Registration for the “Design Me a Robot” Hackathon

1. Project Objective

The objective of this hackathon is to bring together teams of agricultural education students. These teams must identify an agronomic issue within a farm/territory and propose a solution based on autonomous agricultural equipment. This equipment should provide a partial or complete answer to the identified issue. The proposed agricultural equipment must be "usable" (technology adapted to agricultural constraints, controlled costs, etc.) and align with agroecological transition goals.

You must imagine and design an innovative robotic solution addressing a real issue on an agricultural farm. Your final deliverable will be a scientific poster presenting your project, which will be submitted to the jury and presented orally during the GOFAR Tour Campus Day event.

2. Project Steps

Step 1: Choose an agricultural farm

You can start from a farm:

- studied in your surroundings or during your internship,
- recently visited,
- provided in the course case studies.

Briefly present the farm:

- location,
- production(s),
- specific constraints (climate, soils, work organization, etc.),
- technical or economic challenges.

Step 2: Identify an issue

Based on the farm analysis, identify a clear issue, for example:

- labor shortage,

- repetitive and arduous tasks,
- insufficient precision in crop rotation or feeding,
- input reduction,
- agroecological transition,
- animal or crop monitoring,
- safety and risk prevention.

The issue must be real, substantiated, and contextualized.

Step 3: Design an agricultural robot meeting the need

Your robot must be:

- adapted to the studied farm,
- technically credible (as much as possible),
- useful, innovative and/or more sustainable than current practices.

Define:

- Main function of the robot (weeding, field monitoring, harvesting, animal observation, targeted spraying, object handling, etc.)
- Secondary functions (GNSS positioning, AI, autonomy, motorization, safety, etc.)
- Operating principles: energy used, guidance, sensors, onboard tools.
- Constraints: cost, maintenance, required training, risks.

Step 4: Create a model or diagram

You can represent your robot through:

- an annotated sketch,
- a technical diagram,
- a simple model,
- a 3D model (optional).

This representation will be used for your deliverable.

3. Creating presentation slides

Expected Format

- 4-5 slides
- 1 to 2 written pages briefly presenting your work (context, issue, description of your solution)
- Visual, clear, attractive.

Required Content

Your presentation must clearly present:

1. The context

- Description of the farm.
- Identified issue.

2. The proposed robot

- Robot name.
- Main functions and advantages.
- Innovations (technical, economic, environmental).
- Diagram / drawing / rendering.

3. Operating diagram

- How the robot moves.
- How it detects, acts, controls...
- Its energy sources and sensors.

4. Expected benefits

- Time, safety, efficiency gains.
- Agronomic and environmental impacts.
- Potential limitations.

5. Conclusion

- Why is this robot realistic?
- Why would it be useful for farmers?

4. Oral Presentation

Competing teams must also prepare an oral presentation of their proposal based on their slides. The expected duration is 10 minutes and the presentation must include the following elements:

- Selected issue
- An illustration of the model/diagram of the proposed technical solution
- Primary and secondary functions
- Operating principles

Evaluation Grid

Criteria	Sub-criteria	Scale	Score
1. Project relevance		**/25**	
	Clear, real, and well-contextualized issue (farm, challenges)	0-10	
	Match between proposed solution and identified needs	0-10	
	Consideration of technical, economic, and environmental constraints	0-5	
2. Innovation		**/20**	
	Originality of the solution (compared to current practices)	0-10	
	Use of innovative technologies (AI, sensors, energy, etc.)	0-10	
3. Technical feasibility		**/25**	
	Technical credibility of the robot (functions, energy, sensors, tools)	0-10	
	Consideration of constraints (cost, maintenance, training, safety)	0-10	
	Realism of the model/diagram (clarity, precision, annotations)	0-5	
4. Impact and benefits		**/15**	
	Expected gains (time, safety, efficiency, reduction)	0-15	

Criteria	Sub-criteria	Scale	Score
BONUS		**/5**	
	Deliverables submitted within the allocated time		
	Quality of deliverables (clarity,...)		

Registration

Please contact the following email address: gregory.jonard@educagri.fr. Each institution will provide a contact person who will act as a liaison between the organization and the competing teams.

Timeline

Competing teams work on their project during the first half of January 2026 and submit their deliverables (slides and/or written pages) on Wednesday, January 21, 2026 to the organization (gregory.jonard@educagri.fr). The jury conducts the evaluation (according to the provided evaluation grid) prior to the presentation day.

Competing teams prepare a 10-minute oral presentation during the second half of January. This presentation must be submitted in PDF format before February 6, 2026 by email or on the day of the event via USB drive.

The order of team presentations will be communicated on February 5, 2026.