



The Do's and Don'ts of a Formula Student Written Engineering Design Report

If you are preparing this year's Engineering Design Report (EDR) for Formula Student Germany, there are specific guidelines and practices that you can follow to make your report more valuable and efficient. To ensure that your report is of high quality, consider the following seven do's and don'ts:

1. **Don't copy and paste from previous EDRs:**
Judges have access to your previous EDRs, so repeating the same information year after year is pointless. Avoid the temptation to copy and paste sections of earlier reports. Instead, focus on presenting new developments, lessons learned, and insights gained since the last report.
2. **Don't lie about your improvements:**
Being honest about your progress is essential. Development work is often incremental, not every effort results in a breakthrough. Therefore, avoid exaggerating or fabricating improvements to make your design appear more impressive.
3. **Do explain big improvements:**
If your team has achieved significant advancements, it is crucial to provide a clear and thorough explanation. Understand that Formula Student has a long history, and judges have encountered various concepts over the years. Therefore, it is essential to justify and clarify any substantial improvements to address potential concerns.
4. **Do clarify causalities and trade-offs:**
Changes and improvements in your design often come at a cost. Therefore, making these trade-offs transparent and describing their causalities is essential. For example, increased downforce may lead to increased drag, and weight reduction may affect stiffness, safety factor, or functionality. In addition, addressing these trade-offs demonstrates your team's understanding of the engineering principles and considerations involved in your design decisions.
5. **Do your drawings correctly:**
The drawings included in the EDR play a significant role in conveying the design. Therefore, it is essential to deliver what is asked, typically three CAD drawings showing side, top, and front views (no isometric views). In addition, provide technical drawings that include overall width, height, and length measurements rather than renderings. Failure to comply with these requirements can result in unnecessary point deductions.
6. **Do use additional content (Tables, Images) to your advantage:**
Additional content, such as tables, images, and charts, should be used strategically to enhance the explanation of concepts and improvements from different design iterations. Only include them if they add value to the text and contribute to a better understanding of the report. Ensure charts are labeled according to engineering standards, providing precise units, scales, and legends.
7. **Do a final check:**
Before submitting your EDR, conduct a last review to ensure its quality. First, ask yourself if you genuinely enjoy reading your work and feel proud of it. Next, evaluate whether the report looks visually appealing and meets your academic standards. This final step ensures that your report reflects your team's professionalism and dedication.

To summarize, following these guidelines will assist you in creating a powerful Engineering Design Report for Formula Student. It is important to be truthful, emphasize important improvements, avoid redundancy, clarify any compromises, and conduct a comprehensive final review. Adhering to these do's and don'ts will improve your report's credibility and effectiveness, demonstrating your team's expertise, abilities, and accomplishments in the Formula Student competition.