# Ministry of Education's Innovation Cell

All India Council for Technical Education

New Delhi

**Background Note on ASEAN-India Hackathon**

## About the ASEAN-INDIA Hackathon

The ASEAN-INDIA Hackathon is an initiative taken by Ministry of Education on the clarion call of Hon'ble Prime Minister of India Shri Narendra Modi. It is proposed to be a 36 hours Hackathon. This unique hackathon offers opportunities for all the 10 ASEAN countries (Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Laos, Myanmar, Cambodia and Vietnam) and India to forward their economic and cultural ties through collaboration in education, science and technology. This program is facilitating exchange of thoughtful leadership, work and collaboration on projects involving varied skilled individuals. This hackathon will help in developing a strong cross-country bond and understanding between the youths at the level of individuals and institutions. The ASEAN India Hackathon will also promote learning and cooperation among students of participating countries and they will learn from each other's strengths and get acquainted with each other's culture, values, best practices and work ethics.

## Mode of program

In the wake of uncertainties and travel restrictions due to COVID 19 pandemic, the ASEAN India Hackathon is being organized online using a digital collaboration platform, developed by Ministry of Education Innovation Cell. The ASEAN-India Hackathon will take place from **1st -3rd February 2021** and prize distribution will take place on **4th February 2021.**

**Participation**

Student teams from all the 10 ASEAN countries as well as India are participating in this ASEAN-INDIA Hackathon. These students are divided in 55 cross-country teams, where each team consists of six students and two mentors. Each team not only consists of different students from different countries but also of different knowledge base and expertise. These diverse teams are competing on developing the best solution for 11 problem statements provided by various reputed organisations and government bodies.

| Country | Student Participants | Mentor Participants |
|---|---|---|
| Brunei | 6 | 2 |
| Cambodia | 20 | 10 |
| India | 89 | 12 |
| Indonesia | 30 | 10 |
| Lao PDR | 27 | 10 |
| Malaysia | 30 | 6 |
| Myanmar | 30 | 10 |
| Philippines | 20 | 4 |
| Singapore | 26 | 10 |
| Thailand | 21 | 6 |
| Vietnam | 31 | 10 |
| **Grand Total** | **330** | **90** |

*Country-wise participation of students and mentors*

**Problem Statements and Training**

These problem statements are under two broad themes of "Blue Economy" and "Education", where students from these ASEAN countries and India are working in teams in close coordination to develop the implementable solution.

Problem statements have been made such that they address the common problems faced by ASEAN and India. Some of the most pressing Problem Statements are-

1. **Enhancing the coastal security-** This problem statement focuses on developing a system for identifying registered vessels and unregistered vessels using Long Range Identification and Tracking (LRIT) systems, Automatic Identification System (AIS) and other technologies. This will help in tracking and pin pointing the movement and intention of unregistered vessels which could be a threat to maritime as well as coastal security.

2. **Quantification of Marine Litter using Image Processing-** under this problem statement an "APP" or processing portal is to be developed by the teams, which could identify and quantify the marine litter from a photo taken or uploaded by any user. The quantification has been a topic of interest for environmentalists and various government agencies. Based on the quantification data the local authorities/ social groups could organise clean up drives in a better way and the debris could be disposed-off in a better and more environment friendly way.

3. **Traffic Management system in coastal regions-** Navigation along the coast is always a challenging task due to various navigational hazards, restricted sea room and heavy traffic along the coast which makes it even more difficult to navigate the coastal waters. Since there are different types of vessels on the coast be it fishing, sailing, pleasure crafts, coastguard, naval ships or merchant vessels. This problem statement seeks a solution for finding an overview information about concentration of traffic for all type of vessels navigating along the coast. The data will be very helpful in avoiding the collisions along the coast.

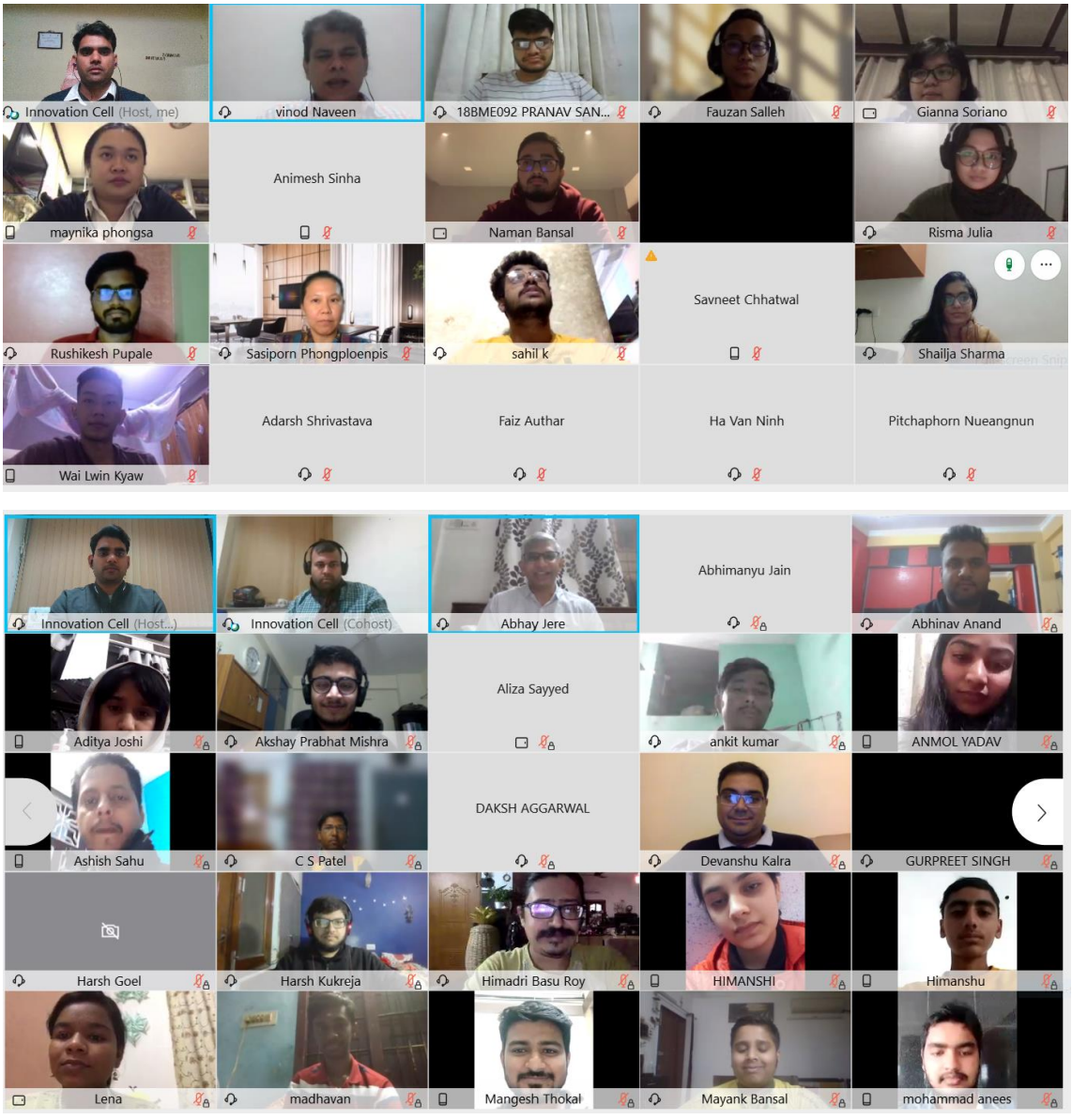
4. **Block chain in logistics-** Logistics is a service industry where time and cost are the critical factors. There are numerous parties involved in the transport of goods from origin to the destination, which includes many processes. Many of them are manual and time-consuming resulting in delay in delivery of goods. This problem statement requires participating teams to develop an online process system which is secure and transparent to avoid delays in the entire process.

The other problem statements focus on "prediction of oil spill events at the sea", "Cost of Air Pollution to Solar Power Generation", alert system for piracy attacks at sea" etc.

Ministry of Education Innovation Cell has taken multiple training sessions for all the teams to train the students on these problem statements, so that the teams are well aware and prepared for working on these pressing problems of today's time. These Problem statements are addressing the wider social, technological and environmental issues.

These training sessions were facilitated by Ministry of Education Innovation Cell (MIC) and delivered by the experts provided by the organisation which has developed the problem statements for ASEAN India Hackathon.

The MIC is facilitating a strong coordination mechanism between participating students working on the problems and the problem statement creators.




*Training Session for ASEAN India Hackathon Participants*

So far MIC & Nanyang Technological University from singapore has conducted 15 technical and non-technical sessions for the cross-country participants to ensure that the best possible solution could be developed by participating teams. The sessions were conducted through virtual communication platforms and were very well received by the participants of ASEAN and India.

**Participating Countries and Nodal Agencies**

To organize this ASEAN-INDIA Hackathon, MoE's Innovation Cell (MIC), All India Council for Technical Education (AICTE) has collaborated with the Ministry of External Affairs (MEA) and ASEAN countries. In a seamless coordination with MEA the 'Nodal Agencies' from each of the ASEAN countries has been identified and with their cooperation the participation from their country has been ensured. These nodal agencies have identified students, mentors and all logistics related support for teams from their respective countries.

The ASEAN India Hackathon nodal agencies are as below-

**Methodology**

This Hackathon provides a unique opportunity to India and ASEAN countries to solve their common identified problems designated as Problem Statement under ASEAN India Hackathon. Students from these countries are working together, well connected virtually with their team mates, where they are developing solutions from their home countries in their institution or labs or home and conceiving their ideas as probable solution to the problem statement which will be developed in to a working solution during the finale of the ASEAN India Hackathon program.

The methodology could be summarized as follows:

1. The ASEAN-INDIA Hackathon is being organized virtually through the online platform of MIC, considering the current COVID 19 pandemic. The hackathon would be for 36 hours. The student teams will work for 3 days and results will be announced on 4th day of the hackathon. The students will work for 12 hours each day to create the best solution for the problem statement.
2. The problem statements are picked from the emerging theme of social relevance. Each problem statements are being contested by 5 teams comprising of 6 members and two mentors each.
3. The hackathon will be organized by MIC at AICTE in collaboration with the Ministry of External Affairs, Ministry of Education (MoE), AICTE, MoE's Innovation Cell (MIC) and identified nodal agencies from ASEAN countries.
4. Technical and non-technical training sessions are being conducted for all the participating teams through online video conferencing mode, where the students are being explained about the complexities, dependencies and impacts of problem statements and what is expected as a solution out of a particular Problem Statements.

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