Rural Innovative Technohunt

A Technical Challenge
to identify rural problems and suggest solutions

Background

Rural Technology Action Group (RuTAG)is an initiative of the Office of Principal Scientific Advisor (PSA) to the Government of India. RuTAG was conceived as a mechanism to provide a higher level of S&T intervention and support to address rural problems. It has a presence in several IITs leading to many innovations which aim to technologically support rural India. It has been an endeavour of RuTAG IIT Delhi to involve students in its activities by starting RuTAG club. As part of the club activities, RuTAG is initiating a competition as a Technical Challenge linked to rural problems.

About the Competition

The competition would be in three stages:

Stage 1: Identification of a rural problem and conceptualizing a solution.

Stage 2: The short-listed concepts will be taken forward to detailed design of the proposed solution.

Stage 3: The selected designs will be funded for prototype development.

Themes: Participants in STAGE 1 are required to identify a real-life problem faced in rural India pertaining to any of the following areas

1- Agriculture and Animal Husbandry
2- Village industries
3- Education
4- Health
5- Energy resources
6- Water & sanitation
7- Any other relevant areas

Rules:

1. This competition is open to only students, faculty and staff (including contractual and out-sourced) of IIT Delhi.

2. Those interested can participate individually or in teams of up to 4 participants, with AT LEAST one student (of any programme) in the team.

3. The idea presented by a team should be original (not protected by means of patent/copyright/technical publication by anyone else).

4. The problem identified should be specific enough so that the proposed solution can involve the development of a product either as hardware or as software.

5. All UG student participants selected for stage 3 can request for DPE units. For this, they must register for the same under a faculty as a mentor at the beginning of stage 3.

6. All teams qualifying for stage 3 may choose to visit any rural area during their problem-solving stage using a part of the fund of Rs 50,000 meant for prototype development.

7. All expenses incurred from the funds provided must be as per the Institute Rules.

Expected Outcome:

Stage 1: Every participating team would be required to submit a 3-4 page concept note in the following format

1. A clear description of the problem being addressed including the existing solutions (if any) in not more than 2000 words with at most four pictures.

2. Proposed methodology to solve the identified problem and how it is better than the existing solutions.

3. Conceptual description of the product (hardware or software) which will be part of the proposed solution. If the proposed product is hardware, simple sketches must be included to explain the concept.

Stage 2: The teams whose concepts are shortlisted for stage 2 will need to submit the following:

1. If the product involves hardware, the team will need to submit a technical report including the following:
    a. Description of technical concepts/theories involved in the proposed solution
    b. Detailed technical specifications and detailed design of the product with all the necessary design calculations.
    c. Engineering drawings in any CAD software of components, sub-assemblies and assembly along with Bill of Materials.
    d. An estimate of the cost of fabrication of the prototype
2. If the proposed product is in the form of software, the detailed algorithm for the software must be provided with a clear description of how it will be implemented to solve the problem.

Stage 3: The teams selected for stage 3 will be provided funding of up to Rs 50,000 for prototype development in case the product is hardware. For software, no funding will be provided.

1. If the product is hardware, the team will be required to develop a working prototype of the same, test it and submit a report including the following:
    a. Final drawings used for prototype development highlighting the changes from the stage 2 drawings if any.
    b. Results of the tests and their analysis including uncertainty estimates.
    c. Problems encountered during prototype development.
    d. Conclusions
2. If the product is software, the team will be required to submit a functional software with required GUIs, test the software for realistic situations and submit a report including the following.
    a. Final algorithm used, highlighting the changes from stage 2 if any.
    b. Results of the tests and their analysis.
    c. Problems encountered during software development.
    d. Conclusions.

EVALUATION

Submissions at every stage will be judged by a panel of experts. Following are the major parameters of evaluation:

1. Creativity and Novelty
2. Originality
3. Appropriateness for rural application
4. Potential of Impact

PRIZE

1. Winners of Stage 3 will be awarded a certificate of appreciation along with a plaque.

2. Interested winners of stage 3 may seek a seed grant up to Rs 2 lakhs per project from the Design Innovation Centre of IIT Delhi to carry their idea forward.

3. RuTAG, IIT Delhi will also facilitate rural/social internship for Winners of Stage 3 in reputed organisations/Institutions/Universities/Companies in India and abroad.

REGISTRATION AND ABSTRACT SUBMISSION

All the participants are required to register through the following link: https://goo.gl/forms/iXGYNlMB7c9aqs5H2

Important Dates

Announcement	3rd Dec 2018
Registration starts	3rd Dec 2018
Last Date of Registration	20th Dec 2018
Last Date for Submission of Concept Note (Stage 1)	31stDec 2018
Short-listing of Concepts for Stage 2	15thJan 2019
Last Date for Submission of Detailed Design (Stage 2)	25th Feb 2019
Presentation on Design Submitted (Evaluation of Stage 2)	5th Mar 2019
Short-listing of Designs for Stage 3	6th March 2019
Final Submission along with Demonstration (Evaluation of Stage 3)	20th Apr 2019 (Open House)

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