, have achieved growth rates exceeding 5% and are anticipated to sustain this upward trajectory. Nevertheless, despite these encouraging developments, the region confronts persistent challenges concerning economic, social, and digital disparities. Income inequality is prevalent, and rural areas lag behind their urban counterparts regarding infrastructure and education. Additionally, digitalization remains uneven, with varying degrees of internet penetration. Through sustainable industrial innovation, these challenges can be effectively addressed while fostering inclusive economic growth, environmental preservation, and overall societal advancement.

What

Empowering communities through transformative innovation

This overarching theme addresses the issue of uneven human quality of life, particularly in remote or hinterlanda. "Engineering" refers to applying theoretical knowledge to solve problems with innovative and value-adding solutions. "Horizon" describes the perspective used in applying this engineering knowledge, with a long-term, exploratory view to expand the scope of its applications. The theme focuses on enhancing human quality of life by adding value through applying theoretical knowledge to community and social development. The aim is to prioritize environmental, social, and economic aspects in the development and progress, fostering sustainable and long-lasting innovations in technology, processes, and systems.

Essay Competition

Every participant that wants to take part in this competition has to make an essay according to the topic that has been decided. Participants who pass this stage will present their essays in front of the judges that are experts in the field. This stage will measure the sensitivity to global issues and the communication skills of the participants.

Essay Theme

"Sustainable Solutions For Resilient Communities: Engineering For A Better Future"

Subthemes

Chamber 1: Green Economy

The world is facing a number of serious challenges, including climate change, natural resource depletion, and environmental pollution. These challenges are not only harming the environment, but they are also affecting human health and well-being. The green economy is based on the idea that economic growth and environmental protection can go hand-in-hand. It focuses on creating jobs and businesses that are environmentally friendly, and it promotes the use of clean energy and technologies that reduce pollution and waste. The green economy has the potential to create millions of jobs, boost economic growth, and reduce poverty. It can also help to address climate change and other environmental challenges.

Relevance with Grand Theme

The green economy is an economic model that seeks to address these challenges by promoting sustainable development. Sustainable development means meeting the needs of the present without compromising the ability of future generations to meet their own needs. The green economy is an economy that reduces environmental risks and ecological scarcities while also stimulating economic growth. It is an economy that is built on sustainable development principles, which means that it meets the needs of the present without compromising the ability of future generations to meet their own needs.

Chamber 2: AI for Market Research

For a number of years back, the world has been taken aback by the emergence of Artificial Intelligence or what is also known as AI. Artificial intelligence is a machine's ability to perform the cognitive functions we usually associate with human minds (McKinsey & Company, 2023). There are many different opinions regarding the use of AI including in the industrial sector, both positive and negative. One of the uses of AI in the industry is for market research. AI has revolutionized market research by offering tools to analyze data, make decisions based on given information, facilitate virtual market research, and also forecasting. However, the appearance of AI has also brought upon dangers to the industry in the form of fake data, threats to data safety, and "taking away" people's jobs in the industry.

Relevance with Grand Theme

The use of AI will last for a decently long period of time based on its ever growing popularity and expansion to different kinds of fields in the industry. If taken advantage of correctly for market research, AI will most likely make a sustainable solution to raise efficiency, slim down costs, and find out what the market actually needs. However, if not used correctly, AI can also provide false information which won't fulfill the needs of the community. Thus, how should we utilize AI in market research that will allow us to engineer for a better future?

Chamber 3: Community-centric Innovation

Community-centric innovations refer to a problem-solving and development approach that prioritizes the active engagement, involvement, and collaboration of a specific community or group of people in the creation and implementation of solutions that cater to their distinct needs, circumstances, and aspirations. Community-centric innovations aim to foster a sense of ownership, enhance sustainability, and achieve meaningful positive change by placing the community at the core of the innovation process.

Relevance with Grand Theme

By placing the community at the heart of the innovation process, community-centric approaches ensure that the solutions are not only environmentally and economically sustainable but also socially equitable and beneficial to the community members. The active involvement and engagement of the community in the design, development, and implementation of sustainable industrial solutions create a sense of ownership and empowerment, enabling the community to actively shape their own development. Moreover, community-centric innovation fosters collaboration between industries and communities, promoting knowledge sharing, local skill development, and the establishment of partnerships that drive meaningful and lasting change. Ultimately, the relevance lies in the ability of community-centric innovations to bridge the gap between sustainable industrial practices and community well-being, fostering a symbiotic relationship that propels holistic development and a sustainable future.

Chamber 4: Supply Chain Management

Supply chain management (SCM) involves overseeing the entire process of planning, sourcing, producing, and delivering products or services to consumers. It encompasses activities like procurement, production, distribution, and logistics coordination to optimize efficiency and minimize costs while meeting customer demands. SCM aims to enhance collaboration between suppliers, manufacturers, distributors, and retailers, ensuring seamless flow of goods or services. Effective SCM minimizes lead times, reduces inventory, and enhances responsiveness to market changes, resulting in improved customer satisfaction and competitive advantage

Relevance with Grand Theme

Supply Chain Management (SCM) empowers communities and fosters sustainability by optimizing resource use, reducing environmental impact, and supporting local economies. Sustainable SCM practices prioritize responsible sourcing, efficient logistics, and transparent supply chains. This leads to reduced waste, lower carbon emissions, and ethical labor practices, benefiting communities. Local sourcing and job creation further enhance community empowerment. Additionally, SCM ensures the availability of essential goods during crises, contributing to community resilience. By promoting resource efficiency, environmental responsibility, and economic growth, SCM plays a pivotal role in creating sustainable communities while supporting responsible industrial innovation.

Terms of Competition

Participants Provisions

1. All essay participants must be active undergraduate or diploma students from local or international universities/institutions.
2. Each participant competes individually
3. The top 5 participants who pass the first stage (essay judging) will present their essay in front of the judges that experts in the field
4. Participants who are selected to present their essays must create a pitch deck and participate in student summit event on the offline pitching day in Bandung

Writing Terms

1. Essay must be written in formal American English with 750—1500 words.
2. Each participant can only submit one submission with one chosen subtheme.
3. Submission must be fresh and has never been submitted in previous competition or published in online media. Participants are prohibited from committing acts of plagiarism.
4. Essays are written with these formats:
   a. Paper size : A4
   b. Margins : 3 cm (top, bottom, right, and left)
   c. Font : Times New Roman
   d. Font size : 12 pt
   e. Line spacing : 1,5
   f. Alignment : Justify
5. The essay must be written according to the outline given below this section and this template bit.ly/IECOM2024EssayTemplate
6. Essays are collected in .pdf format with the file titled Participant Name_University/Institution_Title of Writing before December, 1st 2023 at 11.59 PM GMT+7 on the IECOM website (iecom11th.com).
7. The judge's decision is final.

Essay Layout

1. The essay must be written according to this outline:
   a. Cover
   b. Essay
   c. Title (typed in bold and uppercase letters, center alignment, and no underlines)
   d. Body of writing
   e. Bibliography (APA 7th style; uncounted for the word limit)
   f. Originality Statement
2. Bullet usage (i.e. letters, or roman numerals) **must be consistent**.
3. Page numbers are inserted in the bottom right corner of the page.
4. Participants aren't required to insert footnotes.

Disqualification Condition

1. Participants who violate the terms and conditions of the competition will be disqualified.
2. Participants can receive **point reduction** or disqualification if each participant broke the rules.
3. The submitted essay that **has been published** in a previous event or online media will be disqualified.

Registration Mechanism

1. Open the link website
2. Register yourself by filling your personal data
3. Participant must share the poster of The 11thIECOM 2024 Essay Competition to Instagram Story (unprivate account) and tag @iecom2024.
4. Submit all the required documents to the registration form.

Registration Payment

1. Registration fee
   a. **Early Bird Registration (Oct, 21st 2023 – Nov, 1st 2023)**: IDR60.000 (USD 4)/individual
   b. **Normal Registration (Nov, 2nd 2023 – Nov, 20th 2023)**: IDR80.000 (USD 6)/individual
2. Participants must pay the registration fee to the bank account: **Bank Central Asia (BCA) 2521497728 Rafida Khairani**

Scoring Matrix

No	Assesment Component		Assesment Value	
	Aspect	Criteria	Rate (%)	Score (1-100)
Technical Component				
1	Format	The alignment of the writers' works to the style and writing guidelines	10	
2		The use of appropriate, accurate language that is clear and unambiguous		
Content Component				
3	Relevance	The essays are in line with the participants' chosen theme.	25	
4		The ideas offered are consistent with the accurate and actual situations.		
5	Creativity and Novelty	Ideas with originality that demonstrate participants' comprehension of the topics raised	15	

7	Analysis and Argument	Clarity and coherence in the flow of thinking that is packaged in a clear delivery	30	
8	Benefit and Development Potential	The proposed ideas could potentially be implemented into practice.	20	
9		The possible application of ideas has advantages for a variety of parties.		
Total			100	

Timeline

Registration
Early Bird: 21 October-1 November 2023
Regular: 2-20 November 2023

Last Submission
1 December 2023

Essay Judging
2-23 December 2023

Finalist Announcement
4 January 2024

Pitching Preparation
10-25 January 2024

Pitching Session
29 January 2024

Prize

Case Competition

1st
USD 300

3rd
USD 100

2nd
USD 200

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