# Robot Design Executive Summary (RDES)

To help the Robot Design judges quickly and consistently learn about your robot and the design process used, we are requiring a short presentation. An executive summary is often used in the "real-world" to outline the key elements of a product or project in a short period of time. The RDES is intended to help your team consider in advance the most important information to share with the judges to introduce them to your robot and design process, as well as provide the foundation that will ultimately help determine award winners.

Your Robot Design judging session will typically consist of three parts:

1. The Robot Design judges will observe your team's Robot Performance match during the Practice Round or Round One.
2. Your team will present your RDES to the Robot Design judges. The maximum time allotted for the RDES presentation is three (3) minutes. You are not required to provide a written version of the RDES to leave with the judges.
3. Your team will answer questions from the Robot Design judges for the remainder of the judging session.

**Preparation:** While your team is free to determine how much time you invest, a realistic expectation for most teams is several hours to develop and practice the RDES; note the RDES is NOT intended to be the same scope as your Project.

**Basic Outline:** The RDES should include the following elements: *Robot Facts* should be presented first, followed by *Design Details*, which may be arranged in any order that makes sense for your team.

**Robot Facts:** Describe basic features of your robot, such as the number and type of sensors, drivetrain details, number of parts, number of attachments, programming language used, number of programs, amount of memory used by programs, and the most consistently completed mission.

**Design Details:**

1. **Strategy:** Explain your team's strategy for accomplishing missions. Briefly describe the reasons behind why you attempt the missions that you do, their order, and in general your robot's rate of success completing them. Talk about your favorite mission and why it is your favorite.
2. **Design Process:** Describe how your team designed your robot to execute your strategy, how you tested and made improvements to the design over time, and discuss any defined processes you used. Describe briefly how different team members contributed to the design and how you incorporated ideas from all.
3. **Innovation:** Describe any features of your robot design that you feel are special, different, or especially cool.
4. **Mechanical Design:** Describe your robot's basic structure, how you make sure your robot is durable, how you make it easy to repair or add/remove attachments, how it moves (drivetrain), and any attachments and mechanisms it uses to complete missions or operate.
5. **Programming:** Describe features of your programs that ensure consistent results, how your code is documented and modularized and ways your programs use sensors to know (and ensure) the location of the robot on the field.
6. **Fun:** Describe the most fun or interesting aspect of robot design. Describe the mission(s) your team found most challenging, the robot's name and origin of the name, or any fun story your team has about your robot that you would like to share.



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