

Frequently Asked Questions PUB.R

1. Utensils and Equipment:

1.1 Can we choose our own equipment such as bowls, plates, chopping board, utensil tray, cooking utensil set, sauce squeeze bottle, and spice jars, except for the pans (maybe the induction hob as well) and knife provided by the organizers?

The only equipment teams are allowed to bring are the cooking utensils (such as a spatula or a spoon). You cannot use your own bowls, plates, chopping board, utensil tray, sauce squeeze bottle, spice jars, knives, pans and induction hobs. In the first setup days you will be allowed to test with the actual objects if you are not able to find the exact same ones to prepare for the competition.

1.2 If only the cooking utensil set, pan, and knife can be self-chosen or bespoke, is it possible to mount mechanical interfaces on other objects such as bowls, plates, sauce squeeze bottles, and spice jars?

Yes, it is possible to use your own mechanical interfaces, and mount them on the objects.

1.3 If the following objects should be exactly the same as RuleBook figure 8 suggested, could you please provide product links for them? Because they are currently not clear enough to me to find purely one choice online:

- IKEA bowl white
- IKEA tray with knife rack
- Keleily sauce squeeze bottle 500ml
- ROSNONG 24 Spice Jars with Lids (1 Set)

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|---|--------|---|
| HEMLAGAD | IKEA | https://www.ikea.com/gb/en/p/hemlagad-frying-pan-black-10462222/ |
| DIREKT | IKEA | https://www.ikea.com/gb/en/p/direkt-3-piece-kitchen-utensil-set-black-stainless-steel-50137581/ |
| OFTAST | IKEA | https://www.ikea.com/gb/en/p/oftast-bowl-white-90467112/ |
| OFTAST | IKEA | https://www.ikea.com/gb/en/p/oftast-plate-white-30258913/ |
| ÄNDLIG | IKEA | https://www.ikea.com/gb/en/p/aendig-3-piece-knife-set-light-grey-white-70257624/ |
| TILLREDA | IKEA | https://www.ikea.com/gb/en/p/tillreda-portable-induction-hob-2-zones-white-90497166/ |
| LEGITIM | IKEA | https://www.ikea.com/gb/en/p/legitim-chopping-board-white-90202268/ |
| HÅLLBAR | IKEA | https://www.ikea.com/gb/en/p/hallbar-bin-with-lid-light-grey-80398058/ |
| UPDATERA | IKEA | https://www.ikea.com/gb/en/p/updatera-tray-with-knife-rack-white-anthracite-s39432692/ |
| Keleily Sauce Squeeze Bottle 500ml with Cap (1 set) | Amazon | https://www.amazon.co.uk/Keleily-Squeeze-Dispenser-Condiments-Seasoning/dp/B07ZYQKV8P/?encoding=UTF8&pd_rd_w=C9QxW&content-id=amzn1.sym.9987c01f-79a1-401b-8cc0-4469362e1651&pf_rd_p=9987c01f-79a1-401b-8cc0-4469362e1651&pf_rd_r=9FB17X3R4JV3PXM012WR&pd_rd_wg=LWu92&pd_rd_r=7914327e-9cd2-4def-91a4-7ad85431c5e1&ref=pd_gw_ci_mcx_mr_hp_atf_m |
| ROSNONG 24 Spice Jars with Lids | Amazon | https://www.amazon.co.uk/Bealieor-Cooking-Containers-Airtight-Stainless/dp/B09YCLF7TW/ref=sr_1_11?keywords=spice%2Bshaker&qid=1673002041&sr=8-11&th=1 |

1.4 Is it possible to put markers on objects for completing tasks?

Yes, it will be possible to put markers on objects, via the mechanical interfaces, to help with detection. Those markers will not be provided by the organisers, but the teams can add them during their tasks.

1.5 Should we bring all the objects and equipment ourselves to the competition court?

The conference provides plugs, tables and utensils as mentioned. Other equipment that you might need is up to you to bring. Please consider the restrictions in Section 4 of the rulebook.

2. Ingredients and Cooking Scenario:

2.1 Can the same ingredient be used for both hot and cold dishes? For example, the breakfast consists of toast, hot beans, cold beans, cheddar cheese, and vegan sausage.

At each trial the robot will be required to cook only one dish (an english breakfast). The list of ingredients that will be used is the one listed in the rule book. Teams will be given new ingredients at the beginning of each task during the main event. Consider that you will have 2 bowls of bean or two tomatoes, in your example. Practically, we want to challenge teams to showcase 4 different preparations (not necessarily ingredients). You cannot repeat one preparation of the same ingredient more than once.

2.2 Is there a specific reference to the type/size/brand of beans/tomato/vegan sausage/mushroom?

The specific brands, types and variety of food to be used for the tasks will be available from the first setup day to finetune the teams' solutions.

2.3 Since only one hob 1 zone will be used at one time, why is an induction hob 2 zones used? Can two robots work simultaneously, with each responsible for only one ingredient? ("However, once it has started preparing an ingredient it needs to continue with it, performing all the listed tasks for that specific ingredient before moving on with the next ingredient.")

There are two hobs since each has to be used for a single ingredient, to avoid cleaning the pan after the preparation of the first one. You cannot use two robots at the same time in the cooking area.

2.4 Will the egg prepared in the bowl be beaten or left whole?

The egg will be beaten

2.5 Are all the ingredients located in bowls?

All ingredients will be in bowls or plates, depending on the type of ingredient.

3. Setting:

3.1 What is the height of the tables?

Tables are provided by the conference, so we do not have this information.

3.2 What is the color/material of the table? Can we bring our own tablecloth? If not, could you please provide a purchase link for the table that will be used in the competition?

No, you cannot use your own tablecloths. We are bringing, to protect the tables, a waterproof, fireproof cover for the tables.

3.3 How will the lighting be set up?

We don't know what the lighting setup will be at the venue. During the setup days you will have the opportunity to adjust your solutions to the lighting of the venue.

3.4 What is the floor of the competition court like?

Same as for 3.3, we don't know exactly, but you can check the ExCeL conference center website.

3.5 How will the kitchenware tools, spices, and sauces be initially placed? Will they interfere with each other? Are participants allowed to arrange the position of the objects themselves (or at least check what kind of object layouts are fair enough during the pre-competition trials and then communicate the know-how with the competition committee, so that some bespoke-tool-specific mission-impossible initiations can be avoided during the competition)?

The surface/cabinet where the spices, sauces and tools will be placed will be available from the first setup day to finetune your solutions. The specific configuration of these elements on the space will be reset randomly at the beginning of each new tasks by the organizers. The teams cannot decide their positions before the task begins. Toaster, racks, etc. will be in the approximate same position, but not fixed on the table, to avoid open loop solution that relies on tool's positions.

3.6 Can the lid of the spice jars be pre-opened? This action is outside of the listed tasks.

Jars come without lids.

3.7 Can the participants decide how to handle the wires of the toaster and robots?

Cables will be fixed in place by the organizers.

3.8 Is it possible to set one or more cameras on the table or field?

Yes, it is possible in the field, but not on the table (for safety reasons). You can use tripods.

3.9 The rulebook says the spices will have markers in front of them. Are the markers set by rules, or we can we use markers that we bring? Can we use them to identify spices or should the identification be made with computer vision?

On the table, there will be spice names, but you can also bring your own markers, to facilitate the vision. The one provided by the organizers will be in front of them on the table: however, if you are creating mechanical interfaces, these ones could have markers.

3.10 Is marker position also known with respect to the bottles?

Regarding markers with respect to bottles position, this is roughly defined, but it will not be strict to the millimetres.

3.11 Will the products be placed in a single line?

Spices will be in two rows. Team can select the preferred row: as per rulebook, rear rows award additional points.

4. Pre-competition trials:

4.1 Will each team have chances to test the competition process alone on the court, instead of multiple teams testing their robots at the same time?

We will share a schedule of test trials for the participants, so that teams will not use the robots at the same time.

4.2 Will the table layout be consistent with the first two trial days?

As per questions 3.5.

5. Scoring system:

5.1 "The Shopping scenario will contribute to 20% of the total score, the Cooking scenario 50%, and the remaining 30% will be assigned to the Serving scenario." -- Since the maximal scores of the Cooking scenario depend on the different choices of the four ingredients, will the Cooking score be recalculated to fit the ratio of 2/5/3, as mentioned in the RuleBook?

Yes, the scores will be recalculated to fit the ratios of the different scenarios. Please bear in mind that the maximum score per scenario is given by specific combinations of choices: the rulebook has been updated to explicitly highlight the maximum points. An example of scoring is reported hereafter:

Maximum points achievable from the shopping scenario: 92 pts

Maximum points achievable from the cooking scenario: 288 pts

Maximum points achievable from the serving scenario: 100 pts

Suppose that a team collect the maximum points in the shopping scenario (94/94); it prepares perfectly the toast (36), the cold beans (22), the cold tomato (49), the hot beans (64) and the mushroom (84), for a total of (255/288); it serves the food perfectly (30) but does not answer the questions, and got a good score from the judges (40), for a total of (70/100) in the serving scenario. The scores are recalculated based on the 20%/50%/30%, therefore the final score will be: $94/94 * 20 + 255/288 * 50 + 70/100 * 30 = 85.3/100$.