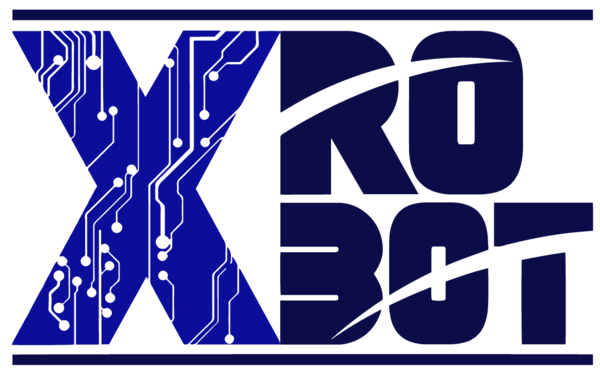
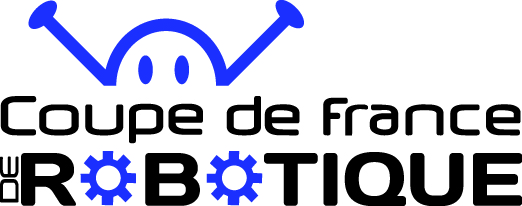
**Sub-system requirement specification Camera**

**Robot**

**deadline 10th April**

****

****

1. Dimensions

|  |  |
| --- | --- |
| REQU 1 | The system shall not exceed 320mm x 260mm in a vertical projection |
| REQU 2 | The system shall not have a height over 60mm from the bottom of its support |
| REQU 3 | The system shall not weight more than 2kg |
| REQU 4 | The system shall be placed on the mast with a threaded rod 8mm wide at least 30mm long and a butterfly nut |

2. Energy source

|  |  |
| --- | --- |
| REQU 5 | The system shall have its own electrical battery |
| REQU 6 | The battery should last at least five matches in a row when fully charged |

3. Identification

|  |  |
| --- | --- |
| REQU 7 | The system shall identify the type of an atom without fail |
| REQU 8 | The system shall identify the position of an atom with a precision of 10mm |
| REQU 9 | The system shall identify the position of an opponent’s robot moving at up to 1m/s with a precision of 50mm |
| REQU 10 | The system shall identify the position of the team’s robot with a precision of 10mm still, 50mm moving |
| REQU 11 | The system shall identify the orientation of the team’s robot with a precision of 3° |
| REQU 12 | The system shall identify whether the experiment is successful or not |

4. Transmission

|  |  |
| --- | --- |
| REQU 13 | The system shall send the processed data to the team’s robot with a delay < 500ms after its acquisition |
| REQU 14 | The data shall not be unreasonable\* more than one in ten times |

\*for instance, a position should not be outside the table, nor should the robot’s and the opponent’s positions be mixed

5. Perturbations

|  |  |
| --- | --- |
| REQU 15 | The system shall be able to calibrate position and colors within two minutes |
| REQU 16 | The system shall not be influenced by IR lights |