TECHNICAL DESCRIPTION

CAR PAINTING

TRANSPORTATION AND LOGISTICS

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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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1 INTRODUCTION

1.1 NAME AND DESCRIPTION OF THE SKILL COMPETITION

1.1.1 The name of the skill competition is

Car Painting

1.1.2 Description of the associated work role(s) or occupation(s).

Car painters (refinishers) are responsible for reinstating the pre-accident paint finish to cars after the structure and/or the panels have been repaired or replaced. They may also be asked to completely repaint a whole vehicle either to change its colour or reinstate its newness. Car painters may also become involved in matching colours to an original colour no longer available or to colours that prove difficult to match. A car painter must match the colour, shade and texture of the adjoining panels that are not being painted.

Car painters can work in various work environments from an autobody repair shop to an aircraft hangar, dependent upon what vehicle or transport system they are painting. They work to apply paints inside an enclosed spray booth/oven in order to protect the environment from harmful products.

Car painters prepare panels or vehicles to receive paint. They may carry out minor panel repairs and apply undercoats, colour coats and clear sealant coats which provide the high gloss levels required. They may be required to identify a colour code using various methods, mix the correct amount of colour to pre-determined formulae and spray test cards to test the suitability of this colour match to the original colour and shade.

A Car painter needs to be aware of time schedules and may often be working on several vehicles at one time while waiting for previously applied materials to dry.

Car painters (refinishers) may be required to refinish a wide range of items such as passenger cars, racing cars, vintage and classic vehicles, commercial goods vehicles, trains, aeroplanes, static structures or furniture. They may be required to refinish a wide variety of materials such as metals, plastics, composite materials or wood.

1.2 THE RELEVANCE AND SIGNIFICANCE OF THIS DOCUMENT

This document contains information about the standards required to compete in this skill competition, and the assessment principles, methods and procedures that govern the competition.

Every Expert and Competitor must know and understand this Technical Description.

In the event of any conflict within the different languages of the Technical Descriptions, the English version takes precedence.

1.3 ASSOCIATED DOCUMENTS

Since this Technical Description contains only skill-specific information it must be used in association with the following:

- WSI – Competition Rules
- WSI – WorldSkills Standards Specification framework
- WSI – WorldSkills Assessment Strategy (when available)
- WSI – Online resources as indicated in this document
- Host Country – Health and Safety regulations

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2 THE WORLDSKILLS STANDARDS SPECIFICATION (WSSS)

2.1 GENERAL NOTES ON THE WSSS

The WSSS specifies the knowledge, understanding and specific skills that underpin international best practice in technical and vocational performance. It should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business (www.worldskills.org/WSSS).

The skill competition is intended to reflect international best practice as described by the WSSS, and to the extent that it is able to. The Standards Specification is therefore a guide to the required training and preparation for the skill competition.

In the skill competition the assessment of knowledge and understanding will take place through the assessment of performance. There will not be separate tests of knowledge and understanding.

The Standards Specification is divided into distinct sections with headings and reference numbers added.

Each section is assigned a percentage of the total marks to indicate its relative importance within the Standards Specification. The sum of all the percentage marks is 100.

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

The Marking Scheme and Test Project will follow the allocation of marks within the Standards Specification to the extent practically possible. A variation of five percent is allowed, provided that this does not distort the weightings assigned by the Standards Specification.

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2.2 WORLDSKILLS STANDARDS SPECIFICATION

SECTION		RELATIVE IMPORTANCE (%)
1	**Work organization and management**	**5**
	The individual needs to know and understand: • Current occupational health and safety regulations related to the car painting industry • Correct use, storage and maintenance of personal protective equipment and clothing • All recommendations and information published by the supplier or manufacturer of products and equipment • The procedures and process for maintaining and using specialist equipment • Terminology that relates to paint materials, processes and applications • The importance of the correct handling and disposal of environmentally harmful products • The potentially harmful impact car painting products can have on the environment • The impact that the environment and climate can have on paints and products	
	The individual shall be able to: • Apply occupational health and safety regulations and best practice related to the car painting industry • Use correctly and maintain personal protective clothing and equipment • Set-up, use, adjust and maintain all specialist application equipment • Set up, adjust and use all specialist preparation and drying equipment • Promote health and safety in the workplace • Apply all recommendations and guidance provided by suppliers and manufacturers of equipment or products • Adhere to MSDS (Manufacturers Safety Data Sheets) • Adopt correct procedures for handling and disposal of environmentally harmful products • Only use products that are Volatile Organic Compound (VOC) compliant • Adapt the materials to take account of the impact of the environment and climate on paints and products • Maintain a clean spraying environment within the paint area	

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2	Preparation for Painting	15

	The individual needs to know and understand:
	• The range, purpose and application of products used in the car painting industry for the following procedures:
	  • Cleaning
	  • Removal of contaminants
	  • Repairing minor panel and paint damage
	  • Abrading and final cleaning
	  • Other surface contaminants
	  • Removal of dust from all areas to be finished
	  • Protection of parts and areas not being painted	

	The individual shall be able to: • Use appropriate cleaning products to remove contaminants • Prepare surfaces to be coated with the appropriate abrasive products • Carry out minor panel repairs • Carry out final cleaning of the surface prior to paint application • Remove dust from all areas to be refinished • Suitably remove other contaminates such as glues, labels and sealers • carry out proper masking procedures to protect surrounding areas	
3	**Application of Adhesion Promoters and Primers**	**12**
	The individual needs to know and understand: • Range of adhesion promoters and primers available • Purpose of adhesion promoters and primers • The context of where and when various adhesion promoters and primers are used • Mixing and application techniques for each of the adhesion promoters and primers • The preparation and application process for the full range of seam sealers, e.g. gap sealers, weld sealers, seam sealers etc. • Which materials to select for a particular application • The drying characteristics of each adhesion promoter or primer	

	The individual shall be able to:
	• Apply suitable primers and or fillers to the substrate and appropriate for the process being used:
	  • Etch primers
	  • Primer surfaces
	  • Primer fillers
	  • Plastic primers
	• Apply the correct procedures for sanding (flatting) primer fillers
	• Reinstate the corrosion protection of the panels being painted
	• Apply seam sealers
	• Follow the original engineering manufacturer (OEM) or paint manufacturer's (Technical Data Sheet – TDS) recommendations
	• Measure out materials carefully to minimize environmental effects and cost implications	

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4	Base Coat and Ground Coat Application	17
	The individual needs to know and understand: • How to access information related to colour and application • Types and specifications of car paints and their uses • Warranty procedures applied to particular vehicles • The correct use of equipment used in applying base coats and ground coats • Specialist paint finishes • The impact upon cost and environment of over mixing materials	
	The individual shall be able to: • Retrieve colour and application information from printed and electronic sources • Use appropriate equipment and technology to access colour formulations (computer based and/or photo spectrometer) • Use colour swatches/chips to identify the correct colour and shade and variant • Apply the electronic information to mix required colour and shade • Follow the correct procedure to spray out a test paint card and compare with the original standard, adjust as necessary • Mix and apply straight/solid colours, metallic, pearls, 3-stage pearls and special effect colours • Apply base/ground coats to metal and non-metal parts • Follow the original engineering manufacturer (OEM) or paint manufacturer's (Technical Data Sheet – TDS) recommendations • Measure materials to minimize the environmental and cost factors	
5	**Clear Coat Application**	**18**
	The individual needs to know and understand: • The purpose of a clear coat • The process for identifying, mixing and applying clear coats • The importance of following manufacturer's instructions • The need for flexible additives as required • The spray gun set up and adjustment for clear coat materials • The correct gun pressure, speed, distance and overlap required to produce an excellent finish with clear coats and achieve high gloss levels	
	The individual shall be able to: • Identify, mix and apply clear coats correctly • Adjust spray gun to achieve the correct outlet pressure, fan width and fan shape. • Apply clear coats to achieve gloss and structure to match existing finishes • Apply clear coats as per paint manufacturer's instructions to avoid defects such as runs, excessive orange peel etc. • Follow the original engineering manufacturer (OEM) or paint manufacturer's (Technical Data Sheet – TDS) recommendations • Dispose of unused clear coat in an environmentally safe manor	

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6	**Colour Evaluation and Colour Adjustment**	**12**
	The individual needs to know and understand: • Colour technology and colour adjustment techniques (Munsel Colour Wheel) • Technical terms and definitions for colour descriptions • The effects of colour miss-match in terms of face and flop tone • The effects of varying strengths and values of toners • The impact of light quality and type on colour • The impact of spraying techniques upon colour match	
	The individual shall be able to: • Locate and document vehicle manufacturer's paint code • Determine type and colour of paint using the manufacturer's paint code and vehicle information • Evaluate spray-out card against the standard to identify colour miss-match in terms of hue, chroma, saturation, lightness and darkness • Select and apply suitable procedures to adjust colour to match the given standard • Select toners to correct colour miss-match • Identify and use the correct lighting to match colour • use the correct gun speed, distance and overlap to produce quality spray out cards	
7	**Design, Layout and Measurement**	**13**
	The individual needs to know and understand: • Basic geometry • Appropriate materials for masking different areas • Uses of different types of masking materials • How to selection and use of specialist measuring and marking out equipment e.g. beam compass, rules, straight edges etc. • Techniques for applying decals/transfers • The use and maintenance of air brushes and mini spray guns	
	The individual shall be able to: • Interpret dimensions and shapes from a given drawing • Use the correct tools and techniques to transfer and layout the drawing information/specification to the appropriate panels • Measure accurately to ensure that the design meets the exact specifications • Draw arcs and circles using drafting tools such as a beam compass • Mask areas of the vehicle panels for the prevention of overspray between colours for design painting • Mask and protect adjacent panels that will not be refinished • Perfectly apply vinyl decals/transfers to a given location without creases, bubbles, cuts etc. • Mask door jambs and other aperture panels • Mask for design painting • Apply freehand design work using an air brush • Apply a range of decorative special effects including blended colours	

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8	Remove Minor Damage and Defects from Painted and Non-Painted Surfaces	8
	The individual needs to know and understand: • Types of specialist defects • The correct procedure to rectify minor paint damage or defects • The procedures and materials required to rectify minor panel damage • Techniques and materials for removal and repair of minor paint defects and damage • Techniques to invisibly spot repair or blend paint in confined areas	
	The individual shall be able to: • Identify the types of defects that may occur on a painted surface such as nibs, pin holes, runs, environmental effects etc. • Apply the correct procedures to remove or repair paint defects • Carry out 'smart' repairs to small areas of damage • Evaluate the extend of minor panel damage and plan work accordingly to rectify this damage • Wet and dry sand clear coat to remove and rectify defects • Apply polyester and epoxy fillers and stoppers to repair small stone chip damage to panel surfaces • Prepare and blend invisibly scratch and scuff damage • Reinstate the original gloss levels using polishing techniques and materials	

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3 THE ASSESSMENT STRATEGY AND SPECIFICATION

3.1 GENERAL GUIDANCE

Assessment is governed by the WorldSkills Assessment Strategy. The Strategy establishes the principles and techniques to which WorldSkills assessment must conform.

Expert assessment practice lies at the heart of the WorldSkills Competition. For this reason it is the subject of continuing professional development and scrutiny. The growth of expertise in assessment will inform the future use and direction of the main assessment instruments used by the WorldSkills Competition: the Marking Scheme, Test Project, and Competition Information System (CIS).

Assessment at the WorldSkills Competition falls into two broad types: measurement and judgment. These are referred to as **objective** and **subjective**, respectively. 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 weightings within the Standards Specification. The Test Project is the assessment vehicle for the skill competition, and also follows the Standards Specification. The CIS enables the timely and accurate recording of marks, and has expanding supportive capacity.

The Marking Scheme, in outline, will lead the process of Test Project design. After this, the Marking Scheme and Test Project will be designed and developed through an iterative process, to ensure that both together optimize their relationship with the Standards Specification and the Assessment Strategy. They will be agreed by the Experts and submitted to WSI for approval together, in order to demonstrate their quality and conformity with the Standards Specification.

Prior to submission for approval to WSI, the Marking Scheme and Test Project will liaise with the WSI Skill Advisors in order to benefit from the capabilities of the CIS.

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4 THE MARKING SCHEME

4.1 GENERAL GUIDANCE

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

The Marking Scheme is the pivotal instrument of the WorldSkills Competition, in that it ties assessment to the standards that represent the skill. It is designed to allocate marks for each assessed aspect of performance in accordance with the weightings in the Standards Specification.

By reflecting the weightings in the Standards Specification, the Marking Scheme establishes the parameters for the design of the Test Project. Depending on the nature of the skill and its assessment needs, it may initially be appropriate to develop the Marking Scheme in more detail as a guide for Test Project design. Alternatively, initial Test Project design can be based on the outline Marking Scheme. From this point onwards the Marking Scheme and Test Project should be developed together.

Section 2.1 above indicates the extent to which the Marking Scheme and Test Project may diverge from the weightings given in the Standards Specification, if there is no practicable alternative.

The Marking Scheme and Test Project may be developed by one person, or several, or by all Experts. The detailed and final Marking Scheme and Test Project must be approved by the whole Expert Jury prior to submission for independent quality assurance. The exception to this process is for those skill competitions which use an external designer for the development of the Marking Scheme and Test Project.

In addition, Experts are encouraged to submit their Marking Schemes and Test Projects for comment and provisional approval well in advance of completion, in order to avoid disappointment or setbacks at a late stage. They are also advised to work with the CIS Team at this intermediate stage, in order to take full advantage of the possibilities of the CIS.

In all cases the complete and approved Marking Scheme must be entered into the CIS at least eight weeks prior to the Competition using the CIS standard spreadsheet or other agreed methods.

4.2 ASSESSMENT CRITERIA

The main headings of the Marking Scheme are the Assessment Criteria. These headings are derived in conjunction with the Test Project. In some skill competitions the Assessment Criteria may be similar to the section headings in the Standards Specification; in others they may be totally different. There will normally be between five and nine Assessment Criteria. Whether or not the headings match, the Marking Scheme must reflect the weightings in the Standards Specification.

Assessment Criteria are created by the person(s) developing the Marking Scheme, who are free to define criteria that they consider most suited to the assessment and marking of the Test Project. Each Assessment Criterion is defined by a letter (A-I).

The Mark Summary Form generated by the CIS will comprise a list of the Assessment Criteria.

The marks allocated to each criterion will be calculated by the CIS. These will be the cumulative sum of marks given to each aspect of assessment within that Assessment Criterion.

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4.3 SUB CRITERIA

Each Assessment Criterion is divided into one or more Sub Criteria. Each Sub Criterion becomes the heading for a WorldSkills marking form.

Each marking form (Sub Criterion) has a specified day on which it will be marked.

Each marking form (Sub Criterion) contains either objective or subjective Aspects to be marked. Some Sub Criteria have both objective and subjective aspects, in which case there is a marking form for each.

4.4 ASPECTS

Each Aspect defines, in detail, a single item to be assessed and marked together with the marks, or instructions for how the marks are to be awarded. Aspects are assessed either objectively or subjectively and appear on the appropriate marking form.

The marking form lists, in detail, every Aspect to be marked together with the mark allocated to it and a reference to the section of the skill as set out in the Standards Specification.

The sum of the marks allocated to each Aspect must fall within the range of marks specified for that section of the skill in the Standards Specification. This will be displayed in the Mark Allocation Table of the CIS, in the following format, when the Marking Scheme is reviewed from C-8 weeks. (Section 4.1)

	CRITERIA									TOTAL MARKS PER SECTION
STANDARD SPECIFICATION SECTIONS										
TOTAL MARKS PER CRITERION										100

SAMPLE OF TABLE FROM CIS

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4.5 SUBJECTIVE MARKING

Subjective marking uses the 10 point scale below. To apply the scale with rigour and consistency, subjective marking should be conducted using:

- benchmarks (criteria) to guide judgment against each Aspect
- the scale to indicate:
  - 0: non attempt;
  - 1-4: below industry standard;
  - 5-8: at or above industry standard;
  - 9-10: excellence.

4.6 OBJECTIVE MARKING

A minimum of three experts will be used to judge each aspect. Unless otherwise stated only the maximum mark or zero will be awarded. Where they are used, partial marks will be clearly defined within the Aspect.

4.7 THE USE OF OBJECTIVE AND SUBJECTIVE ASSESSMENT

The final deployment of objective or subjective assessment will be agreed when the Marking Scheme and Test Project are finalized. The table below is advisory only for the development of the Test Project and Marking Scheme.

SECTION	CRITERION	MARKS		
		Subjective	Objective	Total
A	Spot repair on pre painted part and polish (two layer)	0	12.5	12.5
B	Spot repair on pre painted part (three layer) Spot repair on pre painted wing	0	12.5	12.5
C	Standard application inside outside of door	0	25.0	25.0
D	Masking vehicle and plastic repair	0	12.5	12.5
E	Colour adjusting/tinting (base, solid and metallic)	0	12.5	12.5
F	Design on pre painted part and clearcoat	0	25.0	25.0
Total		0	100	100

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4.8 COMPLETION OF SKILL ASSESSMENT SPECIFICATION

- The tolerances will be established by the Experts at the Competition site prior to the event;
- The Experts will establish and adhere to International procedures for the preparation and application of global automotive refinishing systems;
- Competitors will be given technical manuals from the selected paint system;
- Points may be deducted if the selected paint systems procedures are not adhered too during the processing of the selected Test Project;
- Blind marking must be performed for clear base, design and colour matching.

Criteria for objective marking

Example: section A1 Preparation of the OEM exterior panels

One mark	Was the panel correctly cleaned before non-sanding?	Y/N
One mark	Was the panel sanded correctly?	Y/N
Three marks	Was the panel correctly sanded?	
	The surfacer should not be cut through 1-3 cuts	Y/N

Criteria for objective marking

Example: section B1 Matching Colours

Adjusting colour by eye –

	Marks awarded	% colour accuracy
Edge to Edge	10.0	95%
	9.5	90%
	9.0	85%
	8.5	80%
	8.0	75%
Blendable	7.5	70%
	7.0	65%
	6.5	60%
	6.0	55%
	5.5	50%
	5.0	45%
Not blendable	4.5	40%
	4.0	35%
	3.5	30%
	3.0	25%
	2.5	20%
	2.0	15%

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Criteria for objective marking

Example: section F1 Dimensions of Decoration

One mark	dimension # one tolerance = ± 2mm	Y/N
One mark	dimension # two tolerance = ± 2mm	Y/N

Criteria for objective marking

Example of aspects: Application of base coat to spot repair

0.5 mark	Was the base coat applied correctly? *Base coat spot repair applied with-in the correct boundary*
1 mark	Base coat free of banding and mottling *Minor mottling lose 0.5 mark, heavy mottling lose 1 mark*
0.5 mark	Were health and safety standards adhered too? *Spray application of base coats*

4.9 SKILL ASSESSMENT PROCEDURES

The Experts will decide together on the Test Project, the marking criteria and the dimensional tolerances on the subjective and objective marking forms. Standards should be set on the marking forms that the marking teams can follow. Example: craters, fisheyes, etc.

The assessments are performed by different groups of Experts. Each group consists of an Expert with previous International Competition knowledge. Assessments are weighted to allow an even distribution of marks through ALL groups evolved with assessment procedures.

Each group is rotated throughout the Competition to give a daily balance between assessments of Competitors and the exchange of knowledge amongst Experts.

Marks are recorded into the CIS system after each section/module is completed by the selected groups of Experts.

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5 THE TEST PROJECT

5.1 GENERAL NOTES

Sections three and four govern the development of the Test Project. These notes are supplementary.

Whether it is a single entity, or a series of stand-alone or connected modules, the Test Project will enable the assessment of the skills in each section of the WSSS.

The purpose of the Test Project is to provide full and balanced opportunities for assessment and marking across the Standards Specification, in conjunction with the Marking Scheme. The relationship between the Test Project, Marking Scheme and Standards Specification will be a key indicator of quality.

The Test Project will not cover areas outside the Standards Specification, or affect the balance of marks within the Standards Specification other than in the circumstances indicated by Section 2.

The Test Project will enable knowledge and understanding to be assessed solely through their applications within practical work.

The Test Project will not assess knowledge of WorldSkills rules and regulations.

This Technical Description will note any issues that affect the Test Project's capacity to support the full range of assessment relative to the Standards Specification. Section 0 refers.

5.2 FORMAT/STRUCTURE OF THE TEST PROJECT

A single Test Project with separately assessed modules, units/tasks.

- Test Project must be circulated no less than six months before the Competition;
- Design decoration must be posted on the Discussion Forum no less than four months before the Competition - with support documentation and photographic evidence to prove a trial of the design has been completed in 3.5 hrs. this is exclusive of drying time;
- The design/decoration should be posted on the Discussion Forum with a CAD drawing using the recognized WorldSkills CAD program at the time;
- The person responsible for the design should also produce a marking scale for the design;
- Four design/decoration should be posted on the Discussion Forum for all countries/regions to view and for Competitors to practice. The design will be chosen by vote at the Competition;
- Decoration/design must meet the Criteria set out below.

5.3 TEST PROJECT DESIGN REQUIREMENTS

The Competitor shall carry out, independently, the tasks, which will be selected from the proposed project designs. This document is to be updated by the Experts at each Competition.

The Test Project proposals or the actual Test Project will be prepared on the standard Competitor Instructions and car painting Objective Marking Form.

All test projects are based on standard modern cars that are known worldwide. A balanced choice of cars is necessary taking into consideration the different origins of the Competitors.

Elements of the design must contain two colours and contain at least three of the following elements: lines circles, arcs, plain figures, blended arcs, angles, 3D, ellipse, and shading. The design must contain at least one arc.

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5.4 TEST PROJECT DEVELOPMENT

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

5.4.1 Who develops the Test Project or modules

The Test Project/modules are developed by all Experts.

5.4.2 How and where is the Test Project or modules developed

The Test Project or modules are developed independently.

5.4.3 When is the Test Project developed

The Test Project is developed according to the following timeline:

TIME	ACTIVITY
At the previous Competition	Proposed Test Project designs are submitted by Experts. Proposals must be submitted with photographic evidence that it is possible to complete and also contain a marking scheme. Test Project is selected by vote of the Experts
Six (6) months before the Competition	Test Project is circulated on the WSI website
Four (4) months before the Competition	The Design Decorations are posted on the forum with support documentation and photographs
At the Competition	The Design Decoration is agreed by vote of the Experts. 30% change is made to the Test Project. Note: The timing of the Test Project may be effected by the drying time required

5.5 TEST PROJECT VALIDATION

Presentation of photographic evidence of the completed Test Project proposal.

5.6 TEST PROJECT SELECTION

Experts voting on the Test Project proposals at the previous Competition.

5.7 TEST PROJECT CIRCULATION

The Test Project is circulated via the website as follows:

Six months before the current Competition.

5.8 TEST PROJECT COORDINATION (PREPARATION FOR COMPETITION)

Coordination of the Test Project will be undertaken by Chief Expert.

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5.9 TEST PROJECT CHANGE AT THE COMPETITION

Various aspects of the Test Project will be changed by the Experts prior to the Competition, after arriving at the Competition site.

5.10 MATERIAL OR MANUFACTURER SPECIFICATIONS

Specific material and/or manufacturer specifications required to allow the Competitor to complete the Test Project will be supplied by the Competition Organizer and are available from www.worldskills.org/infrastructure located in the Expert Centre.

At the first Technical Committee meeting after previous Competition:

The Competition Organizer is requested to please supply list of proposed vehicles to be used:

- Make, model and year of proposed vehicles;
- Task allocation of proposed vehicles;
- Host country's Workplace Health and Safety guidelines.

At the second Technical Committee Meeting after previous Competition:

The Competition Organizer is requested to supply a finalized list of vehicles, test equipment and general equipment to be used:

- Make, model and year of vehicles – brochures to be included (also include CD-ROM workshop manuals if available for selected vehicles);
- Reference numbers and details of test equipment – brochures to be included;
- List of vehicle and equipment manufactures/suppliers contact details for Experts to source additional information when not available in their own country/region;
- Task allocation of proposed vehicles.

At least twelve months before the Competition:

- The Competition Organizer must indicate which brands and types of polyester filler, primers and abrasives will be available;
- The bodywork parts will also be indicated as well as the environmental rules and safety rules;
- Paint product must be available to all Members;
- Sample of the paint product supplied to the Competitors twelve months prior to the Competition.

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6 SKILL MANAGEMENT AND COMMUNICATION

6.1 DISCUSSION FORUM

Prior to the Competition, all discussion, communication, collaboration, and decision making regarding the skill competition must take place on the skill specific Discussion Forum (http://forums.worldskills.org). 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 the moderator for this Forum. Refer to Competition Rules for the timeline of communication and competition development requirements.

6.2 COMPETITOR INFORMATION

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

This information includes:

- Competition Rules
- Technical Descriptions
- Marking Schemes
- Test Projects
- Infrastructure List
- Health and Safety documentation
- Other Competition-related information

6.3 TEST PROJECTS [AND MARKING SCHEMES]

Circulated Test Projects will be available from www.worldskills.org/testprojects and the Competitor Centre (www.worldskills.org/competitorcentre).

6.4 DAY-TO-DAY MANAGEMENT

The day-to-day management of the skill during the Competition 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 finalized at the Competition by agreement of the Experts. The Skill Management Plan can be viewed in the Expert Centre (www.worldskills.org/expertcentre).

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7 SKILL-SPECIFIC SAFETY REQUIREMENTS

Refer to Host Country/Region Health and Safety documentation for Host Country/Region regulations.

The Competitor must use the following personal safety equipment:

- Protection mask;
- Gloves;
- Safety glasses;
- Ear protection;
- Safety shoes (supplied by Competitor);
- Dust free overall with hood;
- Safety measures have to be taken at the workstation (extractors for dry sanding and spraying);
- Safety procedures must relate to the paint sponsors data sheets.

Other skill-specific safety requirements are:

- Experts will use the appropriate personal safety equipment when inspecting, checking or working with a Competitor's project;
- All Competitors must use safety protection during the Competition according to Competition Rules.

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8 MATERIALS AND EQUIPMENT

8.1 INFRASTRUCTURE LIST

The Infrastructure List details all equipment, materials and facilities provided by the Competition Organizer.

The Infrastructure List is available at www.worldskills.org/infrastructure.

The Infrastructure List specifies the items and quantities requested by the Experts for the next Competition. The Competition Organizer will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items. Items supplied by the Competition Organizer 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 Technical Director 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.

8.2 MATERIALS, EQUIPMENT AND TOOLS SUPPLIED BY COMPETITORS IN THEIR TOOLBOX

- Sanding blocks;
- Spray guns for base, clear and primer/filler;
- Safety boots.

8.3 MATERIALS, EQUIPMENT AND TOOLS SUPPLIED BY EXPERTS

Not applicable.

8.4 MATERIALS AND EQUIPMENT PROHIBITED IN THE SKILL AREA

No other tools or equipment will be allowed in the competition area unless approved by 80% of the Experts.

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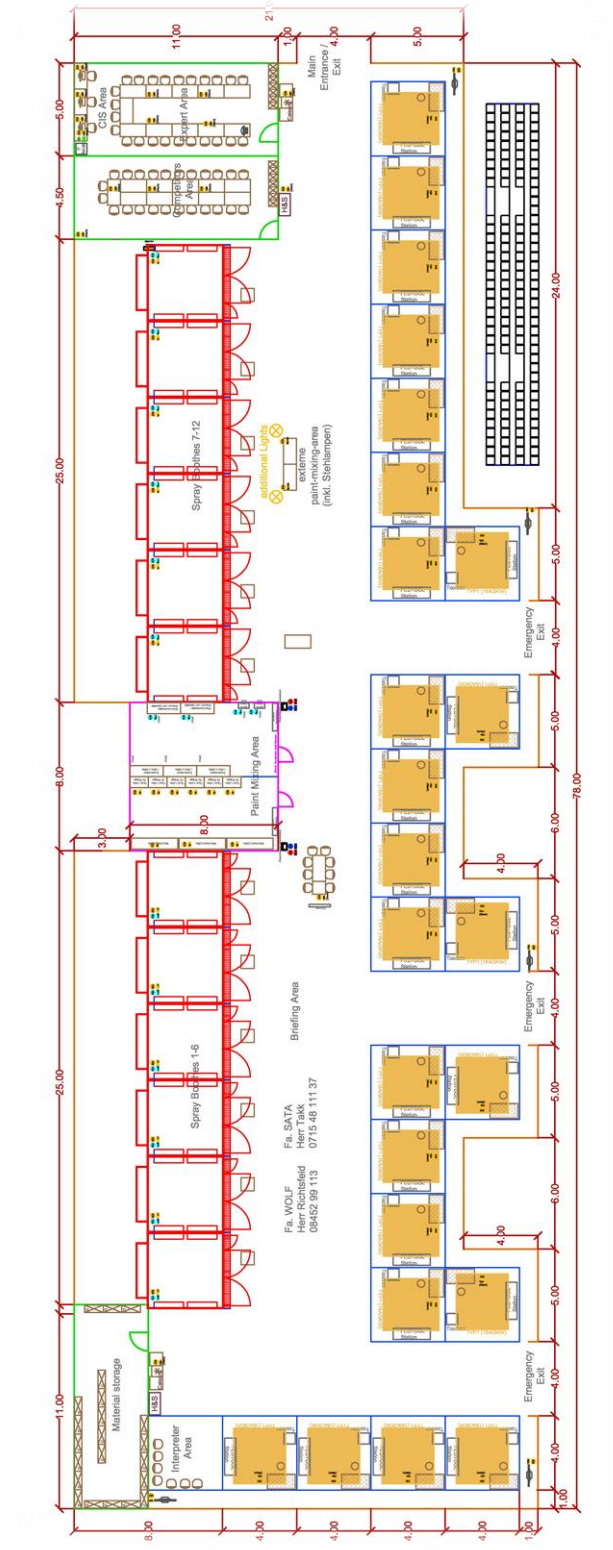
8.5 PROPOSED WORKSHOP AND WORKSTATION LAYOUTS

Workshop layouts from previous competitions are available at www.worldskills.org/sitelayout.

Example workshop layout:



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CAR PAINTING

9 VISITOR AND MEDIA ENGAGEMENT

The following list may be considered to maximize visitor and media engagement:

- Try a trade;
- Display screens;
- Test Project descriptions;
- Enhanced understanding of Competitor activity;
- Competitor profiles;
- Career opportunities;
- Daily reporting of competition status.

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10 SUSTAINABILITY

- Recycling;
- Use of ‘green’ materials;
- Use of completed Test Projects after Competition;

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