

Pre-Hackathon Challenge: Building Resilient, Sustainable Communities with Industry 4.0

Welcome to the " **RISE 4.0 – Reimagining Innovation for Sustainable Ecosystems Through Industry 4.0**" challenge. This initiative invites you to develop an innovative solution that addresses the dual challenges of climate resilience and sustainable development within urban or rural communities. You should leverage Industry 4.0 technologies such as AI, machine learning, IoT, or blockchain to create a scalable and impactful solution. Please complete the following sections to submit your concept.

This initiative, supported by the Foreign, Commonwealth & Development Office (FCDO) under the Research, Innovation and Entrepreneurship Partnership (RIEP), aims to enhance research and innovation collaboration among India, East Africa, and the UK. Initial partners include Indian Institute of Technology–Madras (India), University of Dar es Salaam (Tanzania), Riara University (Kenya), Dedan Kimathi University of Technology (Kenya), and University of Leeds (UK). The United Nations Development Programme implements the initiative through the FUNGUO Programme.

The Process

To participate in the hackathon challenge, applicants must first engage in the pre-hackathon challenge. Applications will be reviewed, and the top candidates will be selected to advance to the hackathon. Selected participants will be grouped into teams of 3 to 4 students, paired with peers from the partner universities in India, Tanzania, and Kenya. Finalist teams will compete in a physical hackathon in Kenya and pitch during the Kenya Innovation Week.

The winning team will be chosen at the pitching event during Kenya Innovation Week in November 2024 and will earn the opportunity to travel to India for an exchange program.

Throughout the hackathon, students will receive coaching from mentors at the five partner institutions to refine their ideas and prepare them for scaling beyond the event.

Who Should Participate

1. You must be a student at one of the participating institutions.
2. You should be in your 2nd, 3rd, or 4th year of studies.
3. You must be willing to travel outside the country if selected.

Challenge Overview:

Participants are invited to create a solution that addresses the challenges of climate change and sustainability in urban or rural communities. The solution should use modern technologies (like AI, machine learning, or blockchain) to help communities adapt to climate disruptions and promote environmentally friendly practices.

Specific Requirements:

1. **Climate Resilience and Sustainability:**
 - Describe how your solution will help communities anticipate, prepare for, and respond to climate-related disruptions.
 - Explain the sustainable practices your solution will integrate, such as reducing carbon footprints, improving energy efficiency, or managing waste.
2. **Gender and Inclusion:**

- Detail the strategies your solution will use to actively involve and empower local communities, especially women and marginalized groups.
- How will they engage, contribute and benefit?

3. Use of Industry 4.0 Technologies:

- Describe the Industry 4.0 technologies that your solution will use (e.g., AI, machine learning, IoT, blockchain).
- Explain how these technologies will enhance the effectiveness and scalability of your project.

Focus Areas:

Participants can focus on one of these areas or suggest another related topic:

1. Climate Resilience and Adaptation:

- Solutions that help predict and reduce the impact of climate-related disasters.
- Strategies for improving agriculture to ensure food security despite climate changes.

2. Renewable Energy Solutions:

- Ideas that optimize renewable energy sources like solar or wind.
- Solutions for better energy storage to improve the reliability of renewable energy.

3. Smart Cities and Infrastructure:

- Plans for smart city infrastructure that reduce carbon emissions and make cities more livable.
- Ideas for better water management using modern technologies like IoT.

4. Circular Economy and Waste Management:

- Digital platforms that help communities recycle and reuse materials.
- Solutions that track and reduce industrial waste.

Challenge Timeline:

- Submission Deadline: 13th October 2024
- Announcement of Selected Participants: 28th October 2024

Application Submission Link: <https://forms.gle/nee5WC3JkerYUTtr7>

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