RoboCup MSL – 2024 Rule Changes

Disclaimer: This document contains an overview of the Rulebook changes introduced for the 2024 RoboCup competitions. It was created to facilitate the integration with new rules, but it does not replace the reading of the official rulebook in any way.

The Executive and Technical Committees would like to thank all the contributions of the teams with proposals for rule changes. Rules are adapted with the league roadmap in mind, making sure that the evolution goes towards the RoboCup 2050 goal, along with a steady scientific progress.

The Technical Committee can create a rule roadmap, independent of the rulebook. This will contain rule proposals and the projected year of implementation, allowing teams to prepare further in advance for larger steps forward of the league.
The actual implementation of the roadmap (both the exact specification of the rules, and exact year of introduction) is handled by the Technical Committee at the time of introduction.

Any questions or issues regarding the rules should be addressed to the MSL Technical Committee mailing list: rc-msl-tc@lists.robocup.org

The 2024 Middle-Size League Exec/Technical Committees members,

Seyed Ehsan Marjani Bajestani, Polytechnique Montreal, Canada
Jorrit Olthuis, Eindhoven University of Technology, The Netherlands
Valentin Gies, Toulon University, France
Ruben Beumer, Eindhoven University of Technology, The Netherlands
Moeko Tominaga, Nishinippon Institute of Technology, Japan
António Ribeiro, University of Minho, Portugal

Automatic substitution in extra time (RC-3.2)
If the game is extended by extra time, both teams are allowed to use one additional autonomous substitution on top of any that may be left from the rest of the game.

Automatic substitution procedure (RC-3.5)
The procedure has been updated such that the new robot crosses the sideline and enters the field during the substitution.

Remote emergency stop (RC-4.1.5)
Teams are required to provide a remote emergency stop button to the referee, unrelated to the RefBox and on a different frequency than WiFi.

Networking (RC-4.2.5)
2.4GHz WiFi is no longer allowed. The organization must provide an IEEE 802.11a access points, and may provide newer standards (not using 2.4 GHz).

Sensing devices (RC-4.2.6)
The rules now state explicitly that active sensors may not deliberately disrupt other sensors.

Goal area restriction (RC-4.4)
The rule that only the goalkeeper can be in the goal area, has been relaxed to that only 1 (defending) robot can be in the goal area.

Robot repair (RC-4.5.1)
The human from each team who removes robots from the field for repair, is no longer required to be identified to the referee before the match.

Goalkeeper identification (RC-12.3.10, RC-4.4)
Any robot can now act as goalkeeper, as long as there is at most 1 robot in the goal area.

Defense of free kick (RC-13.4)
A robot defending a free kick in its own penalty area must now always stay at least 75 cm away from the ball.

Qualification and Challenges

Technical Challenge
The own team's score is no longer set to 0, but rather not taken into account at all.

Scientific Challenge
The score S^{pr} is now the average of all scores, rather than the sum to ensure a 50/50 balance between the presentation and qualification scores.

Standardized logging
The rulebook had conflicting information on scoring when teams participate in data logging. The rules have been updated not to award any points for this.

> *The TC is looking to bring back a new (more useful) standardized logging system next year, and is open to proposals.*