



## ADCET HACKATHON - SEASON 3

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### *Round 1: Idea Submission Hardware Section*

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#### 1. Team Details:

**Team Name:**

**Team Leader Name:**

**Team Size:**

**Email ID:**

**Mobile No:**

**Institute(s) Name(s):**

#### 2. Track and Theme Selection:

**Track Selected:**      **Hardware Edition**

**Hardware Theme:** ..... (Select one from official list)

**Primary SDG Addressed:**

**Target Application Domain:**

☐ Mechanical ☐ Electrical ☐ Civil ☐ Aeronautical ☐ Interdisciplinary

(Note: Hardware Edition does NOT restrict participation by branch; interdisciplinary teams are encouraged.)

### **3. Problem statement:**

Clearly describe the real-world engineering problem being addressed. Mention where the problem exists, who is affected, and why it is important. (upto 150 words)

### **4. Existing Solutions**

Describe existing hardware, mechanical, or electro-mechanical solutions related to the problem. Who are the end-users? What are their key limitations (cost, safety, efficiency, reliability, scalability)? How your proposed solution is better than existing solutions? (200-250 words)

### **5. Proposed Hardware Solution Overview**

Explain your proposed hardware solution approach. Clearly explain how the device interacts with its environment to solve the problem and what outcome it achieves.

(Insert sketches, CAD images, system block diagrams, or a link to a short explanation video. For Round-1, conceptual clarity of the hardware design is more important than fabrication.)

### **6. System Description**

Mention the major components of your system: e.g. Mechanical / Structural elements, Sensors, Actuators / Motors / SMA / Hydraulics / Pneumatics, Controller / Electronics, Communication, Planned Voltage/Power Source (e.g., 5V USB, 12V Battery), etc.

### **7. Originality & Fabrication Plan**

Clearly mention:

- Parts/components that will be designed by the team
- Off-the-shelf modules to be used
- Any fabrication method planned (3D printing, laser cutting, machining, etc.)

## **8. Innovation & Uniqueness**

Explain the innovation aspect of the project and special features that it provides. Mention any special features such as low-cost automation, energy efficiency, novel mechanism, or eco-friendly material usage

## **9. Feasibility & Implementation Plan**

Explain why this project is feasible within the hackathon timeline. Mention required resources and team capability.

## **10. Risks, Constraints & Safety Considerations:**

(Identify potential technical, safety, cost, or resource-related risks that may affect implementation. Mention possible mitigation strategies.)

## **11. Proposed Prototype & Validation Plan**

Explain how the working prototype will be tested and validated in final round.

## **12. Declaration**

- ☐ We confirm that this idea is original.
- ☐ Any pre-existing design/module has been disclosed properly.
- ☐ We agree to follow all ADCET Hackathon rules and safety guidelines.
- ☐ No Hazardous wiring, flammable materials, Unsafe voltage/current planned.
- ☐ We declare that our hardware project does not exceed 40% completion prior to final round and complies with ADCET Hackathon rules.

## **13. Submission Checklist for Teams**

- ☐ Team consists of 4-5 members.
- ☐ Includes at least one girl student.
- ☐ Solution aligns with SDG/Viksit Bharat- -2047 goals.
- ☐ Explanation is short, precise, and within the limit.