EXTRA TASK

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WRO 2026 Future Engineers – Obstacle Challenge

Surprise Rule – Modified Traffic Sign

1. Challenge Description

During the Obstacle Challenge, teams may choose to attempt an additional challenge involving a modified traffic sign.

The purpose of this Surprise Rule is to test the vehicle's ability to recognize an unusual traffic sign and adapt its driving behaviour accordingly.

All missions must be completed autonomously after the robot has been started.

2. Field Setup

After the standard randomization of the Obstacle Challenge field:

1. The judges randomly select one traffic sign. The selected sign must not be the first traffic sign encountered by the vehicle in the required driving direction.
2. The selected traffic sign is replaced by a modified traffic sign with the opposite colour:
    - An originally red sign is replaced by a green sign.
    - An originally green sign is replaced by a red sign.
3. The height of the modified traffic sign is randomly selected to be either **50 mm or 150 mm**, instead of the standard 100 mm.
4. The base dimensions (50 × 50 mm) and the position of the traffic sign remain unchanged.

The original colour and position are recorded by the judges.

The selected position and modified height remain the same for all teams participating in the same official round.

3. Optional Participation

Participation in the Surprise Rule is optional.

Before each official Obstacle Challenge attempt, the team must inform the judge whether it wishes to attempt the Surprise Rule.

- Teams that do not participate: The original traffic sign remains in place, and all standard Obstacle Challenge rules and scoring apply.
- Teams that participate: The modified traffic sign is placed on the field, and the additional rules described below apply.

The team's decision cannot be changed after the attempt has started.

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4. Driving Requirements

For the modified traffic sign, the vehicle must follow the passing direction corresponding to the **original colour**, not the visible colour.

- If the original sign was red, the vehicle must pass on its right side, even though the modified sign is green.
- If the original sign was green, the vehicle must pass on its left side, even though the modified sign is red.

All other traffic signs must be passed according to the standard Obstacle Challenge rules.

If the vehicle passes the modified traffic sign on the incorrect side, the attempt ends according to the existing rules for incorrect traffic sign passage.

5. Scoring

Teams participating in the Surprise Rule can earn **15 additional points**.

- **5 points** are awarded for each successful passage of the modified traffic sign, up to a maximum of three successful passages.
- A passage is considered successful when the vehicle passes the modified traffic sign on the correct side, according to its original colour.
- Points are awarded independently for each successful passage, regardless of whether the vehicle completes all three laps.
- If the vehicle passes the modified traffic sign on the incorrect side, no points are awarded for that passage, and the standard rules regarding incorrect traffic sign passage apply.

6. General Conditions

- All standard Obstacle Challenge rules remain applicable unless explicitly modified by the Surprise Rule.
- The maximum duration of an attempt remains 3 minutes.
- The standard rules regarding traffic sign movement, repairing actions, and stopping conditions remain unchanged.
- Teams earn 5 additional points for each successful passage of the modified traffic sign, up to a maximum of 15 points per attempt.
- Points earned from successful passages are retained even if the attempt ends before completing all three laps.
- If a repairing action is performed, the total attempt score, including any Surprise Rule points, is divided by two according to the existing rules.
- The Surprise Rule points are added to the regular Obstacle Challenge score and count towards the overall competition ranking.

Maximum Obstacle Challenge score with Surprise Rule: **77 points**.

Maximum overall competition score: **137 points**.

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Future Engineers 2026 – Open Obstacle Round with Surprise Rule

Game field: _____ Team: _____ Game round: _____

Task	Point value	Total available	Scored points
The vehicle drives from a section in the challenge driving direction. This is applicable for the starting section, but not applicable for the finish section and other section next after it.	1	24	
The vehicle drives a full lap. 8 sections were passed successfully in the challenge driving direction. The starting section is included in the eight sections for the first lap. The lap is considered as completed if the vehicle completely drives out of the last (corner) section in the lap. So, the vehicle can start moving in the opposite direction after this and the lap will be still considered.	1	3	
After the completion of three laps the vehicle stopped in the finish section.	3	3	
Traffic signs points			
Complete 3 laps AND no traffic signs were moved	10	10	
Complete 3 laps AND one or more traffic signs were moved	8	8	
Not completed 3 laps AND no traffic signs were moved. Vehicle must complete at least 1 lap to qualify for score.	4	4	
Not completed 3 laps AND one or more traffic signs were moved. Vehicle must complete at least 1 lap to qualify for score.	2	2	
Successful passage of the modified traffic sign	5	15	
Parking points			
Vehicle started within the parking lot and completed at least 1 full lap	7	7	
Parking successfully (completely in the parking area and parallel)	15	15	
Parking partly or not parallel in the parking area	7	7	
The team performed repairing actions by taking the vehicle out of the field even if the actions were not successful.	Total round divided by factor 2		
		Total Score	
		Time in seconds	

_____ _____

Signature Team Signature Judge

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