INCHALL CHALLENGE SUMMER CAMP 2024

Institut teknologi sepuluh nopember (ITS), Surabaya, Indonesia

By Dararat Kongmak

Place : Department of Industrial and System Engineering, (ITS)

Duration : July 29 - August 1, 2024

The Road to the Grand Final of the Industrial Challenge x INGENIOUS Summer Camp 2024 will take place at the Industrial and Systems Engineering Department over the course of 5 days. During these 5 days, the 15 finalists will participate in an intensive bootcamp, along with various non-competitive activities such as a cultural night, city tour, and gala dinner. On the 5th day, the 5 selected finalists will present solutions to the cases they received during their company visit. Throughout these events, participants in the Industrial Challenge x INGENIOUS Summer Camp 2024 will collaborate to enhance their skills and provide innovative solutions to the case studies in the field of Industrial and Systems Engineering.

PLENRY SESSION 1

TOPIC : Sustainability in Manufacturing: Best Practices in Remanufacturing

Dr. Maria Anityasari, S.T., M.Eng. Ph.D. (Institut Teknologi Sepuluh Nopember, Indonesia)

PLENRY SESSION 2

TOPIC : Marketing Trends in Green Innovation Dr. Logaiswari Indiran, Ph.D.(Universiti Teknologi Malaysia)

PLENRY SESSION 3

TOPIC : Resilience and Sustainability in Supply Chains. Natdanai Chanlawong Ph.D (Suranaree University of Technology)

PLENRY SESSION 4

TOPIC : Inter-Organizational Relationships (Strategic Alliances, Collaboration, Supply Chain Networks), Project Development and Management, Open Innovation, and Engineering Economy

Asst. Prof. Diana Marie R. De Silva, Ph.D (University of the Philippines Los Baños)

LAB VENTURE

Participants will be given the opportunity to directly experience around the laboratory and play games in accordance with the field of Industrial and Systems Engineering in accordance with the specific knowledge of each laboratory. At this stage, participants will also be given experience solving problems and questions from each laboratory and related to the grand theme INCHALL X Ingenious Summer Camp 2024.

Ergonomic and Work System Design (EPSK) Laboratory EPSK is a Laboratory focuses on conducting teaching, research activities, and community services in the field of ergonomics/human factors and occupational health and safety engineering.

Manufacturing System (MANSYS) Laboratory Manufacturing System have an expertise area of Environmental Management, Multi-Criteria Decision Analysis, Management Technology, Green Manufacturing, Productivity, Quality and Manufacturing Systems, Sustainable Manufacturing, Life Cycle Management, Sustainability.

Quantitative Modelling and Industrial Policy Analysis (QMIPA) Laboratory The QMIPA is a Laboratory which supporting the achievement of the industrial and engineering Department of ITS in the field of optimizing quantitative evaluation as an alternative decision including by simulating. Achieving Sustainability Development Goals Through Data and Analytics.

Logistics and Supply Chain Management (LSCM) Laboratory LSCM is a laboratory concentrated on the fields of logistics management and supply chain management with focus study to produce an efficient flow of goods from upstream to downstream supported by information flow, coordination, and collaboration between business actors from raw material suppliers to end customers.

Industrial Management and System Design (PSMI) Laboratory PSMI laboratory which focused on managerial system of an industry in such a way that the mobilization of existing units in the industry is effective. The knowledge in the PSMI lab is very useful in a series of industrial processes.

COMPANY VISIT

In this stage, all the participants will visit partner company of INCHALL 2024, PT Petrokimia Gresik, which is located at Jl. Jend. Ahmad Yani, Gresik 61119, East Java. The purpose of this stage is to learn and understand the elements of the company's business processes being presented. Additionally, Company Visit stage will provide experience and knowledge to participants

about the scope of Industrial and Systems Engineering in the workforce. At the end of the session, each team will continue work on a case study progress related to the main theme of INCHALL 2024 and the 5 selected teams will proceed to the Grand Final stage to present their result in front of the jury.

PATRIOT OUTBOND

Patriot Outbound is not a competition stage but still influences the assessment of participant activity. In this Patriot Outbound activity, participants will pass several posts related to Indonesia's independence day. Participants will join mixed teams to complete the posts created by the committee.

The primary purpose of the event was a project competition based on a given case study. The challenge was from Petrokimia Gresik, a fertilizer plant in Indonesia, which was facing overstocking issues during the non-planting seasons despite operating at full capacity. Participants were tasked with proposing solutions to this problem, and the top five teams were selected to present their solutions on the Final Presentation Day.

Day 0:

We began our journey from Suranaree University of Technology to Don Mueang Airport at midnight. Upon arrival, we realized we had arrived too early, so we had to wait until the check-in counter opened. Everything went smoothly during check-in, but a problem arose when we arrived at Kuala Lumpur Airport for our connecting flight. The departure airport hadn't issued us the necessary connecting boarding pass, forcing us to exit and check in again, which required going through immigration and cost us a lot of time. Upon reaching Surabaya, Indonesia, we were greeted by locals and enjoyed a meal of Soto Ayam, a delicious dish resembling turmeric chicken soup, commonly eaten with crackers.

Day 1:

We spent our first night in Indonesia without any issues. After breakfast at the hotel, we took a bus to the university. The first culture shock we experienced was how early the day starts in Indonesia, despite being in the same time zone as Thailand. Upon arrival, we took photos with the university sign, registered for the event, and received gifts, including a water bottle and sunscreen. The welcome ceremony featured a traditional Surabaya dance performance. In the afternoon, we had our first lecture on Sustainability in Manufacturing: Best Practices in Remanufacturing, followed by a lab on Logistics and Supply Chain Management. The key takeaway was how to improve production processes to be more sustainable and mitigate climate change.

Day 2 :

Due to a misunderstanding of the time, we missed breakfast at the hotel, but the staff looking after the Thai team kindly bought us snacks and milk. This made us realize how important breakfast is in Indonesia. The second day consisted of lectures and labs. In the morning, we learned about Marketing Trends in Green Innovation, which covered the growing green innovation market, such as electric vehicles. ASEAN countries like Indonesia and Malaysia are already developing their own electric car brands, while Thailand has yet to do so. We also participated in a lab on Ergonomic and Work Study Design. In the afternoon, the lecture focused on Resilience and Sustainability in Supply Chains, with lessons on sustainable warehouse and supply chain management, followed by a lab on Industrial Management and System Design.

Day 3:

The third day included a morning lecture on Inter-Organizational Relationships (Strategic Alliances, Collaboration, Supply Chain Networks), Project Development and Management, Open Innovation, and Engineering Economy, followed by labs on Manufacturing Systems and Quantitative Modelling and Industrial Policy Analysis. In the afternoon, we had a fun game session, which included activities like ball toss, three-legged races, and picture guessing. We also competed in groups to make Indonesian shaved ice. This activity allowed me to meet new friends since the teams were randomly assigned. In the evening, we went on a city tour of Surabaya's old town, which resembled a night market. Surabaya, having been under Dutch rule, has Dutch colonial architecture.

Day 4: Company Tour

This was the day we visited the company related to our competition. The trip took almost two hours, and the plant itself was enormous, with vast warehouses and modern production technologies. Unfortunately, we couldn’t tour the facilities on foot and had to observe from the bus. Upon returning to the hotel, we used the free time to prepare our presentation on improving the company’s logistics.

Day 5: Final Presentation Day

In the morning, the five selected teams presented their solutions, and in the afternoon, there was a Cultural Day with activities such as painting traditional masks, playing games, and eating Indonesian food. The evening featured a Gala Night where participants were required to wear traditional or cultural attire. We chose to wear Pa Laeng outfits and performed a dance to Rak Bao Isan Tai by Jintara. After the performances, the awards were announced, with the winning team hailing from the Philippines, marking the end of the event.

This experience, from the journey to the event's conclusion, was filled with fun, fear, and moments that didn't go as planned, but it was a valuable learning opportunity. Had I not participated, I wouldn't have had this unique experience. This event made me realize how vast the world truly is and how many talented

people there are. It also underscored the importance of English and communication, motivating me to improve my communication skills moving forward.