



**robotex**  
International

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**ROBOT LEAGUE 2024**

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# 1 Introduction

## Robot League 2024

The theme for the Robot League competition this year is “How do I get to the moon?”

The Robot League competition is a gateway for preschool and elementary school students to step into the ever evolving world of robotics. Unlike the other competitions at Robotex, at Robot League, speed and power are not the determining factors for victory. In fact, there are no podium positions at all! Instead, we celebrate every competitor’s participation as a victory on their journey in the world of science, where we value teamwork, creativity and the programming of an educational robot.

This year, the Robot League competition gives the students a chance to present their vision of going to the Moon! In addition to preschool students, elementary school students and enthusiasts, we welcome families to take part in the competition. All 3-5 member teams composed of up to 12-year old children can make a team.

In addition to kindergartens, schools and hobby groups, we also welcome all families to participate in the Roboliiga competition categories.

- » Teams of 3 to 5 children up to the age of 12 can register.
- » Registration is open until 24.11.2024.
- » The participation fee is 10+VAT.
- » Registration takes place at <https://game.robotex.ee/>

In case of questions, write to [roboliiga@robotex.ee](mailto:roboliiga@robotex.ee)

## Inspiration

# "How do I get to the moon?"

Mia and Marten had finished their dinner and ran back into the living room to play. After a while, their mother stood at the foot of the door, seemingly cross.

"What is this? We had a deal! After dinner, you must wash your dishes!"

Mia and Marten stopped playing for a moment.

"Do we have to? We have a dishwasher you know!" asked Mia.

"I told you, the dishwasher is in repair and we have to wash the dishes ourselves until it is fixed. Don't you listen to me at all!" grunted mom.

"But why don't we just wait until the machine gets fixed and then it'll wash all the dishes for us?" proposed Martin as a brilliant solution.

"That is not the point," says mother. "It is about you learning to do things for yourself. Marten will wash the dishes and Mia will dry them!"

Mom looked at the kids expectantly.

The kids stood silently for a moment. They had just gotten into a really great game of tag. Mia frowned to the point that she looked like she was about to cry. She knew that it might soften mom's heart. "Crying usually helps me get my way," thought Mia.

Mom sighed. "You might as well ask for the moon!" she said with irritation and stomped off to the kitchen. Mia and Marten looked at each other and did not know what to do. They tried to continue the game, but it was just not the same anymore. They heard mom washing the dishes in their stead in the kitchen. Neither of them dared to take a peek.

Marten went to his desk, took out his books and started to study.

"What are you doing? Are we done playing?" asked Mia.

“I want to do my homework now. That usually helps mom feel better. I can show her that I did all my homework myself on time,” answered Marten.

“You agree, that she looked quite upset?” asked Mia.

“She did,” agreed Marten.

While Marten started studying, Mia went to the window and looked at the sky. There, she saw a big round full moon. Mia looked at the moon and fell into deep thought.

“Why did mom tell us to ask for the moon?” asked Mia eventually.

“What?” asked Marten confusedly.

“How do you even get to the moon?” Mia kept asking.

“Well, I think it was more of a joke. It’s just an expression, you know – ‘ask for the moon’.”

The moon did not give poor Mia’s thoughts any rest. She noticed their robot friend Robit behind the window washing the glass panes. Mia opened the door and pulled Robit inside.

“Robit, how do I get to the moon?”

“Well, you need a rocket, and you need to bring your own air from the Earth,” answered Robit who was restlessly trying to sneak back outside to finish his tasks.

“Rocket? Well where do I get one? And how do I bring my own air?” Mia was confused.

Robit had already slipped back outside and was washing the windows again. The moon shone even more invitingly through the freshly cleaned windows.

“Well let’s start from the easier task, then work our way toward the rocket,” thought Mia.

She searched her drawers and pulled out the biggest plastic bag she could find and snuck outside without mom noticing.

Mom finished washing the dishes and went to the living room to watch TV. Suddenly, the front door flew open and Mia ran inside, plastic bag in hand. She ran straight to the living room.

“Mom, look! I am almost ready to go to the moon! I have my own air and all I need now is a rocket!” stated Mia excitedly, expecting praise for her good work.

Mom stared at Mia who had a big plastic bag in her hand that had a neat knot on the top with a puzzled look.

“What do you mean you’re almost ready to go to the moon?” asked mom.

“Well you did say that we should ask for the moon, so I thought I’d go ask for it!” answered Mia.

Mom burst out laughing, having understood the whole situation.

She hugged Mia tightly and laughed even more. Upon hearing laughter, Marten stuck his head out of his room and quickly shuffled towards her, seeing that mom’s mood had lightened. Mom hugged both kids.

“Well, since we have a bag full of air ready, I think the broken dishwasher in the kitchen will also work as a rocket – otherwise it’s worthless. Let’s get going then!”

The kids were shocked at first, but then understood the joke and started laughing. They promised mom that tomorrow (or the day after) they will definitely wash their dishes. Well, if they aren’t still having fun on the moon.

## 2 Competition project and robot

1. The competition project (hereafter the project) is a self-made mat or environment that is a prototype of the team's idea, the dimensions of which can be 0,4 x 0,4 x 1 m (W, L, H). The project with the robot must be transportable and fit on a 0,4m x 1 m table in the competition area.
2. The project can be made from a variety of materials and pieces, including natural or 3D printed materials.
3. The project must include at least one programmed robot performing at least three activities and/or scenes. Preferably, the activities could be in line with the team's chosen idea for the competition. For example, a robot on a mat might move from point A to point B (first action), dance (second action), say something (third action), etc.
4. The competition is open to a variety of programmable robots suitable for ages up to 12 years. For example: LEGO- WeDo, Bee-Bot, Blue-Bot, Codey Rocky, InO-Bot, Pro-Bot, Ozobot, Edison, Sphero, Strawbees Quirkbot, Dash, Dot, mBot, Engino ERP Mini and other robots of similar level and complexity.

## 3 Team

1. The team is made up of three to five children aged 12 or younger and an adult mentor.
2. The coach can be a teacher, a ring leader or a parent and cannot have more than one team in the same competition (to be checked at registration). The supervisor is responsible for the welfare and safety of the children on site.
3. It is recommended that teams wear similar clothing to stand out from the crowd.
4. The team is responsible for the security of the personal belongings they bring with them, including the competition entry and the robot.

## 4 Competing

1. When arriving at Robotex, you will have to go through the on-site registration before the competition.
2. Registration must be completed by the deadline set by the organizers.
3. The competition theme is „How do I get to the Moon “.
4. Children in a team will have three minutes (3 min) to present their project and must include:
  - a. an introduction to the project, or heroic story, of the mat and the activities carried out by the robot.
  - b. an introduction to the programming code, or algorithm, needed for the robot to work.
  - c. an introduction to the team members and their roles
5. The robot must remain on the competition mat during the presentation.
6. If the robot gets stuck, you can help it by lifting the robot or playground elements with your hand.

## 5 Feedback

1. Feedback on the competition entries will be provided by the competition mentors, who will visit the teams to give feedback on their work and, if necessary, ask the children for clarification.
2. The following elements will be taken into account when providing feedback:
  - a. idea - a bright idea and creativity;
  - b. Execution - the integrity of the competition mat/environment or prototype and the action/scene (robot mobility, detail and thoughtfulness).



**c.** program - preferably, the robot has been programmed using original code or an activity where the code or algorithm has not been inserted in a pre-programmed way (e.g. barcode scanning, etc.).

**d.** Teamwork - sharing tasks, involving all members and presentation.

- 3.** Feedback will be given to the teams on the same day. It is important to the competition mentors that all children have a good and positive experience.
- 4.** Any questions or problems that may arise during the competition will be solved by the mentors and/or the organizer.