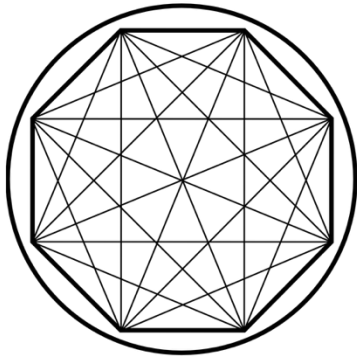




IDE SERIES

2026 SINGAPORE

IDE SUMOBOT

Competition Manual

Updated: 11 Feb 2026

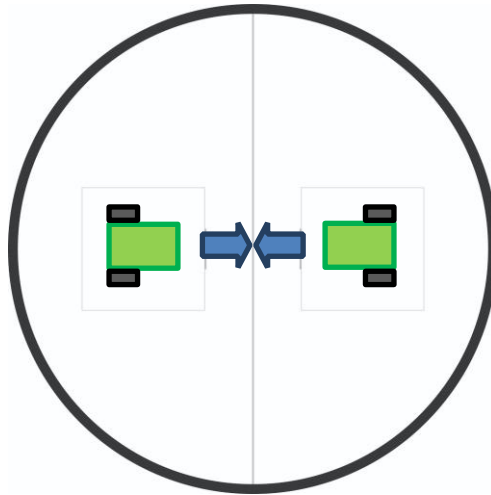
Event Organiser:



IDE SUMOBOT

Scope of Competition

Sumo-bot is a contest where two programmed robot contestants are given 30 seconds to try to push each other out of a circular ring. The first robot to be removed from the ring or rendered immobile loses. The last robot remaining in the ring or mobile wins.



Robot Design

Contestants may build their robots with mechanisms to grapple, flip, push, or overpower their opponents. Any robot attachment that is likely to cause unnecessary damage to the opponent's robots may not be used in this competition.

Sensors may be used to detect the opponent or parts of the playfield, and additional motors may be used. Equipment used must follow the specifications as spelled out in the Competition Rules. No unauthorised equipment/materials may be used.



Robots must adhere strictly to the size requirements as specified in the Competition Rules, and robots must also weigh in under 1kg.

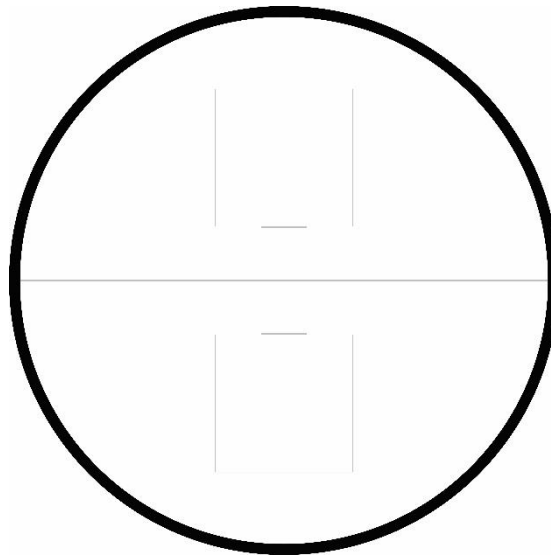
Scoring

Win	3
Draw	1
Lose	0

Teams will be awarded 3 points for winning a match, 1 point each if the match is a draw, and 0 points if they lost the match. In the event where robots fail to touch each other at all during the 30s duration, it will be counted as a loss for both teams. Robots are expected to seek out and engage the opponent.

In the event where there is no knockout within 30s, the judge award a victory based on which robot managed to push further into the opponent's territory. Alternatively, the judge may also decide to award a draw. Judges' decision is final.

Ring Field Specifications

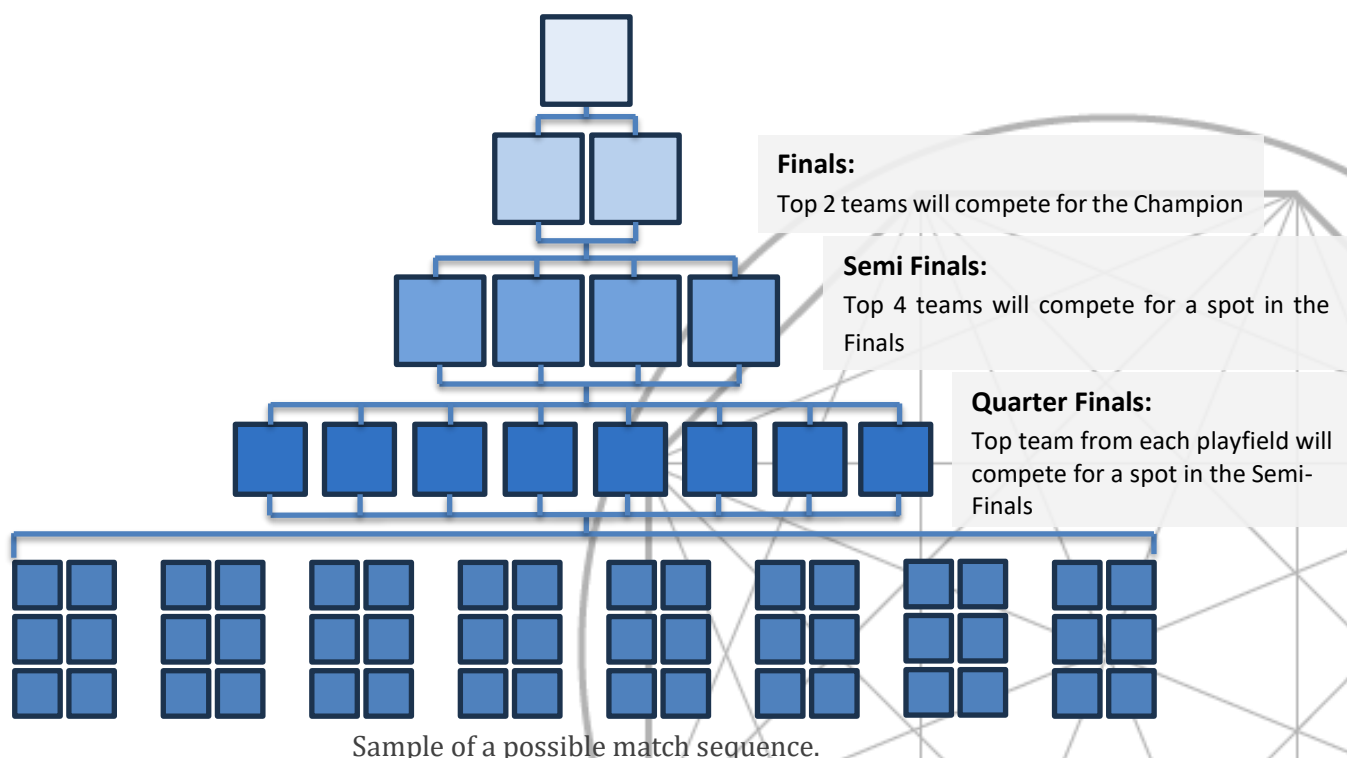


The diameter of the Ring is 100cm, inclusive of the black circle edge which is 2cm thick. The sumo ring will be elevated off the ground by 6cm by various supporting blocks attached to the bottom of the Sumo Ring.

Match Sequence

Participating teams will be shuffled and organised to compete at least 5 matches in the preliminary round.

Scores will be collated and the top 8 robots will compete for the top 4 places, followed by top 2 and finally for the championship. Organisation for the preliminary will be determined once all the registrations are in.



COMPETITION RULES

Rules and Regulations

General:

1. During the competition, all teams must look after their own personal property, team construction and materials.
2. Any member(s) of the competition who is/are caught in the act of sabotage, theft or mischief, whether to cause harm to other participating teams or not, will be dealt with by the competition organisers and may subject the team to disqualification.
3. No external help is to be rendered in this competition. This includes receiving direction, contribution, construction of any kind from any party or person not belonging to the team. Failure to comply with this rule will be dealt with seriously and may subject the team to disqualification.
4. All students will be quarantined from each other during the competition preparation time. No communication between coaches and students is allowed during this period.
5. All decisions by the competition officials and organising parties are final.

IDE Sumobot:

1. Teams are expected to bring their own LEGO® Mindstorms EV3 or Robot Inventor or SPIKE Prime Sets, batteries and laptops. No sharing of robots between teams allowed.
2. Teams are only allowed to use EV3, Robot Inventor or SPIKE Prime. The robot must also be built up entirely of LEGO® parts.
3. LEGO® parts must remain unmodified and used in their original form. Students are not permitted to alter them or use non- LEGO® components.
4. Teams are not allowed to build a robot that may cause unnecessary damage to the opponents' robot or the playfield.
5. Each robot is only allowed to use one hub/brain (either Mindstorms EV3 or Robot Inventor or SPIKE Prime). However, the number of motors and sensors is not restricted. No multiplexing of motor or sensor ports allowed.
6. The size of the robot will be strictly limited to **250mm x 250mm x 250mm** at the starting area. All extensions beyond the size limit must be deployed autonomously.
7. The weight of the robot will be strictly limited to be under 1kg.
8. Teams have allocated time to program and test their robots on the competition day. Following which, during the competition runs, no further modifications may be made.
9. Robots are to be completely autonomous and finish the mission without interference from any external influence.
10. During the match, players are not allowed to have any physical contact with the robot such as using touch sensors as controllers etc.
11. No form of remote control or wireless programming is allowed during the course of the run of the robot.
12. Only LEGO® Mindstorms® EV3, EV3 Classroom or Spike Prime programming platforms are accepted.
- 13. HiTechnic sensors are not allowed.**
- 14. Use of LEGO® Powered Up electric motors are allowed.**
15. List of Approved Sensors and Motors (Table 1)

 EV3 Large Motor	 EV3 Light/Color Sensor	 EV3 Touch Sensor	 EV3 Ultrasonic Sensor	 EV3 Gyro Sensor
 EV3 Medium Motor	 Force Sensor	 Large Motor	 Medium Motor	 Color Sensor
 Distance Sensor	 Large Motor (Powered Up)	 Medium Motor (Powered Up)		

