SPACE in Schools
Australia

**STEM 4.0
LIFE-LONG
LEARNING**

2020
Competition Regulations
Version 1.0

Proudly Supported by

Australian Government

Department of Defence

An initiative of

rea

**RE-ENGINEERING AUSTRALIA
FOUNDATION**

SPONSORS

Proudly Supported by

Australian Government
Department of Defence

Visual Connections

Medtronic
Further, Together

TABLE OF CONTENTS

Preface - Summary of Main Revisions from Review of 2019 Season

This document only contains 'Competition Regulations'.

This preface provides an overview of all competition related regulations that have been revised from the 2019 season's regulations.

It is each team's responsibility to thoroughly read this document in order to identify wording changes and to understand any impact this may have on their project.

All changes are identified within the document by using red underlined text

These regulations will be valid for the 2020 State Finals.

IMPORTANT: This is a NEW document that includes a multitude of new material - too many to itemise in the Preface below. Teachers and teams are strongly advised to read all information contained herein.

ARTICLE C1 -	**DEFINITIONS**	
	New Section	
ARTICLE C2 -	**GENERAL REGULATIONS**	
	New Section	
ARTICLE C3 -	**COMPETITION AND JUDGING FORMAT**	
	New Section	
ARTICLE C4 -	**ENGINEERING JUDGING**	
	Various changes.	
ARTICLE C5 -	**PORTFOLIO JUDGING**	
	Various changes.	
ARTICLE C6 -	**MARKETING - BRANDING & TRADE DISPLAY JUDGING**	
	Various changes.	
ARTICLE C7 -	**VERBAL PRESENTATION JUDGING**	
	No changes	
ARTICLE C8 -	**GRIEVANCES**	
	New section	
ARTICLE C9 -	**JUDGES**	
	New section	
ARTICLE C10 -	**AWARDS**	
	New section	
ARTICLE C11 -	**APPENDICES - SCORECARDS**	
11.1	New appendix	
11.2	New appendix	
11.3	New appendix	
11.4	Updated score card	
11.5	No changes	
11.6	Updated score card	
11.7	No changes	
11.8	Updated score card	
11.9	No changes	
11.10	No changes	

ARTICLE C1 - Definitions

C1.1 Australian Competition Season

The standard sequence of Australian SPACE in Schools competitions runs across a single calendar year. with State Finals held early in Term 3. The regulations **SHOULD** remain constant during the competition season, however, REA Foundation Ltd reserves the right to update / revise the regulations if deemed appropriate.

Note: At this stage, there is **NO** plan for a National Final for this STEM Challenge. However, this will be under ongoing review in the years ahead.

C1.2 Australian Competition Calendar

This is a calendar of State Final events which is available via the Finals Information tab within the SPACE in Schools menu on the REA Foundation Ltd. website, www.rea.org.au.

C1.3 State Finals

State Final events are managed by Re-Engineering Australia Ltd., are generally held over 1-2 days and **MAY** include various programmed social and competition activities. These events aim to provide all participants with an educational and personal development experience.

C1.4 SPACE in Schools National Coordinator

A person employed by Re-Engineering Australia Ltd. (REA) to manage the SPACE in Schools competition in Australia.

C1.5 Language Used

The language of the regulations is tiered. Those clauses expressed as "**MUST**" are mandatory and failure to comply will attract objective point and/or trials penalties and in the extreme, disqualification. Those expressed as "**SHOULD**" or "**MAY**" reflect some level of discretion and choice.

Some clauses will be satisfied through team registration processes or declarations signed as complied with as part of the Challenge Terms and Conditions, whilst others will be tested through a variety of objective and subjective judging.

C1.6 Event Programme

This programme will detail the schedule of all competition activities from Event Registration through to the Awards Presentation.

C1.7 Judging Schedule

A separate Judging Schedule will detail the times and locations of all judging activities for all teams.

C1.8 Terms and Conditions for Entry

There are forms prepared by Re-Engineering Australia Ltd. that teams and teachers are required to complete and submit prior to an event. These forms outline a range of Terms and Conditions that **MUST** be complied with as part of the initial registration process and participation of all teams in the competition. Failure to submit these forms **MAY** result in teams being ineligible to compete at an REA Foundation Ltd. managed State or National Final. Copies of all forms can be found within the Resources /Competition Documents tab within the SPACE in Schools menu of the REA Foundation Ltd. website. For detailed information refer to ARTICLE C2.4.1.

C1.9 Regulations Documents

C1.9.1 Issuing Authority

REA Foundation Ltd. issues the regulations, their revisions and amendments.

C1.9.2 Competition Regulations

This document is mainly concerned with regulations and procedures directly related to judging and the competition event. Competition Regulation articles have a 'C' prefix.

C1.9.3 Interpretation

The text of these regulations is in English, **SHOULD** any dispute arise over their interpretation, the regulation text, diagrams and any related definitions **SHOULD** be considered together for the purpose of interpretation.

C1.9.4   Text Clarification

Any asked questions that are deemed by REA Foundation Ltd. to be related to text needing clarification will be answered. The question and the clarification will be published on the REA Foundation Ltd. website.

C1.9.5   Supplementary Competition Regulations

Other documents **MAY** be issued by REA Foundation Ltd. that provide teams with further logistic and other important event information. Any supplementary regulations will be issued to all teachers and team managers of registered teams, where a valid contact email address has been supplied to REA Foundation Ltd. and published on the REA Foundation Ltd. website.

C1.10   Key Performance Indicators (KPI's)

These are portions of text that feature on the score cards within a corresponding points range. The KPI's describe the type of evidence the Judges will be looking for in order to score the team appropriately.

C1.11   Project Elements

These are any materials and resources that the team presents as part of its entry for any judging activity and which are submitted at event registration or as advised.

C1.12   Penalties

A range of penalties **WILL** be applied for non-compliance with identified competition regulations including:

C1.12.1   Point Penalty

Invoked from non-compliance with some competition regulations governing Space Hub, Trade Display restrictions and Space Hub Servicing/SPACEtitution. These are identified as **[Point Penalty]**

C1.12.2   Eligibility

Teams need to meet certain eligibility criteria to compete at a State Final. Failure to comply with certain eligibility criteria **MAY** lead to disqualification from the competition or a class of competition. These are identified as **[Eligibility]**

C1.13   Competition Levels

There are two competition classes in the Australian SPACE in Schools competition.

C1.13.1   Primary Division (Years 5-6)

C1.13.2   Secondary Division (Years 7-10)

ARTICLE C2 -   General Regulations

C2.1   Representative Team Selection

C2.1.1   State Finals   [Eligibility]

In all states the first level of competition for teams is usually a State Final. However, REA Foundation Ltd. reserves the right to request Regional Finals in any state **IF** total registrations across both classes of competition, received by the advertised deadline, exceed the maximum 24 teams allowable for any State Final.

C2.2   Cost of Participation

C2.2.1   State Finals   [Advice]

Teams and teachers are responsible for all costs associated with participating in the competition, including registration fees, as per ARTICLE C2.3.7. This includes but is not limited to project costs, travel and accommodation and meals.

C2.3   Team & Project Entry Conditions

C2.3.1   Varying the Conditions   [Advice]

REA Foundation Ltd. reserves the right to vary the Team & Project Entry Conditions where special circumstances exist.

C2.3.2   Team Membership   [Eligibility]

Each team registered in the Australian competition **MUST** consist of the following minimum and maximum number of students. Mixed gender teams are encouraged.

C2.3.2.1   Primary: 3 to 5 team members.

C2.3.2.2   Secondary: 3 to 5 team members

C2.3.3   Supporting or Affiliate Team Members   [Eligibility]

Supporting or affiliate team members are **NOT** permitted for any class or level of competition.

C2.3.4   Multiple Class Entry Restrictions   [Eligibility]

Individual students can only compete in one competition class per event.

C2.3.5   Enrolled Full-time Students   [Eligibility]

All team members **MUST** be enrolled as full-time primary/secondary students studying at school or home schooled (at the time of the event) to be eligible to participate in State Final competitions.

C2.3.6   Competition Class Year Levels   [Eligibility]
C2.3.6.1   Primary Division

A student **MAY** only compete in this division if they are enrolled in Years 5 - 6.

C2.3.6.2   Secondary Division

A student **MAY** only compete in this division if they are enrolled in Years 7 - 10.

C2.3.7   Team Registration Conditions   [Eligibility]

Each student team **MUST** be registered for their first competition event by the prescribed date advertised on the SPACE in Schools web site. The REA Foundation Ltd. registration process **SHALL** be followed and the entry fee received by REA Foundation Ltd. before the competition date. Entry fees are non-refundable once processed. Fees only apply to State Finals.

C2.3.8   Team Membership Changes   [Eligibility]

The membership of a team **MUST** be confirmed at least one month prior to the event start date and details **MUST** be updated by teachers within the REA online registration system.

C2.3.9   Entered Projects   [Eligibility]

Entered projects **MUST** be designed and produced during the current Challenge Season and the same project design **MUST NOT** be entered in more than one Challenge Season.

C2.4 Competition Procedural Regulations

C2.4.1 Submitting Documentation [Eligibility]

Each team **MUST** complete and submit **ALL** the relevant competition documentation as required by REA Foundation Ltd. and within the stated timeframes. Some forms are signed electronically when teachers register teams. Others **MUST** be printed, signed and forwarded to REA prior to the event. All forms are downloadable from the Resources/Competition Documents tab of the SPACE in Schools menu on the REA Foundation Ltd website. The following documents apply:

C2.4.1.1 Terms and Conditions Form [Eligibility]

This form constitutes an agreement between REA Foundation Ltd. and supervising teachers regarding participation by teams in State and National finals. The form is electronically signed by teachers when registering their teams on-line via the REA Foundation Ltd website. It is very important that teachers read this form before registering their teams.

C2.4.1.2 Media Consent Form (all classes) [Eligibility]

- One per student.
- Valid for the entire Australian Competition Season.
- Parent/Guardian signature required if student under 18 years.
- Must be printed, signed and submitted electronically by the published deadline. Students failing to submit a signed Media Consent form by Day 1 of the event will **NOT** be permitted to attend or participate at an REA managed final.

C2.4.1.3 Grievance Form (all classes) [Advice]

- Submission is via an on-line form, a link to which will be provided.
- Completed only if teams have a judging grievance.
- **MUST** be submitted by the published deadline to the Event Director.
- **MUST** be completed by the Team Manager **ONLY**.
- The Chair of Judges decision is **FINAL**.

C2.4.1.4 Student Code of Conduct Form [Eligibility]

- One per team
- Valid for the entire competition season
- Team Manager and Teacher signature required
- Must be electronically submitted upon finalisation of Team Registration

C2.4.2 Event Check-in

C2.4.2.1 Team Attendance [Eligibility]

All teams **MUST** attend a team event Check-in process, the timing of which will be published by REA Foundation Ltd. no less than one month prior to the State Final. At this check-in, teams will be issued with State Final accreditation, event programs and a detailed welcome pack.

C2.4.2.2 Submitting Project Elements [Eligibility]

When checking in at State Finals, each team **MUST** provide REA Foundation Ltd with minimum mandatory project elements as outlined in ARTICLE C2.9. Failure to provide the listed items **MAY** impact on a team's eligibility to compete and judging outcomes.

Some project elements will require pre event check-in via uploading on-line to an REA managed google drive y the published deadline, the link for which will be provided by event organisers. Teams **WILL** be requied to have a Google account for this purpose.

C2.4.3 Team Dress [Advice]

Teams **MUST** wear an official <u>School Uniform</u> throughout the event. No team uniform is permitted.

C2.5   Team Responsibilities

C2.5.1   Australian Competition Regulation

Teams **MUST** read the Australian Competition Regulations (this document) and the Getting Started document carefully to ensure that all project elements satisfy the regulations and that they understand the requirements and procedures for all aspects of the competition and judging.

C2.5.2   Attendance at Scheduled Activities

C2.5.2.1   Team Representation Only   [Eligibility]

During the competition, **ONLY** the official team members can represent the team at event check-in, trade display set up, verbal presentation, marketing/trade display judging trials, Space Hub servicing and repair, and any direct communication with the Chair of Judges or Event/Competition Directors concerning judging matters.

C2.5.2.2   All Team Members Required   [Eligibility]

During the competition it is the team's responsibility to ensure that **ALL** team members are present at the correct time and location for all scheduled activities.

C2.5.3   Trade Display Security   [Advice]

Security of a team's Trade Display and its elements is the team's responsibility during competition. Teams are strongly advised to remove and secure any marketing or other items when they are away from their booth attending judging or other activities.

C2.6   Role and Responsibility of Supervising Teacher.

C2.6.1   Terms and Conditions Form   [Advice]

All supervising teachers **MUST** carefully read and understand the terms and conditions for entry to the SPACE in Schools State Finals events, and **MUST** have explained all relevant information within this agreement to their team/s.

C2.6.2   Other Documentation   [Advice]

All supervising teachers **MUST** ensure all declaration and media consent forms are completed and sent to REA Foundation Ltd. by the stated deadline, otherwise teams **MAY** be ineligible to participate.

C2.6.3   Duty of Care by Schools & Teachers   [Advice]

It is the primary responsibility of any event accredited supervising teacher to administer their school's duty of care / well-being, relevant to their education system's guidelines, for all their student team members, throughout the entirety of REA Foundation Ltd. managed events. Any concerns arising during the event in relation to this **SHOULD** be brought to the attention of the SPACE in Schools Event Director immediately. A school's Duty of Care cannot be transferred to a 3rd party such as REA Foundation Ltd.

C2.6.4   Standard of Care by REA   [Advice]

REA Foundation Ltd. will do its utmost to administer a high Standard of Care for teachers, students and members of the public through adherence with requirements of Workplace Health & Safety, Risk Management and Child Protection procedures. It will also strive to ensure the judging process is applied fairly and equally to each and every team attending our managed events.

C2.6.5   Attending Judging Attending Judging Sessions   [Advice]

Where space permits and at the discretion of the Chair of Judges, **ONE** approved supervising teacher is permitted to observe (in the background) any judging activity with their team but **MUST** not interact in any way with the student team, judges or judging process. Any incident considered inappropriate will be brought to the attention of the Chair of Judges.

C2.7   Team partnerships/collaborations

C2.7.1   Mentoring   [Advice]

SPACE in Schools teams are encouraged to develop mentoring partnerships/collaborations with businesses, industry or higher education organisations throughout their project.

C2.7.2   Student Work Only   [Advice]

All design work, text and scripting for **ALL** project elements presented for assessment **MUST** be wholly undertaken and created by the team members and be their own original work. This includes Trade Display and graphic content.

C2.7.3   Documenting Partnerships in Portfolio   [Advice]

Aspects of any partnerships with external individuals and organisations including mentoring and provision of services **MUST** be represented in the team's Portfolios. For project elements produced utilising some outside assistance, teams **SHOULD** be able to demonstrate to the judges a high level of understanding of, and justification for **ANY** of the processes and services used.

C2.8   REA Corporate Partner Logos and National Support

C2.8.1   REA Corporate Partner Logos   [Advice]

Teams **MUST** include the REA Foundation Ltd. Corporate Partner logos in their judging elements and failure to use some or all of the logos as required will be reflected in a team's marks in the relevant judging criteria. The logos and branding guidelines (where they exist) are available to download from the Resources tab within the SPACE in Schools menu of the REA Foundation Ltd website and teams **MUST** be fully aware of the conditions outlined in these documents. The two levels of Corporate Partners are clearly identified within the downloadable files.

C2.8.1.1   Challenge Logo   [Advice]

This **MUST** be applied to **ALL** team project elements.

C2.8.1.2   Level 1 Corporate Partner Logos   [Advice]

These **MUST** be applied to **ALL** team project elements.

C2.8.1.3   Level 2 Corporate Partner Logos   [Advice]

These **MUST** be applied to a team's Portfolio and Trade Display as a minimum.

C2.8.2   SPACE in Schools Logo   [Eligibility]

Teams **MUST** use the in-country SPACE in Schools Logo. No other version of the logo is permitted. This logo is available for download via https://rea.org.au/space-in-schools/resources. An in-line and stacked version is provided.

C2.8.3   SPACE in Schools & Department of Defence Logo Permitted Use   [Eligibility]

Use of the SPACE in Schools and Department of Defence logos outside of the STEM Challenge is **NOT** permitted and use of the Department of Defence logo within the 'Challenge' is **NOT** permitted on **ANY** social media pages. Use is restricted to project elements such as portfolios, trade displays and verbal presentation media.

C2.8.4   Department of Defence National Support   [Advice]

The Australian Government's Department of Defence has provided REA with financial support since 2014. As the largest financial supporter of REA activities, the Department of Defence is already a supporter of your team, so please **DO NOT** approach them for **ANY** further financial support.

C2.9   Mandatory Project Elements Submitted: At Event Check-in   [Eligibility]

Following is a summary of the mandatory elements to be submitted for judging at State and National Finals:

C2.9.1   Primary Division
- One (1) bound identical A3 size Engineering portfolios of maximum 7 printed pages
- Two (2) bound identical A3 size Enterprise portfolios of maximum 7 printed pages
- One (1) Engineering Compliance Booklet containing separate A3 size printed engineering compliance drawing/s and A3 size Photorealistic 3D render/s of Space Hub for CAD judging. Booklet **MUST** be bound or in a presentation folder when submitted.

C2.9.2 Secondary
- One (1) bound identical A3 Engineering portfolios of maximum 11 printed pages
- Two (2) bound identical A3 Enterprise portfolios of maximum 11 printed pages
- One (1) Engineering Compliance Booklet containing separate A3 size printed engineering compliance drawing/s and A3 size Photorealistic 3D render/s of Space Hub for CAD judging. Booklet **MUST** be bound or in a presentation folder when submitted.

C2.10   Mandatory Project Elements Submitted: Prior to Event   [Eligibility]

Around two weeks prior to an event, all teams will be emailed a unique link to a google drive folder that they will be required to upload their electronic data to. Uploaded files **MUST** be a team's final versions they are submitting for judging. This requirement is an addition to the requirements in C2.9.1 and C2.9.2. There is no longer a requirement to submit these files on a USB at the point of Event Registration.

C2.10.1   Primary & Secondary Division
- Enterprise Portfolio in PDF only
- Engineering Portfolio in PDF only
- Engineering Compliance Booklet in PDF only
- High Quality Renders
- **ALL** 3D CAD Files in Sketchup format
- Media Consent Forms in PDF only
- Code of Conduct Form in PDF only

C2.11   Penalties   [Advice]

Teams failing to submit any of the required Project Elements as per C2.10 in the required format and by the required timeframes, will incur a **10 point penalty** for each day or part thereof they are overdue

C2.12   Project Judging Elements Detailed Information

C2.12.1   Portfolio   [Advice]

Each team **MUST** submit **two** (2) A3 sized, **'Enterprise Portfolios'** and **one** (1) A3 sized **'Engineering Portfolio'** in hard copy and bound or in a presentation folder. Each portfolio **SHOULD** be well written and clearly summarise the team's key activities and key messages for assessment, evaluation, and event promotion. Teams **SHOULD** produce additional copies for exhibiting within the team's Trade Booth and for Verbal Presentation if desired.

Each Portfolio is limited to:

C2.12.1.1   Primary Division

7 PRINTED pages including the front cover

C2.12.1.2   Secondary Division

11 PRINTED pages including the front cover.

Blank pages containing no printed matter are **NOT** included in the judged content or page count. This can be presented as single or double sided printed sheets. If a Portfolio comprises more than the maximum allowable PRINTED pages, the Judges will **ONLY** review the first 7/11 printed pages, whichever applies.

C2.12.2   Orthographic Drawing/s   [Advice]

As a minimum, a 3rd angle orthographic projection drawing, including plan, side and end elevations of the fully assembled Space Hub **MUST** be included within an Engineering Compliance Booklet which is submitted at event check-in. These elements **MUST** be produced using CAD. The orthographic technical drawing **SHOULD** include sufficient dimensions to illustrate compliance with the **maximum 25m² flooring area regulation**. The team name and author **MUST** also be included in a title block.

Additional engineering drawings relating to their Space Hub **MAY** also be submitted if they wish these to be referenced by the engineering and specification judges. These drawings **MUST** be on pages no larger than A3 in size and be bound, clearly identified with the team name.

C2.12.3   3D Photorealistic Render/s   [Advice]

As a minimum, a separate, duplicate, hard copy of the 3D realistic render of the final Space Hub design appearing on the cover page of a team's Engineering portfolio **MUST** also be submitted at event check-in. This is to be bound with or included in the Engineering Compliance Booklet of engineering drawings and clearly identified with the team name. Refer ARTICLE C2.9.

C2.12.4   Trade Display   [Advice]

Each team **WILL** be provided with a dedicated exhibition style space for set-up of their display elements. Refer to ARTICLE C6 for further trade display specifications, content requirements and information on what is provided for each level of competition.

C2.12.5   Verbal Presentation   [Advice]

Teams **WILL** be required to deliver a verbal presentation in relation to their project to the Judges. The presentation **MUST** not last longer than eight (8) minutes. Teams **MUST** bring their own laptop with any slide show or other multimedia files that need to be shown as part of their verbal presentation. Teams **SHOULD** also have available their own VGA and HDMI cables to connect to a data projector/TV monitor. Any team who needs a laptop for verbal presentation judging and is unable to bring one to a State Final **MUST** contact REA Foundation Ltd. (contact@rea.org.au) at least one month prior to the event. Refer to ARTICLE C7 of these regulations for details regarding presentation content and other requirements.

C2.12.6   Laptops for Judging   [Advice]

Teams **MUST** bring laptops for identified judging elements as follows. If multiple teams from the same school are participating, more than one laptop **SHOULD** be brought to deal with situations where teams are being judged in the same time block. ANY team unable to bring a laptop to a State and National Finals event with CAD software installed **MUST** contact REA Foundation Ltd. (contact@rea.org.au) at least one month prior to the event in an effort to assist in finding a solution.

C2.12.6.1   Engineering Judging

Teams will **NOT** be required to provide their own laptop for Engineering Judging. Virtual Reality hardware will be available at the competition for the students to use. The students will be able to upload and walk through their models.

The system which will be provided for the students to use during the competition will be based on IrisVR software & tools.

It is not a requirement of this challenge for the students to understand complexities and use of the VR technology. We will have people available on the day of the competition to help transfer their model into the VR equipment.

Judges **WILL** be provided with each teams' 3D Sketch-up model electronic files uploaded to the REA Google Drive in the lead up to the competition.

C2.12.6.2   Verbal Presentation

Teams wishing to run a slideshow or video as part of their Verbal Presentation **MUST** ensure they bring this on a laptop with their own VGA and HDMI cables available for connection to a data projector/TV monitor. Teams **SHOULD** ensure they are familiar with and adept at managing communication between their laptops and data projectors and TV monitors which will be provided by the organisers.

C2.12.7   Access to the Internet   [Advice]

Teams **MUST** organise their own internet access via a portable wireless device if required.

C2.13   Project Elements Retained by REA Foundation Ltd.   [Eligibility]

C2.13.1   It is a condition of entry to Australian State and National Finals that each team permits REA Foundation Ltd. to retain 1 x 7/11 page printed Enterprise AND Engineering Portfolio and Compliance Booklet. Teams also permit REA Foundation Ltd. to use any of these project elements for marketing purposes and / or publication as exemplar projects for reference by others

ARTICLE C3 -   Competition and Judging Format

C3.1   Event Programme   [Advice]

An Event Programme outlining the timing and venue for all judging and competition activities will be formulated by REA Foundation Ltd. and provided to all teams at event check-in as well as being uploaded to the REA Foundation Ltd website.

C3.2   Judging Schedule

Each team will be judged as per the Judging Schedule. The Judging Schedule will be formulated by REA Foundation Ltd. to best and fairly accommodate all judging and other competition activities.

C3.2.1   Judging Session Timings   [Advice]

Teams will rotate around judging activities as per this judging schedule, with each rotation usually of between 10 – 30 minutes in duration.

C3.2.2   Judging Streams   [Advice]

The judging schedule **MAY** be divided into two or three parallel judging streams (Stream A, Stream B and Stream C), with each judging stream responsible for a class of competition. A number of strategies are implemented within the judging process, including judge briefings and judge reviews, for cross-moderation, to ensure there is consistency across the judging streams, particularly where parallel streams exist within a class.

C3.3   Judging Panels   [Advice]

REA Foundation Ltd. always makes every effort to select judges from industry and higher education institutions who have knowledge and experience relevant to the panel they will be judging on. All judging panels are fully briefed by the Event Director and/or the Chair of Judges prior to the start of the competition.

C3.4   Who Attends Judging?   [Eligibility]

ALL team members **MUST** attend every scheduled judging session as per the Judging Schedule. One supervising teacher **MAY** observe judging sessions as per the conditions set out in ARTICLE C2.6.5. This teacher **MUST** not directly approach or discuss any judging matters with the judges at any time unless invited to do so.

C3.5   Students with Special Needs   [Eligibility]

In circumstances where a student has special needs and upon written application to REA Foundation Ltd. by the supervising teacher at least one month prior to a State Final, every effort will be made to accommodate the needs of the student.

C3.6   Judging Categories   [Advice]

There are four (4) main judging categories, each with its own team of judges – where possible - and specified judging activities as detailed in further articles.
- Engineering - CAD Model & Design Process
- Portfolio - Project Management & Clarity and Quality
- Marketing – Branding & Trade Display
- Verbal Presentation - Technique & Content

C3.7   Point Allocations   [Advice]

At State Finals, points will be awarded to teams across four (4) categories with maximum possible scores as detailed in the following table.

Points Allocation Table	
Engineering	
3D CAD Model	70 points
Design Process	80 points
Portfolio	
Project Management	100 points
Clarity & Quality	50 points
Marketing	
Branding & Trade Display	60 points
Verbal Presentation	
Technique	70 points
Content	85 points
Total	**535 points**

C3.8   Judging Score Cards   [Advice]

The REA Foundation Ltd State Finals judging score cards provide detailed information in relation to what the Judges will be looking for. They include key performance indicators which are referred to by the judges in awarding points during judging activities. These can be found in the Appendices at the end of this document.

Reading the score cards carefully is important as they provide critical information for teams as to what needs to be presented for each judging category

ARTICLE C4 -   Engineering Judging

C4.1   General Information

C4.1.1   Competition Class Provisions

Engineering judging is conducted for all levels of competition. However, Level 3 Spatial Design does NOT undertake Manufacturing judging.

C4.1.2   Team Preparation
C4.1.2.1   CAD Judging

Teams will be provided with the appropriate VR technologies based on IrisVR software & tools, enabling them to demonstrate their design to judges.

Organisers will provide judges with the Sketchup file each team uploaded to the REA Google Drive.

Other items **MAY** also be taken to help the team explain any engineering or concepts.

The engineering judges will not have access to the team trade display for judging purposes.

Preparation **SHOULD** include careful reading of the score card. The key performance indicators describe what the judges will be looking for.

C4.1.2.2   Engineering Design Process Judging

Teams **SHOULD** thoroughly document their Design Process in their Engineering Portfolio, a copy of which will be provided to judges by the organisers.

C4.1.3   Judging Process / Procedure
C4.1.3.1   CAD Judging

CAD will be judged via scheduled judging interview sessions that will focus on the Key Criteria. These are informal interviews where judges ask teams to demonstrate their CAD model and query them on what they have done. This will be supported by secondary evidence contained within a team's Engineering Portfolio and Engineering Compliance Booklet.

The CAD judging will be conducted using VR technology. The team will be required to show the judges through their design using the supplied VR Goggles (HTC Vive Pro).

C4.1.3.2 Engineering Design Process

Engineering Design Process will be judged from the information documented in a team's Engineering Portfolio. Teams will be awarded points as per the key performance indicators shown on the Engineering Design Process score card.

C4.2 Key Criteria

C4.2.1 VR Model (70 points)

Refer to the Engineering/CAD judging score card for key performance indicator information.

C4.2.1.1 What Will Be Assessed

The engineering judges will assess the team's use of CAD technologies, analysis, rendering, technical merit as well as comparing the CAD model with the finished product. Specific areas to be assessed are:

- Design Intent
- Model Detail
- Explanation of Model Layout
- Understanding of Human Ergonomics
- Use of Mannequins to Highlight Design Intent
- Engineering Drawings
- Rendering

C4.2.2 Engineering Design Process (80 points)

Refer to the Engineering/Design Process judging score card/s for key performance indicator information.

C4.2.2.1 What Will Be Assessed?

The engineering judges will assess the team's Design Process which includes all stages from identifying the requirements of the brief through to the final design. Specific areas to be assessed are:

- Design Specification
- Ideas
- Development
- Analysis
- Evaluation
- Overall Design Technical Merit

ARTICLE C5 -   Portfolio Judging

C5.1   General Information

C5.1.1   Competition Class Provisions

Portfolio judging is conducted for both divisions of the competition

C5.1.2   Team Preparation

Each team **MUST** prepare a Portfolio as per ARTICLE C2.10.1. A team's Portfolio tells the story of the team's journey including the knowledge and skills they have acquired along the way. It is considered a professional business document so attention to detail is paramount. Most importantly, teams need to read the Portfolio judging score cards carefully to ensure that all areas to be assessed are included within the context of their Portfolio.

C5.1.3   Portfolio Structure

Each Portfolio **MUST** be clearly labelled as either Enterprise or Engineering with the team name. To streamline the judging of team Portfolios, teams **MUST** structure this as **TWO** separate documents containing the following number of pages:

1. **Primary Division**

    7 pages including the front cover

2. **Professional Class**

    11 pages including the front cover

Portfolio Design elements will be assessed throughout the teams' entire two Portfolios. For more information on the suggested page content of the Portfolios, refer to the relevant scorecards and APPENDICES C1.2 and C11.3.

C5.1.3.1   Enterprise Portfolio

- Project Management
- Marketing
- Partnerships & Collaborations

C5.1.3.2   Engineering Portfolio

- Engineering Design Process

C5.1.4   Judging Process / Procedure

The Portfolios will be assessed behind closed doors which is conducted during the course of the finals event. For some key criterion, this will be supported by a verification interview of team members at the Trade Display or other area identified in pre-competition event documentation. Teams **SHOULD** have a copy of their Portfolios on their Trade Display at all times. Teams are required to submit electronic versions prior to a published deadline, as well as several hard copies of their Portfolios at Event Check-in for assessment by judges. Failure to submit the required number and correct Portfolio size will result in penalties being applied.

C5.1.5   Referencing

"Accurate referencing is important in all academic work. As a student you will need to understand the general principles to apply when citing sources and take steps to avoid plagiarism. Referencing is the process of acknowledging the sources you have used in writing your essay, assignment or piece of work. It allows the reader to access your source documents as quickly and easily as possible in order to verify, if necessary, the validity of your arguments and the evidence on which they are based.

By referring to the works of established authorities and experts in your subject area, you can add weight to your comments and arguments. This helps to demonstrate that you have read widely, and considered and analysed the writings of others.

Good referencing is essential to avoid any possible accusation of plagiarism."[1]

C5.1.6 Plagiarism

"Plagiarism is a term that describes the unacknowledged use of someone's work. This includes material or ideas from any (published or unpublished) sources, whether print, web-based (even if freely available) or audiovisual. Using the words or ideas of others without referencing your sourcewould be construed as plagiarism and is a very serious academic offence. At the end of the day, it is regarded as stealing intellectual property."[2]

From 2020, plagiarism detection software 'Turnitin ' will be used to check the authenticity of content in all teams' state and national final portfolios.

Content in team portfolios found to have been plagiarised, will not be assessed as part of the judging process resulting in zero marks for the relevant criteria.

C5.1.7 Portfolio Penalties

The Chair of Judges reserves the right to apply penalties for teams who:

- **DO NOT** submit the correct number of hard copies required for judging   **[10 Points]**
- **DO NOT** provide hard copies in the mandated A3 size   **[10 Points]**
- **DO NOT** structure their Portfolio as per C7.1.5   **[10 Points]**
- **DO NOT** submit electronic copies by the published deadline   **[10 Points]**
  as per C2.11[3]

C5.2 Key Criteria

C5.2.1 Project Management (100 points)

Refer to the Portfolio/Project Management score card for detailed point scoring and key performance indicator information. There will be NO verification interview required for this key criteria.

C5.2.1.1 What will be Assessed?

Project Management **MUST** be contained within of each team's Enterprise Portfolio in order to assess the following specific areas.

- Team Roles & Tasks
- Scope
- Time Management
- Finance
- Risk Management
- Internal Communication
- Stakeholder Engagement
- Evaluation

C5.2.2 Portfolio Design (50 points)

Refer to the Portfolio/Design score card for detailed point scoring and key performance indicator information. There will be **NO** verification interview required for this key criterion.

C5.2.2.1 What Will Be Assessed?

Judges will review each team's Enterprise and Engineering Portfolios in order to assess the following specific areas.

- Production Quality of Materials
- Production Quality of Content
- Content Organisation
- Layout Design Typography
- Photos & Images
- Creative Graphics (Visual effects and infographics)
- Editing/Proofreading
- Referencing
- Writing & Readability

---

2   https://www.macmillanihe.com/studentstudyskills/page/Referencing-and-Avoiding-Plagiarism/
3   10 points per day or part thereof as per ARTICLE 2.11

ARTICLE C6 -   Marketing - Branding & Trade Display Judging (75 Points)

C6.1   General Information

C6.1.1   Competition Class Provisions

Marketing judging is conducted for all levels of the competition.

C6.1.2   Who Needs to Attend

All team members **MUST** be present at Trade Display judging.

C6.1.3   Team Preparation

Each team **MUST** prepare an Enterprise Portfolio as per ARTICLE C2.10.1 and a Trade Display as per ARTICLE C2.10.4 Some Branding elements **MUST** be contained within each team's Trade Display. Read the Marketing - Branding and Trade Display Score Card carefully to ensure that all areas to be assessed are included within the context of their Trade Display.

C6.1.4   Judging Process / Procedure

The branding and trade display criteria from the Marketing Score Card will be assessed primarily within the trade display with secondary evidence on logo development assessed from within a team's Enterprise Portfolio. The Judges will introduce themselves then ask questions to help them find certain content and/or seek further explanation.

Teams **SHOULD** have a copy of their Enterprise Portfolio on their Trade Display at all times. Teams **MAY** be asked to step away from the trade display so judges can gain first impressions and concur before asking them to return to their display.

C6.2   Key Criteria

C6.2.1   Branding (35 points)

Refer to the Marketing/Branding score card for detailed point scoring and key performance indicator information.

C6.2.1.1   What Will Be Assessed?

The Marketing judges will assess a team's branding primarily within their Trade Display. As a secondary source of evidence, the judges will also access a team's Portfolio to assess logo development. Specific areas to be assessed are:

- Team Name
- Logo Development
- Final Logo Design
- Team Sponsors & REA Corporate Partners ROI
- Team Presence
- Team Knowledge

C6.2.2   Trade Display (40 points)

Refer to the Marketing - Trade Display score card for detailed point scoring and key performance indicator information.

C6.2.2.1   What Will Be Assessed?

A Trade Display is to visually 'sell' the team's most important key messages in snapshot form for assessment and event promotion. The Marketing judges will assess a team's trade display content and visual impact. Specific areas to be assessed are:

- Space Hub Display
- Information Design
- Use of ICTs
- Visual Design and Impact

C6.2.2.2   Trade Display Provisions

C6.2.2.2.1   Power

All team display systems will include 1 x 240-volt power supply but teams will need to provide their own power boards, if required, which **MUST** have a valid electrical safety test tag.

C6.2.2.2.2   Trestle Table

All teams will be provided a trestle style table. Use of the trestle table by teams is **compulsory** and teams are required to provide their own tablecloth which should be sufficiently long enough to touch the floor.

- **Trestle Table Dimensions**

  Approximately 1800mm long x 730mm high x 750mm wide

C6.2.2.2.3   Backboard

Teams **MUST** produce a self supporting backboard for placement upon the trestle table using corflute or a similar material no thicker than 10mm as per the following image.

- **Backboard Dimensions**

  Maximum 1800mm x 1200mm

C6.2.2.3   Display Restrictions

Teams will **ONLY** be permitted to use within the display volume as identified in the image below. Specifically teams **MUST**:

1. Display upon the team provided, self supporting, 1800mm x 1200mm backboard.

2. Display upon the trestle table within the identified area with no separate or combined display item/s being higher than 500mm.

3. Display at the front of the trestle table within the identified 1800mm length using **ANY** material no thicker than 10mm affixed or resting against the Trestle Table at 90° to the floor.

No other areas/surfaces within the display space provided can be used. The volume underneath the table can be used for storage **ONLY** but stored contents **MUST NOT** be visible from front or side view at **ANY** time throughout the event.
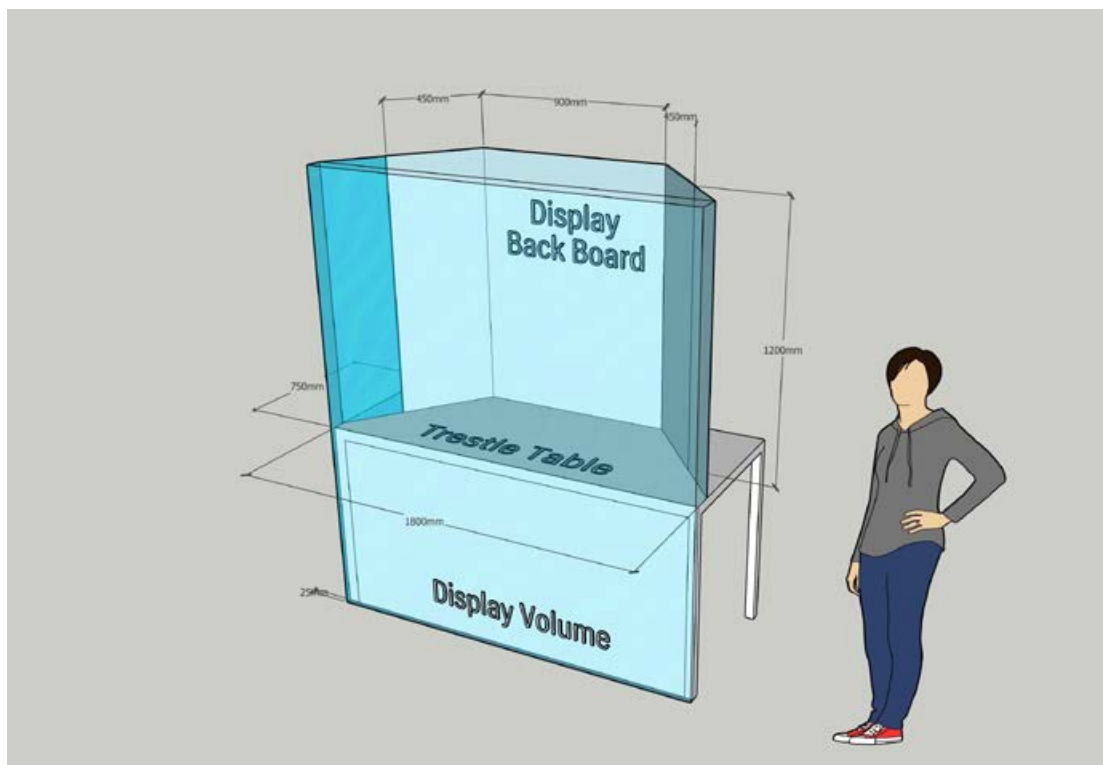
C6.2.3 Assemble

C6.2.3.1 Timing

A time period will be scheduled for teams to assemble their trade displays upon the provided trestle table, usually after event check-in and prior to the commencement of judging. Assembly will be conducted simultaneously by all teams. A time limit of 1 hr maximum will be enforced to avoid penalties.

C6.2.3.2 Team Members Only

Non team members are **NOT** permitted to assist teams with the staging or assembly of Trade Displays. All displays must be designed so that adult assistance is not required for assembling. This includes power, lighting and height issues. Step or full sized ladders will not be provided, therefore teams need to factor this in to their assembly requirements if they cannot supply their own. All adults (excluding officials and judges) will be required to remain out of the venue where Trade Displays are located until the setup is complete.

C6.2.4 General Conditions

Teams **MUST** comply with the following conditions:

- Each team's display **MUST** be fully fitted out for judging at the end of the 1 hr setup where upon photos will be taken.
- Displays **MUST** be confined to within the volume as outlined in the provided diagaram. Penalties apply for teams breaching this rule.
- **NO** other items can be added to the display (excluding top-up marketing items) from this point forward and penalties will be applied for teams breaching this rule.
- REA Foundation Ltd. will instruct teams to remove or alter any display inclusions considered to be a safety hazard or inappropriate, including rubbish, bags etc. which are not part of the display.
- **NO** part of the team's completed trade display is allowed to protrude beyond the physical dimensions of their allocated trestle table and team provided backboard. This includes anything that might protrude above the display space highest point e.g. flags, banner, balloons. Teams will be required to remove items infringing this rule and penalties will apply.
- Teams **MUST NOT** play sounds or music at their Trade Display at a loud volume. Any sound or music played **MUST** be strictly relevant to the project such as commentary on a video produced by the team and not just for 'entertainment' value.
- Chairs are **NOT** permitted in or near the displays.
- Display space will be pre-allocated to teams by the event organisers. Teams **MUST** use the space allocated and displays cannot be repositioned by any team unless there is an obstruction to the display or an issue of WHS and this **MUST** first be approved by the Competition Director or Chair of Judges.
- Displays **MUST** be manned by at least one team member at all times excluding judging sessions. When a team is undertaking a judging session, the teacher or a supporting adult **SHOULD** supervise the display to ensure security. Note that competitions can be open to the public.

C6.2.5 Trade Display Penalties

The Chair of Judges reserves the right to apply penalties for teams who:

- **DO NOT** comply with display restrictions as identified in C6.2.3.4   **[10pt Penalty]**
- **DO NOT** complete their set-up within the 1hr time limit   **[10pt Penalty]**
- **DO NOT** leave their stand in a safe state   **[10pt Penalty]**
- **DO NOT** clear their display and surrounding area of all rubbish   **[10pt Penalty]**
- **DO NOT** contain their display within the identified display volume   **[10pt Penalty]**
- **DO NOT** comply with added content restrictions   **[10pt Penalty]**

ARTICLE C7 -   Verbal Presentation Judging (155 Points)

C7.1   General Information

C7.1.1   Competition Class Provisions

Verbal Presentation judging is conducted for all levels of the competition

C7.1.2   Who Needs to Attend?

All team members **MUST** be present at and contribute to the Verbal Presentation.

C7.1.3   Judging Process / Procedure

Verbal presentation judging is scheduled for the same duration as other judging sessions, usually 20 – 30 minutes. Teams will be given 5 minutes at the start of their time to set-up and test their laptop and any other presentation technologies and resources. The team will inform the judges when they are ready to begin. The judges start timing the 8-minute duration and will provide a discreet time warning signal when one minute of presentation time remains. The team will be asked to cease presenting when the time limit has been reached. At the conclusion of the team's presentation time, the judges **MAY** choose to provide some feedback and / or ask any clarifying questions they feel necessary. However, assessment can **ONLY** be based on the team's 8-minute presentation. Verbal presentations **MAY** be filmed for judge's review or promotional and future resource purposes.

C7.1.4   Team Preparation

Each team is required to prepare a verbal presentation as per the requirements at ARTICLE C2.10.5. Any multimedia content, slides etc. **MUST** be saved on and shown using the team's own laptop along with VGA and HDMI cables. Teams need to have all presentation resources tested and ready for verbal presentation judging. Most importantly, teams **SHOULD** read the verbal presentation judging score card carefully to ensure their presentation features all elements and content that the verbal presentation judges will be looking for.

C7.1.5   Verbal Presentation Judging Provisions.

REA Foundation Ltd. will provide a dedicated private space, such as a small meeting room, where each team will deliver their presentation to the judges. This space will include a data projector and screen or large TV monitor. Multimedia sound systems **MAY** not always be available and teams **MAY** have to bring their own portable speakers. If available these will be in fixed positions but usually with sufficient cable length to allow teams some freedom for choosing where they wish to locate their laptop. A single table will also be made available with its use and location in the presentation space being optional.

C7.1.6   Verbal Presentation Video Recordings

The verbal presentations of all teams **MAY** be video recorded by the REA Foundation Ltd. for the purpose of judging review and / or post event publicity and promotional purposes for SPACE in Schools.

C7.2   Key Criteria

C7.2.1   Technique (70 points)

Refer to the Verbal Presentation/Technique score card for detailed point scoring and key performance indicator information.

C7.2.1.1 What Will Be Assessed?

- Presentation Energy
- Team Contribution
- Visual Aids
- Audience Engagement
- Articulation
- Structure
- Use of Time

C7.2.2   Content (85 points)

Refer to the Verbal Presentation/Content score card for detailed point scoring and key performance indicator information.

C7.2.2.1 What Will Be Assessed?

- Team Objectives
- Description of the VR Model
- Innovation or Refinement
- Collaboration
- Learning Outcomes
- Real world/industry application
- Overall Clarity

ARTICLE C8 -   Grievances

C8.1   Procedure

1. **SHOULD** a team be dissatisfied with the decision of any Judge, an appeal **MAY** be submitted in writing by the advertised deadline using the official on-line Grievance Form. Refer ARTICLE C2.4.1.3.

2. The Chair of Judges will discuss the appeal with the judge and **MAY** seek additional advice from REA Foundation Ltd. regulation authorities. The Chair of Judges will then meet with the team, to discuss the appeal and explain the final decision.

C8.2   Judge's Decision

The Chair of Judges decision related to any grievance is final and no further discussion will be entered into.

ARTICLE C9 -   Judges

C9.1   Overview

There will be several teams of judges that form the entire judging panel

Judges are generally higher education and industry experts invited by REA Foundation Ltd. They are selected and appointed to teams based on their qualifications and experience.

All judges undertake a comprehensive briefing prior to the competition and are required to declare any conflicts of interest with respect to the teams they are judging. Where a conflict of interest **MAY** occur, the judge is required to step back from judging the relevant team/s.

C9.2   Chair of Judges

An independent authority appointed by REA Foundation Ltd. to oversee all judging procedures. The Chair of Judges will determine the final judging decision where a grievance has been submitted or other judging issue needs resolution. The Chair of Judges will also preside over a meeting of all Lead Judges to ratify the final results and work with the Competition Director to ensure all scores are entered correctly into a spread sheet to identify awards winners.

C9.3   The Judging Teams

C9.3.1   Marketing Judges

Marketing Judges will assess each team's branding and trade display as per the Marketing score card.

C9.3.2   Verbal Presentation Judges

Verbal presentation Judges will assess each team's presentation technique and content as per the verbal presentation score cards.

C9.3.3   Engineering Judges

Will assess each team's use of CAD technologies, engineering design process and VR Walk Through.

C9.3.4   Portfolio Judges

Portfolio Judges will assess each team's portfolio design and project management as per the Portfolio score card.

C9.3.5   Judging Decisions

THE DECISION OF THE JUDGES IS FINAL.

ARTICLE C10 - Awards

C10.1 Awards Celebration

At each State Final, an Awards Presentation is conducted, the timing of which is included in the Event Programme which is released closer to the event.

C10.2 Participation Recognition

At State Finals, all students, supervising teachers and judges will receive official participation/recognition certificates. These will be provided in the team and judge information packs.

C10.3 Prizes and Trophies

C10.3.1 State Finals

At State Finals, teams winning a Category Award and/or 2nd and 3rd place overall, will be presented with an A4 certificate only.

Champion teams in their age respective divisions, will be presented with a trophy.

C10.4 List of Awards to be Presented

1. Eligibility for winning awards, requires teams to achieve at least 60% of the total mark used to calculate overall 1st, 2nd and 3rd placings and Category Awards

2. In situations where there are five or less teams representing a competition division, overall 2nd and 3rd place, along with some category awards **MAY NOT** be presented. This will be at the discretion of the Chair of Judges.

C10.4.1 Primary & Secondary Division

3RD PLACE
Team with the third highest scoring sum of all marking criteria

2ND PLACE
Team with the second highest scoring sum of all marking criteria

CHAMPIONS
Team with the highest scoring sum of all marking criteria

BEST VIRTUAL MODEL
The team with highest score for the trial event
Criteria 1: Engineering/Computer Aided Design (CAD)

BEST ENGINEERED
Team with highest combined score for:
Criteria 1: Engineering/Computer Aided Design (CAD)
Criteria 2: Engineering/ Design Process

BEST MANAGED ENTERPRISE
Team with highest combined score for:
Criteria 3: Project Management

BEST TEAM PORTFOLIO
Team with highest combined score for:
Criteria 2: Engineering Design Process
Criteria 3: Portfolio/Project Management
Criteria 4: Portfolio/Portfolio Design
Criteria 5.1 - 5.4: Marketing/Branding

BEST TEAM TRADE DISPLAY AWARD
Team with highest combined score for:
Criteria 5.4 - 5.10: Marketing/Branding &Trade Display

BEST TEAM VERBAL PRESENTATION
Team with highest combined score for:
Criteria 6: Verbal Presentation/Presentation Technique
Criteria 7: Verbal Presentation/Content

OUTSTANDING INDUSTRY COLLABORATION AWARD
Team with highest score for:
Criteria 7.4: Verbal Presentation/Content

INNOVATION AWARD
Team with highest score for:
Criteria 7.3: Verbal Presentation /Content

CHAIR OF JUDGES RECOGNITION OF ACHIEVEMENT AWARD
Discretion of the Chair of Judges

ARTICLE C11 - Appendices

C11.1 Awards Matrix

Judging Category	Judging Category	Criteria	Champions	2nd Place	3rd Place	Best Newcomer	Best Virtual Model	Best Engineered	Best Managed Enterprise	Best Team Portfolio	Best Team Trade Display	Best Team Verbal Pres.	Outstanding Ind.Collab.	Innovation
Engineering	Computer Aided Design	1.1 Design Intent	■	■	■	■	■	■						
		1.2 Model Detail	■	■	■	■	■	■						
		1.3 Explanation of Model Layout	■	■	■	■	■	■						
		1.4 Understanding of Human Ergonomics	■	■	■	■	■	■						
		1.5 Use of Human Mannequins to Highlight Design Intent	■	■	■	■	■	■						
		1.6 Engineering Drawings	■	■	■	■	■	■						
		1.7 Rendering	■	■	■	■	■	■						
Engineering	Design Process	2.1 Design Specification	■	■	■			■		■				
		2.2 Ideas	■	■	■			■		■				
		2.3 Development	■	■	■			■		■				
		2.4 Analysis	■	■	■			■		■				
		2.5 Evaluation	■	■	■			■		■				
		2.6 Overall Design Technical Merit	■	■	■			■						
Portfolio	Project Management	3.1 Team Roles & Tasks	■	■	■				■	■				
		3.2 Scope	■	■	■				■	■				
		3.3 Time Management	■	■	■				■	■				
		3.4 Finance	■	■	■				■	■				
		3.5 Risk Management	■	■	■				■	■				
		3.6 Internal Communications	■	■	■				■	■				
		3.7 Stakeholder Engagement	■	■	■				■	■				
		3.8 Evaluation	■	■	■				■	■				
Portfolio	Portfolio Design	4.1 Production Quality of Materials	■	■	■				■	■				
		4.2 Production Quality of Content	■	■	■					■				
		4.3 Content Organisation	■	■	■					■				
		4.4 Layout Design	■	■	■					■				
		4.5 Typography	■	■	■					■				
		4.6 Photos & Images	■	■	■					■				
		4.7 Creative Graphics (Visual Effects & Infographics)	■	■	■					■				
		4.8 Editing/Proofreading	■	■	■					■				
		4.9 Referencing	■	■	■					■				
		4.10 Writing & Readability	■	■	■					■				
Marketing	Branding	5.1 Team Name	■	■	■						■			
		5.2 Logo Development	■	■	■						■			
		5.3 Final Logo Design	■	■	■						■			
		5.4 Team Sponsors & REA Corporate Partners ROI									■			
		5.5 Team Presence	■	■	■						■			
		5.6 Team Knowledge	■	■	■						■			
Marketing	Trade Display	5.7 Product Display	■	■	■						■			
		5.8 Information Design	■	■	■						■			
		5.9 Use of ICT's	■	■	■						■			
		5.10 Visual Design & Impact	■	■	■						■			
Verbal Presentation	Technique	6.1 Presentation Energy	■	■	■							■		
		6.2 Team Contribution	■	■	■							■		
		6.3 Visual Aids	■	■	■							■		
		6.4 Audience Engagement	■	■	■							■		
		6.5 Articulation	■	■	■							■		
		6.6 Structure	■	■	■							■		
		6.7 Use of Time	■	■	■							■		
Verbal Presentation	Content	7.1 Team Objectives	■	■	■							■		
		7.2 Description of Space Hub Product	■	■	■							■		
		7.3 Innovation or Refinement	■	■	■							■		■
		7.4 Collaboration	■	■	■							■	■	
		7.5 Learning Outcomes	■	■	■							■		
		7.6 Real World / Industry Application	■	■	■							■		
		7.7 Future Career Aspirations & Research	■	■	■							■		
		7.8 Overall Clarity	■	■	■							■		

C11.2 Primary Division Portfolio Content Page Plan

PRIMARY DIVISION: Portfolio Page Content Plan: *Suggested content organisation for assessment*

Enterprise Portfolio: Project Management

Cover:* Name & Logo	Team Roles & Tasks, Interaction & Comms	Scope, Time & Risk Management, Tools & Methods	Finance, Stakeholder Engagement, Evaluation
* * *	* * *	*	*

Marketing & Partnerships

Team Name, Logo Development, REA Corporate Partners	'Proposed' Team Uniform, Trade Display Development		Partnerships with External Individuals & Collaborations
* *	* * *		*

Engineering Portfolio: Engineering Design Process

Cover:* Rendering Name & Logo	Design Specs, Factors & Research	Design Concepts, Ideas, Trade Offs & Sustainability
* * *	* * *	* * *

Design Development Amenities/Services	Design Development Human Factors	Innovation/ Refinement, Design Evaluation
* * *	* * *	* * *

Free for teams to decided content
* * *

Pink – Portfolio content assessed in Portfolio criteria
Blue – Portfolio content assessed in Booth criteria
Red – Portfolio content assessed in Engineering criteria
Green – Assessed in Marketing criteria

To streamline the judging process, teams are encouraged to arrange the content of their Enterprise and Engineering Portfolios in accordance with this Content Plan. However the number of pages allocated to the suggested criteria above is at the discretion of each team. Teams should ensure they refer to the scorecard criteria Components of the Cover are critical to both the Enterprise & Engineering Portfolios

2020 Level 1 Competition Regulations

SPACE in Schools
Australia

C11.3 Secondary Division Portfolio Content Page Plan

SECONDARY DIVISION: Portfolio Page Content Plan *Suggested content organisation for assessment*

Enterprise Portfolio:

Project Management

- Cover:* Name & Logo (red, blue, pink)
- Team Roles, Tasks & Interaction (blue, pink)
- Scope, Time & Risk Management (pink)
- Management Tools & Methods (pink)
- Finance, Communications Tools (pink)
- Stakeholder Engagement, Evaluation (pink)
- Team Name, Logo Development (green, pink)
- Final Logo Design Team Branding (green)

Marketing & Partnerships

- 'Proposed' Uniform & Trade Display Design (green, blue, pink)
- Partnerships with External Individuals & Collaborations (green)
- Free for teams to decide content

Engineering Portfolio:

Engineering Design Process

- Cover:* Rendering Name & Logo (red, blue, pink)
- Design Specs Requirements (red, blue, pink)
- Design & Factors Research (red, blue, pink)
- Design & Concept Ideas (red, blue, pink)
- Concept Trade Offs & Sustainability (red, blue, pink)
- Design Development Human Factors (blue, pink)
- Design Development Human Factors (red, blue, pink)
- Design Development Amenities/Services (red, blue, pink)
- Innovation/Refinement (red, blue, pink)
- Design Evaluation (red, blue, pink)
- Free for teams to decide content

Legend:

- Pink – Portfolio content assessed in Portfolio criteria
- Blue – Portfolio content assessed in Booth criteria
- Red – Portfolio content assessed in Engineering criteria
- Green – Assessed in Marketing criteria

To streamline the judging process, teams are encouraged to arrange the content of their Enterprise and Engineering Portfolios in accordance with this Content Plan. However the number of pages allocated to the suggested criteria above is at the discretion of each team. Teams should ensure they refer to the scorecard criteria Components of the Cover are critical to both the Enterprise & Engineering Portfolios

SPACE in Schools Australia

C11.4   Criteria 1 - Computer Aided Design Score Card

JUDGING SUB CATEGORY	COMPUTER AIDED DESIGN	TEAM ID	
PRIMARY EVIDENCE	VR WALK THROUGH DEMONSTRATION	TEAM NAME	
SECONDARY EVIDENCE	ENGINEERING COMPLIANCE BOOKLET	SCHOOL	
CRITERIA	1	COMPETITION CLASS	

	CRITERIA	LOW 0 1 2	DEVELOPING 3 4 5 6	ADVANCED 7 8 9 10	SCORE /10
1.1	Design intent	Students were able to explain at a basic level their design intent and the elements which made up their design	Students showed an understanding of the design elements and how they fitted together within their design offering	Significant research supported the design intent, the role of the different elements within the design and how these elements worked together	/10
1.2	Model detail	Model is basic in design and development	Model shows significant detail in the elements which make up the model	Great attention to detail has been made including the use of materials and finishes to make the model appear realistic	/10
1.3	Explanation of model layout	The students were able to highlight the basics of their model and explain how each of the elements fitted within the overall design of their model.	Students were able to easily move about their model displaying an understanding of the layout and the way each of the elements fitted together to create a cohesive environment for human habitation	Students showed a high level of understanding of their model and the role of human ergonomics played in the development of their design. Tools such as human mannequins were used within their model to help explain the environment	/10
1.4	Understanding of human ergonomics	Basic understanding of the impact of human ergonomics and habitation had within their environment was visible	Students showed a high level of understanding of the importance of human ergonomics and showed a level of research into creating human environments	A high level of understanding of human ergonomics and habitation was show with examples of how the virtual 3D model helped the design process and propagated design changes	/10
1.5	Use of human mannequins to highlight design intent	Little use of human mannequins or similar tools to highlight the thinking behind the layout of their environment	Developing understanding of how the use of human mannequins can be used to develop their design concepts and designs	High level of understanding of the use of human mannequins to display how the environment would operate and how all elements of the model met the design intent	/10
1.6	Engineering Drawing/s	Little or no detail. Little or no annotation.	Third angle orthographic projection. Excessive or insufficient detail.	Third angle orthographic projection and unrendered isometric view or similar. Parts list / bill of materials. Additional views to show sufficent detail. Regulation compliance shown.	/10
1.7	Rendering	Poor quality	Different views. Some inconsistencies with final spacial design.	Different views. Perfect match to final design including branding, environment and lighting. High end photorealistic rendering technique.	/10
Penalty - Space Hub Floor Design greater than 25m²					**- 25**
				Computer Aided Design GRAND TOTAL	/70

C11.5 Criteria 2 - Engineering: Design Process Score Card

JUDGING SUB CATEGORY	ENGINEERING DESIGN PROCESS
PRIMARY EVIDENCE	TEAM ENGINEERING PORTFOLIO
SECONDARY EVIDENCE	
CRITERIA	2

TEAM ID	
TEAM NAME	
SCHOOL	
COMPETITION CLASS	

	CRITERIA	LOW 0 1 2 0 1 2 3 4 5	DEVELOPING 3 4 5 6 6 7 8 9 10 11 12	ADVANCED 7 8 9 10 13 14 15 16 17 18 19 20	SCORE /10 /20
2.1	**Design Specification**	Limited development of a specification describing the spatial environment	A well-developed description of the spatial environment, sufficient to describe the elements contained in the spatial design proposal	An excellent and detailed description of the spatial environment and design offering including its key advantages over alternatives	/10
2.2	**Ideas**	Single or basic concepts	Multiple concepts with links to research.	Several technically inspired ideas for different features/functions	/10
2.3	**Development**	Limited development shown	Logical design developments explained	Clearly justified developments based around research on issues of human factors	/20
2.4	**Analysis**	Little evidence of analysis	Analysis which is relevant and results documented	Quality analysis methodologies. Accurate results and data linked to design revisions. Advanced use of design tools	/10
2.5	**Evaluation**	No or limited evaluation	Evaluations at different stages have limited consideration of human factors	Excellent ongoing evaluations linked with consideration of human factors	/20
2.6	**Overall Design Technical Merit**	Basic design process with little technical merit	Developed design process with some technical merit	Original & clever developed design process with excellent technical merit	/10
				Engineering Design Process GRAND TOTAL	**/80**

C11.6   Criteria 3 - Portfolio: Project Management Score Card

JUDGING SUB CATEGORY	PROJECT MANAGEMENT
PRIMARY EVIDENCE	TEAM ENTERPRISE PORTFOLIO
SECONDARY EVIDENCE	
CRITERIA	3

TEAM ID	
TEAM NAME	
SCHOOL	
COMPETITION CLASS	

	CRITERIA	LOW 0 1 2 0 1 2 3 4 5	DEVELOPING 3 4 5 6 6 7 8 9 10 11 12	ADVANCED 7 8 9 10 13 14 15 16 17 18 19 20	SCORE /10 /20
3.1	Team Roles & Tasks	Limited understanding of roles and responsibilities	Team roles and responsibilities identified	Highly structured team with clear roles and responsibilities. All team members provide critical contributions with evidence of supportive/ overlapping interactions. Relevant skill development/ mentoring undertaken. Plan Changes discussed	/10
3.2	Scope	Limited understanding of scope	Some attempts at scope decomposition	Excellent control of all project deliverables understanding requirements and setting goals to maintain focus Plan Changes discussed	/10
3.3	Time Management	Limited evidence of time management	Some planning used to guide progress of project goals and stay on task.	Extensive evidence of using effective management methods and tools to stay on task and meet deadlines.	/10
3.4	Finance	Limited budgeting awareness	Some resources identified, budgeting and project contingency considered.	Excellent resource management, understanding of budget control and evidence of financial accounting methods including tracking of actual spend against budget.	/10
3.5	Risk Management	Limited risk awareness	Some contingency plans in place.	Reasonable contingency plan and risk assessment prepared and/or undertaken.	/10
3.6	Internal Communication	Limited team communication	Basic team communication processes discussed	Excellent use of multiple communication tools and methods for effective team planning and accountability	/10
3.7	Stakeholder Engagement	Limited stakeholder engagement	Basic understanding and application of stakeholder engagement	Excellent understanding and application of initiating and maintaining stakeholder engagement with collaborators, sponsors, mentors and supporters using multiple tools and methods	/10
3.8	Evaluation	Limited evaluation	Some evaluation applied	Evaluation processes applied throughout the management of key deliverables	/10
				Portfolio Project Management GRAND TOTAL	/80

C11.7 Criteria 4 - Portfolio: Portfolio Design Score Card

JUDGING SUB CATEGORY	CLARITY & QUALITY
PRIMARY EVIDENCE	TEAM ENGINEERING & ENTERPRISE PORTFOLIO
SECONDARY EVIDENCE	
CRITERIA	4

TEAM ID	
TEAM NAME	
SCHOOL	
COMPETITION CLASS	

	CRITERIA	LOW 0 1	DEVELOPING 2 3	ADVANCED 4 5	SCORE /5
4.1	Production Quality of Materials	Poor quality	Basic printing and binding	Quality printed document on quality paper in appropriately durable binding	/5
4.2	Production Quality of Content	Missing documentation	Basic documentation provided	Correct number of pages. All required documentation included and professionally presented. Sub rendering and team logo on cover page in keeping with branding	/5
4.3	Content Organisation	Disorganised content	Some content organisation	Highly organised and managed portfolio content with logical structure and flow of information	/5
4.4	Layout Design	Distracting imperfections weaken the work	Some layout design format attempted	Well formatted layout design consistently applying margins, alignment, spacing, graphics and design elements with consideration of visual balance and flow. All pages optimally used and uncluttered. Creative style realised	/5
4.5	Typography	Font choices are distracting or weaken the work	Some consideration for type treatment	Consistent use of typography with appropriate choices and limited number of text and headline font sizes, styles, colours and hierarchy. In keeping with branding. Easy to read	/5
4.6	Photos & Images	Poor quality or use of images. No captioning	Basic quality and use of images. Some reasonably concise captioning	Justified use of excellent, un-pixellated, clear, undistorted photos and images that are concisely and accurately captioned. Properly sized, coloured and integrated with text to illustrate key messages. Considers branding	/5
4.7	Creative Graphics (Visual effects and infographics)	Poor graphics and/or execution. No captioning	Graphics attempted with some success. Some reasonably concise captioning	Justified, well executed and placed, un-pixellated, undistorted graphics that are concisely and accurately captioned. Consistent use of colour/ tones/ shapes, without visual overload, in keeping with branding	/5
4.8	Editing/Proofreading	Error ridden. Poor attempt at proofreading	Good attempt with additional editing required for clarity	No errors detected in text and graphics	/5
4.9	Referencing	Obvious failures in referencing	Some attempt at referencing. Some errors evident	Excellent use of referencing for author's written word, graphics/photos and video sources etc	/5
4.10	Writing & Readability	Difficult to understand. Unable to read	Does not sustain reading or interest. Does not 'flow'	Concise, appropriate, grammatically correct text, captions, and headlines. Inviting and engaging. Sustains the reader's interest	/5
				Portfolio Clarity & Quality GRAND TOTAL	/50

C11.8   Criteria 5 - Marketing - Branding & Trade Display Scorecard

JUDGING SUB CATEGORY	BRANDING & TRADE DISPLAY
PRIMARY EVIDENCE	TEAM INTERVIEW AT TRADE DISPLAY
SECONDARY EVIDENCE	TEAM ENTERPRISE PORTFOLIO
CRITERIA	5

TEAM ID	
TEAM NAME	
SCHOOL	
COMPETITION CLASS	

	Criteria	Low 0 1 0 1 2	Developing 2 3 3 4 5 6	Advanced 4 5 7 8 9 10	Score /5 /10
5.1	Team Name	Irrelevant choice	Limited consideration of meaning	Well considered, meaningful team name appropriate to goals and image projection	/5
5.2	Logo Development	Limited ideas & development. No original work evident	Some logo idea progression & creative logo modification of type or graphics noted	A number of logo ideas considered with attention to team goals and identity. Creative & original logo development clearly relates to the team's chosen name, identity and purpose	/5
5.3	Final Logo Design	Team logo is absent or confusing.	Logo message is simple and obvious	Strong team logo that grabs attention, generates a positive response and is easilly recognised and recalled. Well considered use of colours, tupe and shapes enhance meaning. In keeping with branding.	/5
5.4	REA Corporate Partners ROI	Little or no ROI	Sponsorship acknowledged. Some logos included in project collateral	Clear and appropriate visibility of REA Corpote Partners. Quality reproduction of REA Corporate Partner logos across all project collateral as required	/10
5.5	Team Presence	Not all present / Poor energy	Generally enthusiastic	All team members are appropriately engaging and enthusiastic about their work	/5
5.6	Team Knowledge	Limited engagement	Some members knowledgeable	Each member is highly knowledgeable in their role and also broadly knowledgeable about details of their entry. Able to defer to others with confidence and share project ownership	/5
5.7	Space Hub Display	Little consideration given to presentation of the Space Hub	Some attempt to display the Space Hub as a key feature	Excellent design materials and methods used to effectively display the Space Hub and its key components to make it a feature of the display	/10
5.8	Information Design	Limited or repeat of folio	Project message is expanded beyond folio	Clean, well-organised layout of written and graphical information with sharp professional appeal. Conclusive snapshot of team's key messages. Uncluttered, engaging, and easy to read. Consistent branding style	/10
5.9	Use of ICTs	Limited ICTs	ICTs used to enhance presentation	Excellent integration of multimedia technologies and interactive ICTs to demonstrate, engage and inform	/10
5.10	Visual Design & Impact	Limited or low impact creativity, branding, messaging and recognition of sponsors.	Some relevant creative messaging evident with consideration for a range of factors	Creative design which is attractive and impactful. Excellent representation of the team name, brand and brand colours. Team message and/or slogan is clearly evident and sponsors are appropriately recognised. Innovative elements add interest and support team messaging.	/10
				Branding & Trade Display GRAND TOTAL	/75

C11.9 Criteria 6 - Presentation: Technique Scorecard (Mini ROV)

JUDGING SUB CATEGORY	TECHNIQUE
PRIMARY EVIDENCE	TEAM PRESENTATION
SECONDARY EVIDENCE	
CRITERIA	6

TEAM ID	
TEAM NAME	
SCHOOL	
COMPETITION CLASS	

	Criteria	Low 0 1 2	Developing 3 4 5 6	Advanced 7 8 9 10	Score /10
6.1	**Presentation Energy**	Artificial and/or low energy	Speakers generally enthusiastic with lively delivery	Passionate with effective and appropriate levels of liveliness	/10
6.2	**Team Contribution**	Minimal team participation	Good contributions from most team members	Excellent team work with all members participating effectively	/10
6.3	**Visual Aids**	Little use of aids	Some aids used effectively	Well produced, highly relevant and integrated aids effectively improve communication	/10
6.4	**Audience Engagement**	Minimal engagement	Some audience connection at times	Audience fully engaged and excited throughout presentation	/10
6.5	**Articulation**	Difficult to understand and/or hear most presenters	Inconsistent speaking ability	Excellent articulation, use of language and voice projection by all members throughout the assessment	/10
6.6	**Structure**	No structure presented, difficult to follow	A basic structure / outline provided and could be followed by audience	Clear presentation outline / overview. Excellent connections between topics and easy for audience to follow	/10
6.7	**Use of Time**	Too fast or ran out of time	Good timing. Balanced topic depth and pace	Ran on time or just under. Excellent balance of depth for each topic	/10
				Technique GRAND TOTAL	/70

C11.10 Criteria 10 - Presentation: Content Scorecard (Mini ROV)

JUDGING SUB CATEGORY	CONTENT
PRIMARY EVIDENCE	TEAM PRESENTATION
SECONDARY EVIDENCE	
CRITERIA	7

		Low 0 1 0 1 2 3 0 1 2 3 4 5	Developing 2 3 4 5 6 7 8 9 6 7 8 9 10 11 12	Advanced 4 5 10 11 12 13 14 15 13 14 15 16 17 18 19 20	Score /5 /15 /20
	Criteria				
7.1	**Team objectives**	Limited statement of objectives	Good statement of objectives	Excellent statement of objectives supported by sound reasoning	/5
7.2	**Description of Space Hub Product**	Basic description of Hub_only	Good description of Hub components and features	Excellent description of water craft components and features including design decisions	/5
7.3	**Innovation or Refinement**	Little innovation presented	Innovations described and justified	Originality. Clever innovations with high positive project impact	/15
7.4	**Collaboration**	Little collaboration discussed	Links with industry or higher education described	Collaborations justified with links to learning and project outcomes	/15
7.5	**Learning outcomes**	No real reflections discussed	Good explanation of some learning outcomes	A range of personal, life-long learning and career skills acquired and identified as project outcomes for a range of team members	/20
7.6	**Real World / Industry Application**	No or very little information provided. No relevant examples provided	Reasonable explanation and example provided.	Excellent explanation of how research undertaken and skills learned as a result of the project apply to real world/industry. Relevant examples provided.	/20
7.7	**Overall clarity**	Several concepts lacked clarification	Clear and appropriate concept explanations	Everything presented was understood through excellent explanations	/5
				Content GRAND TOTAL	**/85**