Annex to the Regulations for the VI International Festival of Robotics, Programming and Innovation Technologies "RoboLand 2021".

REGULATION OF COMPETITIONS “ONSTAGE”

Age of participants: 12-19 years old (at the 1st of July).
Team: 2-5 people.
Robots: autonomous robots.
Equipment used: any designer details, including those made by yourself.
Programming language: at the team’s discretion.

Preface

OnStage invites teams of students to become authors of a stage production in which autonomous robots designed, built and programmed by the team itself will take part. The goal of this competition is to create a robotic performance lasting one or two minutes, in which technology becomes an art object. The format of the performance is not regulated and can be presented in any spectacular artistic form (theatre, fairy tale, dance performance or even art installation). The performance may be accompanied by music, but this is not a mandatory condition. The creative and inventive approach of the teams to the project is encouraged - both to develop the robots themselves and to stage the performance.

Teams are strongly encouraged to read the contest rules and all its appendices in detail. All teams should follow the rules of OnStager competitions, observing age limits and team sizes.

Review

The evaluation of the teams involves three stages: performance on stage, technical demonstration and technical survey.

The performance on stage is a one- or two-minute stage production in which both the artistic qualities and the technical methods used are evaluated. Through the performance, the teams must demonstrate their creative qualities, including originality and inventiveness. All participating teams are expected to do their best to ensure that they perform in the best possible way.

An open technical demonstration is a five-minute presentation of the technical features and capabilities of the team's robots. Teams should be told about such technical capabilities of their robots as interaction with people and with each other, orientation within the stage space by markup or special landmarks, special design solutions or sensor systems, algorithmic features, etc. In addition, it is necessary for commands to show all described possibilities in action. It will also be necessary to tell about the process of development and implementation of the project, the difficulties encountered and ways to overcome them. Both the substantive part of the presentation (demonstration and storytelling) and the quality of its execution will be evaluated.

A technical survey is a fifteen-minute interview conducted by the referees, during which team members will need to answer questions about the technical implementation of their project. The most valuable are original and innovative solutions in the field of mechanics, electronics and software development; these solutions that will receive the highest marks from the referees. The referees will also be interested in the degree to which the team members understand the principles of technologies they use. In the survey, teams will need to demonstrate the originality and authenticity of their designs. All team members will be equally prepared to answer the referees' questions. At the same time, each participant should be ready to talk about their role in the project and their contribution to the development and creation of the robot.

1 Robots

1.1 Technology Use

1.1.1 Teams are encouraged to make creative use of various technologies. Unusual and creative use of technologies (including sensors) will be encouraged and rewarded.
For example, laptops, mobile phones, tablets and similar devices that can be used as controllers for a robot can be used on stage as part of the performance.
1.1.2 Under no circumstances is high voltage electricity allowed on stage.
1.1.3 Robots shall perform only in stand-alone mode.

1.2 Dimensions and Number of Robots

1.2.1 Robots may be of any size, but if the robot is more than 1.5 m tall from the floor, the team will need the permission of the referees to perform.
1.2.2 Any number of robots may be used for the performance. However, it should be noted that using more robots in a performance will not necessarily result in a team receiving more points in the end.

1.3 Communications

1.3.1 Robots may exchange information with each other during the performance. However, any communication between robots and devices that are not on stage is prohibited.
1.3.2 The following communication protocols are allowed:
1. infrared (IR);
2. Bluetooth (LE or classic);
3. ZigBee.
1.3.3 Commands are not allowed to use other frequencies (such as Wi-Fi) to transmit data, as such signals may interfere with participants in other leagues.
1.3.4 It is the responsibility of teams to make sure that the communication media they use do not interact with other teams' robots during the performance. If there is any doubt about this, teams should contact the Technical Committee or the Event Organiser before the start of their performance.

1.4 Stage Marking

1.4.1 In the primary league teams can place the coverage on the floor of the stage with certain markings for robot navigation. It is not assumed that the robots will receive additional scores for following the markup lines.
1.4.2 In the basic league it is not allowed for teams to use any coverage on the stage floor.
1.4.3 In the basic league teams may use on stage colored landmarks in the form of cylinders in the amount of no more than eight pieces for navigation. Four landmarks are orange and four more are green. The landmarks are 210 mm high and 40 mm in diameter. Recommendations for the manufacture of landmarks (see the Appendix). Teams may use their own beacons if they meet the requirements, or the beacons will be provided to the teams by the event organizers.

1.5 Additional Recommendations on Robot Development and Creation

1.5.1 Robots shall be prepared for unevenness of up to 5 mm on the surface of the stage at the joints of the plates from which it is composed. The organisers will do their best to minimise the size of these irregularities, but this may not be technically possible somewhere, and teams must be prepared for this.
1.5.2 The organisers will also do their best to provide teams with different types of lighting

equipment, including spotlights. However, teams must be prepared that they will not be provided with directional or intense light in the competition. Teams should be prepared to calibrate their robots to the lighting conditions at the event.
1.5.3 Teams using electronic compasses as sensors should be aware that the readings of such sensors may be affected by metal parts of the stage. Teams should be prepared to calibrate such sensors.

2 Stage Performance (40% of total result)

2.1 Review
2.1.1 The performance of robots on stage is an opportunity to demonstrate their technical and structural features in a stage performance format. It can be, for example, a magic show, a theatre or comedy production, a story, a dance or an installation. The creative and inventive approach of the teams to the performance, their willingness to experiment and risk using technology and materials in their performance is welcomed (see Appendix for details).

2.2 Refereeing the Performance on Stage
2.2.1 Each team will be given two attempts at the referees. The maximum result of the team will be used for the summary.
2.2.2 The performance of the team on the stage will be evaluated by at least three referees. The technical examination (see section 4) must include at least one of these referees.

2.3 Performance
2.3.1 The duration of the performance shall be at least one minute and not more than two minutes.
2.3.2 Each team shall have a total of five minutes for the entire performance. The referees will start counting down the time when one of the team members enters the stage. Performance time includes the time required for the team to prepare the stage and the robots, the introduction and the performance itself, including any restarts that will occur due to circumstances under team control. The team will not be penalized if this time limit is exceeded due to circumstances beyond the team's control (for example, if technical staff have problems playing music). In any case the issue of penalties will be decided by the referees.
2.3.3 Performing time does not include the time required for the team to assemble its equipment and robots and remove the stage after the performance. The team is given an extra minute for this. In this way, the team can spend no more than six minutes on stage together.
2.3.4 Playback of music and other audiovisual content will be performed by a specially appointed by the organizing committee of the competition technicians.
2.3.5 Teams are strongly encouraged to use the time rationally and, in particular, during the preparation of the stage and robots, to present their project to the audience.

2.4 Restarts
2.4.1 Teams may, at the discretion of the referees, start from the beginning if necessary. Within the five-minute time limit, the number of permitted restarts is unlimited. Teams are awarded penalty scores for restarts. After five minutes from the start of the performance, the team will have to leave the stage.

2.5 Music and video
2.5.1 Teams may use music as a supplement to their performance. It will be useful if the teams mark the start of their performance with a beep-like signal.
2.5.2 If the teams use music in their performance, they will need to provide the organisers with their own audio files. The preferred method of transferring files to the organizers is on a removable drive as an MP3 file. The drive should clearly indicate the name of the team and the league (primary or basic) in which the team is performing. The drive should only contain an MP3

file with music. Teams must pass their files to the organisers before the trial runs. It is desirable that the teams have several copies of their audio files.
2.5.3 There should be a pause of several seconds at the beginning of the audio file.
2.5.4 Visual accompaniment by the teams of their performances is welcome. Visual accompaniment may be made in the form of a video, animation, presentation, etc. The teams will be provided with a projector and a screen on stage. It should be taken into account that for technical reasons the organizers of competitions cannot guarantee in advance a certain height of the screen with projection above the stage level.
2.5.5 The interaction of robots and the screen on the stage is allowed and welcomed. For this purpose, VGA and HDMI cables with access to the projector will be provided on stage. Please note that the organisers cannot guarantee any cable lengths in advance.

2.6 Scene
2.6.1 The scene size will be at least 5 m wide and at least 4 m deep. Inside the stage, a space of 4 m × 3 m for the robotic performance will be marked (see annex).
2.6.2 The boundary of the performance space will be marked by a line of black tape 50 mm wide. Robots may use this line to determine the boundaries of the speaking area. The stage floor will be made of light, smooth (not glossy) MDF (medium density fibreboard) panels.

2.7 Decorations
2.7.1 It is not recommended to use static non-interactive scenery (props) that are not directly included in the performance, as the main attention should be kept on robots. Interactive props are those that interact with robots via sensors or radio (Bluetooth or ZigBee, see section 1.3).
2.7.2 Non-interactive decorations should be placed on the periphery of the stage space allocated for the performance. If robots are placed on the periphery of the performance area, they can use the stage set to perform certain tasks or to start a performance.

2.8 Robots Interacting with People and Each Other
2.8.1 Robots can be started manually by humans, using sensors or remotely (see section 1.3). This limits the allowable direct physical interaction between humans and robots. All questions concerning the permissibility of any human interaction with robots should be decided with the referees before the start of the performance (see section 1.3).
2.8.2 People are welcome to participate in the performance. People cannot interact with robots physically (touching robots, moving robots, etc.), but can interact with sensors mounted on robots. Note that a more direct interaction with robots (e.g. by holding the robot inside the performance area) will be rated lower than a more intelligent interaction (e.g. by following the robot after the person with the camera).
2.8.3 Any interaction between robots and each other is extremely welcome. Robots are allowed to interact with each other, both physically and via sensors and/or wireless means (see Section 1.3).

2.9 People on the Stage

2.9.1 No more than two team members may be on stage together with robots during the entire performance. The number of people performing on stage with the robots does not affect the final team result in any way. People may find themselves inside and outside the restricted area for the performance during the performance, but must not leave the stage itself.

2.10 Penalty Scoring

2.10.1 The team is awarded three penalty scores for every ten seconds of exceeding the time limit for the performance (see Section 2.3).

2.10.2 The team is awarded three penalty scores each time at least one of the contact points[7] of at least one robot is outside the time limit for the performance. In case of doubts about which parts of the robot should be considered as contact points, teams should contact the organizers of competitions for clarifications before the performance.
2.10.3 The team is awarded three penalty scores for each restart due to circumstances under the control of the team.
2.10.4 The team is awarded three penalty scores for each interaction of people with robots, not provided for by the section 2.8 of these regulations.
2.10.5 Penalty scores may be awarded, at the referees' discretion, to teams that consciously copied robots, suits, scenario, scenery or any other elements of performance (except for music) from another team or used (with or without modifications) robots, suits, scenario, scenery or any other elements of performances within the OnStage leagues of previous years.

2.11 Preparing to Perform on Stage

2.11.1 It is the responsibility of the teams to ensure, by contacting the organisers before the start of the event, that the audio and video files provided to the organisers (see section 2.5) are reproduced correctly.
2.11.2 Depending on the configuration of the scene, it may be that the person who will launch the robot on stage and the event organiser responsible for playing the multimedia (audio and video) will not see each other. Teams should be prepared for these conditions.

2.12 Training Launches on the Main Stage

2.12.1 The main stage for performances will be available to teams for training and test runs. A written record of the use of the stage for training and test runs will be made to ensure a fair distribution of time between teams. The teams should follow the set schedule for the use of the stage.
2.12.2 The last team performing training and test runs on the stage before the start of the performances must clear the stage no later than three minutes before the first performance.

[7] Any parts of the robot relating to the surface of the scene (e.g. the wheels) are considered to be its points of contact.

2.13 Contents

2.13.1 The issue of violence, war, crime or criminality is not permitted.
2.13.2 Teams shall not use logos or names that do not conform to the provisions of this Article 2.13.1.
2.13.3 Participants should carefully and thoughtfully choose all verbal formulations and think over the content and subtext of their speech.

2.14 Safety

2.14.1 Pyrotechnic effects, explosions, smoke, naked flames, water and other potentially traumatic substances shall not be used in performances for the safety of participants, organizers and spectators as well as to comply with local safety standards of the region where the competitions are held.
2.14.2 Teams with potentially dangerous situations for health of others or leading to damage to the

stage shall submit a written scenario of their performance to the organizers of the competition for approval at least one month before the start of the competition. The event organizers may request further clarification of the scenario and a demonstration of the performance or any part of it before the presentation, followed by explanations and recommendations regarding potentially dangerous elements of the performance.
2.14.3 Teams may be refused the opportunity to present certain elements during the performance if the organisers of the event find them unsafe and if the team does not agree these elements with the organisers of the event in advance.

2.15 Authenticity and Originality
2.15.1 The performance shall be ordinary and have no analogues among the performances previously presented in OnStage league competitions. It is desirable for teams to independently verify the compliance of their robots and performances with this rule.

3. Open Technical Demonstration (30% of final result)

The description of the robot's technical capabilities is intended to demonstrate to the competition audience how exactly these capabilities were achieved. Teams whose participants are not native English will be provided with an interpreter. Teams may use pre-arranged multimedia materials to demonstrate.

3.1 Demonstration procedure
3.1.1 Teams will be given five minutes for the demonstration itself and one extra minute to prepare the stage before the demonstration and clean the stage after the demonstration.
3.1.2 During the demonstration, the technical capabilities of the robot(s) of the team shall be demonstrated and what exactly the team has done to achieve these capabilities. The technical capabilities of the robot may include both individual elements performed during the demonstration as well as specific technical aspects such as the implementation of the robot's interaction with people or other robots, the use of specific sensors, etc.
3.1.3 The technical demonstration will be evaluated by at least two referees.
3.1.4 The evaluation will take into account the information provided by the team in the technical questionnaire (see annex). Teams are strongly advised to refer to the evaluation table of the technical demonstration (see appendix). Teams should take into account that both the content of the technical demonstration and the form in which it will be evaluated.

3.2 Stage
3.2.1 The technical demonstration shall take place on the same stage as the performance itself, with all of the restrictions set out in Section 2.6.

3.3 Presentation
3.3.1 Teams will be provided with two microphones for the presentation.
3.3.2 Teams are encouraged to use pre-prepared multimedia material (slide presentations, videos, music, etc.) to accompany the demonstration. The number of team members participating in the presentation on stage is not limited.

4 Technical Survey (30% of final result)

4.1 Survey procedure
4.1.1 Teams are given 15 minutes to conduct a technical survey.
4.1.2 The survey is evaluated by at least two referees.
4.1.3 The evaluation of the technical survey is conducted according to the evaluation table of the technical survey (see annex). Teams are strongly advised to read it before the start of the survey.

4.1.4 Teams should ensure that all their robots are available during the survey, as well as copies of the control software, in a form that is easy to view.
4.1.5 Each team member should be prepared to answer referees' questions about the technical aspects of any part of the project. Participants should also be prepared to talk about their contribution to the project and the role they have played in its implementation phase.

4.2 Repeated Technical Survey

4.2.1 If the referees consider it necessary, the team may be asked to repeat the technical examination. The result of the follow-up poll will then be taken into account when calculating the final result.

5 Materials Necessary for Competitions

5.1 Poster

5.1.1 Teams will be given an open space to demonstrate their posters. The poster size shall not exceed the standard A1 sheet size (60 cm x 84 cm). The poster shall be placed in a place specified by the organisers before the start of the team technical survey. Teams may use the poster during the survey (if the poster contains useful information), but please note that the availability of the poster as well as its quality and content are not evaluated in the technical survey. Posters that are made electronically are not accepted.
5.1.2 The task of the poster is to present the team to the competition audience and brief other participants on the technologies and techniques used by the team during the preparation of the project. The poster should be interesting, well-designed and informative. Teams should take into account that the poster will be watched not only by referees, but also by other contestants and spectators.
5.1.3 It is desirable to display the following information on the poster: the name of the team and its country, the category in which the team performs (primary or basic), photographs of robots from different stages of development, brief information about technological innovations applied in the robot.

6 Evaluation and Awarding

6.1 Evaluation Criteria

6.1.1 Criteria for the evaluation and distribution of scores awarded to teams are given in the respective evaluation forms (see Annex).

6.2 Scoring

6.2.1 The final score of each team is calculated as the sum of the scores gained by the team from the technical survey and technical demonstration, as well as the best result from two attempts to perform on stage. Competitions are held without finals.

6.3 Prizes and awards

6.3.1 The following awards shall be awarded in each category (primary and basic):
1. "Team winner OnStage.1 place" - team with the highest final score;
2. "Team winner OnStage.2,3 place".
3. "OnStage SuperTeam, the team with the highest score in the SuprTeam category.

6.3.2 Teams may also receive awards in the following categories:
1. "Best design and construction";
2. "Better use of electronics";
3. "Better use of sensors";

4. "Better programming";
5. "Better robot interaction";
6. "The best technical demonstration".

6.3.3 Awards are awarded on the basis of technical survey and technical demonstration, as well as taking into account the performance on stage (at the referees' discretion).
6.3.4 Only one award may be given to a team.
6.3.5 Teams may also be awarded certificates in the following categories:
1. "Best Support" - awarded to a team that, in the opinion of the other teams, has provided the best support to other teams;
2. "Best poster" - awarded to the team which prepared the best poster describing the team and its project according to the referees;
3. The "best presentation" is awarded to the teams that prepared the best multimedia support for their performances according to the referees;
4. "Best Beginner Team" - awarded to the team consisting of participants who have never competed in the OnStage league before and who have achieved the highest final result.

6.3.6 No team shall receive more than three prizes and/or certificates.

6.4 Feedback

6.4.1 OnStage is an educational project. It is important that the teams learn from their experience in OnStage league competitions. The competition organizers will provide feedback on each team's performance at the end of the competition. The feedback will reflect the strengths of the team and indicate things that the team needs to work on. Please note that these reviews should not be used by participants to challenge the final results.

6.4.2 Each team will be able to see its scores for the first attempt on stage to better prepare for the second attempt.

7.1 Competition Spirit

7 Code of Honor

7.1.1 All competitors, including mentors, are expected to share the goals and ideals of OnStage.
7.1.2 The OnStage volunteers, referees and competition organizers act in the spirit of the competition to ensure that the competition is high quality, fair and, most importantly, fun.
7.1.3 What matters is not whether you win or not, but how much you learn!

7.2 Fair game

7.2.1 Robots that will damage the range intentionally or repeatedly will be disqualified.

7.2.2 People who will intentionally interfere with or damage the court will be removed from the competition.

7.2.3 It is assumed that the goal of all participants is fair play.

7.3 Conduct

7.3.1 Each team should check the latest regulations on the OnStage website before starting the competition.

7.3.2 Participants should not forget about other people and robots when moving around the competition site.

7.3.3 Participants are not allowed to enter the training area of other teams without the invitation of one of the members.

7.3.4 It is the responsibility of the teams themselves to get to know the organisational information (schedule of competitions, meetings, announcements, etc.) in time for the

competitions. Up-to-date information will be provided at information counters and (if possible) on the website of the local organizer and/or OnStage.

7.3.5 Participants who violate the rules of conduct specified in this paragraph may be removed from the competition area and/or disqualified from participation in the competition at the discretion of referees, organizers or representatives of law enforcement agencies.

7.3.6 Teams should arrive at the venue in advance and without delay in order not to miss registration, draw, technical inspections, captain and mentor meetings, etc.

7.4 Mentors

7.4.1 Adults (mentors, teachers, parents, interpreters and other adult team members) are not allowed in the training area.

7.4.2 Adults will be provided with a rest area close to the preparation area from which they can observe the work of the teams.

7.4.3 Mentors are not allowed to participate in any way directly in the development of the robot software, both during and before the competition.

7.4.4 Any interaction between a team-master and the robot may be punished by a warning by a referee. Two warnings may be regarded as grounds for disqualification of the team.

7.4.5 Robots must fully represent the team member's performance. If identical robots are found during competitions, they may be re-examined.

7.5 Etiquette and Honour

7.5.1 Fraud and intentional violations of the rules in any form are not tolerated at the competition, including:

1. Mentors working on the software, electronic equipment or design of the robot during the competition;

2. Direct participation of more experienced teams in the creation of robots of less experienced teams, significantly beyond the scope of the usual council.

7.5.2 The event organizers reserve the right to revoke the award from the team if, after the award ceremony, the team's fraud is known and proven.

7.5.3 If it becomes apparent that the team manager has interfered in the creation and development of the robot, thus flagrantly violating the code of honor of the competition, then he may be suspended from further participation in OnStage league competitions.

7.5.4 Teams that violate the OnStage honor code may be disqualified from participating in competitions. Individual team members may also be suspended from further OnStage competitions.

7.5.5 In case of a minor violation of the code of honor by a team, a warning may be issued. In case of a repeated violation of the code of honour, a team may be immediately disqualified from the competition without notice.

7.6 Publication of Results

7.6.1 The spirit of OnStage competition assumes that all new and original results obtained by teams in preparation for and during the competition must be published after the competition.

7.6.2 After the end of the competition, the development results can be published by the participants on the OnStage website.

7.6.3 Participants are highly encouraged to discuss their own and others' projects with each other,

contributing to a culture of research curiosity and inquisitiveness in the field of technology and science in general.

7.6.4 This is the mission of OnStage as an educational initiative.

8 Extra Information

8.1 Information on the Event

8.1.1 It is the responsibility of the teams to check that the latest information is up to date during the competition. Up-to-date information will be available at information counters and on the official competition website.

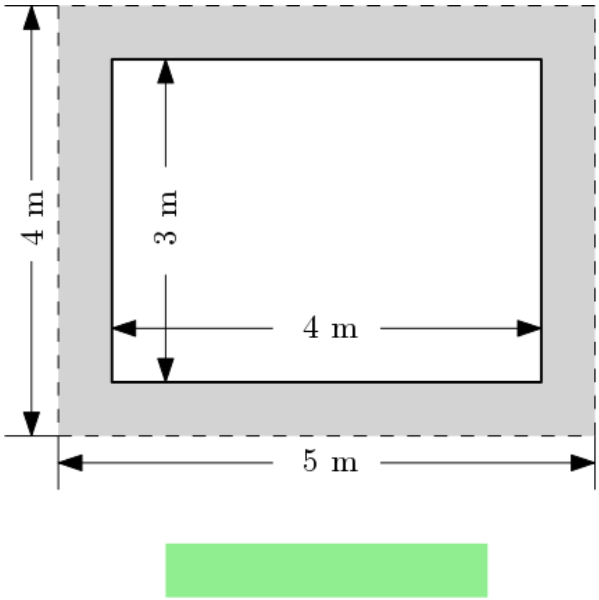
8.1.2 Team coaches will also be sent newsletters with up-to-date information.

Annex

Stage Layout

Figure 1 shows the diagram of the stage and the approximate location of the referees' table relative to the stage.

Puc. 1. Stage layout and referees location



Creation of Landmarks

The landmarks have a height of 210 mm and a diameter of 40 mm, and are made of orange A4 paper. A sheet of paper is rolled up in a cylinder with a diameter of 40 mm (see Fig. 2) and then weighed at the bottom.

Fig. 2. Creation of Landmark

Stage performance evaluation form

Team: _____ of primary/basic league

Referee: Referee's signature:

Criterion	Parameters	Evaluation
Content of presentation	• Recurrent robot movements, diverse and intense performance • The integrity of the performance, the presence of a single theme and story. • The performance is organically complemented by a visual demonstration. • The performance is fascinating all the way through • Harmonious and thoughtful use of stage space • Qualitative choreography of robot movements, correspondence of their movements to the melody.	/8
Ingenuity and originality	• Robots are created by participants independently, without the use of robotic designers and kits. • Existing technologies have been applied in new and original ways not previously presented • Original and innovative technologies (unusual mechanical or electronic elements, power supply systems, etc.) are used.	/8
Quality of the presentation	• Reliable and robust robots that maintain their integrity throughout the performance and work as expected. • Costumes created by participants independently and organically supplementing the performance • Perfectly honed, quality and well prepared performance	/8
Technical complexity	• Robots move around the stage during a performance. • High-quality robot synchronization and interaction • Robots perform technically sophisticated and risky manoeuvres. • Robots interact with the screen onstage	/8
Sensors and interactions	• Sensors are used for their intended purpose or in other ways • Uses robots to communicate with each other • Robots interact with people. • Robots interact with each other • Robots use colored markers for orientation (main category only)	/8
Penalty scoring	Three penalty scores are awarded for: • every unplanned interaction with people; • every 10 seconds that the time limit is exceeded; • each restart; • every time the robot leaves the performance area.	
	Total:	/40

Technical survey evaluation form

Team: _____ of primary/basic league

Referee Referee's signature:

Criterion	Parameters	Evaluation
Software	• Use a programming language appropriate to the age of participants • Participants are able to explain how their control programs work and how they interact with the hardware of the robot. • Participants have applied original and innovative solutions • Adequate choice of libraries used to develop • Detailed explanations of the chosen solutions and limitations of the program code are given	/8
Mechanical equipment	• High quality and reliable mechanical solutions have been implemented in the project. • Complex or innovative mechanical elements are created • Participants are able to explain the work of all the mechanical elements of the robot. • The robot uses structural techniques to give the mechanical elements very high accuracy or strength • Adequate and well-informed choice of drives	/8
Electronic equipment	• The electronic devices were created by the participants themselves • Demonstrated understanding of the robot's electronic components and how they work • Sensors used or integrated with each other in an original and innovative way • Original and innovative use of various technologies for performance (cameras, controllers, drives, GPS navigators, microcontrollers, etc.). • Detailed explanations of the selected solutions and limitations of the robot's electronic equipment are given.	/8
Robot communication and interaction	• Effective communication tools are used • Participants understand the device of communication between robots • An integral architecture for robot communication has been created • Sensors and other electronic means are used to implement the interaction of robots with each other. • Sensors and other electronic means are used to implement the interaction of robots with humans.	/6
Penalty scores *(At most 15 scores)*	The number of penalty scores is determined by each referee independently. When awarding penalty scores, referees should remember that the work is done by students. Penalty scores may be awarded, particularly, for: • Unoriginal (re)use of technologies from other teams or past years; • the inability of all team members to adequately answer the referees' questions.	

	TOTAL	30

Evaluation form for technical demonstration

Team: _____ of primary/basic league

Referee: Referee's signature:

Criterion	Evaluation
Successful demonstration of the robot's technical capabilities	/15
Explanation of the robot's technical capabilities	/10
Quality and clarity of demonstration	/5
Penalty scores	
Total:	/30