

Stack hay

Deadline: 16.5.2021

Points: 20

Material requirements: your robot, a gripper (or something else) with which you can stack something, 16 cubes (min 5cm x 5cm)



Topic description

In agriculture, hay bales are stacked in order to have more space and thus to have even more feed for the animals in stock. Of course, you could also automate this process - and that's what you should try to do now!

We wish you a lot of fun with this and the following tasks!

Task description

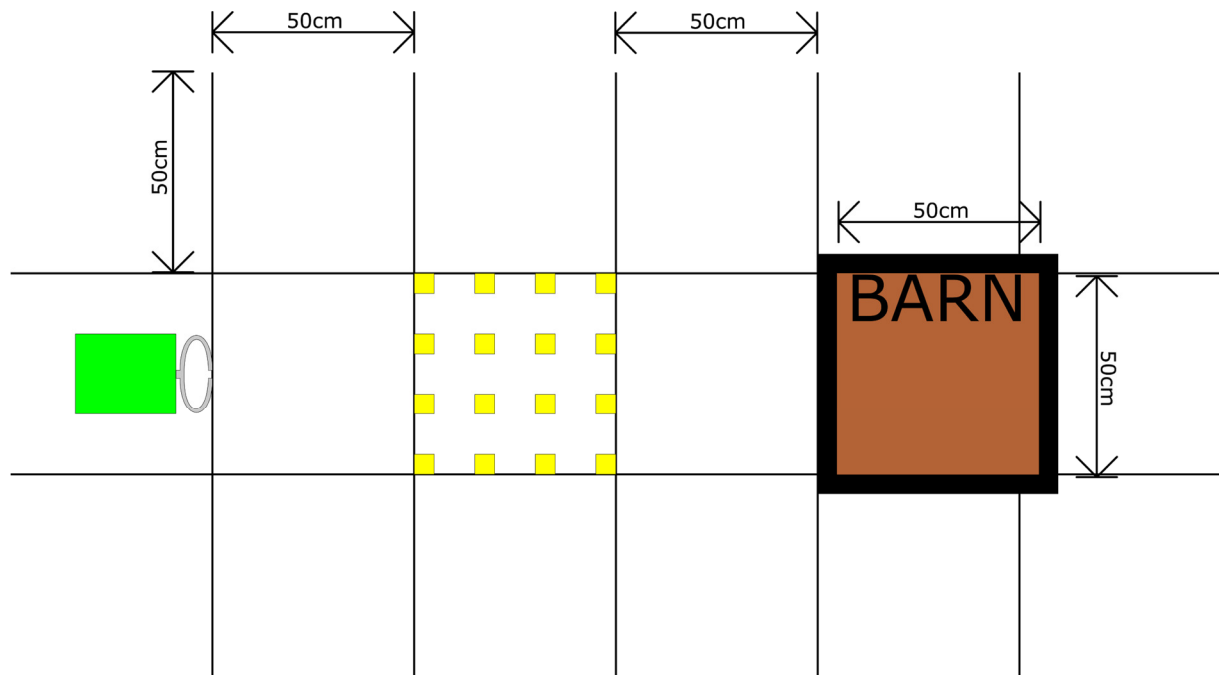
- **Organize / build 6 cubes with at least 5x5cm**
You are free to use something you already have at home/school or build the cubes yourself. It's also as fine to build the cubes out of cardboard as it is to use modern manufacturing processes such as 3D printing. Remember not to use too thin material, you would easily destroy it with the gripper.
- **Stack 4 hay bales on top of each other**
Place 4 hay bales (cubes) next to each other on the floor (of course they must not be stacked yet and must not touch each other). Now stack them on top of each other with your robot and release the hay bale tower. It must remain standing for at least 5 seconds. Make a video of a successful attempt and upload it to us along with your code.
- **Put 4 stacks in your barn**
Now place all 16 cubes on the floor as shown in the picture. Your goal is to form 4 stacks of 4 hay bales in the barn. Create a video of this as well and upload it along with the code.

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Evaluation criteria

- Successful stacking (4 cubes on top of each other) - The robot must not hold the stack anymore
- Place 4 stacks of 4 cubes next to each other in the prepared field (barn)
- Jury evaluation: The jury evaluates the quality and creativity of the submission.