

TECHNICAL DESCRIPTION

IT SOFTWARE SOLUTIONS FOR BUSINESS



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WorldSkills International, by a resolution of the Technical Committee and in accordance with the Constitution, the Standing Orders and the Competition Rules, has adopted the following minimum requirements for this skill for the WorldSkills Competition.

The Technical Description consists of the following:

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Effective 11.10.11



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1. **INTRODUCTION**

1.1 **Name and description of skill**

1.1.1 The name of the skill is

Information Technology – Software Solutions for Business.

1.1.2 Description of skill

The rapid pace of globalisation over the past decade has been largely driven by developments in Information and Communication Technology (ICT). IT specialists are increasingly in great demand in several areas, one of which is in providing solutions for business.

These professionals are not merely users of Microsoft Office; they are power users who have an intricate knowledge of each of the applications in the suite. Their skills may be used in a plethora of ways across a multitude of industries, cultures and languages.

Microsoft Office is by far the most widely-used suite of office applications throughout the world, therefore making Software Solutions professionals highly-employable members of the IT community. There are thousands of businesses that are undoubtedly in need of better training in the use of these office applications, and will often benefit greatly from having customised solutions developed for them that suit their individual needs.

What do IT Software Solutions professionals do?

- Develop solutions to solve businesses' problems
- Use Microsoft Office as a framework to build software solutions
- Analyse business requirements in order to create well-fitting solutions
- Use problem-solving skills and in-depth technical knowledge to build those solutions
- Document their creations in an easy-to-understand way
- Use communication and sales skills to present their solutions to clients

Where do IT Software Solutions professionals work?

- IT Software Solutions professionals are employed throughout the following:
- Large enterprises
- Medium-sized businesses
- Small businesses
- As freelancers

They can operate in a wide variety of roles including:

- In a support role
- In a training role
- In a development role
 - providing customisation and automation
 - developing totally customised software solutions to a business' requirements
- In a business analyst role providing the data required to enable decision making
- In the daily activities of a company
 - simplifying and improving routine office and business activities

1.2 Scope of application

- 1.2.1 Every Expert and Competitor must know this Technical Description.
- 1.2.2 In the event of any conflict within the different languages of the Technical Descriptions, the English version takes precedence.

1.3 Associated documents

- 1.3.1 As this Technical Description contains only skill-specific information it must be used in association with the following:
- WSI - Competition Rules
 - WSI - Online resources as indicated in this document
 - Host Country - Health and Safety regulations

2. COMPETENCY AND SCOPE OF WORK

The Competition is a demonstration and assessment of the competencies associated with this skill. The Test Project consists of practical work only.

2.1 Competency specification

Using the Microsoft Office suite, the Competitors will be required to produce an integrated software system to add functionality, streamline processes and reduce errors for a business organisation. The Competitors will work independently and produce the system over the four days of competition according to the specifications given in the project material. The ability to access, store and use files across a network is assumed.

Database

Competitors will be expected to use the full functionality of Microsoft Access. Database design skills will be required.

Build a database

Competitors must know and understand:

- The importance of using industry-accepted conventions for the naming of database objects
- The need for standardisation in the naming of fields
- How to ensure data integrity
- How to avoid data redundancy
- How to produce an ERD (entity-relationship diagram)

Competitors must be able to:

- Set-up tables with correct fields, keys and data types
- Apply table and field properties (validation rules, input masks, lookups etc)
- Import data from a variety of sources and in a variety of formats
- Designate primary and foreign keys
- Set up correct relationships between tables

Design and use forms

Competitors must know and understand:

- How to create a form to a specified design and layout
- How to reduce user error through appropriate controls and error handling routines

Competitors must be able to:

- Create forms and sub forms for a range of uses
- Control data entry through forms

- Set up appropriate controls in forms
- Add a command button to a form
- Control record navigation in a form
- Set form properties

Query a database

Competitors must know and understand:

- How to design and execute queries to generate results as specified

Competitors must be able to:

- Filter & search records
- Construct and use select, parameter and action queries
- Add a calculated field to a query
- Perform calculations on a record grouping

Design and use reports

Competitors must know and understand:

- How to design and produce reports to generate results as specified

Competitors must be able to:

- Produce and modify reports (simple, grouped, summary and sub reports) following a stated layout and format
- Create and use pivot tables and charts
- Derive values from various sources in reports
- Set report properties
- Use calculated fields in reports
- Format a report for printing

Share data across applications

Competitors must know and understand:

- How to extract and use data from other applications that may be in differing file formats
- How to output data from Access to other applications

Competitors must be able to:

- Import and export data according to specifications
- Integrate data with external sources

Customise and automate processes

Competitors must know and understand:

- How to create and design the interface to suit client requirements as specified
- Provide the user with options for simple execution of complex processes

Competitors must be able to:

- Automate loading and display of objects
- Design and create login screens
- Create and use macros to automate processes
- Customise the Access environment

Spreadsheets

Competitors will be expected to use the full functionality of Microsoft Excel; however Competitors will not be expected to have in-depth knowledge or expertise in any particular field (e.g. financial, engineering, statistical, mathematical, etc.)

Construct a spreadsheet

Competitors must know and understand:

- The power of a well-designed and well-constructed spreadsheet to improve business productivity and aid decision making with its powerful data analysis and reporting functions

Competitors should be able to:

- Use formulas as required
- Create, modify and format spreadsheets using the full range of Excel's formatting features including conditional formatting
- Use a variety of built-in functions (statistical, mathematical, text, logical, financial, date and time).

Use Design and Analysis tools

Competitors must know and understand:

- How to design and use analysis tools in Excel

Competitors should be able to:

- Construct a model to undertake "What If" analysis using Goal Seek / Solver / Scenario Manager
- Analyse data using PivotTables and PivotCharts

Use Data and Table functions

Competitors must know and understand:

- How to manage and analyse data through using table capabilities

Competitors should be able to:

- Define and apply data filters
- Use the sub-totalling feature
- Query spreadsheet data
- Set up and apply validation rules to spreadsheet data
- Make use of the outlining feature in Excel

Share data across applications

Competitors must know and understand:

- How to extract and use data from other applications that may be in differing file formats
- How to output data from Excel to other applications

Competitors must be able to:

- Import and export data according to specifications
- Integrate data with external sources
- Publish a worksheet to the Web
- Import data from the Web
- Create a web query
- Structure workbooks with XML
- Develop XML maps
- Import and export XML data

Printing Spreadsheets

Competitors must know and understand:

- How to set up worksheets and workbooks for printing

Competitors must be able to:

- Set printing options to output a chart, worksheet, workbook, PivotTable report according to specifications

Charts and Graphs

Competitors must know and understand:

- How to present spreadsheet data in various graphical formats

Competitors must be able to:

- Create, modify and format the full range of charts according to specifications
- Create dynamic charts
- Create and use PivotTables and PivotCharts

Customise and automate processes

Competitors must know and understand:

- How to create and design the interface to suit client requirements as specified
- Provide the user with options for simple execution of complex processes
- Customise layouts

Competitors must be able to:

- Automate loading and display of objects
- Create and use macros to automate processes
- Hide/unhide/freeze rows and columns
- Set up templates with appropriate protection
- Customise the Excel environment
- Customise an Excel worksheet
- Enhance worksheets using themes
- Work with comments
- Access external resources using hyperlinks
- Use web-based research tools

Use graphical objects

Competitors must know and understand:

- How to enhance visual appeal using graphic objects

Competitors must be able to:

- Insert graphics
- Modify graphic objects
- Emphasise an area of a worksheet
- Illustrate workflow using SmartArt graphics
- Format graphic objects
- Change the order of layered graphic objects
- Group graphic objects
- Organise graphic objects

Use multiple workbooks

Competitors must know and understand:

- How to work with multiple workbooks

Competitors must be able to:

- Create a workspace
- Consolidate data
- Link cells in different workbooks
- Edit links

Use auditing features

Competitors must know and understand:

- The importance of controlling data accuracy through auditing

Competitors must be able to:

- Trace cells
- Troubleshoot errors in formulas
- Troubleshoot invalid data and formulas
- Watch and evaluate formulas
- Create a data list outline

Collaboration

Competitors must know and understand:

- How to share, analyse and communicate business information and data through Excel

Competitors must be able to:

- Protect files
- Share a workbook
- Set revision tracking
- Review tracked revisions
- Merge workbooks
- Administer digital signatures
- Restrict document access

Document Processing

Competitors will be expected to use the full functionality of Microsoft Word. Built-in spell check and thesaurus functions will not be tested

Create a document

Competitors must know and understand:

- How to design, create and modify a range of business documents

Competitors must be able to:

- Apply the full range of text, paragraph, page and document formatting
- Create, edit and format tables
- Create and modify charts
- Draw and modify graphical objects
- Apply multimedia capabilities to a document

Mail merge

Competitors must know and understand:

- How to generate mass-mailing documents

Competitors must be able to:

- Set-up a main document
- Connect the document to a data source
- Refine the list of recipients by sorting and filtering data
- Apply conditions and rules

Referencing

Competitors must know and understand:

- How to set up and apply the referencing features of Microsoft Word

Competitors must be able to:

- Set-up and use indexes, cross-references, captions, tables of contents, bibliography
- Set-up and use footnotes and endnotes
- Use fields and calculations in documents
- Create, manage, revise, and distribute long documents and forms.
- Prepare documents for printing or for publishing electronically

Share data across applications

Competitors must know and understand:

- How to extract and use data from other applications that may be in different file formats
- How to output data from Word to other applications

Competitors must be able to:

- Import and export data according to specifications
- Integrate data with external sources
- Publish a document to the Web
- Create, use and manage XML schemas and structures
- Make use of the collaborative features of Microsoft Word

Customise and automate processes

Competitors must know and understand:

- How to create and design the interface to suit client requirements as specified
- Provide the user with options for simple execution of complex processes
- Provide a custom layout using a template
- How to exploit the full potential of Word forms

Competitors must be able to:

- Automate the loading and display of objects
- Create and use macros to automate processes
- Provide user interactivity by means of forms and fields
- Protect forms and set user permissions in forms
- Create, edit and apply themes to documents
- Create, modify and use templates

Presentations

Competitors will be expected to use the full functionality of Microsoft PowerPoint. Drawing and modifying of graphical objects will be limited to the capabilities of PowerPoint; no drawing packages will be used in the Test Project.

Create a presentation

Competitors must know and understand:

- How to design, create and modify a presentation according to given specifications

Competitors must be able to:

- Create and modify slides using a variety of layouts and formats
- Use text effects
- Include tables and charts in a presentation
- Import data (text, spreadsheet, charts, etc)
- Hide/unhide slides

Add special effects to presentations

Competitors must know and understand:

- How to add special effects to presentations according to given specifications

Competitors must be able to:

- Add multimedia elements
- Customise slide component animation
- Insert media files (movie, sound)

Add graphical objects to a presentation

Competitors must know and understand:

- How to create, format and apply graphical objects to a presentation according to given specifications

Competitors must be able to:

- Insert and manipulate Illustrations, for example:
 - Shapes
 - WordArt
 - SmartArt
 - Diagrams
- Modify and work with objects
 - Change object orientation
 - Format objects
 - Group and ungroup objects
 - Arrange objects

Customise and automate processes

Competitors must know and understand:

- How to create and design the interface to suit client requirements as specified
- Provide the user with options for simple execution of complex processes
- Customise a Design Template

Competitors must be able to:

- Automate loading and display of objects
- Create and use macros to automate processes
- Create, modify and use templates
- Set-up a slide master
- Customise slide layouts
- Create custom themes
- Customise bullets
- Add common slide information
- Modify the notes master
- Modify the handout master

Prepare a presentation for delivery

Competitors must know and understand:

- The importance of professionalism in preparing a slide show for delivery according to given specifications

Competitors must be able to:

- Spell check
- Arrange slides
- Add transitions
- Apply animation effects
- Execute other programs during a slideshow
- Create speaker notes
- Print a presentation
- Package a presentation
- Set-up a custom slideshow
- Annotate a presentation
- Create a presenter-independent slideshow
- Set-up and apply automatic timings to a slideshow

Collaborate on a Presentation

Competitors must know and understand:

- How to share slide content

Competitors must be able to:

- Publish slides to a slide library
- Share a presentation.

2.2 Theoretical knowledge

2.2.1 Theoretical knowledge is required but not tested explicitly.

2.2.2 Knowledge of rules and regulations is not examined.

2.3 Practical work

IT Software Solutions for Business requires the Competitors to demonstrate that they are advanced users of the various components of the Microsoft Office suite. The many features of Microsoft Word, Excel, Access and PowerPoint will be comprehensively tested by means of an integrated case study which will require the Competitors to add functionality, streamline processes and reduce errors for a business organisation.

Competitors may expect to solve a series of problems in a given business scenario using Microsoft Office. The tasks set for each session will be stand-alone; if a part of a project depends on an earlier part then the Competitors will be provided with the solution to that part or they can use their own solution. The Competitors will work independently.

Competitors will be provided with data in various formats and will need to apply data analysis skills to determine the best methods to extract and collate this data in order to build the required system. Design skills will be required.

Competitors should have general business knowledge (e.g. knowledge of how to set-out common business documents such as letters), as well as the use of Information Technology within a business/commercial environment (e.g. order processing, payroll). Mathematical and logical processing skills are key skills in the IT area, and these will be tested throughout the Competition. The ability to access, store and use files across a network is assumed.

The Competitors will be required to automate and customise elements within the applications. The Competitors will have no components that rely on programming skills, although some may wish to make use of VBA. A working solution that fulfils the specified requirements is what is needed and the Competitor has the freedom to use any features of the Office suite to achieve this. Clean, professional development practices should be adhered to, promoting ease of use, minimising user error and demonstrating thorough testing.

The Competitors may be required to produce user documentation to explain the system they have produced or the guideline for users to install or use their solution. This could be in the form of a tutorial. They could also be required to give a presentation to explain the system.

“Overdrive” is a surprise speed-based stand-alone challenge. A typical demand in the IT profession is that someone might expect to be interrupted with an urgent request. At some time on two of the days of competition the Competitors will be set a problem that must be solved within 20 minutes. This will ideally be a task of a visual nature which will attract spectators to the Competition area. The task should be one that has a fast solution.

3. **THE TEST PROJECT**

3.1 **Format / structure of the Test Project**

The Test Project will be in the form of a case study that will represent typical functions that might be asked of an IT professional who is highly competent in the area of Microsoft Office. The scenario will be presented as a project with clearly defined deliverables. These deliverables will be grouped to enable a modular approach whereby discrete tasks can be completed in a session. The Competitors will select the appropriate component(s) of the software for the task.

Common data files will be provided in English only and only English versions of the software will be provided.

Two “Overdrives” will form part of the Test Project. An “Overdrive” is a type of speed challenge and represents the situation in an IT workplace where a worker will be interrupted with an urgent request. The timing of the “Overdrive” will be a surprise to the Competitors. The task should take 20 minutes and should be something with visual appeal to attract spectators (for example a PowerPoint presentation).

3.2 **Test Project design requirements**

The Test Project must be based on the scenario agreed by the Experts at the previous WorldSkills Competition and as such the next Competition is based on the business aspects of the motor vehicle industry. The problems set should not require any in-depth knowledge of the industry. It is recommended that sponsorship / support be sought from a representative within the Host Country.

This scenario shall include an extensive simulation of workplace activities related to IT and shall be composed of a variety of forms of information gathering, processing and distribution. The project should be designed so that at the end of a Competition session, that session’s work can be marked.

Where work carries over from one session to another, the Competitor’s work will be backed up for marking at the end of each session. For example, the project might require development of a database – table definitions, data imports, form, query and report construction. The project might specify a certain number of deliverables to be completed in the first session of the day. At the break, the solutions to those deliverables would be backed-up and marked. Any work done to those deliverables after the break would not be marked.

3.3 **Test Project development**

The Test Project MUST be submitted using the templates provided by WorldSkills International (<http://www.worldskills.org/competitionpreparation>). Use the Word template for text documents and DWG template for drawings.

Time	Activity
8 months before the Competition	The Project Liaison Team is formed.
3 months before the Competition	The Test Project is developed and sent to the Technical Director for filing until the Competition.
1 month before the Competition	The Style Guidelines and project overview are circulated to the Competitors on the website.
At the Competition	The Test Project is revealed to the Experts. Experts are required to advise their Competitors immediately about the Test Project. The Experts validate the Test Project.

3.3.1 Who develops the Test Project / modules

The Test Project / modules are developed by an independent External Project Writer. This will include the “Overdrive” challenges.

The External Writer will provide the following services:

- Prepare the details of the scenario of the case study of the Test Project
- Specify and document the deliverables, including the “Overdrives”, of the system to be developed
- Provide the test data
- Provide sample solutions
- Provide marking criteria in accordance with the specifications of the Technical Description and the WSI CIS marking system

All registered Experts in the Competition are invited to submit an “Expression of Interest” for nominating an individual or organisation to be the External Writer. All nominations are to be emailed to the WSI Technical Director. WSI will review all nominations and select the most appropriate applicant.

The External Writer will only communicate with the WSI Technical Director and will have no contact with the Project Liaison Team and the Experts.

3.3.2 How and where is the Test Project / modules developed

The Test Project / modules are prepared by an External Project Writer.

Each Expert is expected to submit a sample reference to enable the External Writer to better understand the Test Project requirements. The submission will be done through the Discussion Forum within a timeframe that will be stipulated by the Chief Expert. Each Expert will also submit the report and review about the Test Project, marking and data files used in London as a sample reference as well.

A “Project Liaison Team” (PLT) will be formed at least eight months before the Competition. This team will comprise the Chief Expert, the Deputy Chief Expert and three other Experts who have had experience of at least one previous International Competition. These three Experts will be selected by the Skill Management Team (SMT) which will endeavour to ensure representation of a cross-section of participating Members. The role of the Project Liaison Team will be to assist the External Writer by answering questions relating to the Competition and procedures only. The Project Liaison Team will have no knowledge of the contents of the Test Project. The External Writer will only communicate with the Project Liaison Team via the WSI Technical Director.

Each Expert at the Competition should perform as a member of a marking team for the Test Project. The SMT will determine the composition of the marking teams. The SMT will determine the proportion of marks each assessment team is responsible for. The Chief Expert and Deputy Chief Expert may or may not be involved in the marking.

3.3.3 When is the Test Project developed

The Test Project is developed by three months before the Competition.

3.4 Test Project marking scheme

Each Test Project must be accompanied by a marking scheme proposal based on the assessment criteria defined in Section 5.

3.4.1 The marking scheme proposal is developed by the person(s) developing the Test Project. The detailed and final marking scheme is discussed and agreed by all Experts at the Competition.

3.4.2 Marking schemes should be entered into the CIS prior to the Competition.

3.5 Test Project validation

The Test Project will be validated by the Experts at the Competition. Each marking team will be responsible for validation of the components of the Test Project that they will mark. They will ensure that:

- The Test Project can be completed in the specified time
- The marking schemes are appropriately developed
- The Test Project meets the Technical Description
- An accurate list of required data files for each session is available
- Each marking team will present and explain what is required from the project assigned to each team including the marking criteria.

3.6 Test Project selection

The Test Project will be provided to the Technical Director by the External Project Writer, three months prior to the Competition.

3.7 Test Project circulation

The Test Project is not circulated prior to the Competition.

It is recommended that external neutral translators are engaged to translate the Test Project and marking scheme into languages required by Experts and their Competitors so that translated versions are available on the first preparation day prior to the Competition. No translation of Test Projects or marking schemes should be necessary after arrival at the Competition. The official translator and the Experts from each country/region must evaluate that this translation is in line with the English version upon arriving at the Competition (Test Project, marking scheme and style guidelines).

Style guidelines and project overview shall be circulated a month before the Competition.

The Test Project will be revealed to the Experts on the first preparation day prior to the Competition. At that stage Experts must contact their Competitors and inform them of the Test Project.

3.8 Test Project coordination (preparation for Competition)

Coordination of the Test Project will be undertaken by the SMT in conjunction with the Project Liaison Team and WSI Technical Director.

3.9 Test Project change at the Competition

No changes will be made to the Test Project developed by the External writer prior to the Competition with the exception of amendments to technical errors in the Test Project document.

3.10 Material or manufacturer specifications

Not applicable.

4. SKILL MANAGEMENT AND COMMUNICATION

4.1 Discussion Forum

Prior to the Competition, all discussion, communication, collaboration and decision making regarding the skill must take place on the skill-specific Discussion Forum (<http://www.worldskills.org/forums>). All skill-related decisions and communication are only valid if they take place on the forum. The Chief Expert (or an Expert nominated by the Chief Expert) will be moderator for this forum. Refer to Competition Rules for the timeline of communication and competition development requirements.

4.2 Competitor information

All information for registered Competitors is available from the Competitor Centre (<http://www.worldskills.org/competitorcentre>).

This information includes:

- Competition Rules
- Technical Descriptions
- Other Competition-related information

4.3 Test Projects

Circulated Test Projects will be available from [worldskills.org](http://www.worldskills.org) (<http://www.worldskills.org/testprojects>) and the Competitor Centre (<http://www.worldskills.org/competitorcentre>).

4.4 Day-to-day management

The day-to-day management is defined in the Skill Management Plan that is created by the Skill Management Team led by the Chief Expert. The Skill Management Team comprises the Jury President, Chief Expert and Deputy Chief Expert. The Skill Management Plan is progressively developed in the six months prior to the Competition and finalised at the Competition by agreement of the Experts. The Skill Management Plan can be viewed in the Expert Centre (<http://www.worldskills.org/expertcentre>).

5. ASSESSMENT

This section describes how the Experts will assess the Test Project / modules. It also specifies the assessment specifications and procedures and requirements for marking.

5.1 Assessment criteria

This section defines the assessment criteria and the number of marks (subjective and objective) awarded. The total number of marks for all assessment criteria must be 100.

Section	Criterion	Marks		
		Subjective (if applicable)	Objective	Total
A	Database design and construction	5	25 - 35	25 - 35
B	Spreadsheet modelling		25 - 35	25 - 35
C	Document design and production		15 - 25	15 - 25
D	Presentations		15 - 25	15 - 25
E	Overdrive (2) The mark for the overdrive may be taken from section A, B, C or D			10
F	Presentation of project The mark for the presentation may be taken from section D			Max of 5
Total =		5	95	100

5.2 Subjective marking

Scores are awarded on a scale of 1 to 10.

5.3 Skill assessment specification

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

The skill assessment criteria developed by the external writer are clear concise aspect specifications which explain exactly how and why a particular mark is awarded.

There can be three different types of objective criteria in the Test Project. The table below shows an explanation of the three types.

Type	Example	Max. Marks	Correct	Not Correct
Full marks or zero marks	The pie chart shows data labels as percentages	0.20	0.20	0
Deduct from full marks on a predetermined sliding scale	Report is formatted as specified (deduct 0.1 mark for each error)	0.5	0.5	0 – 0.4
Add to zero marks on a predetermined progressive scale	Solver criteria specified correctly (add 0.1 mark for each criterion)	1.0	1.0	0.1 – 0.9

5.4 Skill assessment procedures

Each Expert will perform as a member of a marking team of the Test Project.

Experts will be divided into marking teams allocating equal objective and subjective marking where possible. The composition of the marking teams will be decided by the CE and DCE with the aim of having a balance of new and experienced Experts in each.

Experts will be divided into different cultural groups for subjective marking where possible.

The External Project Writer will provide the marking criteria. Experts will discuss these marking criteria upon arrival at the Competition.

The Experts will agree on the final marking scheme and whether to allow a mix of subjective / objective marking or to adopt 100% objective marks.

6. SKILL-SPECIFIC SAFETY REQUIREMENTS

Refer to Host Country Health & Safety documentation for Host Country regulations.

7. MATERIALS & EQUIPMENT

7.1 Infrastructure List

The Infrastructure List lists all equipment, materials and facilities provided by the Host Country.

The Infrastructure List is online (<http://www.worldskills.org/infrastructure/>).

The Infrastructure List specifies the items & quantities requested by the Experts for the next Competition. The Competition Organiser will progressively update the Infrastructure List specifying the actual quantity, type, brand/model of the items. Competition Organiser supplied items are shown in a separate column.

At each Competition, the Experts must review and update the Infrastructure List in preparation for the next Competition. Experts must advise the Secretary General of any increases in space and/or equipment.

At each Competition, the Technical Observer must audit the Infrastructure List that was used at that Competition.

The Infrastructure List does not include items that Competitors and/or Experts are required to bring and items that Competitors are not allowed to bring – they are specified below.

7.2 Materials, equipment and tools supplied by Competitors in their toolbox

Not applicable.

7.3 Materials, equipment and tools supplied by Experts

Not applicable.

7.4 Materials & equipment prohibited in the skill area

- The Competitors may use ear protection
- The Competitor may not listen to music
- The Competitor may not bring:
 - additional software
 - mobile phones
 - portable digital devices (tablets, PDAs, etc.)
 - external storage devices (memory sticks, flash drives etc.)
- Equipment must not have any access to the internal memory storage devices. The Competition Organiser will ensure that these are disabled.
- The Experts hold the right to disallow certain equipment brought into the Competition.
- The Competitors should not have Internet access in the Competition area. The Competition Organiser will ensure that this is disabled.

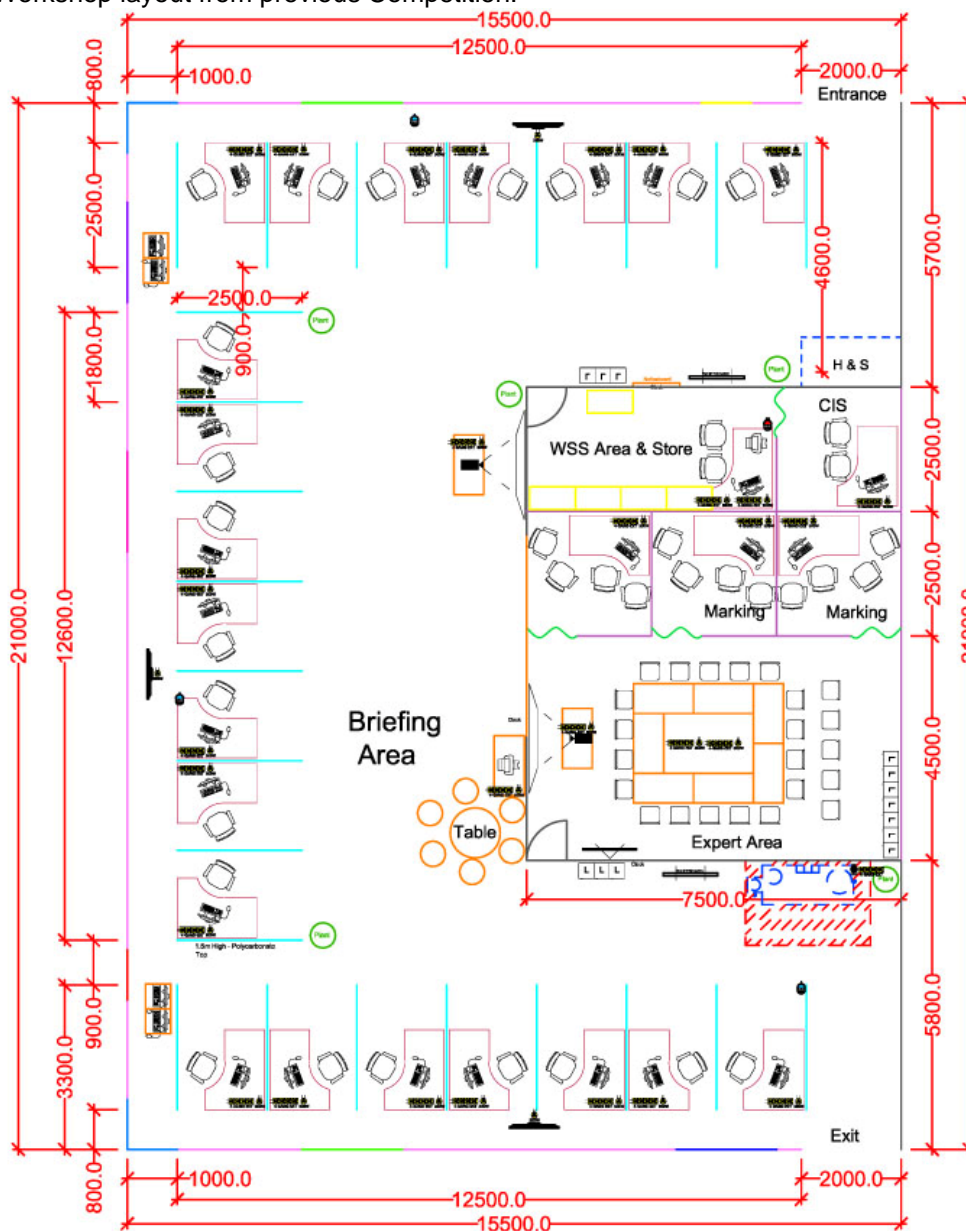
7.5 Sample workshop layouts

Workshop layouts from London are available at:

http://www.worldskills.org/index.php?option=com_halls&Itemid=540

- The design should consider the privacy of each Competitor but must also recognise the need for ease of supervision by the Experts. It must be readily apparent should a Competitor have a need to call an Expert. The height of the walls between two Competitors should be no higher than 120cm.
- The design should consider the requirements for maximising sustainability.
- There should be at least 4 separate and secure marking rooms, if possible, for Experts with adequate space (possible for 5 Experts to sit in a line) to accommodate a marking team. Each marking team is provided with the room key to secure the marking process.
- There should be secure rooms for the CE and DCE to enable them to manage the skill
- A well equipped Competitor briefing area is required. This must have a projector, screen, and PA system with an easy to use computer, audio, video and other capabilities.

Workshop layout from previous Competition:



8. MARKETING THE SKILL TO VISITORS AND MEDIA

8.1 Maximising visitor and media engagement

To maximise visitor and media engagement the following ideas will be considered:

- Display screens
- Test Project descriptions
- Enhanced understanding of Competitor activity
- Competitor profiles
- Career opportunities
- Daily reporting of competition status

8.2 Sustainability

- Recycling
- Use of 'green' materials
- Use of completed Test Projects after the Competition
- Use of a pdf writer rather than printing