

ROBOT DESIGN REPORT GUIDE

FIRST® LEGO® League Challenge

To help the Robot Design judges understanding your robot and the design process used quickly and comprehensively, you will give a short **oral report** of your robot on the tournament day.

The explanation including the live demonstration of the robot should not take any longer than **five minutes**. Following your Robot Design explanation, the judges can ask further questions.

Here are some tips for you about what facts you can include in your Robot Design explanation.

About the robot and the robot design

Strategy

Report on your approach to the Robot Game tasks and the task the robot can solve most reliably. Why did you choose the tasks you have chosen and how did you make this decision?

Design Process

Describe how your team designed your robot and what process you used to make improvements to your design over time. Tell the jury how often the completion of Robot Game missions works and how the success rate has improved over the time of preparation. How did you consider different design ideas from different team members and with which arguments did you make design decisions?

Mechanical Design

Explain to the judges how your robot's basic structure was created, how you make sure your robot is durable and how you enable the use and quick change of different tools. Explain to the judges how the robot moves (drivetrain), and what attachments and mechanisms it uses to operate or complete missions. Also explain why you decided to use certain parts.

Coding

Describe how you coded your robot and why you have chosen this coding environment. How are your programs organised and documented and why did you choose this way? Mention if your programs use sensors for example to know (and ensure) the location of the robot on the field. Describe why you used certain sensors and motors.

Innovation

Describe any features of your robot design (including construction, programming, and strategy) that you feel is special, different or especially clever.

Fun

Describe the most fun or interesting part of robot design as well as the most challenging parts. If your robot has a name, why did you choose the name? If your team has a fun story about your robot, please feel free to share.

Presentation of Mission Solutions

If you wish, you can show the judges how your robot performs some tasks on the field via a video integrated into the report. You can record the video during your team meetings and it should clearly show the robot while mastering mission models. Please do not present a full match, but rather missions of which you are especially proud. Note that the presentation must be shown within the 5 minutes you have available for the explanation.