TECHNICAL DESCRIPTION
Computer-Aided Learning and Big Data

WorldSkills Russia "Young Professionals" Union (hereinafter referred to as WSR) in accordance with the charter of the organization and rules of the competition has established the following minimum requirements to this professional skill required for participation in the competition.

This technical description includes the following sections:

1. INTRODUCTION

1.1. PROFESSIONAL SKILL NAME AND DESCRIPTION

1.1.1 Professional skill name:

Computer-Aided Learning and Big Data

1.1.2 Professional skill description.

Computer-aided learning is an implementation of data analysis without the use of clearly determined algorithms. In the past decade, computer-aided learning was implemented in driverless cars, speech recognition, effective search system, etc. Currently, computer-aided learning has become ingrained in our everyday lives.

The most effective computer-aided learning algorithms are applied and the experience of their practical application is implemented within the scope of this skill. In addition, this skill includes the consideration of the application of computer-aided learning to new practical tasks requiring quick and effective solution.

The skill covers computer-aided learning, data mining and statistical methods of pattern recognition, along with:

- supervised learning (parametric/non-parametric algorithms, support vector machine, kernel functions, neural networks);
- non-supervised learning (cluster analysis, data dimension reduction, recommendation systems, in-depth learning);
- computer-aided learning algorithms (displacement-dispersion trade-off, innovative computer-aided learning and artificial intelligence tendencies).

Solution of test projects requires practical application of computer-aided learning algorithms, for example, in designing of robots (perception, control), text analysis (online search, anti-spam), computer vision, medical information systems, audio processing, intellectual data base analysis and other areas.

Thanks to the vast practical experience of operation with big data accumulated in the industry, as well as tools and systems, it became possible to apply this experience to solve a wide variety of tasks. Using Hadoop with MapReduce, Spark, Pig or Hive, it is practically not required to have in-depth programming knowledge. By using modern software tools, it is possible to perform forecasting of modelling and use graphics to model problems. This skill forms skills of correct data processing, effective data exchange and performance of basic reconnaissance of big complex data sets.

1.2. RELEVANCE AND SIGNIFICANCE OF THIS DOCUMENT

The document contains information on standards imposed on competitors in order for them to be able to participate in competitions, as well as the principles, methods and procedures which regulate the competitions. Therewith, WSR has acknowledged the WorldSkills International (WSI) copyright. Furthermore, WSR acknowledges the WSI intellectual property rights to the assessment principles, methods and procedures.

Every expert and competitor must know and understand this Technical Description.

1.3. ASSOCIATED DOCUMENTS

Since this Technical Description contains only the information pertaining to the relevant professional skill, it must be used in association with the following documents:

- WSR, Competition Standing Orders;
- WSR, online resources specified in this document;
- WSR, policy and statutory regulations;
- Skill-specific OHSE Instruction.

2. WORLDSKILLS STANDARDS SPECIFICATION (WSSS)

2.1. GENERAL WORLDSKILLS STANDARDS SPECIFICATION (WSSS) INFORMATION

The WSSS determines the knowledge, understanding and specific skills that underpin best international practices of technical and professional work performance levels. It should reflect a shared global understanding of what associated work role(s) or occupation(s) represent for industry and business.

The skill competition purpose is to reflect best international practices as described by the WSSS to the extent they are able to be implemented. The WSSS is therefore a guide to the required training and preparation for the skill competition.

In skill competitions, knowledge and understanding will be checked through the assessment of the performance of practical work. There will be no separate tests of knowledge and understanding.

The WSSS is divided into clearly defined sections with numbers and headings.

Each section is assigned with a relative percentage of importance within the WSSS framework. The sum of all relative importance percentages is 100.

The Marking Scheme and the Test Project will assess only those skills that are set out in the WSSS. They will reflect the WSSS as comprehensively as possible within the constraints of the skill competition.

The marking scheme and the test project will follow the allocation of marks within the WSSS to the practically possible extent. 5 % fluctuations are allowed upon the condition they will not distort the weightings specified by the WSSS conditions.

	Section	Importance (%)
1	**Work Organization and Management**	**5**
	A specialist shall know and understand: • principles and abilities ensuring productive team work; • system principles and behavior; • aspects of systems improving the stability and environmental safety of products, strategies and skills; • how to take initiative and be inventive in terms of identification, analysis and evaluation of information received from different sources.	
	A specialist shall be able to: • plan a production schedule for each day in according with available time and take into account time restrictions and deadlines; • apply research technologies and skills to have an idea of the latest industry recommendations; • analyze results of own activity in comparison with expectations and needs of a customer or organization.	
2	**Communication and Interpersonal Relations Skills**	**5**
	A specialist shall know and understand: • importance of being a good listener; • need for discretion and confidentiality when communicating with customers; • importance of resolution of misunderstandings and conflict situations; • importance of establishing and maintaining customer's	

		trust and productive working relations;	
		• importance of written and verbal communication skills.	
	A specialist shall be able to:		

A specialist shall be able to:

Use literacy skills for:

- following documented instructions in the provided guide;
- understanding the workplace organization instruction and other technical documentation;
- interpreting and understanding requirements;
- awareness of latest industry recommendations.

Use verbal communication skills for:

- discussion and submission of proposals regarding data;
- regular notification of a customer on the progress of work on the task at hand;
- holding negotiations with a customer regarding the project budget and completion schedule;
- collection and confirmation of customer's requirements;
- presentation of the proposed and final solutions.

Use written communication skills for:

- solution documenting;
- regular notification of a customer of the progress of work on the solution;

Use communication skills in team work for:

- cooperation with other specialists in order to achieve desirable results;
- successful group solution of problems.

Use project management skills in:

- prioritization and task scheduling;

	• distribution of resources between tasks.	
3	**Problem Solution, Innovation, Creativity**	**10**
	A specialist shall know and understand: • common types or problems that can occur during the development of data analysis solutions; • common types of problems that can occur in a commercial organization; • diagnostic approaches to problem solution; • tendencies and developments in the industry, including new technologies, methods, languages, reference designations and technical skills.	
	A specialist shall be able to: Use analytical skills for: • analysis and synthesis of complex or non-homogeneous information; • determine trivial and non-trivial data dependencies. Use research and learning skills for: • independent investigation of occurred problems. Independent solution of problems encountered in the course of operation: • identify and solve problems in a timely manner; • properly collect and analyze information; • develop alternatives for decision making, choose the most appropriate variants and implement the required decision.	
4	**Data Analysis and Prediction**	**25**

	A specialist shall know and understand: • mathematical statistics; • algorithm theory; • statistical data processing methods; • regression; • computer-aided learning; • discriminant analysis; • cluster analysis; • segmentation.	
	A specialist shall be able to: • construct mathematical models; • identify data anomalies; • scale models; • construct decision trees; • perform component analysis; • apply mathematical methods in the solution of practical tasks; • use modern program products for the construction of mathematical models; • use design and modelling software.	
5	**Learning and Problem Solving**	**30**
	A specialist shall know and understand: • parallel algorithms; • neural networks (topology); • programming languages: Python, R, Java, C++, C#; • SQL, NoSQL solutions; • Image Processing basics;	

	• NLP.	
	A specialist shall be able to: • work with Linux; • work with cloud services; • compile MapReduce requests; • work with the following software: Spark, Hive, Pig, Hadoop; • develop computer-aided learning algorithms • develop data analysis algorithms; • apply data analysis methods; • perform pattern recognition; • neural networks (implementation); • implement bots; • process texts.	
6	**Interpretation and Vizualization**	**20**
	A specialist shall know and understand: • Data Visualization, Large Data Visualization; • scientific visualization; • information visualization; • data flow visualization • visual data mining; • visual search and recommendations; • descriptions of situations based on big data using visualization; • scalable methods of parallel visualization; • modern hardware and architecture facilities for data analysis and visualization;	

	• human-machine interface and big data visualization; • applications for big data visualization, including cyber-enabled intelligence and counter-intelligence (business intelligence), electronic commerce, scientific information analysis, education.	
	A specialist shall be able to: • perform acceptability appraisal; • picture complex structures, as well as special interest objects, critical points, attractors, singularities; • perform visualization verification and validation; • interpret decision results; • interpret big data and big images.	
7	**Documentating of Analytical Solutions**	**5**
	A specialist shall know and understand: • importance of detailed documentation of developed solutions;	
	A specialist shall be able to: • exhibit professional competence in documentation preparation; • develop user documentation; • work with technical documentation in English language.	
	Total	**100**

3. ASSESSMENT STRATEGY AND TECHNICAL FEATURES

3.1. GENERAL REQUIREMENTS

The Strategy establishes the principles and techniques to which the WSR assessment and marking must conform.

Expert assessment is the cornerstone of WSR competitions. For this reason, it is the subject of continuous professional improvement and scrutiny. The accumulated assessment experience will determine the future use and development direction of main assessment tools used on WSR competitions: The Marking Scheme, Test Project, and Competition Information System (CIS).

Assessment on the WSR competitions falls within one of the two categories: objective and jury's decision. For both types of assessment, the use of explicit benchmarks against which to assess each aspect is essential to guarantee quality.

The Marking Scheme must follow the WSSS weightings. The Test Project is the assessment vehicle for the skill competition, and should also follow the WSSS. The CIS enables timely and accurate recording of marks, and has an expansive supportive capacity.

The Marking Scheme, in outline, will lead the process of Test Project design. During the further development the Marking Scheme and the Test Project will be designed and developed through an interactive process in order to ensure joint optimization of inter-relations within the scope of the WSSS and the Assessment Strategy. They will be submitted to the Skill Competition Manager for approval together in order to demonstrate their quality and conformity with the WSSS.

4. MARKING SCHEME

4.1. GENERAL GUIDANCE

This section describes the role and place of the Marking Scheme, how the Experts will assess the competitors' work demonstrated through the Test Project performance, as well as the procedures and requirements for marking.

The Marking Scheme is the main tool of WSR competitions and defines the compliance of the Test Project assessment with the WSSS. It is intended for the allocation of points between each assessed aspect which can be related to only one WSSS module.

Through the reflection of the weightings specified in the WSSS, the Marking Scheme sets out the Test Project development parameters. Depending on the skill nature and the requirements to its assessment, it can be helpful to develop the Marking Scheme in detail early on so it can be used as a guide for the Test Project development. Otherwise, the Test Project development shall be based on the generalized Marking Scheme. Further development of the Test Project is accompanied by the development of assessment criteria.

Section 2.1 specifies the maximum acceptable variation percentage, the Test Project Marking Schemes based on the weightings provided in the Standards Specification.

The Marking Scheme and the Test Project may be developed externally by one person, or a group of experts, or a third-party developer. Detailed and final Marking Scheme and Test Project shall be approved by the Skill Competition Manager.

Furthermore, all experts are encouraged to submit their proposals on the development of marking schemes and test projects to the Discussion Forum for their further review by the Skill Competition Manager.

In all cases, a complete marking scheme approved by the Skill Competition Manager shall be entered into the CIS at least two days prior to the competition, with

the use of a standard CIS spreadsheet or other agreed-upon methods. The Chief Expert is responsible for this process.

4.2. ASSESSMENT CRITERIA

The main headings of the Marking Scheme are the assessment criteria. In some skill competitions, assessment criteria may match the WSSS section headings; in others, they may be completely different. There are usually from five to nine assessment criteria that said there should be at least three assessment criteria. Whether or not the headings match, the Marking Scheme must reflect the weightings specified in the WSSS.

The Assessment Criteria are created by the person(s) developing the Marking Scheme, who is free to define the criteria he or she considers most suited to the assessment of the Test Project performance.

The Mark Summary Form generated by the CIS will comprise a list of the assessment criteria.

The number of points allocated to each criterion is calculated by the CIS. This will be the cumulative sum of points awarded to each aspect within that assessment criterion.

4.3. SUBCRITERIA

Each assessment criterion is divided into one or more subcriteria. Each subcriterion becomes a heading in the Marking Scheme.

Each (subcriteria) marking form is specified with a certain date on which it will be completed.

Each (subcriteria) marking form contains assessable aspects that are subject to assessment. Each assessment method is assigned with a special marking form.

4.4. ASPECTS

Each aspect describes in detail one of the assessed indicators, as well as possible marks or marking instructions.

A marking form lists in detail each marked aspect together with the number of points allocated for its assessment.

The sum of the marks allocated to each Aspect must fall within the range of marks specified for each skill section in the WSSS. It will be displayed in the CIS point allocation spreadsheet in the following format:

Criterion								Total points for the WSSS section	WSSS POINTS FOR EACH SECTION	DEVIATION RATE
WorldSkills Standard Specification (WSSS) Sections			A	B	C	D	E	F			
		1	10						10	10	0
		2			4			1	5	5	0
		3		13					13	13	0
		4			6				6	6	0
		5		7	10	10	15		42	42	0
		6		5				9	14	14	0
		7	10						10	10	0
Total points for criterion			20	25	20	10	15	10	100	100	0

4.5. JURY'S OPINION (JUDGEMENT SCORE)

Decisions are made using a scale of 0-3. In order to apply the scale in a clear and consistent manner, the jury must carry out a decision with due regard to:

- (criteria) comparison standards as detailed guides to each aspect
- 0-3 scale, where:

- 0: performance does not meet the industry standard;
- 1: performance meets the industry standard
- 2: performance meets and, in specific respects, exceeds the industry standard;
- 3: performance wholly exceeds the industry standard and is assessed as excellent

Each aspect is assessed by three experts, each expert must perform assessment, after which the allotted marks will be compared. In case the expert marks vary by more than 1 point, the experts must bring up the assessment of this aspect for discussion and eliminate the variation.

4.6. MEASURABLE ASSESSMENT

Each aspect shall be assessed by three experts. Unless otherwise specified, only the maximum mark or zero will be awarded. If within some aspect it is possible to award marks below the maximum one, it shall be described in the Marking Scheme with the specification of measurable parameters.

4.7. USE OF MEASURABLE AND JURY'S ASSESSMENTS

The final understanding of measurable and jury's assessments will become available after the approval of the Marking Scheme and the Test Project. The provided table contains approximate information and is intended for the development of the Marking Scheme and the Test Project.

Criterion		Points		
		Judge	**Object**	**Total**
A	**Preparation of a data storage repository**		9	9
B	**Big data pre-processing**		19.5	19.5
C	**Dependency visualization**	4	15	19
D	**Neural network development**	4	14	18
E	**Bot development**	4	14.5	18.5
F	**Documenting**	8	8	16
Total		20	80	100

4.8. SKILL ASSESSMENT SPECIFICATION

Assessment groups will be formed in accordance with the Competition Rules.

The assessment criteria developed by the external writer are clear and neat, they describe how and why each mark is awarded.

There are three different types of objective test project assessment criteria. These types are described in the following table:

Type	Example	Maxumum score	Everything is correct	Not correct
Maximum score or zero	The circular chart depicts information in percentage points	0.2	0.2	0
A sliding scale is used for the reduction of points	The report format specifies that each error leads to a 0.1 point deduction.	0.5	0.5	0-0.4
Addition of points to 0 marks (using a progressive scale).	Each correct solution will be rewarded 0.1 point.	1.0	1.0	0-0.9

4.9. ASSESSMENT PROCEDURE

The Chief Expert and the Deputy Chief Expert shall discuss and divide the experts into groups (a group is composed of at least three people) for marking. Each group shall include at least one experienced expert. An expert shall not assess a competitor from his own organization.

Each expert acts as a member of the test project assessment team.

The experts will be divided into assessment groups with the number of assessment criteria being as even as possible.

The composition of assessment teams with be determined by the Chief Expert and the Deputy Chief Expert in order to achieve a balance between new and experienced experts in each team.

The experts will be divided into various cultural judgement assessment groups to the extent possible.

The external author shall provide the experts with assessment criteria. The experts will discuss the assessment criteria upon the arrival at the competition.

The experts will agree on the final marking scheme on the competition. Jury's marks shall not exceed 30 %. The measurable assessment shall be performed with the use of hardware facilities wherever possible.

5. TEST PROJECT

5.1. GENERAL REQUIREMENTS

Sections 2, 3 and 4 regulate the development of the Test Project. The recommendations in this section provide additional explanation of the TP content.

The Test Project performance shall take not less than 15 and not more than 22 hours.

In order to qualify for the performance of the Test Project, the competitors must be from 14 to 28 years old. The competitors shall organize themselves into teams of 2 people.

Regardless of the number of modules, the TP shall include the assessment of each of the WSSS sections.

The test project shall not fall outside of the WSSS.

A competitor's knowledge shall be assessed exclusively through the practical performance of the Test Project.

Knowledge of the WSR rules and regulations is not assessed during the Test Project performance.

The test project is secret and available for familiarization to experts on Day C-2, to competitors – on Day C-1.

5.2. TEST PROJECT STRUCTURE

The Test Project includes 6 modules:

1. Module 1. Data storage repository preparation;
2. Module 2. Big data pre-processing;
3. Module 3. Dependency visualization;
4. Module 4. Neural network development;
5. Module 5. Bot development;
6. Module 6. Documenting.

5.3. TEST PROJECT DEVELOPMENT REQUIREMENTS

The test project shall be performable with the logistical support (LS) of the competition (LS, as specified in the Infrastructure List). The required support will be provided by the organizers within the scope of the competition.

In cases when work lasts for several competition stages, it will be saved for assessment in the end of each stage. For example, the project can require the development of a data base: table determination, data import, development of forms

and requests and compilation of reports. The project can contain specific work results that are required to be presented at the first competition stage. During a break, the work results will be transferred into a back-up copy and assessed. Any work performed on the results after the break will not be assessed.

5.4. TEST PROJECT DEVELOPMENT

The test project is developed based on the samples provided by the Skill Competition Manager on the WSR forum (http://forum.worldskills.ru). The provided Test Project samples shall be changed once a year.

5.4.1. WHO DEVELOPS TEST PROJECTS/MODULES

The Skill Competition Manager is responsible for overall management and the Test Project approval. The following individuals can be involved in the Test Project development:

- Certified WSR experts;
- Third-party developers;
- Other interested parties.

In case of the introduction of 30 % of changes into the Test Project, the following individuals participate in the process or preparation to each competition:

- Chief Expert;
- Certified skill expert (if present at the competition);
- Assessing experts (if required to be involved by the Chief Expert).

5.4.2. HOW IS THE TEST PROJECT DEVELOPED

Test projects for each competition are developed based on the unified Test Project approved by the Skill Competition Manager and posted on the Discussion Forum. Test projects can be developed both in their entirety or in modules. The Discussion Forum is the main Test Project development tool.

5.4.3. WHEN IS THE TEST PROJECT DEVELOPED

The Test Project is developed in accordance with the following schedule which defines documentation preparation periods for each competition type.

Time frames	Local competition	Qualification competition	National competition
Test Project template	The test project of the previous National Competition shall be taken from the Discussion Forum in the unmodified state.	The test project of the previous National Competition shall be taken from the Discussion Forum in the unmodified state.	It is developed based on the previous competition taking into account the skill competition execution experience and the industry standards 6 months prior to the competition
Approval of the Chief Competition Expert responsible for the TP development	2 months prior to the competition	3 months prior to the competition	4 months prior to the competition
TP publication (if applicable)	On Day C-2	On Day C-2	On Day C-2
Submission of suggestions on the Discussion Forum on modernization of the TP, BD, IL, TD, EN, and GR	On Day C+1	On Day C+1	On Day C+1

5.5 TEST PROJECT APPROVAL

The Chief Expert and the Skill Competition Manager render a decision on the performability of all modules and if required should prove the feasibility of its performance. Time and materials shall be taken into consideration.

The test project can be approved in any form convenient for the Skill Competition Manager.

The test project is secret and available for familiarization to experts on Day C-2, to competitors – on Day C-1.

5.6. PROPERTIES OF MATERIALS AND MANUFACTURER'S INSTRUCTIONS

In case in order to perform the test project a competitor is required to become familiar with any material user manual or a manufacturer's manual, he or she will receive them in advance by the decision of the Skill Competition Manager or the Chief Expert. If required, during the familiarization the Technical Expert can organize an on-site demonstration.

The materials selected for the modules to be used by the competitors (except for the cases where materials are brought by the competitors themselves) shall belong to the type of materials available from a variety of manufacturers and can be bought freely in the region of the competition.

6. SKILL MANAGEMENT AND COMMUNICATION

6.1 DISCUSSION FORUM

All pre-competition discussions take place on the special forum (http://forum.worldskills.ru). The decisions on skill development shall only be made after a preliminary discussion on the forum. Also to take place on the forum is the notification on all important events relevant to the skill. This forum is moderated by

the International Expert and (or) the Skill Competition Manager (or an expert assigned by them).

6.2. INFORMATION FOR COMPETITORS

The information for competitors is published in accordance with the Standing Orders of the carried out competition. The information can include:

- Technical description;
- Test projects;
- Mark Summary Form;
- Infrastructure List;
- OHSE Instruction;
- Additional information.

6.3. ARCHIVE OF TEST PROJECTS

The test projects are available at http://forum.worldskills.ru.

6.4. SKILL MANAGEMENT

General skill management is carried out by the International Expert and the Skill Competition Manager with a potential involvement of the expert community.

Skill management within a specific competition is carried out by the Chief Skill Expert in accordance with the Competition Standing Orders.

7. OCCUPATIONAL SAFETY AND HEALTH REQUIREMENTS

7.1 OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS OF THE COMPETITION

Refer to the OHSE documentation provided by the Competition Organizing Committee.

7.2 SKILL-SPECIFIC OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL REQUIREMENTS

Applied are the standard computer health and safety rules. Organization of work at the competition site for the 14+ age group is regulated by SanPiN 2.4.4.3172-14 "Sanitary and Epidemiological Requirements for the Structure, Content and Organization of Working Conditions in the Organizations of Extended Education for Children", app. the Resolution of the Chief Sanitary Inspector of the Russian Federation No. 41 dated July 4, 2014.

8. MATERIALS AND EQUIPMENT

8.1. INFRASTRUCTURE LIST

The infrastructure list includes all the infrastructure, equipment and expendable materials required for the Test Project performance. The Infrastructure List must contain an example of such equipment and its clear and coherent characteristics in case it is possible to obtain its equivalent.

During the development of an infrastructure list for a specific competition, the process must be guided by the Infrastructure List posted on the Discussion Forum by the Skill Competition Manager. It is mandatory for all infrastructure list changes to be agreed upon by the Skill Competition Manager.

At each competition, the Technical Expert should maintain accounting of infrastructure elements. The list should not include elements that were asked to be included by the experts or the competitors, as well as prohibited elements.

Following the competition results, if required, the Technical Expert and the Chief Expert must present the Competition Organizing Committee and the Skill Competition Manager with recommendations on the Infrastructure List changes.

8.2. MATERIALS, EQUIPMENT AND TOOLBOX TOOLS

- The competitors can use hearing protection

- The competitors are allowed to bring their own keyboards, mice and mouse pads. All brought keyboards, mice and pads shall be given to the Technical Expert for inspection in advance. The use of wireless keyboards and mice is prohibited. Input devices shall be non-programmable.

## 8.3. MATERIALS AND EQUIPMENT PROHIBITED AT THE WORKSHOP

- The competitors may listen to music. Headphones and music in the form of media files shall be preliminary handed over to the Technical Expert for examination. Brought music will be stored on the servers for competitors to which they will have access to.

- On Day C-1 the competitors will be allowed to bring a memory card with no more than 30 songs. All music will be catalogued, checked and distributed between all competitors.

- The competitors are not allowed to bring:

  - Additional programs

  - Mobile phones

  - Portable electronic devices (tablets, etc.)

  - Information storage devices (flash drives, discs, etc.)

- The equipment shall not have access to internal information storage devices. The competition organizers shall make sure the access was blocked.

- The experts have the right to prohibit certain equipment from the competition zone.

- The experts and competitors are allowed to use personal computers, tablets and mobile phones when they are in the room for experts, except for the cases when the documents related to the competition are in the room.

- The experts and competitors are allowed to use photo and video equipment when they are present in the room for experts, except for the cases when the

documents related to the competition are in the room, with the agreement of the Chief Expert.

- The competitors, experts and interpreters are allowed to use personal photo and video taking devices in the workshop only after the competition is finished.

8.4. PROPOSED COMPETITION WORKSHOP LAYOUT

Competition site layout (*refer to the illustration*).
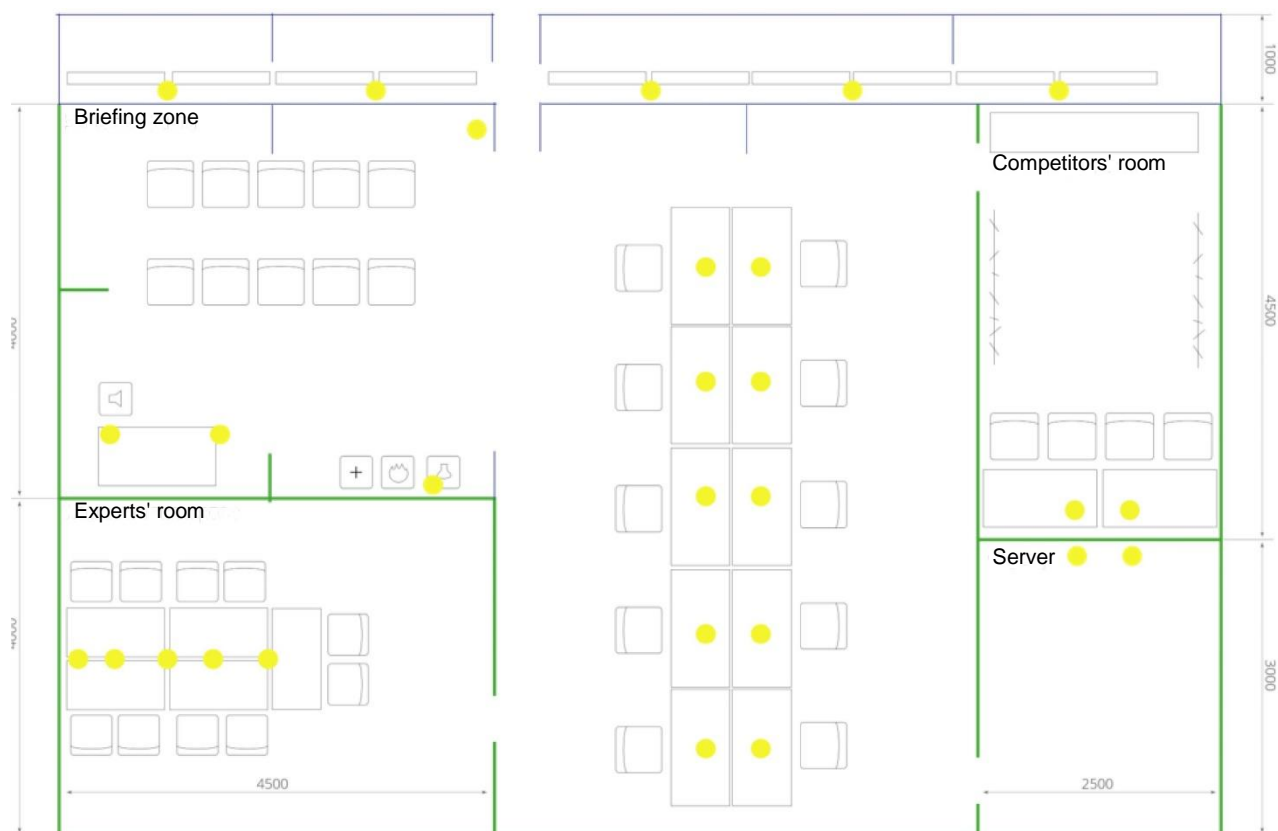
- The design must have provisions for the privacy of the competitors' team and the expert's need for carrying out supervision. A competitor willing to call the expert shall be clearly noticed. The barriers between two competitors' teams shall be higher than 120 cm.
- The design must maximize the ease of maintenance;
- If possible, the experts shall be able to use at least four separate and closed rooms for assessment of adequate size (so that 5 experts could sit in one row)

in order to accommodate the assessment team. Each assessment team shall be provided with a room key;

- The Chief Expert and the Deputy Chief Experts shall also be provided with a closed room so that they could manage the competition;
- This calls for a well-equipped room for the purposes of surveying the competitors with a projector, a screen, and an audio system with a computer, audio, video and other capabilities.

9. SPECIAL RULES FOR THE 14-16 AGE GROUP

The test project performance time shall not exceed 4 hours per day.

During the development of the Test Project and the Marking Scheme, it is required to consider the specific features and the limitations of the applied OHSE rules for this age group. It is also required to take into account anthropometric, psychophysiological and psychological characteristics of this age group. This way the Test Project and the Marking Scheme can cover not all of the WSSS units and fields depending on the specific features of the skill.