BRABANT HACK_26

TRACK AI-Tech

Cboost

WITH PARTNER BREDA ROBOTICS

WWW.BRABANTHACK.AI

LEAVE IT TO THE ROBOT - IMPACTFUL ROBOTICS FOR RISK REDUCING WORK

Your mission: create and work out an impactful societal usecase for Autonomous Mobile Robots with integrated intelligence (AI)

CASE CONTEXT

Every day, people go to work in environments that are dull, dangerous, or demeaning. They move hazardous materials through chemical plants, transport contaminated samples in biosafety labs, handle sensitive components in cleanrooms, and push heavy carts through hospital corridors for hours on end.

These are tasks that wear people down - physically, mentally, and sometimes at the cost of their health and safety. **Your mission today: leave it to the robot.**

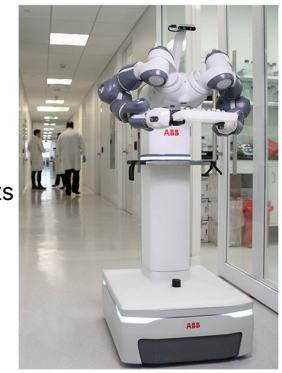
Using an Autonomous Mobile Robot (AMR) equipped with a robotic arm and a camera, your team will design and build a proof-of-concept that uses integrated AI to automate a task that genuinely shouldn't require a human anymore.

Need Inspiration? Here Are Some Examples:

These are just to get your thinking started - you are absolutely encouraged to come up with your own domain and use case.

Cleanroom Logistics *(e.g. semiconductor industry)* Sensitive wafer carriers or optical components need to be transported between stations without human contamination. The robot detects sealed containers, verifies their state using AI, and autonomously moves them - pausing when a human enters the zone.

Hazardous Material Handling *(e.g. chemical or nuclear facilities)* Drums, containers, or sample vials labeled with hazard pictograms need to be moved between zones. The robot reads GHS hazard icons using a pre-trained classifier and applies risk-tiered logic - pick, flag, or alert based on what it sees.



Hospital & Lab Automation *(e.g. pathogen labs or hospital wards)* Biohazard waste, medication trays, or lab samples need to move between departments or biosafety cabinets repeatedly throughout the day. The robot detects, classifies, and transports them - keeping humans out of the loop for routine runs.

WHAT DO TEAMS BUILD?

Regardless of the use case you choose, your pipeline should cover these four phases:

Phase 1 – Think of a usecase that makes people enthousiastic
Decide in which domain you want the usecase to operate in. Mindmap your idea, call your friends, familiy, business network, companies etc to form a case that fits a business and societal need.

Phase 2 – Create a project plan
How do you design, implement and present the usecase. Think of what brings value to the usecase and whats is the fastest way to show the unique aspect of the usecase.

Phase 3 – Start building!
Use the project plan to guide the team to a concrete presentable solution:

- **Sense**: Use a pre-trained AI model and the camera to identify and classify your target object or condition.
- **Think**: Apply a rule or logic layer that determines what the robot should do based on the detection result.
- **Act**: The robotic picks the object and the AMR transports it from Position A to Position B.

Phase 4 – Present the idea
Create a tedx-like presentation; short and thought provoking. Make sure to pin point the unique selling point of this solution; whats sets you apart from the others?

WHAT DOES CBOOST PROVIDE?

ez-wheels

SUCCESS CRITERIA

Judging Criteria

The outcome of the hackathon will be judged based on the following criteria (in order of weight)

1. Societal relevance & impact
2. Pitch & presentation
3. AI integration quality
4. Working Demo
5. Decision logic & smartness

Judges criteria guidelines

CRITERION	GRADE 1-10	WEIGHT
Sociatal relevance & impact		30%
Pitch & presentation		25%
AI integration quality		20%
Working Demo		15%
Decision logic & smartness		10%

CONTACT

- Simon Mingaars (simon.mingaars@cboost.nl)

WWW.BRABANTHACK.AI