

RoboCup 2024 SSL Black and White Hulls Technical Challenge Rules

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References to the male gender in the rules with respect to referees, team members, officials, etc. are for simplification and apply to both males and females.

Goals of the Technical Challenge

Given that most parts of the teams use similar hulls, differing only in the use of stickers and sponsorships, it can be difficult for spectators to differentiate the teams during a match only by observing the central blob color. Because of it, the TC/OC decided that, in the future, it would be preferable that opponent teams use different hull colors in a match. One team would use black hulls and the other team white hulls. So, the main goal of the challenge is that the teams bring ideas that solve this efficiently and don't make logistics too complicated.

Participation Requirements

All teams are eligible and are encouraged to participate in this challenge.

Evaluation

Every team has a 5-minute pitch to explain their solution for the challenge and the built design and 5 minutes for possible questions.

After the presentation, the TC/OC will measure the time needed to change the hull of one robot. The TC/OC will decide the measurement procedure at the venue. Note that, after the hull change, robots must be recognizable by SSL-Vision.

At least one member of each team should be present during presentations since all teams will vote for the best solution.

The following criteria will be evaluated.

- ¥ Size efficiency: this criterion evaluates the efficiency of the logistics to transport the hulls.
- ¥ Durability: this criterion evaluates the resistance of the solution to possible crashes and other

possible damages during a game.

¥ Ease of changing: this is a qualitative criterion to measure how the other teams feel about the time and ease of the solution proposed.

¥ Costs: this criterion evaluates the costs of the solution, like material used for machining.

¥ Ease of building: this criterion evaluates how easy the process is to build the solution proposed.

Scoring

After the presentations, every team will receive a ballot where they will rate the solutions from 0 to 5 for each criterion.

The teams are encouraged to use their solutions in the matches to prove their efficiency to the others. Besides, the teams that use their solution in a game earn 5 extra points and can receive 5 additional points if they switch the hulls of at least four robots during half-time.



If a hull breaks during the game, the extra points won't count; however, teams can try again in another match.

The TC/OC will average the points of each team. The team with the most points wins. In case of ties, the fastest team wins.

The TC reserves the right to change the evaluation procedure.