MINI | LEGO SUMO

ROBOTU FIESTA 2022

ROBOT CLASSES/DIVISIONS

Only autonomous robots can participate in this competition.
Robots are divided into classes:
a) Mini Sumo;
b) LEGO Sumo Junior (7–12 years);
c) LEGO Sumo (13+ years)
Depending on the number of participants, the organizers reserve the right to combine categories b) and c).

COMPETITION

One operator and one assistant can be registered with one robot. However, only the operator can control the robot. Only self–made autonomous robots can participate in the competition. The winner of the competition is announced by the judge.
The format of the competition is determined by the tournament organizers, depending on the number of participants. If the number of participants is large, subgroups are formed to decide who goes to the final stage. The format of the finals is a double elimination system. If the number of participants is not large, all participants immediately enter the final stage.
The organizers reserve the right to divide the robots into sub–classes based on the age, experience, level or other characteristics of the participants.
The robot must be registered before the competition. During registration, the compliance of the robot with the requirements of point 4 of these rules is checked. During registration, the robot is given a number, which the participant must stick on the robot in a visible place.
Registration must be completed by the time set by the organizers. All controversial issues that arise during the competition are decided by the head judge.

COMPETITION RING

The competition ring (Dohyo Jyonai) is a black circle, the dimensions of which are given in Table 1.

Klasė	Aukštis	Skersmuo	Medžiaga
Mini Sumo	3 cm	77 cm	Medis/plastmasė
LEGO Sumo	3 cm	77 cm	Medis/plastmasė

There is a white line (Tawara) around the competition ring. The white line is part of the competition ring and its dimensions are given in Table 2.

Klasė	Baltos linijos plotis
Mini Sumo	2.5 cm
LEGO Sumo	2.5 cm

The start marker is placed in the middle of the ring and it divides the ring into four equal sectors. Before the start, the robots must be in opposite sectors as shown in Figure 1. The robot must touch the white line with its body. After placing the robots in their starting positions, the referee removes the start marker from the ring. Robots can no longer be moved to other positions.

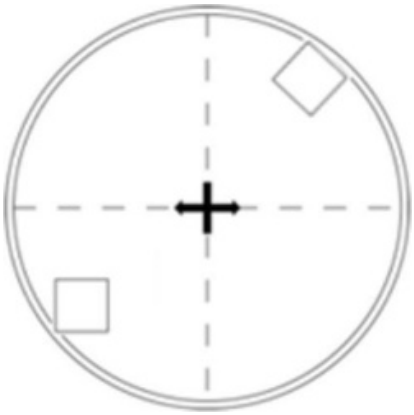

Fig. 1. Robot starting positions

REQUIREMENTS FOR THE ROBOT

The size and weight limitations of the robot by class are given in Table 3.

Klasė	Masė	Ilgis	Plotis	Aukštis
Mini Sumo	0.5 kg	10 cm	10 cm	neribojamas
LEGO Sumo	1.0 kg	15 cm	15 cm	neribojamas

The IR sensor of the Mini Sumo start module must be placed on top of the robot, in a clearly visible place. The robot may increase in size after launch, but must remain intact.
LEGO robot dimensions measuring box –15 x 15 cm with + 2 mm deviation.

The robot's movements must be programmed in such a way that the robot detects the opponent's robot and reacts accordingly. If the robot's autonomy is in doubt, the judges have the right to check the robot's control logic.

PROHIBITED ROBOT PARTS:
1. Any parts that can interfere with the opponent's actions (such as flashes or other devices such as IR LEDs).
2. Any parts that may damage or scratch the surface of the ring. The exception is when the robots collide.
3. The use of liquids, powders and gases as a weapon against the opponent is prohibited.
4. The use of flammable materials in robots is prohibited.
5. The robot cannot have any projectile devices (such as a net thrown at an opponent).
6. The robot cannot have any parts that help it to lock onto the ring (eg glue, press–fits, etc.)

ADDITIONAL REQUIREMENTS IN THE LEGO SUMO CLASS
1. The robot must be made exclusively from licensed LEGO or Hitechnic original parts.
2. The robot must use only batteries recommended by LEGO.

DESCRIPTION OF THE FIGHT

The fight consists of three rounds and lasts up to three minutes.
The team that collects two Yuko points (effective points) will fight
is the winner of the fight. Fight time is measured in rounds, time between rounds is not counted.
If only one Yuko point has been earned by the end of the match, the team that earned that point is the winner.
If neither team wins in any round during the entire match, the winner will be declared based on Yusei (dominant). If Yusei cannot be pinned or the number of rounds won is the same, the fight time will be extended by three minutes. If one team earns one or more Yuko points in overtime, that team is the winner.
Competitors have a maximum of 30 seconds between rounds to prepare the robots.

START/END OF COMBAT

1. The fight starts after the referee's signal. Competitors bow to each other before entering the ring area.
2. Before each round, after the referee's signal, the competitors place their robots in the ring one at a time. The robots must be placed in the corresponding sector and one part of the robot must touch the white line. After the robots are placed on the ring, they cannot be moved.
3. The round starts as described in Table 6.

Klasė	Raundo pradžia
Mini Sumo	Dalyviai atsitraukia nuo ringo. Teisėjas pradeda raundą siunčiant Start komandą per oficialų infraraudonųjų spindulių nuotolinio valdymo pultą. Robotas gali pradėti judėti gavęs Start komandą.
LEGO Sumo	Po teisėjo signalo, roboto operatorius startuoja 5–ių sekundžių laikmatį robote ir atsitraukia nuo ringo. Robotas gali pradėti judėti tik praėjus 5–ioms sekundėms po Start komandos

4. The referee gives the signal to end the round and stop the robots. Stopping robots is described in table 7.

Klasė	Raundo pabaiga
Mini Sumo	Teisėjas siunčia Stop komandą per oficialų infraraudonųjų spindulių nuotolinio valdymo pultą.
LEGO Sumo	Operatorius sustabdo robotą.

5. The fight is officially finished after the signal of the referee. Participants must pick up their robots from the ring, bow to each other and exit the ring.

THE ROUND IS REPEATED WHEN:

1. Both robots facing each other obstruct each other's movement or their movement is no longer possible.
2. Both robots fall out of the ring at the same time.
3. In other situations where it is impossible to determine the winner or loser.

TERMINATION OF THE FIGHT

1. If the participant is injured and the fight cannot continue, the participant can demand a temporary stoppage.
2. In such a case, the referee provides the necessary changes so that the competition can be resumed.
3. If the match cannot continue after the changes, the opponent wins.

STORAGE SPACE FOR ROBOTS BETWEEN BATTLES

At the start of a group or final round, all robots belonging to that group must be stored on the designated table. At the end of the battle, the robot must be returned to this table. The robot can only be taken out of the competition area with the permission of the referee. Such storage of robots in one place ensures the smooth progress of the competition.

POINT SYSTEM

YUKO (effective points)

A participant is declared the winner in one of the following situations:

1. If the opponent was pushed out of the Dohyo arena (the robot touches the outer space of the Dohyo).
2. If the opponent falls out of the Dohyo arena and touches the outer space of the arena.
3. In the situation of Shinita
4. In a Yusei situation where one participant dominates.
5. If "Keikoku (warning)" is given twice to one participant.
6. If "Hansoku (strong violation of the rules)" occurs.
7. If the winner is announced without a match, the winner earns two Yuko points. (If the winner already had one Yuko point, they earn one more point). Existing Yuko points held by the opponent (loser) remain effective.

THE SHINITES

A "Shintai" situation means that one or more of the robot's wheels roll outside of the Dohyo arena and the robot cannot return to the Dohyo. In this case, the opponent earns one Yuko point.

YUSEI (DOMINATION)

In a Yusei (dominance) situation, the referee can award a Yuko point to the team for the robot's strategy, movements and skills.

The winner is announced in the following situations:

1. If the opponent is pushed out of the competition field, i.e. the robot touches an area outside the competition field.
2. If the opponent falls out of the competition field and touches the area outside the competition field.

OBJECTIONS

The judges' decision is not subject to appeal. In case of any conflicts or disputes, the judge and/or organizers have the final say.