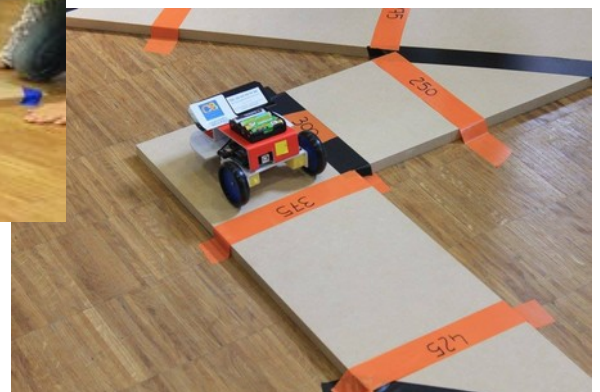




# Official rules a-MAZE-ing challenge 2020



RoboRAVE France - Craon

<http://www.roborave53.fr/>

The participants have to design and build a robot (and eventually a second robot) following the rules and the spirit of this RoboRAVE.

This robot must complete the rules below. Each team can be helped by a coach (one coach per team, at the most) but the design and of the robots must be created by the pupils.

The robots will be approved by the RoboRAVE France-Craon at your arrival.

The challenge is going to have a qualifying phase and a final phase.

## **Chapter 1      Target of the challenge**

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### **Article 1 : objective**

To design, build and program an autonomous robot that can follow a raised wooden maze without falling off in 2 minutes or less. The time will be used as a tiebreak.

## **Chapter 2      Characteristics of the track**

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### **Article 2 : the track**

- The track consists of a wood board of 18 mm tall and 23,5 cm wide.
- The track consists of several straight sections (lengths : 30 cm to 200 cm) and several angles (right and/or left, 45°, 90° or 135°)
- The track (5 straight lines and 4 angles for school and 6 straight lines and 5 angles for the high school) will be announced on Friday, 5<sup>th</sup> of june at 9:00 am.

## **Chapter 3      Characteristics of the robots**

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### **Article 3 : characteristics**

- The dimensions do not exceed **18 cm x 22 cm** of side for an unlimited height.
- The autonomous robots (all platforms are accepted) should not use sensors.
- The energy source is absolutely electric battery type or accumulator.

## **Chapter 4      General rules**

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### **Article 4 : general rules**

- The robot has 2 minutes to browse the entire maze.
- The robot must push a ball at the end of the last straight line. This ball will be at 20 cm from the end and will give bonus points.
- Teams will have **10** tries during the qualification time. The **best** score will be added to points earned before the day of the event and will be retained for the final ranking.

- The first 4 qualified teams will compete in a final tournament (half and final) in session of 2 minutes).
- **The organization could change during the event.**

## Chapter 5 Points

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### Article 5 : Before the event (deadline Monday, 25<sup>th</sup> may 2020)

- Slides : 100 pts (see annex 2 page 6)
- bonus video presentation in English on the slides : 25 pts (see annex 3 page 6)

### Article 6 : The day of the event

- Approval : 100 pts ( see annex 4 page 6)
- Individual presentation of their work by the team in English: 75 pts (see annex 5 page 7)

### Article 7 : during the test

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#### 600 or 700 points + bonus time

<b>School</b> : 5 straight sections + 4 angles		<b>High school</b> : 6 straight sections + 5 angles	
1st straight line:	50	1st straight line :	50
1er angle :	125	1st angle :	125
2nd straight line :	175	2nd straight line :	175
2nd angle :	250	2nd angle :	250
3rd straight line :	300	3rd straight line :	300
3rd angle :	375	3rd angle :	375
4th straight line :	425	4th straight line :	425
4th angle :	500	4th angle :	500
5th straight line :	550	5th straight line :	550
<b>Crosses</b> the finish line:	<b>600</b>	5th angle :	625
		6th straight line :	675
		<b>Stop on</b> the final line :	<b>700</b>

**Bonus times** : If the robot reaches the end of the course, a bonus of one point per second will be added to the score (see Annex No. 1 page 5)

**Bonus ball** : to discover the day of the event (between 0 and 40 points).

## Chapter 6 Fair play

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The participants must keep calm, courteous and respectful.

### Article 8 : Disqualification

Your team will be disqualified with :

- The robot does not follow the characteristics of robots given by article 3.
- A participant does not exhibit courtesy or respect towards the referee.

### Article 9 : Objection to the referee

- No objection to the referee's decision will be accepted.

### Article 10 : Claims

- All claims must be made in the presence of the team manager.

**Remember, RoboRAVE France's GOALS ARE :**

- **FUN while LEARNING**
- **SHARING**
- **TEAMWORK**

## Chapter 7 Annex

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### ■ Annex 1 : Bonus time

Temps	Points	Temps	Points	Temps	Points	Temps	Points
0"	300	30"	17	1' 0"	3	1' 30"	0
1"	271	31"	16	1' 1"	3	1' 31"	0
2"	246	32"	14	1' 2"	3	1' 32"	0
3"	222	33"	13	1' 3"	3	1' 33"	0
4"	201	34"	12	1' 4"	3	1' 34"	0
5"	182	35"	11	1' 5"	3	1' 35"	0
6"	165	36"	10	1' 6"	3	1' 36"	0
7"	149	37"	9	1' 7"	3	1' 37"	0
8"	135	38"	8	1' 8"	3	1' 38"	0
9"	122	39"	7	1' 9"	3	1' 39"	0
10"	110	40"	6	1' 10"	3	1' 40"	0
11"	100	41"	6	1' 11"	2	1' 41"	0
12"	90	42"	6	1' 12"	2	1' 42"	0
13"	82	43"	6	1' 13"	2	1' 43"	0
14"	74	44"	6	1' 14"	2	1' 44"	0
15"	67	45"	5	1' 15"	2	1' 45"	0
16"	61	46"	5	1' 16"	2	1' 46"	0
17"	55	47"	5	1' 17"	2	1' 47"	0
18"	50	48"	5	1' 18"	2	1' 48"	0
19"	45	49"	5	1' 19"	2	1' 49"	0
20"	41	50"	4	1' 20"	2	1' 50"	0
21"	37	51"	4	1' 21"	1	1' 51"	0
22"	33	52"	4	1' 22"	1	1' 52"	0
23"	30	53"	4	1' 23"	1	1' 53"	0
24"	27	54"	4	1' 24"	1	1' 54"	0
25"	25	55"	4	1' 25"	1	1' 55"	0
26"	22	56"	4	1' 26"	1	1' 56"	0
27"	20	57"	4	1' 27"	1	1' 57"	0
28"	19	58"	4	1' 28"	1	1' 58"	0
29"	18	59"	4	1' 29"	1	1' 59"	0

■ **Annex 2 : slides points**

Requirements	Points	Validation
Deadline respect	prohibited	
Presentation of the project	20 pts	
Presentation of the group members	10 pts	
Organization of the team	15 pts	
Solutions ( photo, explication)	25 pts	
Technical innovation	20 pts	
Language quality	5 pts	
Originality of the presentation	5 pts	
Total (maximum 100 pts)		

■ **Annex 3 : English vidéo points**

Requirements	Points	Validation
Deadline respect	prohibited	
Read the text	10 pts	
Recited the text	15 pts	
Language quality	5 pts	
Originality of the presentation	5 pts	
Total (maximum 25 pts)		

■ **Annex 4 : approval of the robot**

Requirements	Points	Validation
Autonomous robot	eliminated	
Dimensions :220 x 180 mm	eliminated	
Base chassis	0 pt	
Addition of a non-functional part manufactured by the team	50 pts	
Addition of a functional part manufactured by the team	75 pts	
Robot customization → complete aesthetic design	100 pts	
Total (maximum 100 pts)		

## ▪ Annex 5 : English presentation – RoboRAVE 2020

Each team will introduce their project in front of a jury composed of 2 "euro-class" students. This presentation will be awarded with 75 points.

### Each presentation will be composed of :

- an introduction of the team's name, names of the participants, school and chosen challenge /20 pts
- a presentation of their robot, its choice and certification / 20 pts
- a question of their choice to go further /15 pts
- language quality /20 pts

You will be judged on your oral production (understanding and fluency). Each member of the team will speak and the quality of your expression will be judged too (vocabulary, grammar mistakes...)

<b>Part 1 : introduction</b>	Points	√ X
Name of the team	/5	
Name of the participants	/5	
Name of their school	/5	
Name of the chosen challenge	/5	
<b>Part 2 : description</b>		
Presentation of the robot	/10	
Its certification, conditions and restrictions	/5	
Strategy chosen	/5	
<b>Part 3 : a question</b>	/15	
<b>Part 4 : language quality</b>		
understanding	/10	
fluency	/10	
Total des points (maximum 75 pts)		

### Examples of questions :

- Do you like robotics ?
- Why do you like robotics ?
- Are you in a robotic club ?
- Would you like to create one ?
- Have you ever participated in a robotic competition ?
- Have you ever participated in a competition ? Where ?
- Would you like to participate in a robotic competition in another country ? Where ?
- Do you like Math ? English ?
- Or any other questions !!!