INDUSTRIAL
CHALLENGE

INCHALL
2019

IE FAIR
2019

1

ABOUT INDUSTRIAL CHALLENGE

Established back in 2009.

Industrial Challenge (INCHALL) is an international competition for Industrial Engineering students and other relevant fields.

The competition main goals are to apply the core competences of Industrial Engineering discipline and develop the students' ability to solve real case from companies by designing and engineering the problems towards an improvement.

Held by Himpunan Mahasiswa Teknik Industri (HMTI), Industrial Engineering Department, Institut Teknologi Sepuluh Nopember.

Industrial Challenge also aims to create an everlasting environment of knowledge sharing and relation between participants of the competition.

Entering its first decade, INCHALL 2019 will bring the theme of Lean Manufacturing to Achieve Cost Efficiency.

THEME

LEAN MANUFACTURING TO ACHIEVE COST EFFICIENCY

Lean Manufacturing has become a very sought after principal and concept for both manufacturing and non-manufacturing industries. Lean Manufacturing aims to eliminate waste and increase efficiency. And in the end, the waste elimination reduction is necessary towards achieving the company primary goal which is profit. As profit is defined as price - cost, it is only logical to see Lean Manufacturing as a way to achieve cost efficiency.

Creating and delivering products or services is unarguably the most crucial business process for any industries. Revenues are streamed and mainly generated from the process of manufacturing products and services and delivering them to the customers, thus increasing the needs of companies to maintain and improve the current status of its business process. These needs are often simplified as a goal of a company to be more effective and efficient in doing its businesses. Furthermore, manufacturing product and services and delivering them cannot be dependent towards many other aspects inside the industries, as a lot of other process supported this two concern directly such as human resource and information and communication technology.

Lean Manufacturing is systematic approach to process improvement.Lean Manufacturing implementation has long been initialized and claimed to be a proper principal and concept for many industries to follow and conduct. Lean Manufacturing is well-known as an effective means towards cost saving (Ruffa, 2008). In this competition, the lean concept and application will focus on the cost efficiency that the company can achieve by tweaking the process and eliminating waste inside the company.

3

PRELIMINARY STAGE

PRELIMINARY STAGE → SEMIFINAL STAGE → GRAND FINAL STAGE

At this stage all participants will be tested regarding knowledge about Industrial Engineering with online testing. There are two types of questions, namely online tests an betting stages. On the online test participants will be given questions about basic knowledge about industrial engineering. While at betting stage participants can be given several casequestions that are answered with multiple choices.

The amount of points obtained at an ordinary stage is true +4, wrong -1, and does not answer 0. On betting stages, the amount of points obtained is in accordance with betting that has been done at the beginning. If the participant correctly answers then the points will be added according to the points that have been set while if it does not answer or wrong it will be reduced according to the points that have been set. The range of points in stage betting is from 1-100.

The process of the preliminary stage is 100 minutes. Allocation for the usual online test processing process is 60 minutes. While the betting stage will last 40 minutes. The TOP 15 Teams will go through to the Semi Final round.

Stage Format	= Online Test & Online Betting Stage
Number of Participant	= All eligible teams
Stage Syllabus	= All Laboratory

4

SEMIFINAL STAGE

PRELIMINARY STAGE → SEMIFINAL STAGE → GRAND FINAL STAGE

For this Re-registration procedure each team needs to pay Registration Fee of USD 250 for the international participant and IDR 3,500,000 for the national participants. The payments should be transferred to:

BNI Account
In the Name of : Annura Ratri Ramadanti
Account Number : 778907693

The semifinal stage will be held after the online preliminary stage and will be followed by the TOP 15 participants in the previous stage. The semifinal stage will be held in Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia on Friday , April 12 th 2019. Until Tuesday, April 16 th 2018. The semifinal stage will consist of two stages in which both stages will test the participant's comprehension on Industrial Engineering competences and evaluate the analytical skill of industrial engineering-related decision making.

STAGE 1

TIKI-TAKA

Tiki-Taka will be the first stage that will be faced by all the semifinalist of Industrial Challenge 2019. In this stage, every team will have to solve the problem related with industrial engineering discipline such as ergonomics and work system design, manufacturing system, development of industrial system and industrial management, logistics and supply chain and also quantitative modelling and industrial policy analysis. Every team will solve the problem in a certain situation and in any kind of form either simulation, games or demonstration.

STAGE 2

SIMULATION GAME

The second stage for the semifinalist is a simulation game. The game simulates a four stage supply chain. The objective of this game is to meet the customer demand through supply chain stage with minimal expenditure on back orders and inventory. Every team has to set the best strategy and make decision based on the condition that is given in every period. There will be only five teams which are selected to go to the next stage. The further information will be announced by committee.

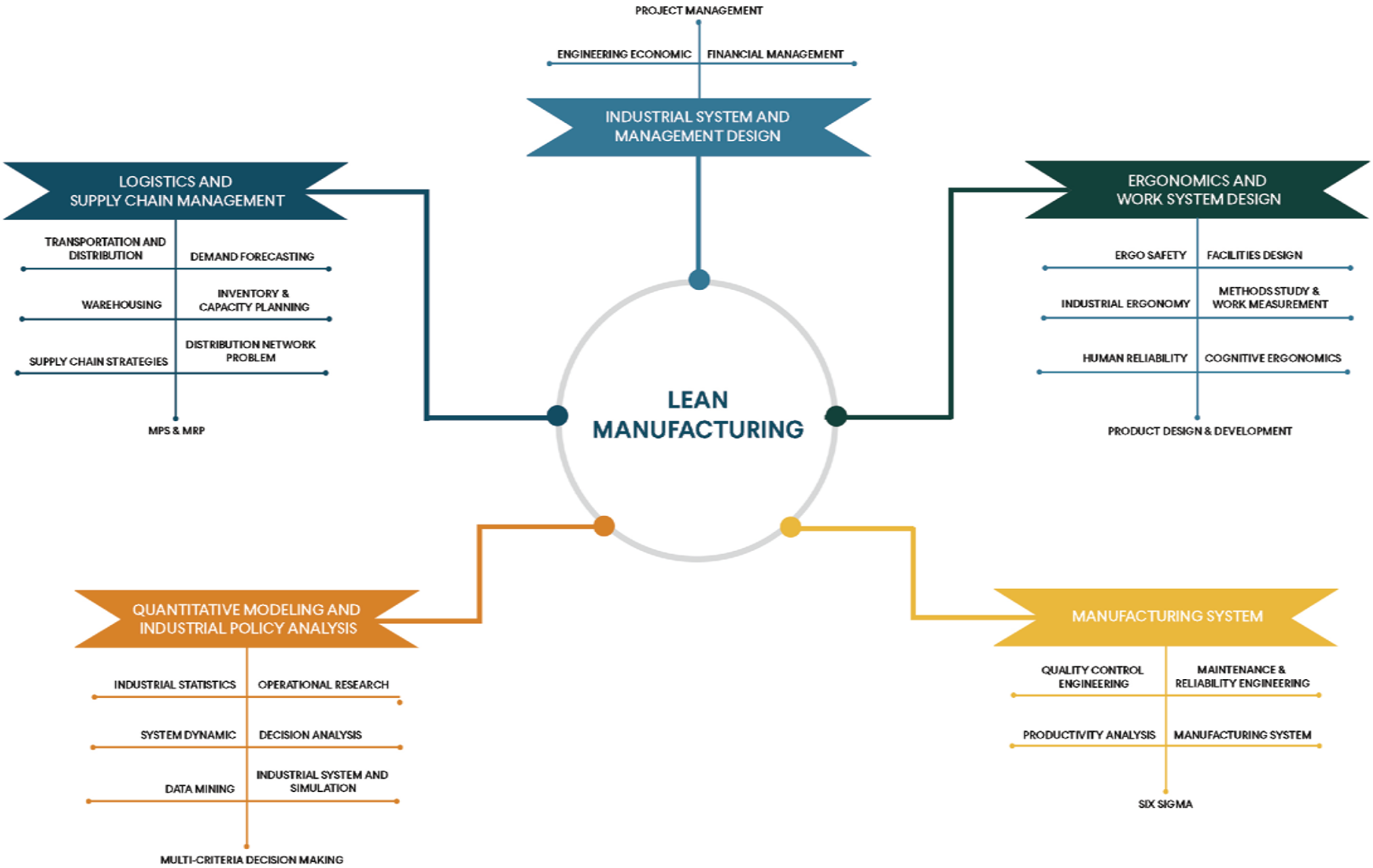
5

GRAND FINAL STAGE

PRELIMINARY STAGE → SEMIFINAL STAGE → GRAND FINAL STAGE

The Grand Final is the final stage of the INCHALL 2019 semi-final event. The five best teams from stage elimination will take part in company visits and will be given case studies from the company. The purpose of giving case studies is to find solutions to problems related to the theme of the event. We hope that each team can provide feasible recommendations as a solution to the problems that have been given. The biggest challenge at this stage is that participants are expected to have extensive knowledge about the things that are happening in Indonesia now and to use Industrial Engineering competencies as a tool to get solutions to problems. The best performing team and feasible solutions will be the winners of INCHALL 2019.

1. **Workshop and Industrial Visits**
   All the participant will hear a general overview of the company and the current situation of it. The workshop will cover general and wide topic inside the company to give a helicopter
2. **Finalist Briefing**
   All the finalist will be able to have a private session with the company where all the topics regarding Lean Manufacturing inside the company will be explained. In this part, the data needed by the finalist will also be presented.
3. **Problem Solving**
4. **Presentation**


PROJECT MANAGEMENT
ENGINEERING ECONOMIC
FINANCIAL MANAGEMENT
INDUSTRIAL SYSTEM AND MANAGEMENT DESIGN
LOGISTICS AND SUPPLY CHAIN MANAGEMENT
TRANSPORTATION AND DISTRIBUTION
DEMAND FORECASTING
WAREHOUSING
INVENTORY & CAPACITY PLANNING
SUPPLY CHAIN STRATEGIES
DISTRIBUTION NETWORK PROBLEM
MPS & MRP
ERGONOMICS AND WORK SYSTEM DESIGN
ERGO SAFETY
FACILITIES DESIGN
INDUSTRIAL ERGONOMY
METHODS STUDY & WORK MEASUREMENT
HUMAN RELIABILITY
COGNITIVE ERGONOMICS
PRODUCT DESIGN & DEVELOPMENT
LEAN MANUFACTURING
QUANTITATIVE MODELING AND INDUSTRIAL POLICY ANALYSIS
INDUSTRIAL STATISTICS
OPERATIONAL RESEARCH
SYSTEM DYNAMIC
DECISION ANALYSIS
DATA MINING
INDUSTRIAL SYSTEM AND SIMULATION
MULTI-CRITERIA DECISION MAKING
MANUFACTURING SYSTEM
QUALITY CONTROL ENGINEERING
MAINTENANCE & RELIABILITY ENGINEERING
PRODUCTIVITY ANALYSIS
MANUFACTURING SYSTEM
SIX SIGMA

PRIZE

1ST PLACE

USD 1000

2nd PLACE

USD 800

3rd PLACE

USD 600

4th PLACE

5th PLACE

PARTICIPANT AND SCHEDULE

PARTICIPANT AND SCHEDULE

General requirement

1) Each team consists of three people and their membership in the team could not be changed in the future for any particular reason.

2) Each member of the team must be registered as undergraduate student (S1) of Industrial Engineering Department or related major from the same university.*

3) Each member of the team must be listed as an active student until April 30th, 2019.
*Any related major must covers minimum 3 of the INCHALL Competence

Registration Procedure

1) Each team must register for an account at *inchall.iefairits.com*. Account will be made by fulfilling the registration and requirements, such as photo and student card of each member of the team.

2) The Online Registration will be charged USD 12 for international participants and IDR 180,000 (early bird) and USD 14 or IDR 210,000 (normal price) for national participants. The participants must upload payment slip to complete the requirements. The payments should be transferred to:

BNI Account
In the Name of : Annura Ratri R.
Account Number : 778907693

Or through invoice e-mail by Paypal holder IE Fair.

3) After registration process done, the participants will get an activation email.

4) When the activation is done, the participants will get additional menu in the website titled Team Page that consists of content to join preliminary stage.

5) Registration will be opened from January 14th, 2019 to February 28th, 2019.

COMMITTEE CONTACT

AMELIA SANTOSO

+62 851 024 611 12

ADJI SEPVIAN

+62 821 256 131 43

http://inchall.iefairits.com

LINE

@hrc2479h

INCHALL

@INCHALL2019

IE_FAIR

FIND US

Sponsored By:

PLN PJB

KRAKATAU ARGO LOGISTICS

PERTAMINA

English Centers for Kids & Teens

PUPUK SRIWIDJAJA PALEMBANG

Supported By:

www.iefairits.com/inchall