

Student challenge, Systems Engineering

RobSE is a national student competition in Germany, based on the French RobAFIS competition. The concept is based on international standards for system engineering.

Official organizer in Germany is the RobSE Steering Committee of the German "Gesellschaft für System Engineering (GfSE e.V.). The main objective is to increase the awareness level of INCOSE. Developed best practices and methods for system engineering. The main focus is highlighting the benefits of a teaching approach that covers the whole project life cycle of system engineering. Another important aspect of the concept is the exchange between the student teams, their supervisors and the members of the RobSE evaluation board. The event will be organized by a committee which includes different technical university as a host each year.

The competition consists of four phases: registration, development, competition and feedback. The competition phase will take place at a meeting of the hosting university and consists of five parts.

1.

Registration

In this phase the GfSE steering board creates the competition directives and the scope.

While this phase, the teams are able to sign up to the competition.

2.

Development of the Prototype

In the development Phase, the prototype and the development documents will be created.

Therefore each team has the same LEGO MINDSTORM Kit available. One supervisor from each university will support the respective team.

3. Final Competition phase

3.1

Configuration Audit

The configuration audit will verify, if the prototype fulfils the required specifications and whether matches with the development documentary. It will be rated for example, whether the building instruction is correct, whether all to the assembly components are available as well as the necessary assembly time is maintained.

After this process a software flash will take place.

3.2

Test

Subsequently each team can test in competition environment for 15 minutes. This step is to exclude the last errors.

3.3

Competition

The following competition in front of the audience (SE Forum and RobSE jury) is the main part of the event. The degree of fulfilment of the scope, specifications and the used time is assessed here.

3.4

Project audit

In the following project audit, each student team will present their solution in a thirty minute presentation in front of the jury. The project plan, the used SE methods and earned experiences will be presented here.

Furthermore this presentation offers the opportunity for the jury to ask some specific questions

3.5

Result

After this procedure, the jury will announce the result to the audience.

4. Feedback

In the last phase every team will get individual feedback.

Information on the participation and organization of the competition

In order to be able to host the Robot Cup in Germany, it is necessary to have interested and ambitious students participating and supporting the project.

In case you want to register a team, there is the following note:

- A team consists of about 5 students who are studying engineering
- A team leader (tutor) of the university is to be assigned to the team (preferably a professor from Systems Engineering)
- The workload for students is approx. 60h per student and approx. 10h for the tutor. In addition, the 2 competition days have to be considered.
- The costs for Lego Mindstorm kits will be covered by the GfSE e.V.
- Travel expenses for the competition are in responsibility of the teams.

If you as a university are interested in organizing the event and the competition

The following information is important to you:

- There is an organization team on the part of the university. This may be e.g. on student team with one to two university supervisors. (Tasks: organization and organization)
Moderation of the competition, video recording of the competition, lunch / coffee breaks)
- Rooms are available for the competition
- 1 large lecture hall for the main event equipped with beamer and audio system for moderation of the competition (2 days)
- 2 rooms for conducting the audits (2 days)
- 1 large laboratory / workshop for the student team during the 2 race days (approx. 40 students with laptops and robots etc.)

Timetables see PDF on the homepage
Registration to RobSe@gfse.de

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