**Robotic arena – Poland**

**“MiniSumo Enhanced“**

**Team members**

“*Size and number of groups, as well as number of places in group granted with promotion* ***will be stated by the organisers after closing the registration*** *and will depend on the number of registered robots.”*

**Robot Specification**

Robots can’t be pre-built, commercial construction.

1. Robots must fit in a **10 cm square** extended by precision of a measuring equipment.
2. Height of robots is not limited.
3. Weight of robots **must not** **exceed 500 grammes** extended by precision of measuring equipment.
4. **After placing the robot on a sheet of 80gsm paper and then lifting it, the sheet must stay on the ground**.
5. All robots must be equipped with a start module which allows to remotely start the robot, either **provided by the organizer** or **self-built**.
6. Communication with robots during matches is forbidden.
7. Disabling robots remotely is an exception from the point above.
8. Robots must be fully autonomous.
9. Robots can’t contain any devices which intentionally disrupt opponents control system.
10. Robots can’t contain any parts (like blades and spikes) above the surface of dohyo, which purpose is to damage opponents sensors and/or PCBs.
11. Any parts that could damage the dohyo are not allowed.
12. A Robot can’t consist of any parts that stick it to the dohyo, e.g. suckers, sticking elements, magnets, electromagnets.
13. Any flaming devices are not allowed.
14. Any pitching devices are not allowed.
15. Any devices that could emit gas, fluids or powder are not allowed.

**Robots functionality cannot be dependent on varying environment** during tournament, such as lighting (from dusk to bright reflectors), smoke, loud music or laser effects. The show may be lit by regular lightbulbs, halogens, energy saving lightbulbs, fluorescent lamps, LEDs and other lightsources common in households. Organizers have no control over street lighting near windows of the building. During the show it will be **forbidden to use camera flashes** and other intense light

**Dohyo Specifications**

1. **Sumo ring** is called dohyo. The ring is circular in shape and has **149 cm in diameter** with tolerance of **±5 cm.**
2. Upper part of the ring is made of **black coloured steel**.
3. The border line is marked as a **white circular ring of 5 cm** width with tolerance of ±3 **cm**. The ring area extends to the outside edge of this circular line.
4. Referee decides if a particular ring is damaged enough to be replaced by a new one.
5. Dohyo exterior has at least **140 cm** larger diameter than the ring itself.
6. Exterior area might be of any colour.
7. Exterior area might be of any material.
8. Exterior area will be free of any obstacles during the fights.
9. **A band securing robots from going outside the exterior area will be not higher than surface of the dohyo and is an exception from the point above**.

**Competition**

1. Competition will be conducted in two stages:
   1. elimination phase
   2. finals
2. In the elimination phase robots will play matches in groups one versus one in all of the combinations.
3. Size and number of groups, as well as number of places in group granted with promotion will be stated by the organisers after closing the registration and will depend on the number of registered robots.
4. Robots promoted to finals phase will play matches as a single-elimination tournament.
5. Each phase results announcement will occur after finishing the phase.
6. **Matches will be held based on the schedule given by the referee**.
7. If a robot does not show up for the match on scheduled time the contestant will be rushed by the referee.
8. If the robot will not show up for the match within 5 minutes after being rushed, it will lose by default.

**Winner Selection Rules:**

1. Two robots take part in a match.
2. The match consists of **maximum 3 encounters**.
3. A robot is **considered to have left the dohyo**, if any of its parts **touches the exterior** area.
4. Yusei points (advantage) are granted in a situation that opponent is stuck at the sideline and is not able to move away on its own.
5. After the programming procedure follows **test start** of the robots. It is necessary only at the beginning of the match or in a situation that a robot fought at a dohyo with a different identifier. **The test start may also be conducted after contestant’s request**.
6. The part of dohyo in which the **start of the round will take place is stated by throwing the pointer**.
7. Before the start of each round the robots should be placed on the stated part of dohyo **according to directions set by the pointer’s arrows**.
8. Based on a random draw the robots may be positioned facing each other with rear left or rear right corners.
9. Contestants have 120 seconds to place robot in the aforesaid part of dohyo.
10. The robots are started by the referee with IR remote controller. The beginning of the round occurs immediately after receiving:
    1. Start signal in case of using external modules
    2. Start command in case the start module functionality was implemented internally.
11. Before the start of round robots cannot move or take any action resulting in taking advantage over their opponent (e.g. **spreading ploughs, scanning surroundings etc**.). During this time contestants are committed to leaving the outer area of the dohyo. The referee decides if this rule was violated.
12. In case of **no reaction for the** **”start” command the round is repeated**. If after three consecutive rounds the start will not occur, referee decides of further course of the match.
13. A round lasts for **up to three minutes** but ends when one of the contestants gets Yuko point
14. After the end of a round, **referee sends ”Stop” signal to the robots**. It is **recommended** to cut the power supply of motors either with program or hardware
15. In case of restarting a round, **making changes or fixing the robot is forbidden** and the contestants must immediately place their robots in the position stated in paragraph 9, point 4. The exception from this situation is acceptance of the suspension request - paragraph 12, point 1.
16. If a robot had an accident and is not able to continue the fight, the **contestant may ask for round suspension**.