Decision Minutes from the 2020 rule voting of the Humanoid Soccer Competition

Participation

KidSize (N= 14): Electric Sheep, Rhoban FC, RoboFEI, Hamburg Bit-Bots, Ichiro TeenSize, CIT Brains, Bold Hearts, SYCU-Legendary, ZJUDancer, Behrobot, Barelang FC, TH-MOS, MRL-HSL, ITAndroids

AdultSize (N = 3): NUbots, NimbRo AdultSize, Tsinghua Heaphaestus

1) Field Layout

1.1 The field layout will be updated as shown in the image below.
(For: 11, Against: 5, Abstain: 1)

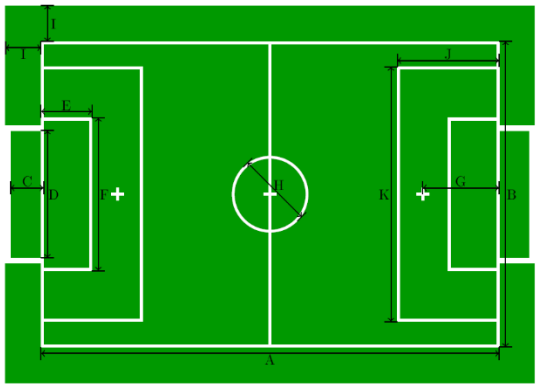

Figure 2: Humanoid robot soccer field: Kid Size (scale: 1/80)

		KidSize ~~and TeenSize~~	AdultSize
A	Field length	9 m	14 m
B	Field width	6 m	9 m
C	Goal depth	0.6 m	
D	Goal width	2.6 m	
	Goal height	1.8 m	
E	Goal area length	1 m	
F	Goal area width	3 m ~~5 m~~	4 m ~~5 m~~
G	Penalty mark distance	1.5 m	2.1 m
H	Centre circle diameter	1.5 m	3 m
I	Border strip width (min.)	0.7 m	1 m
J	Penalty area length	2 m	3 m
K	Penalty area width	5 m	6 m

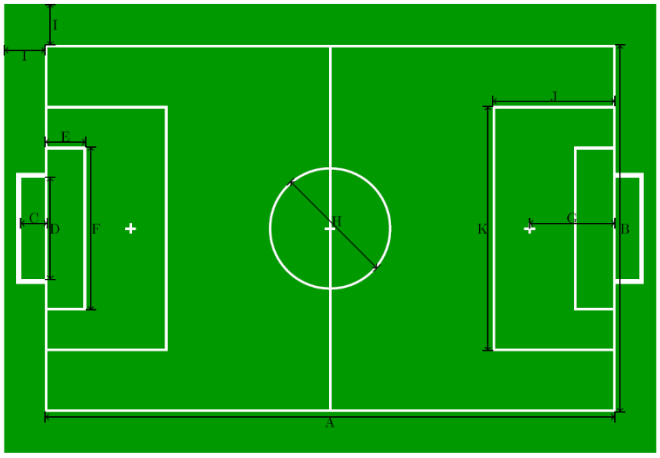

Figure 3: Humanoid robot soccer field: Adult Size (scale: 1/100)

1.2 KidSize only: Border strip will be expanded to 1m.
(For: 9, Against: 4, Abstain: 1)

1.3 KidSize only: The goal height will be lowered to 1.2m.
(For: 10, Against: 3, Abstain: 1)

1.4 AdulSize only: The goal height will **not** be raised to 2m.
(For the proposal to increase the height: 1, Against: 2, Abstain: 0)

1.5 The minimum width for the goal posts and cross bar of the goals will be set to 8cm.
(For: 13, Against: 3, Abstain: 1)

2) Drop-In Ranking

2.1 Drop-In ranking will be determined using the arithmetic mean.
(For: 10, Against: 5, Abstain: 2)

3) Communication Protocol

3.1 A Protobuf-based message protocol will be added to the message protocols endorsed by the league in addition to the mitecom protocol used so far.

The original proposal to change entirely to the Protobuf-based protocol did receive a majority of the votes (For: 8, Against: 7, Abstain: 2). However, we see a high interest both in using the Protobuf-based protocol and the mitecom and thus keep both as suggested protocols in the rule book.

3.2 The usage of the specific message protocol or certain fields is kept optional.
(Keep the usage of the protocol "strongly encouraged", but optional: 8,
Make both the message format and certain fields mandatory and reject any message that does not comply with these standards: 2,
Only make the use of certain fields mandatory, but leave the format open: 2,
Make both the message format and certain fields mandatory, but in case of the message format being switched to Protobuf, allow mitecom as legacy for a couple of years: 3)

4) Network Standards

4.1 For 2021: A minimum WiFi quality will be added to the rulebook (specifications will be discussed next year.
(For: 10, Against: 5, Abstain: 2)

5) Incapable Players

5.1 No rule is added for specifically defining incapable field players as proposed.
(For the rule change to include incapable field players: 6, Against: 9, Abstain: 2)

6) Robot Hardware

6.1 Limit of the robot's head size will be changed to $0.1 * H_{top} \leq H_{head} \leq 0.3 \times H_{top}$
(For: 11, Against: 4, Abstain: 2)

7) Technical Challenges

7.1 Kick from moving ball: The pass will continuously be allowed to be performed by a human.
(For the rule change to allow only robots to perform the pass: 6, Against: 7, Abstain: 4)

7.2 Kick from moving ball: No obstacle is added between the one performing the pass and the player executing the kick.
(for the rule change to include an obstacle: 3, Against: 10, Abstain: 4)

7.3 The high-jump challenge will be replaced by the parkour challenge.
(For: 8, Against: 6, Abstain: 3)

7.4 AdultSize only: The push-recovery challenge will be kept and not replaced by a standing-up challenge.
(For the proposal to change to the standing-up challenge: 1, Against: 2)

7.5 KidSize only: The push-recovery challenge will be replaced by the collaborative communication challenge.
(For: 7, Against: 5, Abstain: 2)

8) Communication of Penalized Players

8.1 Substitute robots will be required to be turned away from the field of play so they can't send game relevant information.
(For: 9, Against: 5, Abstain: 2)

8.2 Penalized robots outside the field of play will not be forced to be turned away from the field.
(For the proposal to require them being turned away: 7, Against: 7, Abstain: 3)

8.3 Penalized robots standing on the sideline will not be forced to be turned away from the field.
(For the proposal to require them being turned away: 5, Against: 9, Abstain: 3)

8.4 For 2021: Messages send by robots being currently penalized or otherwise out of play will be automatically filtered from being broadcasted. This will require to make certain fields in the message protocols mandatory, which will be further discussed for 2021.
(All robots that are not forced to look away from the field should be allowed to openly communicate game-relevant messages: 3,
From 2021 onwards, messages of robot's being out of play shall automatically be blocked to ensure they can't send game-relevant messages: 11,
Abstain: 3)