



# 2025

## BRICS SKILLS COMPETITION

(BRICS+ FUTURE SKILLS & TECH CHALLENGE)

**Platform Door Control and Debugging Technology**

BRICS-FS-50

**Technical Description**  
**(International Finals)**

Oct. 2025



# Contents

<b>1. Introduction .....</b>	<b>4</b>
<b>1.1 Name and Description of the Competition .....</b>	<b>4</b>
<b>1.2 Relevance and importance of this document .....</b>	<b>5</b>
<b>2. Skills Standard .....</b>	<b>5</b>
<b>2.1 General Description of Skill Standard .....</b>	<b>5</b>
<b>2.2 Skills Standard .....</b>	<b>5</b>
<b>3. Scoring scheme .....</b>	<b>8</b>
<b>3.1 General rules .....</b>	<b>8</b>
<b>3.2 Scoring method .....</b>	<b>9</b>
<b>3.3 Scoring rules .....</b>	<b>9</b>
<b>3.4 Negatives .....</b>	<b>10</b>
<b>3.5 Evaluation basis .....</b>	<b>10</b>
<b>4. Competition Questions .....</b>	<b>11</b>
<b>4.1 General notes .....</b>	<b>11</b>
<b>4.2 Format/Framework of competition questions .....</b>	<b>11</b>
<b>4.3 Time allocation and score weighting .....</b>	<b>12</b>
<b>4.4 Contents and requirements of each module .....</b>	<b>12</b>
<b>4.5 Release of competition projects .....</b>	<b>15</b>
<b>4.6 Changes to competition questions .....</b>	<b>15</b>
<b>5. Skills Management and Communication .....</b>	<b>15</b>
<b>5.1 Expert Group .....</b>	<b>15</b>
<b>5.2 Discussion Forum .....</b>	<b>15</b>
<b>6. Safety requirements .....</b>	<b>15</b>
<b>6.1 Organization .....</b>	<b>15</b>
<b>6.2 Event Safety Management .....</b>	<b>16</b>
<b>6.3 Competition environment safety management .....</b>	<b>17</b>
<b>6.4 Guarantee of Living Conditions .....</b>	<b>18</b>
<b>6.5 Responsibilities of participating teams .....</b>	<b>19</b>

<b>6.6 Emergency response</b> .....	<b>19</b>
<b>6.7 Penalties</b> .....	<b>19</b>
<b>7. Materials and equipment</b> .....	<b>20</b>
<b>7.1 List of Basic Facilities</b> .....	<b>20</b>
<b>7.2 List of Supplies for Competition</b> .....	<b>20</b>
<b>7.3 Suggested Play Area and Workstation Layout</b> .....	<b>21</b>

# **1 Introduction**

## **1.1 Name and Description of the Competition**

### **1.1.1 Competition name**

2025 BRICS Skills Competition (BRICS Future Skills & Tech Challenge) - Platform Door Control and Debugging Technology, with Competition No. BRICS-FS-50.

### **1.1.2 Event description**

2025 BRICS Skills Competition (BRICS Future Skills & Tech Challenge) - Platform Door Control and Debugging Technology is a competition event built on the equipment used for platform door control and debugging technology, which consists of platform door structures, door header mechanisms, PSC control cabinets, integrated simulation control cabinets, PSA monitoring software, a virtual operating system for platform doors, and other related devices. Players are required to perform virtual patrol inspection for platform doors, platform door troubleshooting, debugging operations for the platform door control system. The Platform Door Control and Debugging Technology event is a pairs competition.

The operating skills in the Platform Door Control and Debugging Technology event mainly involve the knowledge of the equipment specifications and regulations, mastery of skills required for equipment inspection, repair and maintenance, and understanding and application of the automatic control theories. Operators of platform doors are required to have the following skills:

(1) understand the structures and basic operation principles of platform doors, master the theoretical knowledge and operating specifications regarding the use of platform doors, and complete the theory and basic knowledge tests on the evaluation platform;

(2) apply flexibly expertise and skills in platform door inspection and repair, perform equipment inspection, repair and maintenance, emergency response to faults, etc. on the competition devices in the event; and

(3) complete control programming and debugging for the equipment provided in the event subject to the control logic requirements of the platform doors and the understanding of automatic control principles to achieve all functions of the platform door system.

## 1.2 Relevance and importance of this document

This TD document contains the criteria required for this Competition, as well as information on the evaluation principles, methods and procedures governing the competition. Every expert and competitor must know and understand this technical note.

# 2 Skills Standard

## 2.1 General Description of Skill Standard

The Skills Standard sets out the knowledge, understanding and specific skills that represent international best practice in technical and professional performance.

The Skills Competition is designed to reflect international best practice as described by this Skills Standard, and to what extent it can be achieved. As such, the standard is a guide to the training and preparation required for skill competitions.

The standard is divided into different sections with titles and reference numbers. Each section is assigned a percentage of the total score to indicate its relative importance in the criteria. This is often called a "weight". The total score for all percentages is 100. Weights determine the distribution of points in the grading scale.

Through competition questions, the scoring scheme only evaluates the skills listed in the criteria. They will reflect the standard as fully as possible within the constraints of the skill competition.

The scoring scheme will be based on the points assigned in the criteria to the extent practical. A 5% change is allowed, but the weight assigned by the standard specification shall not be changed.

## 2.2 Skills Standard

1	Work Organization and Management	Percentage
	Players need to know and understand:	

	<ul style="list-style-type: none"> <li>- principles and methods for safe work execution;</li> <li>- the purpose, use, care and maintenance of all equipment and materials and their effect on safety;</li> <li>- environmental and safety principles and their application to good housekeeping in the workplace;</li> <li>- principles and methods of work organization, control and management;</li> <li>- principles of communication and cooperation;</li> <li>- the extent and limitations of the roles, responsibilities and obligations of individuals and others individually or collectively;</li> <li>- parameters to be followed when planning activities;</li> <li>- principles and techniques of time management;</li> </ul>	
	<p>Players should be able to:</p> <ul style="list-style-type: none"> <li>- prepare and maintain a safe, clean, and efficient work area;</li> <li>- be prepared for the tasks at hand, including due consideration of OHS;</li> <li>- schedule work to maximize efficiency and minimize schedule interruptions;</li> <li>- apply (or exceed) OSH standards relevant to the environment, equipment and materials;</li> <li>- restore the work area to an appropriate state;</li> <li>- provide and receive feedback and support.</li> </ul>	
<b>2</b>	<b>Communication Skills</b>	
	<p>Players need to know and understand:</p> <ul style="list-style-type: none"> <li>- time requirements for each competition question;</li> <li>- competition document structure and content;</li> <li>- competition arrangement and scoring rules.</li> </ul>	
	<p>Players should be able to:</p> <ul style="list-style-type: none"> <li>- understand the questions;</li> <li>- emphasize the positive nature of the project;</li> <li>- articulate and protect your design decisions;</li> <li>- express ideas clearly;</li> <li>- observe the time;</li> <li>- follow the rules of the Competition.</li> </ul>	
<b>3</b>	<b>Evaluation on theories and professional abilities regarding the platform door system</b>	<b>30</b>
	<p>Players need to know and understand:</p> <ul style="list-style-type: none"> <li>- the system structure of the platform door;</li> <li>- main functions of platform doors;</li> <li>- basic knowledge of platform door application;</li> <li>- control principles of platform doors;</li> <li>- safe operation of platform doors;</li> <li>- knowledge of parameter settings related to platform doors;</li> <li>- knowledge of platform door control and communication.</li> </ul>	
	<p>Players should be able to:</p>	

	<ul style="list-style-type: none"> <li>- complete the theory test questions on the theory evaluation platform;</li> <li>- answer the questions regarding the system structure of platform doors correctly;</li> <li>- answer the questions regarding the application of basic knowledge in common scenarios correctly;</li> <li>- complete the test questions of safe operation of platform doors;</li> </ul>	
<b>4</b>	<b>Patrol inspection of platform doors</b>	<b>10</b>
	<p>Players need to know and understand:</p> <ul style="list-style-type: none"> <li>- the system structure of platform doors;</li> <li>- the meanings of parameters of the platform door system;</li> <li>- the care and maintenance specifications of the platform door system;</li> <li>- the inspection and repair specifications of the platform door system;</li> <li>- the inspection and repair methods of the platform door system;</li> <li>- the operation requirements on the platform door system;</li> </ul>	
	<p>Players should be able to:</p> <ul style="list-style-type: none"> <li>- have a thorough understanding of the meanings of the parameters of the platform door system;</li> <li>- master the inspection and repair procedures for platform doors;</li> <li>- master the inspection and repair methods for platform doors;</li> <li>- master the logic of the platform door control system;</li> <li>- master the operating methods and requirements for the platform door system;</li> <li>- conduct patrol inspections on platform doors for their compliance and accuracy;</li> </ul>	
<b>5</b>	<b>Equipment Diagnosis and Troubleshooting</b>	<b>28</b>
	<p>Players need to know and understand:</p> <ul style="list-style-type: none"> <li>- the electrical structure of the platform door system;</li> <li>- the components, operational principles and control rules of each sub-systems of platform doors;</li> <li>- frequently-seen faults of the system and troubleshooting methods;</li> <li>- standard electric legends, icons and symbols;</li> <li>- knowledge regarding the use of electric appliances, instruments, tools and gauges;</li> </ul>	
	<p>Players should be able to:</p> <ul style="list-style-type: none"> <li>- read and understand the documents of the systems, including schematic diagrams, wiring diagrams, electrical layouts, troubleshooting manuals, etc.;</li> <li>- identify various electrical components;</li> <li>- identify the status of the system network and analyze the network data;</li> <li>- identify the faults of the equipment;</li> <li>- find the causes and scopes of faults;</li> <li>- inspect and locate the electrical faults through tests, measurement and other means;</li> <li>- shoot the troubles through wiring, replacement and other means, and</li> </ul>	

	<p>confirm that troubles have been shot by means of tests;</p> <ul style="list-style-type: none"> <li>- document the faults and troubleshooting procedures;</li> </ul>	
<b>6</b>	<b>Configuration and debugging of the platform door system</b>	<b>32</b>
	<p>Players need to know and understand:</p> <ul style="list-style-type: none"> <li>- the standards, specifications, methods, etc. for maintenance, care and tests of the electrical system;</li> <li>- the electrical structure of the equipment;</li> <li>- the components, operational principles and control rules of all sub-systems;</li> <li>- process standards for electrical installation and wiring;</li> <li>- standard electric legends, icons and symbols for the equipment;</li> <li>- use and purposes of electrical appliances, instruments, tools and gauges and knowledge regarding electrical materials;</li> <li>- hazards and risks in electrical operations and pertinent preventive measures;</li> </ul>	
	<p>Players should be able to:</p> <ul style="list-style-type: none"> <li>- implement personal and on-site protective measures according to the working conditions;</li> <li>- read and utilize schematic diagrams, assembly drawings, wiring diagrams, electrical layouts, inspection/repair and maintenance manuals, etc. provided by manufacturers for each electrical subsystem;</li> <li>- identify various electrical components;</li> <li>- identify and operate various electrical instruments (including ground test equipment, debugging software, etc.), meters, tools, and gauges;</li> <li>- select and apply electrical system maintenance methods, such as electrical testing, measurement, assembly, wiring, etc.;</li> <li>- install control circuits based on electrical schematic diagrams, assembly drawings, wiring diagrams, and process standards;</li> <li>- identify the working status of each electrical subsystem and take appropriate actions;</li> <li>- prepare accurate work reports;</li> </ul>	

## 3 Scoring scheme

### 3.1 General rules

3.1.1 Competition questions and the scoring standard are jointly designed by the experts from enterprises and universities. Competition questions are based on real-world projects, emphasizing both knowledge and competencies.

3.1.2 The performance in the competition is assessed on a basis of fairness, impartiality and transparency. The scoring standard focus on multiple capabilities

including values and attitudes of players, equipment inspection/repair and application, teamwork and communication abilities, as well as operation work organization and management capabilities. The skill evaluation is prioritized, with a comprehensive evaluation on teamwork spirit and professional ethics also considered.

3.1.3 Scoring referees shall evaluate the participating teams (or players) in respect of their skill demonstrations, operational practices, and deliverables in accordance with the scoring standard. The scoring standard aims to perform objective evaluation, with scoring points quantifiable and the entire evaluation process traceable.

## **3.2 Scoring method**

3.2.1 The scoring method involves evaluations combining process and result, craftsmanship and function, and competency and professionalism.

3.2.2 Scoring referees evaluate the performance based on the scoring standard, and complete the appropriate scoring forms before confirmation by signature.

3.2.3 Under the supervision of supervising officers, scorekeepers calculate the scores. The scoring sheet shall be jointly signed by the scorekeepers, chief referees, and the supervision team members.

3.2.4 Upon the completion of score calculation, scorekeepers shall tally the scores under the supervision of supervising officers and complete the summary scoring sheet. The players are ranked in descending order of total scores.

## **3.3 Scoring rules**

3.3.1 The full mark of the competition is typically 100 points, composed of 30% for theoretical knowledge and 70% for skills operation. The average score of two players in each team shall be regarded as the final theoretical result.

3.3.2 The formula of the final result shall be  $\text{final result} = \text{theoretical score} \times 30\% + \text{skills operation} \times 70\%$ .

3.3.3 All results shall be rounded off to two decimal places.

3.3.4 Those with higher final scores will rank higher.

3.3.5 In the event of equal final scores, those with higher scores in operational practices will rank higher. In the event of equal scores in operational practices, those

with higher scores in the projects (in a sequence of Project C, Project B and Project A) will rank higher.

3.3.6 Where rankings cannot conclude from either of the above-mentioned rules, the players who experience a shorter cumulative period in the competition shall rank higher.

### **3.4 Negatives**

3.4.1 Negatives shall be set for competition items. Should any negatives occur during the competition process, referees shall immediately suspend the players from going on, requiring them to quit the competition, and their performance shall be scored zero.

3.4.2 Should any negatives be found posterior to the competition, the players shall receive a zero score for the competition item.

### **3.5 Evaluation basis**

During the competition design process, the selection of criteria and evaluation methods will be determined through the scoring scheme and the competition questions.

Evaluation basis includes without limitation to:

- basic knowledge and operational safety knowledge of the platform door system;
- the correctness and standardization of platform door operations;
- operational practices for patrol inspection of equipment;
- meanings of parameters of platform doors;
- hazards and risks in electrical operations and pertinent preventive measures;
- use and purposes of electrical appliances, instruments, tools and gauges, and terms of use of electrical materials;
- compliance of construction operations;
- requirements and specifications for debugging operations of the platform door system;
- laws, provisions and regulations in respect of health and safety;

- preventive measures adaptable for the working environments in the field.

## **4 Competition Questions**

### **4.1 General notes**

4.1.1 Competition questions, regardless of a single module or a series of independent or linked modules, may evaluate the application of the knowledge, skills, and behaviors defined in the Skills Standard.

4.1.2 Combined with the scoring scheme, the purpose of the contest questions is to provide a comprehensive, balanced and realistic opportunity for evaluation and scoring against the criteria. The relationship between competition questions and grading schemes and standards will be a key indicator of quality, just as standards are related to actual job performance.

4.1.3 Competition questions neither include aspects outside the criteria nor affect the balance of scoring within the criteria.

4.1.4 The evaluation of knowledge and understanding in the competition questions shall be performed only through its application in practical work.

### **4.2 Format/Framework of competition questions**

Competition questions are composed of theory test questions and three relatively independent and interrelated modules.

#### **4.2.1 Theoretical examination**

Prior to the competition, no less than three sets of exam papers shall be prepared from the master exam question bank. A repetition rate of each set shall not exceed 30%. All questions shall be diversified in type, complete and professional, fully satisfying the competition needs. On the day of the event, the exam papers shall be randomly sequenced before extraction as official papers by the officers designated by the chief referees under the supervision of the supervision team.

#### **4.2.2 Modules**

Competition questions consist of five relatively independent and interrelated modules:

Module A: virtual patrol inspection of platform doors  
BRICS-FS-50\_ Platform Door Control and Debugging Technology\_TD

Module B: troubleshooting of platform doors

Module C: debugging of the platform door system

### 4.3 Time allocation and score weighting

#### 4.3.1 Time allocation and score weighting for theory test

Theoretical examination	Period (min)	Score	Weight of total score, %
Theoretical knowledge	60	100	30

#### 4.3.2 Time allocation and score weighting for modules

Module	Period (min)	Score	Weight of module, %	Weight of total score, %
Module A: virtual patrol inspection of platform doors	60	100	15	70
Module B: troubleshooting of platform doors	120	100	40	
Module C: debugging of the platform door system	120	100	45	

### 4.4 Contents and requirements of each module

#### 4.4.1 Theoretical examination

Table 1 – Structure of theoretical knowledge question bank, number of questions, and type of questions

No.	Description	%	Number of questions	Type of questions		
				Single-choice (50%)	Multiple-choice (25%)	True/False (25%)
1	Professional ethics and code of conduct	8%	40	20	10	10
2	Fundamentals related to safe production	12%	60	30	15	15
3	Knowledge related to platform door inspection and repair	28%	140	70	35	35
4	Knowledge related to inspection and repair of the monitoring system for station	20%	100	50	25	25

No.	Description	%	Number of questions	Type of questions		
				Single-choice (50%)	Multiple-choice (25%)	True/False (25%)
	equipment					
5	Knowledge related to environmental control system inspection and repair	20%	100	50	25	25
6	Knowledge related to low-voltage electrical inspection and repair	12%	60	30	15	15
Total		100%	500	250	125	125

#### 4.4.2 Modules

Module A: virtual patrol inspection of platform doors

The system simulates a standard equipment layout of station platform door. The operational environment includes sliding doors, fixed doors, emergency egress doors, end doors, and other related devices. Practices include platform door operations, common fault handling, equipment maintenance and inspection/repair, etc.

Module B: troubleshooting of platform doors

Common platform door faults are preconfigured on the equipment. Players are required to identify the causes for faults based on the symptoms and the provided technical documentation. After a fault is located, players are required to perform repairs and confirm, through testing and commissioning, whether or not the equipment can work properly.

Module C: debugging of the platform door system

Based on the Electrical Control Schematic Diagram and in compliance with technical requirements of automatic control, the following practices shall be performed: (1) selection of electrical components required for the control circuit; (2) wiring and connection of the control circuit; (3) configuration of the control interface; (4) control programming; and (5) functional verification of the control system.

Module No.	Module Name	Scope/content of work
Module A	Virtual patrol inspection of platform doors	<ol style="list-style-type: none"> <li>1. Routine inspection of platform doors</li> <li>2. Assistance in inspection and repair of the platform door system equipment</li> <li>3. PSA inspection and repair of the platform door system equipment</li> <li>4. PSL inspection and repair of the platform door system equipment</li> <li>5. UPS inspection of the platform door system equipment</li> </ol>
Module B	Troubleshooting of platform doors	<ol style="list-style-type: none"> <li>1. Platform door detection circuit fault</li> <li>2. SIG control circuit fault</li> <li>3. IBP control circuit fault</li> <li>4. PSL control circuit fault</li> <li>5. Safety circuit fault</li> <li>6. DCU controller fault</li> <li>7. PEDC controller fault</li> </ol>
Module C	Debugging of the platform door system	<ol style="list-style-type: none"> <li>1. Based on the Electrical Control Schematic Diagram and in compliance with technical requirements of automatic control, selection of electrical components required for the control circuit shall be performed.</li> <li>2. Based on the cognition and understanding of the operation principles of the platform door system and as required in the Electrical Control Schematic Diagram, wiring of signal feedback lines and control lines of PEDC in the PSC cabinet linking the SIG control panel and IBP control panel in the platform door system.</li> <li>3. The IBP panel and SIG control interface shall be configured as per the functional requirements. Upon the completion of configuration, control over platform doors can be successfully performed through the IBP panel and SIG control interface on the HMI touchscreen.</li> <li>4. Controllers are programmed as per the function requirements. The operational workflows of the HMI touchscreen interface are required to comply with the control logic of the platform door system, enabling feedback display of signals of platform doors.</li> <li>5. Players are required to perform debugging of the platform door system through the IBP panel control interface and the SIG signal control interface.</li> </ol>

## **4.5 Release of competition projects**

Competition projects will be released through the official website of the Competition (<http://www.brskills.com/jzzy/productjs.html>) approximately one month before the Competition commences.

## **4.6 Changes to competition questions**

Approximately 30% of competition questions may be changed before the official Competition.

# **5 Skills Management and Communication**

## **5.1 Expert Group**

The Skills Expert Group is composed of chief experts, deputy chief experts and expert members, and is responsible for further revision of the technical documents of this Event.

## **5.2 Discussion Forum**

Prior to the competition, participating teams may enter the forum section of the Platform Door Control and Debugging Technology event for discussion about the matters such as enrollment, preparation of software/hardware, and deployment of test environment. The official forum is another option for communication about trainings for the Competition and exchange prior to, in the middle of and posterior to this event.

Online communication will be performed mainly with the help of instant messaging tools (e.g., QQ/WeChat/Telegram).

# **6 Safety requirements**

## **6.1 Organization**

6.1.1 A Competition Safety Assurance Team shall be set up, and the team leader is the director of the Workgroup of the Competition. The members are held by those responsible for the safety of each arena. A person in charge of safety is designated for

each arena, who is fully responsible for the safety of the arena. In the event of an accident, he is responsible for mobilizing rescue teams and professional rescuers, and arranging the evacuation of people in the arena.

6.1.2 A coordination mechanism shall be established with the relevant authorities in respect of public security, fire control, judicial administration, transportation, health, food, quality inspection, etc. to ensure the competition safety by stipulating an emergency plan and responding to any emergencies promptly. A dedicated line for medical staff, firefighters and security personnel shall be set up to determine the contact person of the other party. The site safety officer shall be responsible for liaison. The layout of the competition venue and use of equipment shall be strictly in accordance with the safe construction regulations. The venue shall be divided into areas, with evacuation channels set up according to the safety requirements. Maps of safety evacuation channels and routes shall be prominently posted on the wall.

## **6.2 Event Safety Management**

6.2.1 All competition equipment and facilities shall be installed in strict compliance with safe construction standards and power supply wiring and electrical installation shall be performed in accordance with the specifications.

6.2.2 Fire extinguishers shall be installed according to fire control regulations, which shall be used in emergency by the designated officers.

6.2.3 Occupational safety codes, regulations, and requirements on qualification certificates in the state or industry shall be clearly described in the competition rules.

6.2.4 The Workgroup shall provide pre-competition safety training for all referees and staff members. As provided, a sound accident prevention regulation shall be stipulated. Players shall be trained before the competition, avoiding any personal injury.

6.2.5 The Expert Group shall develop a dedicated program to maintain the safety in respect of question development, storage/distribution/collection and evaluation of competition questions.

## **6.3 Competition environment safety management**

6.3.1 The Workgroup shall organize a pre-event inspection of competition venues, accommodation and traffic arrangements, claiming the requirements on safety work. The layout of the arena and the appliances and equipment in the venue shall comply with national safety regulations. Simulation tests on the competition venues shall be performed to identify any potential hazards. The organizers shall eliminate the potential hazards before the competition as per the requests of the Workgroup.

6.3.2 Warning lines shall be placed surrounding the venues, preventing unauthorized access or accidents. Players shall be provided with necessary PPEs in the competition venues in accordance with the occupational requirements. Referees shall perform inspections in any hazardous operations to confirm whether or not the equipment can run normally. Players shall be strictly prevented from any mistaken operations in the competition.

6.3.3 To ensure the successful going of this event, the co-organizer shall work out a safety protocol for the competition to be implemented jointly by the Security Team, the Campus Environment Team and the Medical Support Team.

(1) All are required to take the initiative to present valid badges to the officers for entry into the venues.

(2) Before the competition, players shall read carefully the notes and the emergency evacuation maps regarding the competition.

(3) Referees shall supervise the entire process of inspection of the electric control system before energization, providing immediate reminders and termination of any potential hazards, if detected in the operations.

(4) Each competition equipment shall use an independent power supply to ensure safety. Players shall save the data in a timely manner when programming on the computer, avoiding any data loss arising from any sudden power failure.

(5) Players are required to strictly follow the safe operation procedures. Players shall shut off the equipment immediately in case of any emergency and leave the venue orderly under the guidance of the officers.

(6) All staff shall strictly comply with the competition venue rules. Unauthorized articles are prohibited from entry into the venues.

(7) Security personnel shall report to the site supervisors any potential hazards immediately, if any.

(8) Smoking is prohibited in the venues. Security personnel shall not lend the badges to any others.

(9) In case of any safety problems, all shall evacuate immediately following the evacuation routes under the guidance of the security personnel.

6.3.4 The organizer of the event shall additionally staff the event in respect of key positions and establish a safety management log.

6.3.5 Before players access their locations for competition and referees access the venue, the co-organizer shall remind the players and referees of not taking any unauthorized communication, camera or video recording devices. Unauthorized recording tools are prohibited. Security inspection shall be performed on devices and those entering the key areas in the venue.

## **6.4 Guarantee of Living Conditions**

6.4.1 The co-organizer shall arrange food and accommodation for players and instructors during the competition. The co-organizer shall respect the religious beliefs and cultural customs of players from ethnic minorities, arranging food and accommodation for players and teachers from ethnic minorities in accordance with the national policies for ethnic groups and religions.

6.4.2 Lodging facilities during the competition are required to possess valid hotel or lodging licenses.

6.4.3 The Workgroup of the competition area shall be responsible for traffic safety for organized visits and observations during the competition. The Workgroup of the event and the co-organizer shall maintain traffic safety for players, instructors, referees and officers during the competition.

6.4.4 In addition to necessary quarantine measures, national laws and regulations shall be strictly abided by to protect personal privacy and freedom.

## **6.5 Responsibilities of participating teams**

6.5.1 When organizing teams, participating institutions shall procure personal accident insurance for players covering the entire competition period.

6.5.2 After the participating teams are formed, management rules shall be stipulated and safety trainings shall be provided to all players and instructors.

6.5.3 All participating teams shall reinforce safety management over the players and cooperate with the safety management officers in the field.

## **6.6 Emergency response**

6.6.1 Whoever finds any accident during the competition shall report it to the Workgroup of the event immediately while taking measures to prevent the situation from escalation. The Workgroup of the event shall launch an emergency response plan immediately for settlement. The Workgroup of the competition area shall decide whether or not to suspend the competition in the event of any major safety issue, after which the Workgroup of the competition area shall submit a detailed report.

## **6.7 Penalties**

6.7.1 The eligibility as the co-organizer shall be revoked in the event of any major accidents in the competition items.

6.7.2 The eligibility for an award shall be canceled in the event of any major accidents due to the reasons of any participating teams.

6.7.3 The eligibility for continuous competition shall be revoked in the event of any major potential accidents occurred to the participating teams despite reminder or warning by the officers in the venue.

6.7.4 Any officer in the event violating any regulations shall be held liable according to the appropriate regulations. In the event of severe circumstances leading to major accidents, he shall be prosecuted by the judicial authorities.

## 7 Materials and equipment

### 7.1 List of Basic Facilities

The List of Basic Facilities describes all equipment and facilities to be prepared by the participating teams. See “List of Basic Facilities for 2025 BRICS Skills Competition - Platform Door Control and Debugging Technology”.

### 7.2 List of Supplies for Competition

#### 7.2.1 List of Equipment for Competition

No.	Name of equipment	Technical requirements	Quantity	Unit
1	Platform door training workstation	Include a pair of sliding doors, a fixed door, an emergency egress door, header boxes, pillars, drive mechanisms, manual unlocking devices, etc.	1	Set
2	PSL	With the Operation Allowed switch in the ON position, the Open/Close button can open or close the platform doors.	1	Set
3	LCB	Provide a 4-position key switch with Auto, Manual Close, Manual Open, and Isolate; each door supports isolation via LCB under any of these failure conditions: network communication failure, power supply failure, DCU or drive mechanism failure and other failure	1	Set
4	Integrated simulation control panel	Provide a platform door control module simulating the IBP panel and SIG panel	1	Piece
5	PSC central interface panel	Provide a computer with I5 processor, 4GB RAM, 1TB mechanical hard drive, integrated graphics card, 1 monitor of 21.5 inches, resolution of 1920*1080, backlight type of LED;	1	Piece
6	Tool cabinet / mobile tool cart	Conduct storage management of inspection and repair tools	1	Set
7	Host for patrol inspection module service	Provide 1 laptop with I7 processor; 16GB RAM, 1TB mechanical hard drive, independent graphics card	1	Set

#### 7.2.2 List of Tools for Competition

No.	Name of equipment	Technical requirements	Quantity	Unit
1	Screwdriver	4 screwdrivers in total, including 1 x large Phillips-head screwdriver, 1 x large flat-head screwdriver, 1 x small Phillips-head screwdriver, and 1 x small flat-head screwdriver	1	Set
2	Diagonal cutting pliers	Applicable for wires below 2.5mm <sup>2</sup>	1	Set
3	Wire stripper	Applicable for wires below 2.5mm <sup>2</sup>	1	Set
4	U-type terminal crimping tool	Applicable for wires below 2.5mm <sup>2</sup>	1	Piece
5	Needle-type terminal crimping tool	Applicable for wires below 2.5mm <sup>2</sup>	1	Piece
6	Multimeter	Complying with the national standard	1	Piece
7	Wool brush	2 inches	1	Piece
8	0.5mm <sup>2</sup> solid core flexible wire	Consumables for competition, RV-type copper-core insulated wire, 100m/roll	1	Roll
9	Crimping pin-type cold-pressed terminal	Consumables for competition, applicable for wires of 0.5-1.0mm <sup>2</sup> , 1000 pieces per pack	1	Pack
10	Crimping U-type cold-pressed terminal	Consumables for training, applicable for wires of 0.5-1.0mm <sup>2</sup> , 1000 pieces per pack	1	Pack
11	Work gloves	Wear-resisting, anti-slip	2	Pair
12	Safety helmet	Complying with the national standard	2	Piece
13	A-frame ladder	Made of aluminum alloy, foldable	1	Piece
14	17mm open-end wrench	A brand complying with the national standard	1	Piece
15	Adjustable wrench	6-inch	1	Piece
16	Wire marker printer	Including a black ribbon	1	Piece
17	Wire marker	Applicable for connection to wires of 0.5mm <sup>2</sup>	1	Roll

### 7.2.3 List of Spare Parts for Competition

No.	Name of equipment	Parameters	Quantity	Unit
1	Proximity switch	LJ12A3-4-Z/BX, outgoing wire of 1m	1	Piece
2	Electromagnetic Door Lock	Customized DC24V	1	Piece
3	DCU	Customized to be used with platform doors	1	Set
4	Relay	DC24V	4	Piece
5	Mounting screws	M4、M5、M6	Several	Piece

## 7.3 Suggested Play Area and Workstation Layout

The equipment consists of platform door training workstation, PSL, LCB, BRICS-FS-50\_Platform Door Control and Debugging Technology\_TD

PSC central interface panel and integrated simulation control panel.

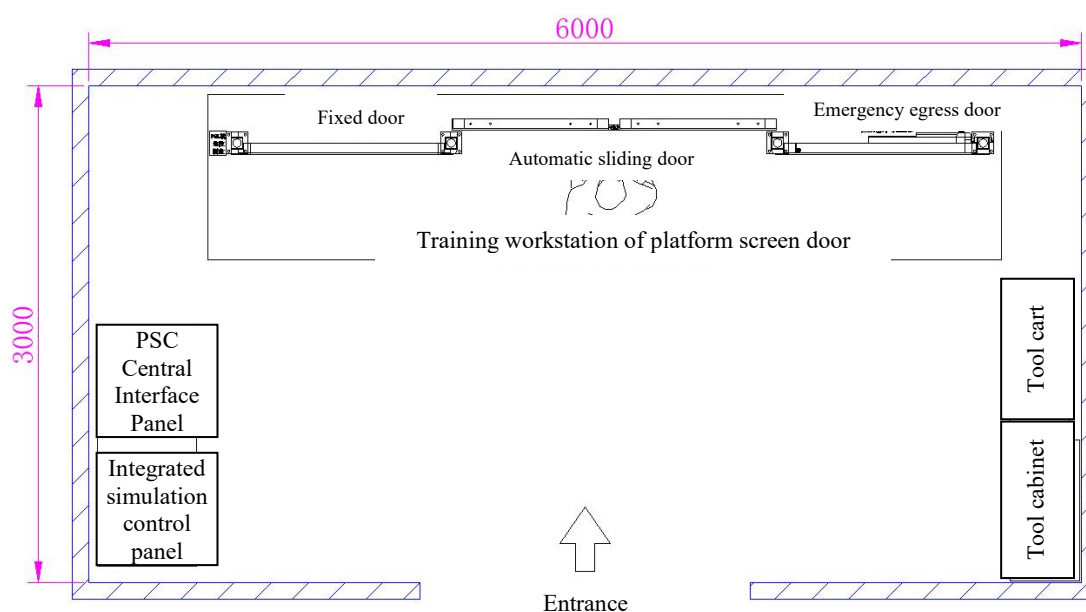
Size of equipment:

The integrated training workstation of platform door: L4710 × W1070 × H3000(mm)

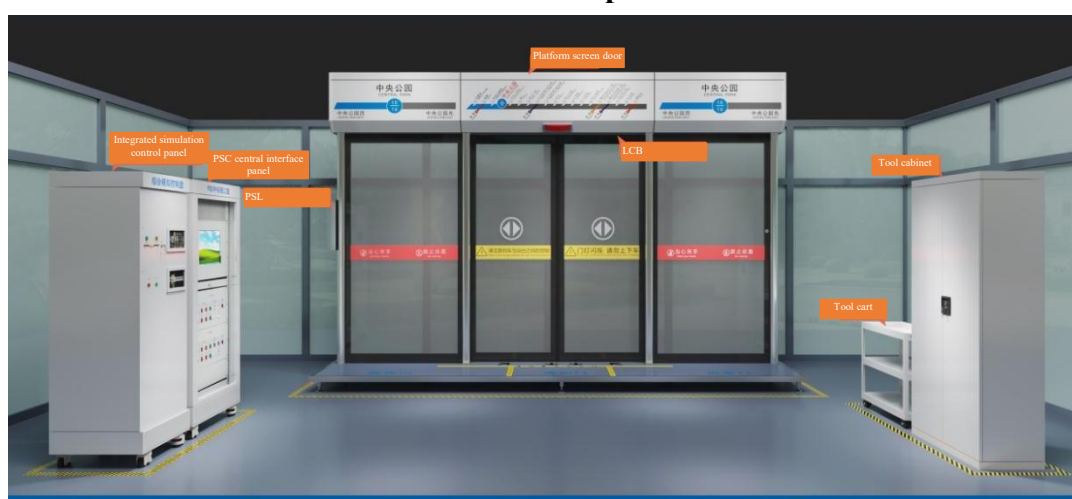
PSC central interface panel:L800×W600×H1800(mm)

Integrated control panel: L600×W600×H1800(mm)

Land area for the equipment: 18m<sup>2</sup> (6m\*3m)



**Floor plan**



**Layout rendering**

